

Newtown Area JOINT COMPREHENSIVE PLAN

May 2024



BCPC

Bucks County Planning Commission

NEWTOWN AREA JOINT COMPREHENSIVE PLAN UPDATE

Newtown Area Joint Zoning Council

Newtown Township Board of Supervisors

Dennis Fisher, *Chair*
Elen Snyder, *Vice Chair*
John Mack, *Treasurer*
Phil Calabro
Kyle Davis
Dave Sander, *Solicitor*
Jerry Shenkman, *Solicitor*

Upper Makefield Township Board of Supervisors

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Ben Weldon, *Vice Chair*
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Tom Cino
Tim Thomas
Mary Eberle, *Solicitor*

Newtown Township Planning Commission

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Upper Makefield Township Planning Commission

Kathleen Pisauro

Wrightstown Township Board of Supervisors

Chester Pogonowski, *Chair*
Jane Magne, *Vice Chair*
Rob Lloyd, *Treasurer*
Terry Clemons, *Solicitor*
Vicki Kushto, *Solicitor*

Wrightstown Township Planning Commission

Joe Conroy

This Project was financed, in part, by a grant from the Commonwealth of Pennsylvania, Department of Community and Economic Development.

**NEWTOWN TOWNSHIP BOARD OF SUPERVISORS ADOPTING
THE NEWTOWN AREA JOINT COMPREHENSIVE PLAN**

WHEREAS, the Newtown Area Joint Comprehensive Plan was last updated in 1983; and

WHEREAS, Newtown Township is a member of the Newtown Area Joint Zoning Council;

WHEREAS, Wrightstown, Newtown and Upper Makefield Townships have experienced enormous growth since the adoption of the 1983 Comprehensive Plan and changes have occurred in the surrounding areas, all of which impact current land use planning, housing, commercial uses, transportation, community facilities and other resources of the Townships; and

WHEREAS, the 1983 Comprehensive Plan was updated in 2009; and

WHEREAS, Section 301 (c) of the Pennsylvania Municipalities Planning Code provides that municipal comprehensive plans be reviewed at least every (10) years and updated when needed; and

WHEREAS the Newtown Area Joint Zoning Council has determined that the 1983 Comprehensive Plan, as updated in 2009, is in need of updating; and

WHEREAS, the Newtown Area Joint Zoning Council entered into a contract in 2019 with the Bucks County Planning Commission to prepare a new Joint Comprehensive Plan; and

WHEREAS, the Bucks County Planning Commission prepared a Newtown Area Joint Comprehensive Plan that includes the Purpose of the Plan, Capturing the Future, Goals and Guiding Principals 1-9, Appendices, Maps, Figures and Tables; and

WHEREAS, the Planning Commissions of Wrightstown Township, Newtown Township and Upper Makefield Township have recommended the adoption of the new Newtown Area Joint Comprehensive Plan; and

WHEREAS, copies of the Comprehensive Plan Revisions were sent to the County Planning Commission, the local school district and contiguous municipalities for review and comment; and


WHEREAS, the Board of Supervisors held a public hearing on the Newtown Area Joint Comprehensive Plan on May 22, 2024 at which time the Board of Supervisors considered the comments received from the Bucks County Planning Commission, the Township Planning Commissions, the local district, contiguous municipalities and the public.

NOW THEREFORE, be it, and it is hereby RESOLVED by the Board of Supervisors of Newtown Township, Bucks County, Pennsylvania hereby adopts the Newtown Area Joint Comprehensive Plan.

RESOLVED, this 22nd day of May, 2024.

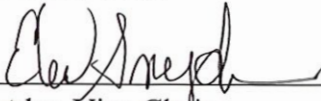
BOARD OF SUPERVISORS OF NEWTOWN TOWNSHIP

ATTEST:

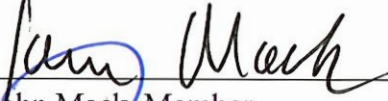


Micah Lewis
Township Manager


Dennis Fisher, Chair



Ellen Snyder, Vice Chair



John Mack, Member



Phillip Calabro, Member

Kyle Davis, Member

RESOLUTION No. 2024-05-21-01

**UPPER MAKEFIELD TOWNSHIP BOARD OF SUPERVISORS
ADOPTING THE NEWTOWN AREA JOINT COMPREHENSIVE
PLAN**

WHEREAS, the Newtown Area Joint Comprehensive Plan was last updated in 1983; and

WHEREAS, Upper Makefield Township is a member of the Newtown Area Joint Zoning Council;

WHEREAS, Wrightstown, Newtown and Upper Makefield Townships have experienced enormous growth since the adoption of the 1983 Comprehensive Plan and changes have occurred in the surrounding areas, all of which impact current land use planning, housing, commercial uses, transportation, community facilities and other resources of the Townships; and

WHEREAS, the 1983 Comprehensive Plan was updated in 2009; and

WHEREAS, Section 301 (c) of the Pennsylvania Municipalities Planning Code provides that municipal comprehensive plans be reviewed at least every (10) years and updated when needed; and

WHEREAS the Newtown Area Joint Zoning Council has determined that the 1983 Comprehensive Plan, as updated in 2009, is in need of updating; and

WHEREAS, the Newtown Area Joint Zoning Council entered into a contract in 2019 with the Bucks County Planning Commission to prepare a new Joint Comprehensive Plan; and

WHEREAS, the Bucks County Planning Commission prepared a Newtown Area Joint Comprehensive Plan that includes the Purpose of the Plan, Capturing the Future, Goals and Guiding Principals 1-9, Appendices, Maps, Figures and Tables; and

WHEREAS, the Planning Commissions of Wrightstown Township, Newtown Township and Upper Makefield Township have recommended the adoption of the new Newtown Area Joint Comprehensive Plan; and

WHEREAS, copies of the Comprehensive Plan Revisions were sent to the County Planning Commission, the local school district and contiguous municipalities for review and comment; and

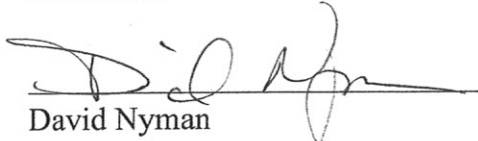
WHEREAS, the Board of Supervisors held a public hearing on the Newtown Area Joint Comprehensive Plan on May 21, 2024 at which time the Board of Supervisors considered the comments received from the Bucks County Planning Commission, the Township Planning Commissions, the local district, contiguous municipalities and the public.

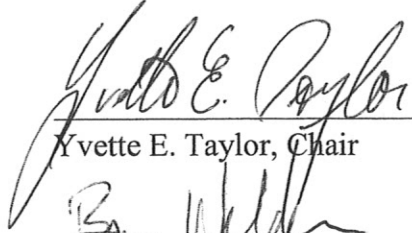
NOW THEREFORE, be it, and it is hereby RESOLVED by the Board of Supervisors of Upper Makefield Township, Bucks County, Pennsylvania hereby adopts the Newtown Area Joint Comprehensive Plan.

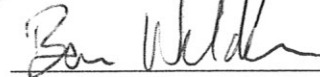
RESOLVED, this 21st day of may, 2024.

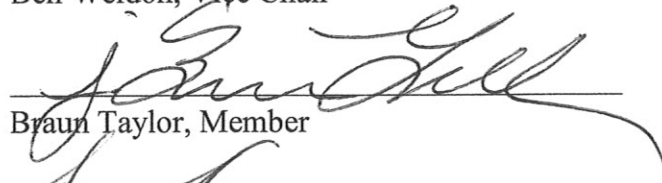
BOARD OF SUPERVISORS OF UPPER MAKEFIELD TOWNSHIP

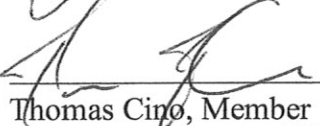
ATTEST:



David Nyman
Township Manager


Yvette E. Taylor, Chair


Ben Weldon, Vice Chair


Braun Taylor, Member


Thomas Cino, Member


Tim Thomas, Member

WRIGHTSTOWN TOWNSHIP, Bucks County, Pennsylvania

2203 Second Street Pike
Wrightstown, PA 18940
215-598-3313
215-598-0529 FAX



RESOLUTION No. 2024-13

WRIGHTSTOWN TOWNSHIP BOARD OF SUPERVISORS ADOPTING THE NEWTOWN AREA JOINT COMPREHENSIVE PLAN

WHEREAS, the Newtown Area Joint Comprehensive Plan was last updated in 1983; and

WHEREAS, Wrightstown Township is a member of the Newtown Area Joint Zoning Council;

WHEREAS, Wrightstown, Newtown and Upper Makefield Townships have experienced enormous growth since the adoption of the 1983 Comprehensive Plan and changes have occurred in the surrounding areas, all of which impact current land use planning, housing, commercial uses, transportation, community facilities and other resources of the Townships; and

WHEREAS, the 1983 Comprehensive Plan was updated in 2009; and

WHEREAS, Section 301 (c) of the Pennsylvania Municipalities Planning Code provides that municipal comprehensive plans be reviewed at least every (10) years and updated when needed; and

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WHEREAS, the Newtown Area Joint Zoning Council entered into a contract in 2019 with the Bucks County Planning Commission to prepare a new Joint Comprehensive Plan; and

WHEREAS, the Bucks County Planning Commission prepared a Newtown Area Joint Comprehensive Plan that includes the Purpose of the Plan, Capturing the Future, Goals and Guiding Principals 1-9, Appendices, Maps, Figures and Tables; and

WHEREAS, the Planning Commissions of Wrightstown Township, Newtown Township and Upper Makefield Township have recommended the adoption of the new Newtown Area Joint Comprehensive Plan; and

WHEREAS, copies of the Comprehensive Plan Revisions were sent to the County Planning Commission, the local school district and contiguous municipalities for review and comment; and

WHEREAS, the Board of Supervisors held a public hearing on the Newtown Area Joint Comprehensive Plan on May 6, 2024 at which time the Board of Supervisors

RESOLVED, this 6th day of may, 2024.

BOARD OF SUPERVISORS OF WRIGHTSTOWN TOWNSHIP

ATTEST:


Stacey Mulholland
Interim Township Manager


Chester Pogonowski, Chair


Jane Magne, Vice Chair



Rob Lloyd, Member

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PURPOSE OF THIS PLAN

The Newtown Area communities decided in the 1970s that they were not isolated towns and that their futures were intertwined. Traffic from one town traveled through the neighboring towns. They were all part of the same school district. Streams and creeks crossed municipal boundaries, and the central core of business and commerce in Newtown could not thrive without support from nearby townships.

What is so remarkable about this alliance of local governments coming together? Pennsylvania has a long and strong tradition of local government control. The Newtown Area elected officials understood the value of cooperation but also realized that compromises would be needed to work for a better community. What they agreed to and accomplished remains unique in Pennsylvania and a model statewide for regional cooperation.

In 1983, the Jointure municipalities adopted their first Joint Municipal Comprehensive Plan. The foundations for the plan and its policies still resonate today as sound community building principles. Some of the plan goals were: preservation of natural resources and agricultural areas; protecting groundwater areas; encouraging development in areas served by public facilities such as water and wastewater systems; controlling commercial and industrial development by guiding them into logical locations; supporting the Newtown Bypass; limiting quarry development; and protecting the heritage and history of the area.

The 1983 plan was the basis for the *Newtown Area Joint Municipal Zoning Ordinance*, the first of its kind in Pennsylvania. Cooperation among the municipal planning commissions and boards of elected officials was established so that the business of zoning and land use planning could be managed regionally. Through deliberation and cooperation, three township governments can maintain close contact with their residents while simultaneously paying attention to important regional issues.

This plan is the result of several years of discussion about the future of the townships of Newtown, Wrightstown, and Upper Makefield. The challenges faced by these communities are difficult, and affect the daily lives of our residents:

- How to manage future growth and development?
- How to continue to preserve our important farmlands, natural areas, and open spaces?
- How to control traffic and ensure safe travel?
- How to protect and sustain safe neighborhoods, convenient shopping, and good community facilities?
- How to promote resiliency related to the impacts of climate change?
- How to live sustainably in a period of energy uncertainty?
- How to protect the special history of the area?

The plan contains nine guiding principles for the future. The comprehensive plan is a blueprint for the future. It is not law or ordinance and cannot be used as a basis for approving or denying a plan for development. It can be used by the Jointure municipalities to guide the preparation of ordinances and regulations and to help direct public expenditures for community investments in open space, transportation, and community facilities.

CAPTURING THE FUTURE

The purpose of a comprehensive plan is to set the **vision** for the future of the community and **principles** to guide a physical plan for realizing this vision. The vision set forth by this plan is focused on continuing to maintain and improve the quality of life in the Jointure for present and future residents. To capture this future, Jointure municipalities will:

- Cooperate
- Coordinate
- Conserve
- Connect
- Compete
- Be Current

Cooperation among the three municipalities is necessary for the continued success of the growth management program. Cooperation extends beyond the three-member township to:

- Council Rock School District
- Newtown Borough
- County of Bucks
- Surrounding municipalities
- Providers of community services

Coordination of the land use vision must be fostered within each municipal government so that each board and commission responsible for guiding the community works together. Coordination of land use planning with other components of physical development—from highways to sewers—requires elected officials to consider traffic and transportation effects of land use decisions and to keep wastewater plans up to date.

Conservation of open spaces, farmland, natural resources, energy, and historic sites is central to the mission of the Jointure and its comprehensive plan. Progress during the past decade on conserving farmland, parkland, and natural areas is a firm foundation for growth management and future conservation.

Connections between neighborhoods, parks, open spaces, shopping areas, jobs, and the highway network are needed to allow the area to function safely and cohesively.

Competing for business and jobs by fostering economic vitality through land use and planning decisions will maintain the vibrancy of the Newtown business core and the small-scale business locations in Wrightstown and Upper Makefield.

Being **Current** means that the Jointure will update its ordinances, policies, and supplemental plans on a regular basis, to fulfill the promise of this comprehensive plan and to respond to changing conditions.

GOALS AND GUIDING PRINCIPLES

Community Goals

How will we live in the future? What kind of community do we want to leave for future generations? What should it look like and how do we make it happen? These are the questions facing the Newtown area municipalities as they envision the future. The townships of Newtown, Upper Makefield, and Wrightstown—the Jointure—are continuing their decades-long cooperative approach to planning for the future by working together to prepare this comprehensive plan.

The joint goal is to create good communities for residents and to leave a legacy for future residents.

Officials in the Newtown area also strive to be aware of development patterns in adjacent communities and understand the policies and objectives described in comprehensive plans of surrounding municipalities. Land use decisions in one township or borough can substantially affect conditions in surrounding areas and can frustrate the ability of neighboring municipalities to achieve their planning goals. It is also valuable to review the county comprehensive plan not only to identify compatible and incompatible elements but also to employ or adopt county planning policies and techniques that could be useful to the Jointure.

Planning Compatibility with Neighboring Communities

The following provides a general assessment of the compatibility of the existing conditions in, the present zoning of, and the land use plan for the Jointure with each municipality that shares a common border with one of its participating townships. Information for this assessment was developed from each municipality's zoning ordinance, its comprehensive plan (existing and future land use), and from land cover mapping provided by the Delaware Valley Regional Planning Commission (DVRPC).

Newtown Borough

The *Newtown Borough Comprehensive Plan Update* was adopted in December of 2022. Surrounded by Newtown Township on all sides, the borough generally exhibits compatible zoning and land uses along its borders. The existing land uses on the western side of the borough are largely a mix of commercial and residential uses. The future land use plan envisions a similar mix in that area, and the zoning districts in that location permit residential, commercial, and institutional uses. The two communities are compatible in this area.

To the north single-family residential development dominates both existing land use and the future land use plan in the area of the borough adjacent to the township. The area is zoned BR-1 Borough Residential, which requires a minimum lot size of 15,000 square feet. Land use in that area of the borough is generally consistent with land uses found in the adjacent part of the township.

To the east the area of the borough adjacent to the township is again largely characterized by single-family residential development, and the future land use plan projects low and medium density residential development to continue there. The major exception is a cemetery that straddles the township and the borough. The adjacent areas of the township are generally compatible, except for the area of commercial uses in the township that borders residential uses in the borough to the north of the cemetery. The

township and borough should determine whether adequate buffering is provided between existing uses and should ensure that any future development in the township will not alter the existing visual break that marks the boundary between the two communities for motorists entering and exiting the borough via Newtown–Yardley Road.

To the south, the borough generally includes professional office uses, commercial uses, and a mix of housing types. The future land use plan characterizes the area as Professional and Business where a variety of residential, commercial, and mixed uses would be permitted. The area is generally zoned B-1 Business Gateway where such uses are permitted. Existing zoning and land uses in the township are generally compatible with adjacent zoning and land use in the borough. The township and borough could work together to develop this area in a fashion that both accentuates it as a gateway to the borough while providing the portion of this location that is in the township with an identity that marks it as part of the township.

Despite the fact that it has been over twenty years since Newtown Borough formally left the Jointure, nothing in the existing land use of adjacent areas, the current zoning along the municipal borders, or the proposed future land use patterns suggests that the borough and the three townships have moved in directions that make cooperation among the four communities impossible or even infeasible. Current conditions suggest that the possibility of re-entry of Newtown Borough into the Jointure could be explored and taken into consideration.

Cooperation and joint efforts on the Sycamore Street project have been successful and form a foundation for future cooperation.

Solebury Township

The *Solebury Township Comprehensive Plan* adopted in December 2014, designates the area of the township that borders Upper Makefield Township as a “Rural Conservation” area where the preservation of historic, scenic, cultural, and natural resources is a primary focus. Land use information in the plan indicates that the majority of this area consists of parks, recreation, and protected open space, agricultural, rural residential, or single-family residential uses. The area is zoned either RB Residential/Agricultural, which requires a minimum lot size of 3 acres for residential uses, or Outdoor Recreational, which permits a variety of agricultural, conservation, or recreational uses. These conditions are compatible with the existing land uses and zoning found in this part of the Jointure.

Buckingham Township

Buckingham Township borders both Wrightstown Township and Upper Makefield Township. The *Buckingham Township Comprehensive Plan* (1991) delineates the areas nearest the boundary with both Wrightstown and Upper Makefield as “Conservation Management Areas,” except for the villages of Wycombe and Pineville, which are designated as “Rural Villages.” “Conservation Management Areas” include environmentally sensitive locations and are characterized by low density uses. “Rural Villages” are settlements whose character and scale the township intends to preserve. The area is zoned AG-1 Agricultural-1 District, which is intended to promote the preservation of agriculture, except for Wycombe and Pineville, which are zoned either R-1 Residential or VC-1 Village Center. Agricultural uses, residential areas, and vacant land are generally located on both sides of the border, with small areas of commercial

development in and around the existing villages. Compatible land uses and zoning are found on adjacent portions of the Jointure.

Buckingham and Wrightstown have worked together on Wycombe village projects in the past. The townships could consider jointly developing village preservation zoning or other standards for Wycombe. The two communities should also jointly monitor and participate, as appropriate, in efforts by the Bucks County Transportation Management Association to determine the feasibility of extending commuter rail service from Warminster to New Hope Borough along the rail line on which Wycombe is located.

Warwick Township

Warwick Township shares a very short boundary with Wrightstown Township. In the *Warwick Township Comprehensive Plan* (2007), the adjoining area in Warwick is classified as part of the “Rural Areas,” where the township intends to promote low density residential and agricultural uses. This part of the township is zoned RA Residential-Agricultural, which has a minimum lot size of 2 acres. The majority of the area is agricultural, except for a cluster of large-lot single-family residences in the general vicinity of the boundary. The area is generally compatible with the zoning and land uses immediately adjacent to it in Wrightstown, with the village of Rushland located a short distance from the boundary in Wrightstown.

Northampton Township

Northampton Township has a long and curvilinear boundary separating it from Wrightstown Township and Newtown Township along the Neshaminy Creek. In many places the Neshaminy serves as a buffer between Northampton and the Jointure municipalities, both in terms of existing and proposed land uses.

Areas on the Northampton side of the Neshaminy across from Wrightstown, as shown in the *Northampton Township Comprehensive Plan* (2018) are intended to be low density single-family detached residential or agricultural, except for the banks of the Neshaminy, which are designated as open space with park and recreational uses. The zoning in this area is generally CR Country Residential with a minimum lot size of 2 acres for single-family detached dwellings. Existing land uses include rural residential, single-family detached residential, agricultural, and vacant. Although industrial and quarry uses are located on the Wrightstown side of the boundary, land uses are generally compatible and the Neshaminy serves as a buffer.

On the Northampton side of the Neshaminy Creek across from Newtown Township, the future use of land directly along the Neshaminy is identified as open space with park and recreation uses. Much of the northernmost portion of this boundary is also surrounded on both sides by Tyler State Park (as well as Bucks County Community College in Newtown), which is zoned REC Recreation in Northampton Township. South of the park, beyond Neshaminy Creek, the *Northampton Township Comprehensive Plan* (2018) designates areas of median density single-family detached and high-density residential housing for future land uses. The existing land uses include both single-family and multifamily residential housing. Land uses and zoning on both sides of this boundary are generally compatible with the Neshaminy as a separating natural feature.

Middletown Township

Middletown Township shares a common border with Newtown Township along the Newtown Bypass and south of the Holy Family University campus. The *Middletown Township, Bucks County Comprehensive Plan*

(2020) designates the majority of the area adjacent to the boundary with Newtown as “Residential” with two commercial areas shown, one east of Route 413 and another east of Woodbourne Road. Land designated as “Residential” is generally zoned in one of the township’s residential districts (RA-1 Residence Agricultural, RA-2 Residence Agricultural, RA-3 Residence Agricultural, and R-2 Residence), with minimum lot sizes ranging from 10,000 square feet to 1 acre. The “Commercial” area is zoned CS Shopping Center, MR Multi-Residential, OC Office Campus, and A-O Apartment Office. A small open space area along Core Creek is zoned OR Open Recreation.

The existing land uses on the Middletown side include a mix of residential, institutional, and commercial uses, as well as a limited amount of vacant land. The zoning map generally provides for similar uses on both sides of the boundary, except that districts that permit office and industrial uses in Newtown Township (near the eastern end of the boundary) are across from residential districts in Middletown. Existing land uses are also generally compatible, except in areas where commercial land uses in Newtown are next to residential uses in Middletown, although separation in some of these areas is provided by the Newtown Bypass. The townships could consult to ensure that suitable buffering requirements are in place in those areas where commercial or light industrial uses and residential uses could potentially be located next to each other on the municipal border.

The most prominent landmark in this area, a visual if not actual boundary between these two townships, is the Newtown Bypass (PA 332). The roadway runs along some, but not all of the municipal boundary. As much as Newtown and Middletown should work to coordinate adjacent land uses, the municipalities should also ensure that buffering and other road treatments along the Newtown Bypass are consistent on both sides of the roadway where the municipal boundary and the bypass are co-terminus. The two communities may also consult with the Pennsylvania Department of Transportation on whether landscaping and other measures might be appropriate to diminish the visual impact of the sound barriers and the roadway itself on both motorists entering the area and adjacent properties. Providing more appealing (and, where necessary, safer) crosswalks and pedestrian facilities might also be appropriate in some areas, such as at the intersection of the bypass and Newtown Gate Drive/Summit Trace Road, where a higher density residential development in Newtown is across the bypass from Summit Square Shopping Center, which includes banks, a grocery store, and other commercial facilities. At the western and eastern edges of the boundary between these two communities, not only should both municipalities encourage compatible land uses, but Newtown should also consider ensuring that the “islands” of the township squeezed between Middletown and the bypass have a character and appearance that identifies them as a part of Newtown and the Jointure.

Lower Makefield Township

Lower Makefield Township shares boundaries with Upper Makefield Township and Newtown Township. In the *Township of Lower Makefield Comprehensive Master Plan Update (2019)*, the area opposite Upper Makefield along the Delaware River near the canal and River Road is designated as Residential/Resource Protection on the future land use map. That area of the township is also zoned R-RP Residential-Resource Protection, a zoning district that is intended to protect floodplains and wooded spots along the river. The remainder of that shared boundary is designated as Low Density Residential/Farmland Preservation and is within the R-1 Residential Low-Density District which requires a minimum lot size ranging from 15,000 square feet to 1 acre, depending on the amount of a site classified as resource protection land. Existing land uses, from the comprehensive plan, generally include residential, vacant, and agricultural lands. The

zoning and land uses are generally compatible along both sides of this boundary. The townships could confer regarding the development potential of land in the vicinity of Dolington (in Upper Makefield) to ensure that development appropriate to the village, with appropriate buffering and other treatments, occurs on both sides of the municipal boundary.

The Lower Makefield comprehensive plan designates the portion of the township that borders Newtown above Newtown-Yardley Road as Low Density Residential/Farmland Preservation, except for a small area designated Medium Density Residential. This area is generally zoned R-1 Residential Low Density, except for that small area which is in the R-2 Residential Medium Density District. Agricultural and residential uses are located in this area. There is general compatibility along this portion of the boundary, except that the Office Research District in Newtown Township extends north of Newtown-Yardley Road and some commercial uses are located in this area. The townships should ensure that regulations requiring appropriate buffering are in place for any future incompatible residential and commercial land uses that may be proposed in this location.

Areas south of Newtown-Yardley Road in Lower Makefield are identified as Office Research and also zoned O/R Office Research where a variety of commercial, office, and mixed land uses are permitted. Much of this area is in agricultural use, along with accessory farm businesses. While not directly adjoining Newtown, a large mixed-use development consisting of both commercial space and residential apartment units has been approved in Lower Makefield's O/R District. Located between Stony Hill Road and Interstate 295, this mixed-use development will likely result in increased traffic in the vicinity of the Newtown Bypass and Stony Hill Road. Commercial and institutional uses already exist on the Newtown side of the boundary. The future planning and zoning for this area is generally compatible.

Hopewell Township and Ewing Township, New Jersey

Upper Makefield Township has a long boundary separating it from Hopewell Township and Ewing Township in New Jersey. The Delaware River serves as a barrier and buffer between Upper Makefield and these municipalities. They are also separated by virtue of being located in different states. The only bridge between the Newtown Area and New Jersey is the Washington Crossing Bridge which accommodates approximately 6,400 vehicles a day in 2021.

Nevertheless, zoning in Hopewell Township along this boundary includes a mix of residential districts, the C-1 Neighborhood Retail Commercial District, and the MRC Mountain Resource Conservation District, which is generally comparable to zoning in Upper Makefield. A number of parcels in this district are owned by Mercer County for natural resource conservation. The VRC Valley Resource Conservation District contains the Washington Crossing State Park which lies across the river from the similarly named park in Upper Makefield. Zoning in Ewing Township, east of Upper Makefield, is R-1 Residential Single-Family Detached. Except for a quarry located in Hopewell Township, land uses in Hopewell and Ewing along the Delaware River are also generally compatible, with agricultural, residential, recreational, and vacant land in that area.

Bucks County Planning Policies

Bucks2040: Building Our Future, Together, was adopted by the Bucks County Commissioners on January 3, 2024, as the county's official comprehensive plan. Framed by the principles of equity, sustainability, resilience, and health and well-being, the Plan espouses regional cooperation and encourages

communities to collaborate on land use planning and other issues of regional importance. Multi-municipal planning and zoning is noted as an effective tool for planning beyond municipal borders, with the Newtown Area Joint Zoning Council specifically noted as a model of local government cooperation. As a long-standing example of multi-municipal cooperation, the Jointure itself and its efforts to manage growth are compatible with and contribute to the principles for land use visioning noted in the county comprehensive plan.

Many of the primary issues noted in Bucks2040 have been considered and incorporated into this and previous updates of the Newtown Area Joint Municipal Comprehensive Plan. These include policies for the protection of natural resources and farmland, enhancement of parks and recreational opportunities, hazard mitigation and energy considerations, improving infrastructure, and the promoting of economic opportunity in forms acceptable for use in the Jointure.

Relationship Among Plan Components

Throughout the preparation of this update, continual efforts were made to ensure a high degree of coordination among the various plan components and a general consistency among the findings and recommendations provided in each section. Individual elements of the plan were produced with the recognition that they are interdependent on and interlocking with one another. For example, population projections and land use data included in the sections involving demographics and existing uses were used in the residential development areas analysis and the nonresidential development areas inventory, which were in turn employed in the development of the future land use plan and implementation strategies.

The transportation section makes central the connection between transportation and land use and its recommendations involve providing pedestrian and bicycle facilities that can also be used for recreation and can complement park and open space areas. Recommendations regarding community facilities and services like police and fire protection are influenced by current conditions, projected population trends, and future land use planning. The provision of these facilities, in turn, shapes future land use planning. This comprehensive plan update is intended to promote and protect the public health, safety, and welfare of the Jointure. The stated objectives and policies are designed to achieve those general purposes. Various plan components provide background information and guidelines to assist in the achievement of stated objectives. This comprehensive plan update is also intended to provide the framework upon which more detailed or complementary studies can be prepared, reviewed, or revised when either individual municipalities or the Jointure deems them appropriate.

Guiding Principles

Nine principles will be used to guide the actions and decisions of the townships of the Jointure so that community changes will protect the natural environment, respect existing neighborhoods, protect the agricultural economy, reflect the goals of the residents, and establish living and working environments that provide services and facilities needed for healthy neighborhoods.

The principles were developed by reviewing the results of the resident questionnaire, examining current conditions and trends, learning from the experiences of other communities, and setting objectives for what our community should be in the future.

Principle 1 – Promote Smart Growth

Preserve the character of each community in compliance with the Municipalities Planning Code while maintaining the integrity of the zoning ordinance. Guide new growth into development areas and guide the form of new development to create good places to live that are respectful of neighbors and to the community and that adhere to the principles of the Jointure. Accommodate anticipated growth in defined development areas in all three Jointure townships to meet the area's obligations to provide for new residents in a variety of housing choices.

Principle 2 – Promote Sustainable Development and Protect Natural Resources

Development will be accommodated in a way that protects the land, area, and water for present and future generations. Policies to protect the landscape, vegetation, natural topography, farmland resources, wetlands, and floodplains that have been part of the Jointure standards for four decades will be continued. Updates to these policies to address flooding problems, site disturbance, water quality degradation, loss of tree cover, and energy conservation are recommended, in accordance with the mandates of the Pennsylvania Municipalities Planning Code. Future decisions should be made with a view toward mitigating greenhouse gas emissions, promoting resilience to extreme weather events, and taking all other measures needed to grow rationally as a sustainable community and to protect vital resources such as groundwater recharge.

Principle 3 – Provide for Mobility and Connections

Foster a safe, efficient, and comprehensive transportation system, of roads, rails, buses, transit, trails, bikeways, and sidewalks, that provides a variety of options for traveling in and through the Newtown Area.

Principle 4 – Preserve Open Space and Protect Agriculture

Farming and related uses remain important parts of the landscape of the Jointure, but the pressure from development threatens to fragment these resources and counters the efforts to preserve them. Agricultural and horticultural practices continue to expand, and related activities, such as pick-your-own produce and farmers' markets, help support the area's farming community and provide local food sources. The Plan supports and encourages the continuation of farming within the Jointure, in accordance with the requirements of the Pennsylvania Municipalities Planning Code and Act 38 (ACRE). The Plan supports protecting meaningful open space as part of the development process and through conservation easements.

Principle 5 – Build and Maintain Livable Communities

Adequate community services and facilities such as police protection and schools and areas for community institutions are important community assets. Community services and facilities are often what attract new residents to places like the Jointure. The residents responding to the community questionnaire said that the school system and the facilities that are available to families were important factors in deciding to live here. Some community facilities and services are provided by the municipalities. Other services are provided by private contractors, by non-profit organizations, or by other levels of government.

Principle 6 – Provide Parks and Recreation

Foster the development of active and passive recreation to promote the physical and mental wellbeing of residents of all ages. Parks, recreation facilities, and open space are important improvements and are vital aspects of sound communities.

Principle 7 – Sustain and Support our Commercial and Jobs Base

Maintain the area's convenient and attractive commercial areas for the purchase of necessary goods and services but prevent the over-commercialization of the area. Maintain and enhance the area's economic vitality, businesses and industries that provide jobs, convenient shopping and services, and quality of community life. Good land use planning can direct nonresidential development to areas where it makes sense.

Principle 8 – Protect Historic Resources

Ensure the preservation of the area's historic resources by regulating future growth to recognize, protect and incorporate landscapes, buildings, and other structures of historic, architectural and cultural significance, as required by the Pennsylvania Municipalities Planning Code.

Principle 9 – Preserve our Villages

Protect the scale and character of the villages through land use and design controls so that the historical and cultural heritage of these villages in the Jointure can enhance the quality of life in the present and be preserved for future generations.

PRINCIPLE 1 – PROMOTE SMART GROWTH

“Guide new growth into development districts and guide the form of new development to create good places to live that are respectful of neighbors and to the community and that adhere to the principles of the Jointure. Accommodate anticipated growth in defined development districts in all three Jointure townships to meet the area’s obligations to provide for new residents in a variety of housing choices.”

In the resident survey conducted as part of the comprehensive planning process, **proper growth management was identified as the most important problem facing the Jointure** when planning for its future. This section provides a community vision for future growth and development in the Jointure that attempts to address this concern; it serves as a collective statement by the Jointure communities concerning how they wish to accommodate and direct future development. Specific planning tools are discussed that promote the concentration of future development within appropriate areas of the community while enhancing the preservation of its valuable natural, agricultural, open space and historic resources.

Three major influences have played important roles in shaping the Jointure’s future land use plan: the development district concept, the provisions of the Municipalities Planning Code regarding intergovernmental cooperative planning, and past planning in the Jointure as presented in previous plans and updates.

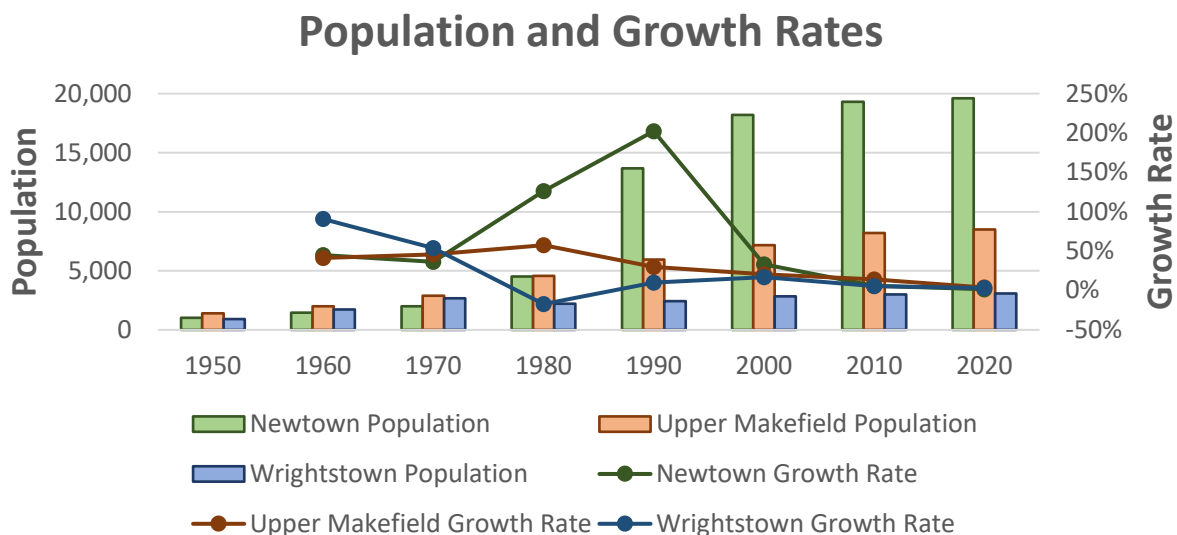
Population and Housing Characteristics

The municipalities that are part of the Jointure experienced population and housing growth during the 20th century, with most of the growth occurring during the past 25 years.

The **total population** in the three municipalities increased from 2,379 in 1930 to 11,311 in 1980. In the years since 1980, the population has jumped to 31,203. Estimates for 2020 show Newtown’s population at 19,606, Upper Makefield at 8,503, and Wrightstown at 3,094.

Between 2000 and 2020, the **Jointure grew by 10 percent**, compared with 5 percent for Bucks County as a whole. Upper Makefield Township had the highest growth rate (18.4 percent) with Wrightstown at 9 percent and Newtown at 7.7 percent. While goals and objectives of prior Jointure planning programs designated Newtown as the future growth area with other land uses designated for Wrightstown and Upper Makefield, these more recent trends indicate a leveling off of growth within Newtown.

Figure 1. Population and Growth Rates, 1950 – 2020. (Source: U.S. Census 1950 – 2010 and American Community Survey 5-Year Estimates, 2016 – 2020)



The **age profile** of residents has changed, with a generally older population in all three communities. The decline in the population between 25 and 34 years of age that occurred in the Jointure parallels what has happened in the rest of Bucks County. The increase in residents over 45 and in the older age groups indicates that the population is getting older, without an influx of younger people.

The population is generally **homogeneous, though trending in the direction of more diversity by race**. The percentage of the Jointure that identified as “white alone” was 94.9 in 2000; that percentage has decreased to 85.2 in 2020. The percentage of those identifying as “black alone” increased from 1.0 percent in 2000 to 2.4 percent in 2020. The percentage of the Jointure population that identified as Hispanic was 1.2 percent in 2000 but has since grown to 3.1 percent in 2020. Further, in 2000, 92.7 percent of Jointure residents were born in the United States and 90.0 percent lived in a household in which English is the only language spoken. Those percentages have seen a slight decrease in the years since; in 2020, 85.6 percent of Jointure residents were born in the United States and 87.9 percent lived in a dwelling where English is the only language spoken.

Residents of the Jointure have a high level of **educational achievement**, with 97 percent having a high school diploma and as many as 66 percent with at least a Bachelor’s degree. Of the Jointure municipalities, Newtown has the highest educational achievement with 67.7 percent of its residents holding at least a Bachelor’s degree. Upper Makefield has 65 percent of residents with at least a Bachelor’s degree, and Wrightstown has 56.1 percent.

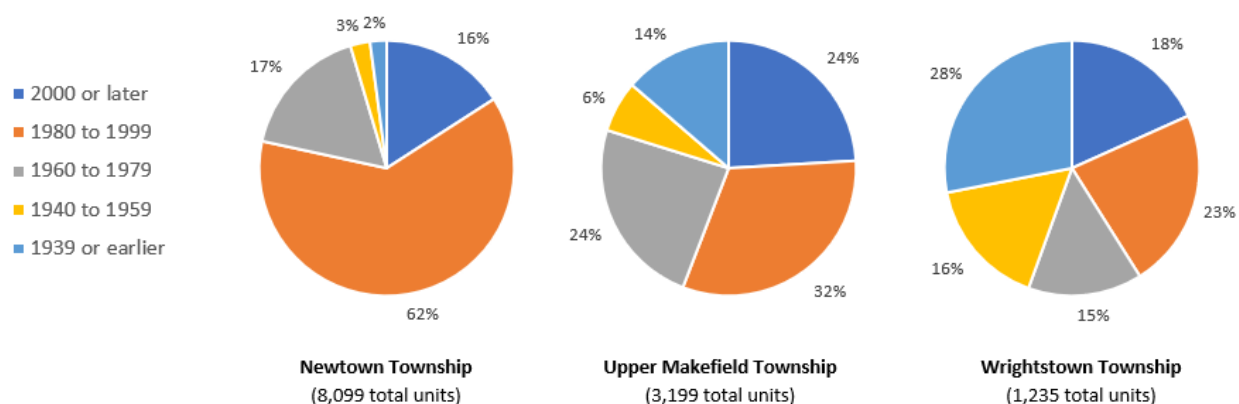
Per capita, family, and household **income** in the Jointure municipalities were higher than Bucks County as a whole, with Upper Makefield having the highest in the county. Median family household income for Bucks County was about \$93,181 compared with \$130,6090 in Newtown, \$129,286 in Wrightstown, and \$169,688 in Upper Makefield.

Household size has declined slightly in the Jointure, consistent with county and national trends toward smaller families and more people living alone.

The total **number of housing units** in the Jointure grew from 10,428 in 1990 to 12,533 in 2020, an increase of about 20 percent. **Homeownership rates** were above the county average in the Jointure, where between 83 and 93 percent of households own their homes.

Residential development that has occurred in the past 40 years results in a **housing stock that is relatively new**. In Newtown Township, 78.4 percent of the housing units have been built since 1980. This is significantly higher than Upper Makefield, where 55.9 percent were built since 1980 or Wrightstown where the number is 40.5 percent.

Figure 2. Housing Stock – Age and Total Units. (Source: American Community Survey 5-Year Estimates, 2016–2020).



Projections for future population and housing growth are prepared by the DVRPC. The three Jointure townships are projected to grow to 31,587 by the year 2030, or an increase of 384 persons over the 2020 population of 31,203. Using prevailing household sizes, this translates into a **projected housing increase of 153 housing units between 2020 and 2030**.

Table 1. Housing Unit Projections. (Source: DVRPC Population Forecasts, 2021 and American Community Survey 5-year estimates, 2016–2020).

	Population			Housing Units			
	2020	2030 (projected)	Net growth (2020 - 2030)	Average Persons per housing unit	2020 Housing Units	Projected Total Housing Units (2030)	Projected New Dwelling Units
Newtown	19,606	19,830	224	2.42	8,099	8,195	96
Upper Makefield	8,503	8,643	140	2.66	3,199	3,250	51
Wrightstown	3,094	3,114	20	2.51	1,235	1,241	6

Land Use Characteristics

The Jointure municipalities are expected to grow modestly in the next 10 years. The goal of the comprehensive plan is to guide development to avoid sprawl and continue to maintain a land use pattern that focuses development in logical growth areas and that preserves natural and agricultural areas. There have been notable shifts in the land use characteristics of the individual townships of the Jointure as well as in the characteristics of the Jointure, as measured against comparable statistics from 2005. Efforts to preserve more areas for recreational use and open space have increased the amount of land dedicated to those purposes. Land accommodating residential uses also saw increases, with combined single-family and multifamily land accounting for one-quarter of the Jointure's land area. Nonresidential land uses that may be associated with increased development (governmental facilities, institutional uses, commercial and manufacturing activities) showed a slight increase in the amount of land devoted to them. While parts of the Jointure were not directly touched by growth, land use changes indicate that development continued to impact the Jointure as a whole. Map 1, Existing Land Use, shows the land use patterns in the Jointure.

LOSS OF FARMLAND AND UNDEVELOPED LAND—The Jointure continued to lose land classified as agricultural in the period 2005 to 2020, and losses in this category constituted the greatest change in number of acres (1,098-acre decrease). Agricultural uses in Newtown Township declined from 9 percent of its total area to 8 percent (39 acres lost), while Upper Makefield had the largest loss of acreage at 832 acres (a decline from 26 percent to 20 percent). Wrightstown lost 226 acres of land classified as agricultural (a decline from 21 to 18 percent) in this period. In some cases, the loss of farmland is offset by open space set aside in cluster developments as viable farmland.

Land not actively farmed, but undeveloped, was also converted during this period. There were approximately 2,297 undeveloped acres in the Jointure in 2005, declining to 1,643 acres in 2020. The decline was greatest in Upper Makefield Township where slightly more than 400 acres of vacant land was converted to developed land. Newtown lost 152 acres, or roughly 2 percent of its vacant land, while Wrightstown lost 94 acres, or 1.5 percent, of its vacant land.

INCREASE IN RESIDENTIAL DEVELOPMENT—Land used for single-family residential dwellings in the Jointure increased the most in number of acres (591 additional acres) dedicated to that use, representing almost 24 percent of the Jointure's land area. Upper Makefield and Wrightstown experienced increases of 276 and 235 acres, respectively, of land in this category. Newtown gained 81 acres dedicated to single-family residential. The percentage of land devoted to this category in each individual township is very similar, ranging from roughly 22 percent each in Newtown and Wrightstown to 24 percent in Upper Makefield.

The percentage of land in rural residential use increased modestly, from 22 to 23 percent of the total area of the community. This category includes residences on lots of five acres or more. Upper Makefield saw the largest increase, gaining 3 percent (427 acres) of land in this category. Rural residential areas in Upper Makefield increased by 3 percent (265 acres) while Newtown experienced a 1 percent drop and Wrightstown saw approximately half a percent drop in this category. The steadiness of this percentage may not be a result of stagnating growth, but instead may indicate the breakup of farms into the rural residences. In particular this may be the case in Upper Makefield, which saw large declines in agricultural land and increases in rural residential land.

Between 2005 and 2020 the amount of land devoted to multifamily housing increased slightly in Newtown (44-acre increase) and Upper Makefield (7-acre increase), while Wrightstown lost 7 acres in this category. Multifamily housing is any type of attached units, including townhouses and apartments.

INCREASES IN OPEN SPACE—Parks, recreation, and open space increased by 498 acres (from 13 to 15 percent of the total) throughout the Jointure from 2005 to 2020. Newtown added 112 acres, Upper Makefield added 281 acres, and Wrightstown added 104 acres in this category. The additions to open space continue as municipalities move aggressively to protect the area's farmland and natural areas, as well as increase park and recreation opportunities. About 15 percent of the land area in the Jointure was devoted to parks and open space, accounting for 4,100 acres, in 2020.

Since 2005, further additions to open space have swelled this total. By expanding the category to include all lands that have been protected from future development, such as land owned by homeowners' associations, under private deed restrictions or open space set aside as part of developments, the total protected land is much greater. In Upper Makefield Township alone, the land set aside and not developable totals approximately 5,000 acres. Similarly preserved open space in Newtown Township and Wrightstown Township greatly expands the amount of protected land.

CHANGES IN NONRESIDENTIAL LAND USES—The amount of land devoted to nonresidential land uses in the Jointure saw little change between 2005 and 2020. The area of the Jointure devoted to government and institutional uses increased by one percent. This increase is due, in part, to the construction and opening of the Washington Crossing National Cemetery. Land classified as commercial increased slightly by one-tenth of a percent, gaining 24 acres. The percentage of land classified as transportation and utility remained the same at slightly less than 7 percent, as did land classified as quarry, which accounts for slightly less than 2 percent of the Jointure total. Land dedicated to manufacturing saw a minor increase in acreage (15 additional acres), but the overall percentage of commercial land remained the same at roughly 2 percent of land in the Jointure. The amount of land classified as manufacturing in the Jointure stayed virtually the same at approximately 2 percent.

Newtown Township's office research district, located along Route 332 near I-295, has been developed with several large office, research, and educational uses and contains several parcels that could be used for future development. Additionally, while the light industrial and office light industrial districts in Newtown Township had previously experienced a transition from manufacturing to other nonresidential uses, such as office, that trend has slowed given economic and employment changes that have significantly reduced the demand for office space. The Newtown Business Commons occupies the majority of both districts.

The areas along Sycamore Street have been zoned for cohesive commercial development and provide a good tie-in to Newtown Borough's State Street district. Newtown Township provides central shopping at two shopping centers.

Upper Makefield has adopted strong recommendations to support the Washington Crossing area, where a fortuitous mix of commercial activities and nationally known historic sites make this a gateway to the community. Physical streetscape improvements that have been constructed since 2008 have enhanced this area.

In Wrightstown, the Penn's Park area and the Anchor area are small-scale enclaves of nonresidential activities, with some modifications and new development in the past decade.

Quarrying is located solely in Wrightstown Township.

The **LAND USE TRENDS** can be summarized:

- Population growth and development in all municipalities.
- Continued attention to preservation of open space to preserve recreation land, farmland, and natural areas, with successful implementation of municipal and county open space plans and increases to preserved land acreages.
- Increased attention to historic resources, such as Washington Crossing and the historic buildings.
- Shift away from traditional manufacturing operations and office space needs due to economic changes affecting employment trends.
- Continuation of commitment to providing good community facilities and services by the townships and school districts.

Planning for Future Needs: Land Use Recommendations

The Jointure townships have examined the current development pattern and have estimated, using DVRPC projections, the future development expected in the Jointure area. This calculation results in an estimated future housing need in the residential development area of the Jointure townships of 71 units between 2020 and 2030.

The comprehensive planning policy of the Jointure has been to accommodate needed growth in areas close to transportation corridors, convenient to community facilities, and away from environmentally sensitive natural features and valued open space. While in the early planning years of the Jointure, this meant focusing development in Newtown Township, that pattern changed in the 1990s as more land was developed in Upper Makefield and Wrightstown.

The basic planning principle adopted years ago by the Jointure continues to be consistent with good planning policy and best practices across the country.

The Jointure townships continue to embrace the development district concept of channeling development into logical areas. This plan includes all residential zoning districts except for the Conservation Management (CM) and Jericho Mountain (JM) districts as part of the residential development district. This means that areas within all three townships are part of the development district. Land within the CM and JM districts is still available and used for residential growth and is considered when estimating future land availability for growth; not being designated as part of the "development district" in a comprehensive plan does not take away the ability to develop land in accordance with the zoning ordinance. Even though the CM district was not part of the development district, development has occurred in the Conservation Management zoning district, and in the past fifteen years, as much as 53 percent of development occurred outside the defined development district.

The land currently zoned and available in the Jointure's residential zoning districts is more than adequate to accommodate future development between now and 2030, even assuming that only a portion of the CM and JM districts is used for development.

The comprehensive plan also looks at the potential for multifamily housing. Using the county's average of percentage of housing units in multifamily arrangements as a benchmark, the Jointure compares favorably to the county as a whole. Taking into account the existing multifamily units and the land available and zoned for multifamily units, the Jointure has a surplus of multifamily units and potential for a larger surplus of multifamily units through the year 2030, if all land zoned were built.

Based on a careful assessment of what exists and on what projected needs are, there is no need to create new higher density zoning districts to accommodate either total expected growth or anticipated need for multifamily dwellings. The emphasis in the next planning period must be on accommodating development in development districts, minimizing sprawl by maintaining current densities and land use patterns, and continuing to protect valued open lands for farming, recreation, and environmental protection.

DEVELOPMENT DISTRICT CONCEPT—The fundamental objective of this concept is to concentrate future development in areas best equipped to handle growth while minimizing land use conflicts and costs to residents. To accomplish this objective, the concept calls for concentration of growth into development districts designated by municipal officials for this purpose. While the development district concept allows municipal officials to plan for the timely expansion of development, infrastructure, and municipal services, it also enables them to preserve significant vacant, agricultural, and natural resource lands as open space.

ARTICLE XI OF THE MUNICIPALITIES PLANNING CODE—The state law governing planning and zoning allows multimunicipal comprehensive plans to designate growth areas where projected development can be accommodated, where commercial, industrial, and institutional uses can be located, and where services for such development can be planned for or provided. The act states that plans may designate future growth areas, designate rural resource areas where rural resource uses are allowed, where the permitted density of development is compatible with rural resource uses, and indicate where infrastructure extensions and improvements will not be publicly financed unless the participating municipalities agree that such services are necessary or appropriate.

PRIOR PLANNING IN THE JOINTURE—The 1983 joint municipal comprehensive plan's provisions for higher density housing were based on the Development District Concept, and high-density housing was directed to areas called Residential Development districts in that plan. The 1997 and 2011 plans identified and described 11 categories of planning areas. This plan expands those areas to reflect actual development patterns and future needs.

DESIGNATED GROWTH AREAS—These areas are intended to accommodate the bulk of future development and infrastructure expansion. They are designed and sized to contain projected future growth, including infill and adaptive reuse opportunities. Thus, development districts also include areas that have been previously developed. Map 2, Future Land Use, shows the proposed land use plan.

RURAL RESOURCE AREAS—These areas include lands that require special resource protection. They contain critical natural resources including large expanses of woodlands, wetlands, hydric soils, and prime agricultural farmland. Rural resource uses are intended to predominate in these areas at appropriate densities with only limited publicly financed infrastructure to be provided.

Planning Areas in the Rural Resource Areas include the following:

1. Jericho Mountain Conservation Area
2. Conservation Management Areas

Planning Areas in the Designated Growth Areas include the following:

1. Low Density Residential Areas
2. Medium Density Residential Areas
3. High Density Residential Areas
4. Neighborhood Conservation Areas
5. Commercial Areas
6. Office and Research Areas
7. Industrial Areas
8. Quarry Areas
9. Public Purpose Planning Areas

Permitted uses, allowable densities and all other standards for each planning area are specified in the respective zoning districts contained with the *Newtown Area Joint Municipal Zoning Ordinance*.

JERICO MOUNTAIN RESOURCE PROTECTION AREA—The fragile ecological characteristics of this planning area and its numerous critical resources, combined with its unique scenic and historical value, require that this area be protected. The limited groundwater resources of this area’s Diabase geology are recognized as a significant constraint to development. These conditions have warranted the area’s designation as a special zoning district with development standards which will help ensure the preservation of its ecology. Protection is also provided through the environmental performance standards of the zoning ordinance. As environmental science improves our understanding of nature and provides improved techniques for its protection, the Jointure should continue to monitor conditions in this area and add protection measures as necessary.

Nonresidential uses permitted as conditional uses in these areas include recreational facilities, childcare facilities, and schools. The Jointure should re-examine these uses. Schools, which require intensive land use and generate increased traffic, may not be suitable in this resource-laden part of the Jointure.

CONSERVATION MANAGEMENT AREAS—This area, much of which is at a distance from development districts, generally lacks sufficient highway capacity and adequate municipal facilities to support intensive development. It also includes a variety of important natural resources, including aquifer recharge areas. This area shall be reserved for low-intensity uses to encourage the continuation of farming, to provide for groundwater recharge, and to provide a balance in land uses throughout the Jointure between these areas and the more extensively developed portions of the community located near the Borough of Newtown and in the other development districts of the three townships. A particular emphasis should be placed on limiting development where it jeopardizes aquifer recharge. Development should prioritize aquifer recharge above all other methods of stormwater management.

Between 2006 and 2020, 59 percent of residential development in Upper Makefield, 68 percent of residential development in Wrightstown Township, and 47 percent of such development in Newtown Township occurred outside of the residential development district. Much of that residential development

occurred in conservation management areas. The Jointure should review its existing zoning regulations to guide intense development away from conservation management areas.

Efforts to channel growth away from conservation management areas included a recent examination of the residential development options permitted in the CM Zoning District, which govern this area. This resulted in modifications to the permitted uses to ensure parity among development options in terms of density in the CM District. Any future changes in use regulations should be coordinated with sewage facilities planning to provide water recharge opportunities.

Nonresidential uses such as schools and childcare facilities may not be appropriate for the conservation management area and their removal from the list of conditional uses should be considered. The Jointure should explore additional mechanisms for preserving agricultural resources and promoting the continuing viability of farming in this area. Certain communities with agricultural preservation zoning not only require that a percentage of farm soils be preserved (as is currently required in the Jointure), but also mandate specific subdivision options for parcels where a certain amount of such soils are found. Along with allowing the subdivision of a large agricultural lot into smaller farms, these options include the subdivision of a site into large estate lots, smaller residential lots or nonresidential lots provided that a farmland preservation tract is also provided. Agricultural soils intended for preservation must be located on that tract whose size, dimensions, and access to roadways (as regulated in the ordinance) make it an attractive parcel to farm. The zoning ordinance could also be revised to permit and regulate suitable accessory uses to agriculture that enhance its viability and presence as an important characteristic of the Newtown Area.

LOW DENSITY RESIDENTIAL AREAS—A range of low-density residential uses shall be accommodated in this planning area in the more rural portions of the region adjacent to several of the Jointure’s villages. It is intended to maintain the existing low-density neighborhoods while providing the opportunity for future development, at similar intensities, as part of the designated growth area. Allowable density varies depending upon the type of residential development and the amount of open space proposed.

MEDIUM DENSITY RESIDENTIAL AREAS—A range of medium-density residential uses are permitted within the portions of the region designated as medium-density residential areas. Allowable density varies from 3.22 du/ac for performance subdivisions to 1.22 du/ac for single-family clusters in the R-1 Zoning District portion. Single-family detached dwellings are permitted on minimum lot sizes ranging from 30,000 square feet to 60,000 square feet. Decisions regarding what types of sewage disposal systems may be appropriate in this area, including alternative systems and community systems, will be based on the recommendations and requirements of the Sewage Facilities (Act 537) plans and any other studies or analyses carried out or required by the Jointure municipalities.

HIGH DENSITY RESIDENTIAL AREA—High-density residential areas are designated in several parts of the Jointure. Several of these areas adjoin neighborhood or community commercial areas and have proximity to adequate highways, existing municipal infrastructure, and other related services. They are located in Newtown Township surrounding the traditional regional center in Newtown Borough, and in Upper Makefield Township in the Taylorsville-Washington Crossing area. The Newtown Grant development is designated as a high-density residential area, as is a portion of Upper Makefield on Creamery Road and several parts of Wrightstown Township on Swamp Road near Rushland.

Allowable density varies from 3.90 du/ac for mixed residential developments, mobile home parks and elderly housing to 1.85 du/ac for single-family clusters. Provisions for higher density housing have been

adapted to incorporate village planning and traditional neighborhood design as forms of development. New development in these areas should be sensitive to the historic resources and should incorporate village planning guidelines.

NEIGHBORHOOD CONSERVATION AREAS—Neighborhood conservation areas are concentrations of residential and mixed-use development which were developed prior to the advent of municipal comprehensive planning and zoning, including the historic villages located in both Upper Makefield and Wrightstown townships. These planning areas provide for residential development consistent with present-day design standards, yet compatible with the existing neighborhood character. Where appropriate, mixed-use development, which preserves the form and function of village areas and contributes to the preservation of historic structures, is permitted.

COMMERCIAL AREAS—Commercial areas in the Jointure are located in Newtown Township in the vicinity of Newtown Borough, near the Taylorsville/Washington Crossing area in Upper Makefield, and in the vicinity of Anchor and Penns Park in Wrightstown Township. The various commercial areas permit development consistent with the function (i.e., neighborhood or community commercial areas) for which they are intended and in a manner consistent with the land use policies of this plan. Commercial areas are not intended to function as regional commercial centers featuring sprawl or strip-mall forms of development, but as sub-regional community commercial areas where development is concentrated in town-center fashion to serve local customers and residents, much like the existing shopping centers in Newtown Township.

OFFICE AND RESEARCH AREAS—The large lot area requirements associated with corporate headquarters, administrative offices and research facilities are provided for within this planning area of Newtown Township near the I-295 Interchange. Interim low intensity uses, such as various agricultural activities, are also permitted in this area by the zoning ordinance. Residential uses permitted by the zoning ordinance may also be appropriate in the portion of these areas north of the Newtown Bypass; such uses should generally not be permitted in the office and research areas south of the Bypass. Other, smaller office and research districts in Anchor and Penns Park in Wrightstown Township provide areas to accommodate office and professional uses intended to meet the needs of the region's residents and businesses. To the extent that less office and research space is needed as an emerging trend following the COVID-19 pandemic, efforts toward revitalization and a reimagining of these uses may be warranted.

INDUSTRIAL AREAS—Since the enactment of the 1983 joint municipal comprehensive plan, the portion of the Jointure judged most suitable for industrial and related development has been located in the Newtown Business Commons. A wide range of industrial-related uses are provided for within this planning area due to proximity to supporting services and facilities.

Industrial areas have also been designated in Wrightstown Township to accommodate comparable forms of industrial development. It is envisioned that any needed services and facility improvements required for industrial uses will be provided by the developers of those sites. Sewage facilities in these areas must be consistent with Wrightstown Township's official sewage facilities plan and any other studies conducted by the township or the Jointure.

QUARRY AREAS—Areas are delineated for quarry activity in Wrightstown recognizing existing uses. Appropriate safety and setback requirements are intended to ensure these intensive uses are compatible with the residential and agricultural uses permitted in surrounding areas. Upon termination of quarry

activities within each area, reclamation shall be undertaken and completed in a timely and appropriate manner in accordance with the Pennsylvania Surface Mining and Reclamation Act.

PUBLIC PURPOSE AREAS—These areas accommodate the significant uses of land devoted to public and institutional purpose. These include the parks and open space areas owned and managed by the Commonwealth of Pennsylvania, the County of Bucks, and the municipalities of the Jointure. Various educational facilities, including the Bucks County Community College, the schools of the Council Rock School District, and St. Andrew's Elementary School, are incorporated into these planning areas. Various facilities and properties of the participating municipalities are also included.

Strategies and Actions

1. Promote a land use pattern which recognizes, preserves, and promotes the agricultural, historic, cultural, and natural features which make the area unique by following the land use plan guidelines described.
2. Provide areas sufficient to accommodate the anticipated growth for a variety of housing types and densities for the 2020 to 2030 period by maintaining current land use regulations.
3. Direct residential and nonresidential development into Development districts in all three Jointure townships where supportive services and facilities exist or can be economically and efficiently provided to prevent sprawl and inefficient development patterns. Simultaneously, planning and zoning changes should be made to limit development within the CM and JM zoning districts.
4. Maintain the boundaries of the existing zoning districts of the Newtown Area Joint Municipal Zoning Ordinance.
5. Evaluate all zoning change requests in light of the Comprehensive Plan policies so that changes are consistent with the Plan.
6. Continue and advance efforts to permanently preserve open space and farmland.
7. Continue and support the joint municipal planning and zoning program.
8. Emphasize limiting development where it jeopardizes aquifer recharge. Development should prioritize aquifer recharge above all other methods of stormwater management.

PRINCIPLE 2—PROMOTE SUSTAINABLE DEVELOPMENT AND PROTECT NATURAL RESOURCES

Many of the Newtown Area’s land use policies are consistent with 21st Century approaches to ensuring that communities are sustainable and environmentally responsible, as encouraged by the Pennsylvania Municipalities Planning Code.

The natural features of the landscape contribute to the quality of life in the Newtown Area. Farmland, woodlands, steep slopes, stream valleys, and gently rolling open spaces are some of the resources that are both visually attractive and have important functions in the ecology of the region.

If these features are to remain assets, protection of specific natural resources must be considered in land use decisions.

Pennsylvania law, through its Constitution, the planning code, and case law, has made it clear that protecting the natural environment is a necessary and legitimate purpose of planning. Planning for “sustainable development” means taking into account:

- Equitable sharing of resources among current and future generations;
- Protecting and living within the natural carrying capacity of the land;
- Minimizing natural resource use; and
- Satisfying basic human needs.

Future decisions should be made with a view toward mitigating greenhouse gas emissions, promoting resilience to extreme weather events, and taking all other reasonable measures needed to grow rationally as a sustainable community and to protect vital resources such as groundwater recharge.

Critical Natural Resources to be Protected

The Plan establishes goals and strategies to establish and maintain a sustainable community.

Floodplains and Floodplain Soils

Floodplains are flat or low-lying areas adjacent to surface waters where flooding has occurred in the past and will likely occur in the future. During periods of heavy rains and high stream flow, floodplains provide temporary storage for floodwaters, reducing flooding threats to adjacent areas and providing a slower, more consistent flow of water. Floodplain soils or alluvial soils are eroded soils that were deposited along the banks of streams by flood waters. The natural vegetation supported by moist floodplains helps trap sediment from upland surface runoff, stabilizes stream banks for erosion control, and provides shelter for wildlife and proper stream conditions for aquatic life.

Floodplains and floodplain soils occur along the Neshaminy Creek on the southwest border of Wrightstown and Newtown townships, Mill Creek in Wrightstown Township, Newtown and Core creeks

in Newtown Township, and the Delaware River, Jericho Creek, Houghs Creek, and tributaries to Pidcock Creek in Upper Makefield Township.

The Pennsylvania Floodplain Management Act (Act 166 of 1978) requires municipalities with flood-prone areas to participate in the National Flood Insurance Program (NFIP) by adopting ordinances that meet NFIP standards for regulating development in the floodplain. The joint municipal zoning ordinance prohibits any development, use, or activity which would cause any increase in the floodplain.

Floodplain ordinances do not preclude all development. Agricultural uses, private and public recreation uses, and uses incidental to residential structures are permitted. Residential or nonresidential buildings may be constructed within the 100-year floodplain so long as they have the lowest floor elevated 1½ feet above the 100-year flood elevation. The structure must also be anchored to prevent collapse, flotation, and lateral movement. While keeping all building out the floodplains is a goal of the Jointure municipalities, this policy has not been supported by case law and legal challenges.

The 100-year flood is one which has a one percent chance of occurring in any single year, but a 100-year flood can and does occur much more frequently than every 100 years. See Map 3, Floodplains and Alluvial Soils.

Serious flooding along the Delaware River has affected Upper Makefield Township, and the township has been active in supporting measures that would reduce flood damages along the river through participation in the Bucks County Delaware River Flood Task Force. This group has advocated better management of upstream reservoirs, emergency management during flood events, and funding for projects that reduce flood damage.

Wetlands

Wetlands are undrained, saturated soils that support wetland vegetation where the water table is at or near the surface or where shallow water covers the area due to permanent or seasonal inundation of surface or groundwater. Wetlands play a key role in maintaining and improving water quality by filtering out chemical and organic wastes. Wetlands store water during storms and floods, thereby reducing hazards to life and property. Wetlands provide groundwater recharge and habitat for many threatened or endangered plants and animals.

Wetlands are regulated by the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection (DEP) under the aegis of the Federal Clean Water Act and various state laws. Any impact to wetlands requires permitting from DEP and the Army Corps of Engineers. State and/or federal agencies that permit wetlands disturbance may require that the loss of wetlands be mitigated by the creation of wetland areas elsewhere. Any impact to wetlands greater than 0.5 acres requires mitigation by the Army Corps of Engineers. The Pennsylvania Department of Environmental Protection also regulates wetlands under Chapter 105 Rules and Regulations administered by the Bureau of Dams and Waterways Management.

The Newtown Area Joint Municipal Zoning Ordinance largely prohibits the direct destruction of wetlands, but many development plans include road crossings of wetlands or create threats to wetlands from the secondary impacts of development. Grading and development near wetlands cause these resources to suffer the loss of hydrologic function and critical wildlife species. The destruction of adjacent vegetation

and the construction of impervious surfaces increase the amount of stormwater runoff and decrease the natural capacity of the wetland to handle water volumes, runoff speed, and pollutants.

Changing the topography near the wetland affects the direction of stormwater runoff and can lead to either increased or decreased amounts of water reaching the wetland which affects the hydrologic functions of a wetland, threatening its existence. See Map 4, Wetlands and Watersheds.

Lakes and Ponds

Lakes and ponds function in a similar manner to wetlands. Whether natural or manmade, ponds moderate stream flows during storms and flood events and play an important role in oxygen and nitrogen cycles. These water bodies provide habitat for aquatic life as well as water sources for wildlife. These landscape features are scenic and recreational amenities.

Watercourses and Streams

Watercourses and streams are important natural features, playing a role in stormwater management, erosion control and water quality. Riparian woodlands play a major role in maintaining the vitality of watercourses. They provide shade and organic matter to support aquatic organisms that are the base of the food web in many habitats. They help to stabilize stream banks, moderate flooding, and filter out pollutants from runoff. Such woodlands can also be an important component of the habitat of local animal populations.

Steep Slopes

Nearly all of the steeply sloping areas in the Jointure are located either along stream corridors, on Jericho Mountain, or along Taylorsville Road. The Delaware River, the Neshaminy Creek, and all other streams are defined by steep slopes along much of their length.

Development on steep slopes accelerates erosion by removing or disturbing the established groundcover and topsoil. Removal of the vegetation destroys the groundcover that absorbs rainwater, anchors soil, and buffers or dissipates the impact of rainfall on topsoil. Erosion produces sediment that pollutes surface water. Over time, accumulated sediments narrow stream channels and fill ponds. This process restricts the capacity of waterways to handle flood flows and increases the incidence and severity of flooding. For this reason, the restrictions on development in these areas contained in the zoning ordinance should be maintained and protected. See Map 5, Steep Slopes.

Woodlands

Where land was not suitable for cultivation because it was excessively wet, rocky, or steep, the forests were harvested from time to time, but not cleared. Today, most of the woodland areas are still located in areas that were not suitable for farming. The largest contiguous forest is Jericho Mountain. In other areas, forest cover extends in predominately linear patterns along fields, ridges, and stream beds.

Woodlands provide shelter for wildlife, play an important role in the oxygen, carbon, and nitrogen cycles, and reduce erosion and sedimentation in the area's streams. The vegetative cover softens the impact of falling rain, facilitates groundwater recharge, and reduces the volume and rate of runoff. Woodlands also play a role in filtering air pollutants and in moderating the impacts of greenhouse gases. Woodlands

moderate environmental conditions, support wildlife, and provide recreational opportunities. Trees also provide an important scenic element in the landscape. See Map 6, Forest Cover.

Prime Agricultural Soils

The Natural Resources Conservation Service (NRCS) provides a classification system for the identification of prime agricultural soils. There are two major classifications as follows:

Prime Farmland—Land best suited for producing food, feed, forage, and oilseed crops. The soil quality, growing season, and moisture supply present are able to sustain high yields for crops economically when managed with modern farming methods. There are limited types of soils that qualify as prime farmland, but they primarily consist of Capability Classes 1 and 2 soils.

Additional Farmland of Statewide Importance—Land that is of statewide importance for the production of food, feed, forage, and oilseed crops. In Bucks County, based upon the list of soils that qualify, the majority are soil Class 3.

The number of farms and the amount of acreage devoted to agriculture has been declining, but aggressive preservation programs have saved many important farms with good farming soils. The most productive lands primarily are located in those areas of Upper Makefield and Newtown townships that have been developed in earlier decades. It is the intent of this plan to preserve farmland soils and to conserve agricultural activity in those areas that are actively farmed and contain concentrations of prime agricultural soils. See Map 7, Agricultural Soils.

Renewable Energy, Energy Conservation, and Green Communities

The Newtown Area Jointure envisions a healthy, thriving community, powered by affordable, community-based, and clean, renewable sources of energy.

Expanding the use of clean, renewable energy sources, such as solar power generated by solar panels as regulated by existing Jointure zoning, reduces greenhouse gas emissions, reduces air pollution, and promotes community resilience to extreme weather events. The Jointure's 2009 Comprehensive Plan effectively promoted the use of energy conservation. As we look toward the future for our community, this plan moves to the next step: promoting renewable energy.

Communities in Bucks County have been establishing policies to conserve energy, reduce greenhouse gases and carbon emissions, and manage development to create "greener" communities.

Many of the actions already in place or proposed by the plan work toward establishing a green community. These include: the development area concept; accommodating non-vehicle forms of transportation; protection of tree cover; production of food locally; recycling; promotion of EV charging stations; and smart transportation planning.

With respect to recycling, plastic and Styrofoam take hundreds to thousands of years to decompose and can cause significant damage to the health of wildlife and waterways, near and far. Dedicated measures to mitigate the environmental impacts of these materials are warranted.

The Newtown Area Comprehensive Plan includes considerations of energy conservation in its plan elements, following the guidance of the Planning Code: "To promote energy conservation and the

effective utilization of renewable energy sources, the comprehensive plan may include an energy conservation plan element which systematically analyzes the impact of each other component and element of the comprehensive plan on the present and future use of energy in the municipality, details specific measures contained in the other plan elements designed to reduce energy consumption and proposes other measures that the municipality may take to reduce energy consumption to promote the effective utilization of renewable energy sources.”

In 2013, the Jointure adopted an ordinance adding a Solar Energy Equipment use, allowing for the use of solar panels as an accessory by right use.

Other steps that can be taken by the Jointure are authorized by the Municipalities Planning Code and include subdivision ordinance requirements to encourage energy efficiency and zoning ordinance standards to protect solar access. These will be pursued during the time frame of this plan.

Natural Resource Protection Standards

The joint municipal zoning ordinance has established maximum, quantifiable encroachment standards based on the capacity of natural features to withstand the effects of clearing and grading. The intensity and location of buildings and site alterations are limited by these standards, which are intended to accommodate disruption with minimal impacts on the site and areas beyond its boundaries. The zoning ordinance also requires a site capacity calculation, a procedure for site evaluation that limits the overall impacts of site development.

Significant Natural Areas

The *Natural Areas Inventory of Bucks County, Pennsylvania* (1999) was conducted by the Morris Arboretum of the University of Pennsylvania (Ann F. Rhoads and Timothy A. Block) for the Bucks County Commissioners and provides guidance for implementation of the natural areas protection component of the Bucks County Open Space Program.

There were 118 sites included in the county list, which was based on the presence of important plant and animal species and habitat. The following were identified as Priority 2, 3, and 4 sites in Wrightstown and Upper Makefield townships; no sites were identified in Newtown Township and no Priority 1 sites were found in the three townships.

In Wrightstown Township the Priority 2 site consists of the Forks of the Neshaminy.

In Upper Makefield Township Priority 3 sites include Bowman’s Hill and Pidcock Creek, Delaware Canal State Park Ellisia Site, Jericho Mountain, Scudders Falls Islands, and Timber Knolls Wetlands. The Priority 4 site in Upper Makefield is Washington Crossing—the former Marazzo Tract now owned by the Pennsylvania Department of Conservation and Natural Resources. Of these sites, about 48 acres of the Timber Knolls wetlands have been preserved. Several other sites are located within the boundaries of state parks and preserves. The Jointure ordinances can require that priority sites be shown on future subdivision and land development plans to help protect and mitigate impacts on these important local resources.

The natural resources of Jericho Mountain were identified in a report called "Environmental Assessment of Jericho Mountain." The mountain's numerous critical resources with severe limitations to

development, as well as its unique aesthetic and historic significance, have warranted its designation as a special zoning district with development standards which will help ensure the preservation of the area's fragile ecology. The Jericho Mountain district contains standards which limit impervious surfaces to 5 percent of the site, prohibit development on slopes of more than 15 percent, and mandate open spaces for single-family cluster subdivisions.

Groundwater

The availability of future sources of groundwater may prove to be one of the most critical limiting factors in future growth. The Conservation Management Areas are reserved for low intensity uses in order to provide for groundwater recharge. Availability is determined by major aquifer formations which underlie the area. Each of these aquifers is characterized by unique geological characteristics that determine water yielding capabilities.

Two hydrologic studies have been conducted within the Jointure, one for Upper Makefield Township to assess the availability and quality of the groundwater within the township and the second for a consortium of townships including Wrightstown Township. Areas of the Jointure rely on low-yield aquifers for the supply of water.

The plan recommends that groundwater resources be considered holistically, from a water cycle perspective, which includes consideration of stormwater management, wastewater planning, water conservation, and land use planning to protect aquifers and to ensure high water quality. Impact studies and well depletion agreements should be required where new development affects groundwater resources.

Soils

There are four areas within the Jointure that have some distinctive soil characteristics.

1. Nearly level to gently sloping, well drained soils, such as Alton and Delaware, located along the Delaware River in Upper Makefield.
2. Nearly level to sloping, moderately well drained types of soil like Lansdale and Lawrenceville, which are generally located in the southern portion of Newtown Township, including all of Newtown Borough.
3. Nearly level to sloping, moderately deep and somewhat poorly drained soils, such as Abbotstown, Readington, and Reaville soils, extending in a wide band through the area covering northern Newtown Township and large areas of Upper Makefield and Wrightstown townships.
4. Moderately steep, poorly drained soils, such as Towhee, Neshaminy, and Mount Lucas, limited to the immediate vicinity of Jericho Mountain.

Each of these areas and their associated soil characteristics will affect a site's suitability for supporting both conventional septic systems and land application systems (e.g., spray irrigation).

Understanding the soils characteristics will help the Jointure communities without centralized wastewater systems to plan for environmentally responsible on-site wastewater systems.

Native Plants

Native plants are well adapted to local soils and conditions, support birds and other wildlife, help to create resiliency to the impacts of climate change for people and wildlife, protect water quality, and help restore the ecological balance.

Because they are adapted to the conditions of the local environment, native plants are the foundation of the region's biodiversity. Plant species such as Swamp White Oak and Purple Coneflower serve as a critical resource for birds as they provide essential food and shelter and help mitigate the challenging effects of our changing climate. Many species of insects have co-evolved with these native plants over time and are essential food sources for birds.

Additionally, by electing to use native plants in yards and public spaces, it allows for a decrease in use of fertilizers and pesticides, which in turn conserves significant amounts of water and reduces demands on energy.

Finally, native plants have been found to be more effective at controlling stormwater and can help contribute to compliance of MS4 requirements when integrated with green infrastructure such as rain gardens, bioswales and riparian buffers.

Deer and Goose Populations

Many areas of Bucks County, including communities in the Jointure, experience problems stemming from the large numbers of deer and Canada geese which have found welcoming habitats in the suburbs. Deer overpopulation often causes overgrazing of natural vegetation and the destruction of cultivated plants. The destruction of young trees and understory plants can lead to forest degradation. Although deer have become less discriminating eaters, municipalities can develop policies and regulations that encourage the planting of vegetation that is less attractive to deer and that discourage purposeful feeding of the deer by residents.

A single goose can produce one to two pounds of droppings per day; whole flocks can have a detrimental effect on water quality, and the nutrients found in the droppings can foster algae blooms and excessive plant growth that choke the life of a lake or pond. Flocks also feed on farm crops and pasture areas, which can result in environmental damage and economic losses.

Discouraging feeding, encouraging the planting of shoreline vegetation that restricts access to the water bodies that the geese prefer, and allowing lakes and ponds to freeze over are among the techniques that can help discourage Canada geese from taking up year-round residence. All three Jointure municipalities have implemented deer population control programs, including a partnership between Wrightstown Township and a local archery club aimed at controlling deer populations on two township-owned properties totaling approximately 100 acres. The Jointure should continue assessing and adopting policies and regulations that environmental science research suggests may reduce the size of these populations and lessen their impact on the region.

Strategies and Actions

1. Recognize that the protection of natural resources has direct effects on the health, welfare, and safety of the community.
2. Develop a climate resiliency plan to prepare the community for extreme weather events and utility and other disruptions.
3. Provide for the protection of critical natural resources including watersheds, groundwater, floodplains, floodplain soils, wetlands, prime agricultural soils, steep slopes, woodlands and stream corridors, and protection from hazards due to areas of hazardous geologic and topographic features.
4. Recognize and protect open land, farms, and farmland as valuable resources for current and future generations.
5. Increase riparian buffer protection in areas lacking sufficient vegetative buffers.
6. Protect sensitive natural resource areas to ensure adequate habitat for threatened or endangered plants and animals.
7. Consult the DCNR Climate Change Mitigation and Adaptation Plan.
8. Ensure that the permitted intensity of development reflects the suitability of particular landscapes to accommodate disruption without affecting natural cycles within and beyond sites where development is proposed.
9. Enforce the natural resource and agricultural soils protection standards in the joint municipal zoning ordinance.
10. Revise zoning standards for wetland buffers and 8 to 15 percent slopes to adequately protect these resources.
11. Revise municipal subdivision and land development ordinances to require that subdivision and land development plans show priority sites designated in the *Natural Areas Inventory of Bucks County, Pennsylvania*.
12. Use the provisions of the Municipalities Planning Code to require energy conservation in new development.
13. Require the use of Low Impact Development techniques (e.g. site analysis and resource conservation plans) that respect a site's natural topography and drainage system while minimizing grading and site disturbance.
14. Support recycling and reduction of solid waste.
15. Consider the use and protection of all water resources: groundwater, wastewater, and stormwater to ensure a safe and reliable water supply and good water quality in streams.
16. Tree Protection:

- a. Establish a policy of “increasing tree canopy and increasing the number of native trees” through tree protection, tree replacement, and forest renewal efforts.
- b. Adopt planning and zoning provisions that require that any variance granted that involves the elimination of existing trees require a two-for-one replacement or commensurate in-lieu payment for offsite replacement.
- c. Enact more stringent requirements for reforestation and afforestation by developers.
- d. Establish a community tree management program, to include an inventory of public trees and wooded areas and a maintenance schedule prioritizing replacement with native trees, understory, and herbaceous plants.
- e. Prioritize selected areas for tree management and reforestation and the removal of invasive plants, especially those that threaten the viability and regeneration of native trees and shrubs.
- f. Develop a plan for native species diversity, stormwater mitigation, increased shade, extended green corridors, and other benefits of trees.
- g. Explore pursuing a study to determine the locations and costs associated with removing dead trees, particularly in areas where development or revitalization opportunities are feasible.

17. Native Plants:

- a. Supplement existing woodlands protection requirements in the joint municipal zoning ordinance by requiring additional tree planting in appropriate environmentally sensitive areas and a mix of native plants as the preferred planting scheme for required landscaping.
- b. Explore the possibility of adopting ordinances providing for the protection of native trees and trees of significance.
- c. Establish a goal of ensuring that all community properties use native plants in new plantings.
- d. Establish a goal of transitioning at least fifty percent of private properties to include no less than twenty percent native plants.
- e. Require the removal of noxious and invasive plants that compete with native trees and other plants, before landscaping begins, as part of the planting plan for new development.
- f. Prohibit the sale or use of noxious weeds and invasive plants and trees.

18. Water Resources Protection:

- a. Ensure an adequate supply of potable water to meet the needs of the region and to ensure adequate quantity and quality of municipal and private water systems.

- b. Explore opportunities for all three townships to work together to encourage water conservation in the Jointure.
- c. Review current zoning regulations to ensure that they adequately protect critical areas of groundwater recharge. The pattern and intensity of development should be carefully controlled in order to prevent the depletion of groundwater resources.
- d. Continue township-level requirements for hydrologic studies to ensure protection of water resources. Studies should continue to address the environmental effects of removing large quantities of groundwater (versus the use of surface water), a determination of the maximum rates of groundwater withdrawal (versus groundwater recharge), and an identification of critical recharge areas within the region.
- e. Establish regulations for wellhead protection zones.

19. Wastewater:

- a. Update the wastewater facility plans for the Jointure municipalities and make sure that wastewater policies are consistent with land use policies.
- b. Require detailed wastewater facilities alternatives for proposed extensions of sewer service outside the delineated Development Area. Such analyses should include the evaluation of community systems and the impact of providing sewer service on the available capacity intended for the Development Area.
- c. Consider the long-term impacts of community wastewater systems and their management.
- d. Adopt ordinances which address operation and maintenance requirements and design requirements of individual alternative systems (e.g., spray irrigation or stream discharge systems) supplemental to PADEP and BCDH regulations.

20. Study deer and goose control issues and adopt any necessary related ordinance language as a way to protect the public against threats from diseases and other threats. Promote the ongoing education of resource protection programs and activities sponsored by various public and private organizations/agencies. Support and foster intermunicipal cooperation on deer control matters.

21. Promote use of vegetated buffers around BMPs and ponds to discourage use by Canada geese.

22. Renewable Energy and Energy Conservations:

- a. Direct residential and nonresidential development into Development Areas in all three Jointure townships where supportive services and facilities exist or can be economically and efficiently provided to prevent sprawl and inefficient development patterns.
- b. Continue and advance efforts to permanently preserve open space and farmland.
- c. Continue to review the joint municipal zoning ordinance to ensure it promotes compact mixed-use development that is conducive to pedestrian and bicycle travel and reduction in vehicle trips.

- d. Encourage connecting neighborhoods; provide traffic safety measures to discourage speeding and cut-through traffic on neighborhood streets.
- e. Encourage the expansion of the public transportation and non-automotive options for travel within the Newtown Area.
- f. Support the efforts of the Bucks County Foodshed Alliance, the Wrightstown Farmer's Market, and other similar enterprises (e.g., public awareness initiatives, procurement of funding sources) and consider other mechanisms to create community-supported agricultural enterprise to help preserve farming operations, provide food and energy sources close to home.
- g. Consider amendments to township subdivision and land development ordinances to incorporate provisions encouraging the use of renewable energy systems and energy conserving building design, as authorized by the Municipalities Planning Code.
- h. Consider amendments to the joint municipal zoning ordinance that are designed to promote access to incident solar energy, as authorized by the Municipalities Planning Code.
- i. Work with homeowners' associations (HOAs) to discuss any restrictions on installation of home solar panels.
- j. Study the feasibility of installing renewable energy sources—including solar and geothermal—at community facilities.
- k. Incorporate LEED building standards into municipal ordinances.
- l. Convert streetlights to a more efficient lighting option.
- m. Promote use of electric vehicles by supporting zoning amendments for charging stations.
- n. Look toward using LED lighting in the Jointure.

PRINCIPLE 3 – PROVIDE FOR MOBILITY AND CONNECTIONS

“Foster a safe, efficient, and comprehensive transportation system that provides a variety of options for traveling in and through the Newtown Area.”

The transportation system provides access to homes and businesses and connections to places inside and outside of the community. Rapid population growth and a strong economy have challenged the ability of the transportation system to serve locations efficiently. Funding levels for roads, the backbone of the transportation system, have not kept pace with the proliferation of motor vehicles, housing and businesses, or with the increase in trips per person. The backlog of needed road maintenance and construction projects has grown larger, even as residents of the Jointure townships express their concern that traffic is among the most significant problems in the area.

Good Transportation Planning

Conflicts arise when mobility is impeded by congestion, but also when traffic moves too quickly through local streets, disrupting neighborhood safety and peacefulness. While the Jointure has made significant strides in encouraging efficient land use patterns, people tend to use their automobiles more frequently than in the past. While this is typical of most communities, an automobile-dominated transportation system may destroy more opportunities than it creates. This combined with minimal public transportation in the Newtown Area creates safety problems and traffic congestion. Once seen as a symbol of freedom that gave the individual citizen command over time and space, the automobile is now increasingly seen as a major source of congestion and pollution.

The components of good transportation planning are discussed below. These concepts need to be considered when developing ordinances, when working with PennDOT, when reviewing plans and working with developers, and when planning municipal improvements.

Establishing the Transportation/Land Use Connection

Land use patterns and intensity influence the roadway network. Likewise, the roadway network can influence the land uses in an area. Just as new or expanded transportation systems create new access opportunities that attract new development, new development patterns create new trips and a need for additional transportation facilities. Some land uses require access to larger roads, and the joint municipal zoning ordinance contains requirements for road access where the proposed use will generate large traffic volumes. These regulations will be continued and expanded where needed. See Map 8, Highway Classifications.

Overdevelopment coupled with inadequate transportation services and funding create congestion and traffic impacts on highways and local roads. They cause worsening air quality conditions, decreased highway safety, and reduced community access. Inefficient transportation access and unplanned land use patterns can be a significant hindrance to economic growth and productivity.

The traditional approach to meeting transportation demands—building more and bigger roads—is no longer an option. As quality-of-life values emerge and funding shrinks, communities can no longer rely on new road capacity to meet ever-increasing demands.

The Jointure townships must recognize that transportation improvements will not keep pace with trip increases and that managing growth is the only way to ensure mobility. The Jointure townships must carefully consider the transportation implications of every land use decision, beginning with every request for a change of zoning or land use.

Context Sensitive Solutions

In the not-so-distant past, transportation engineers and designers ignored the questions and concerns of the community while designing new transportation systems, focusing solely on the fast and efficient flow of traffic. Realizing the mistakes of the past has led these professionals and PennDOT to develop a better way—Context Sensitive Solutions. Context sensitive solutions look beyond the pavement to the function streets and highways perform in enhancing communities and natural environments.

The approach looks at the need and purpose of transportation projects as well as addressing safety, mobility, and the preservation of scenic, aesthetic, historic, environmental, and other community values. Context sensitivity emphasizes the broad nature of solutions to transportation needs by focusing on enhancing the quality of life for transportation users, communities, and the surrounding environment. There are no boilerplate solutions. For each potential project, designers are faced with the task of balancing the need for the highway improvement with the need to safely integrate the design into the surrounding natural and human environments. As transportation improvements are being planned, the Jointure should identify important areas that warrant protection.

Access Management

The Newtown Area has several arterial roadways designed for large volumes and high-speed traffic with access to abutting properties restricted. Controlling access to these roadways will allow them to perform their intended function. When access is not controlled, the number of conflict points with roadway traffic increases, placing serious demands on the roadway capacity and making conditions unsafe for vehicles entering or exiting the highway.

Access management is both a land use and traffic issue and includes such techniques as:

- shared driveways
- secondary roadways
- driveway spacing
- planted median strips
- protected left turn lanes

Any experienced driver is familiar with the difficulties encountered on roads with many driveways to local businesses, compared with roads where access has been controlled and managed. Access management measures should be included in the subdivision and land development ordinances and the plan review process.

Traffic Calming

Traffic calming measures are used to address speeding and high cut-through traffic volumes on neighborhood streets. By addressing high speeds and cut-through volumes, traffic calming can increase

both the real and perceived safety of pedestrians and bicyclists and improve the quality of life within the neighborhood. Physical types of traffic calming, such as speed humps, speed tables, chicanes, planted medians, roundabouts, and curb extensions, are self-policing; motorized vehicles will slow down in absence of a police presence.

Some of the goals of a traffic calming program are:

- Achieving safe, slow speeds for all vehicles;
- Improving the safety and the perception of safety for non-motorized users of local roads;
- Increasing roadway safety by reducing crash frequency and severity;
- Increasing the compatibility of all modes of transportation, specifically with pedestrians and bicyclists;
- Reducing cut-through vehicle traffic on local roads;
- Safely accommodating emergency vehicles; and
- Reducing the need for enforcement on local roads.

Good context sensitive design will also take into account the design speed and physical conditions of new roadways. This will help control traffic speeds so that retrofits of streets to build traffic calming measures will become less necessary. Subdivision and land development ordinances should include street design standards that will limit speeds and provide for safer travel.

Complete Streets: Planning for Pedestrians and Bicyclists

Affording mobility to people on foot, on bikes, in wheelchairs, or in strollers is a goal of this comprehensive plan. Walking remains the least expensive form of transportation for all people, and the construction of a walkable community provides the most affordable transportation system any community can plan, design, construct and maintain.

Through the provisions of the local subdivision and land development ordinances, the Jointure is able to ensure that new developments, both residential and nonresidential, can be provided with walkways such as sidewalks or macadam multi-use paths. Ordinances should ensure that the entire right-of-way is routinely designed and operated to enable safe access for all users. The most feasible method of accommodating non-motorized travel would be to require multi-use paths along road frontages.

Improvements that use Complete Streets concepts, such as those completed along Sycamore Street, improve traffic flow, and also provide for safe and effective pedestrian travel.

Public Transportation

The Newtown Area is served by one bus route by the Southeast Pennsylvania Transportation Authority (SEPTA). Route 130 runs from Bucks County Community College and Newtown Grant in Newtown Township to Philadelphia Mills Mall. The service connects the college, the Newtown Business Commons, and other areas of the township to the SEPTA West Trenton Regional Rail Line (Langhorne Station) and to employment and commercial centers in the southern part of Bucks County.

Another rail line which traverses the Newtown Area is the New Hope/Ivyland Railroad. The Warminster Commuter Railroad, owned and operated by SEPTA, ends its service at the Warminster Train Station, just south of Ivyland Borough. However, the existing rail line continues to New Hope Borough passing through

Wrightstown Township. At this time, the New Hope/Ivyland Railroad operates a tourist-based operation with scenic train rides.

Transportation Improvement Program

The Bucks County Transportation Improvement Program (BCTIP) is an inventory of transportation-related improvements requested by municipalities, concerned citizens, transportation studies and other sources. This wish list is submitted to the DVRPC to be included as candidate projects for the regional TIP. The regional TIP is updated every two years, in coordination with PennDOT's Twelve Year Plan (TYP). The regional TIP lists all projects that will use federal and/or state funds for their engineering, right-of-way costs, or construction costs.

Funding for projects is dependent upon federal allocations of transportation funding to our region. DVRPC, in conjunction with the member governments of the region, rank and select these projects submitted by the member governments. The TIP is approved by the DVRPC Board and then submitted to PennDOT to be included in the state TIP. The TIP can and does change monthly, as projects are added, deleted, or changed.

The current DVRPC TIP includes the following projects in the Newtown Area:

MPMS#	Location	Description	Construction Year
88083	Stoopville Road	Pedestrian/Roadway Improvements/Signalization	2027
64781	Swamp Road Bridge	Bridge Rehabilitation	2026

Transportation Alternatives Set-Aside Program

The Transportation Alternatives Set-Aside Program, sponsored by PennDOT and managed through the DVRPC, is designed to fund non-traditional transportation projects and to strengthen the cultural, aesthetic, and environmental aspects of the nation's intermodal transportation system. This funding program can be used for the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act.

Strategies and Actions

1. Make the land use - transportation planning connection by considering the transportation effects of planning decisions.
2. Promote improvements that eliminate or avoid hazardous transportation conditions for motorists, bicyclists, and pedestrians and that are designed with consideration given to scenic, aesthetic, historic, environmental, and other community values.
3. Promote a Complete Streets approach in roadway design.

- a. Revisit pedestrian safety on Sycamore Street, working in conjunction with Newtown Borough.
 - b. Pursue grants to improve pedestrian safety.
- 4. Encourage pedestrian/multi-use path facilities for all new developments. Support efforts to develop SEPTA's former Newtown Rail Line and the proposed Middle Neshaminy Greenway into a shared-use path and develop bike and pedestrian facilities to link Jointure communities to the Circuit Trail System. Jointure should incorporate recommendations found within the Newtown Township Trail Plan into its larger plan to build trails within its area.
- 5. Identify needed improvements to the road system and coordinate efforts with PennDOT to address improvements in a manner appropriate to the area (context-sensitive designs).
- 6. Review and revise the joint municipal zoning ordinance to ensure that, where appropriate, it promotes compact mixed-use development that is conducive to pedestrian and bicycle travel and reduction in vehicle trips.
- 7. Connect neighborhoods; provide traffic calming designs and street standards to discourage speeding and cut-through traffic on neighborhood streets.
- 8. Encourage the expansion of the public transportation and non-automotive options for travel within the Newtown Area.
- 9. Make sure developers pay their share for traffic improvements to compensate for the impact of their development.
- 10. Continue to work together on traffic solutions.

PRINCIPLE 4 – PRESERVE OPEN SPACE AND PROTECT AGRICULTURE

Open space and agriculture remain important uses of the Jointure's landscape. Pressure from development counters the efforts to preserve these uses as pressure from development threatens these valuable resources. As agricultural practices continue to expand, so does the support of the area's farming community and ability to provide local food sources.

The plan supports and encourages the continuation of farming within the Jointure, in accordance with the requirements of the Pennsylvania Municipalities Planning Code and Act 38 (ACRE).

The municipalities within the Jointure have successfully preserved thousands of acres of land for farming and open space purposes. The comprehensive plan supports continuing the protection of meaningful open space as part of the development process through purchase of conservation easements.

When the Jointure was formed in the 1970s, no members could have predicted the overwhelming public and governmental support for preserving farmland. The momentum has grown, and millions of dollars have been spent to ensure that farming remains a strong sector in the local economy and a visible part of the landscape.

While development has inevitably taken some farmland, agricultural practices continue to expand, including the raising of higher-valued nursery stock, bedding plants, vineyards, and ornamental crops. Related activities such as accessory farm businesses, continue to increase and provide local food sources.

Farms have continued to be preserved through the Bucks County Agricultural Land Preservation (BCALP) program and through the land preservation programs in place within the three municipalities. The BCALP includes eight farms in Upper Makefield Township and two farms in Wrightstown Township. These farms have a total area of 1,043 acres preserved.

Upper Makefield Township includes in its open space calculations everything that cannot be further developed, whether it is open space in a development, agricultural easements, open space easements, parkland, or outright ownership by the township or a conservancy. The township also includes lands owned by the school district in land that cannot be further developed. Using this definition, about 5,000 acres of land in Upper Makefield cannot be developed in the future.

Wrightstown owns the 101-acre Anchor Run Farm, which operates as Community Supported Agriculture (CSA), as well as the Wicen, Chippewa, and Smith Farms. These farms, combined with others preserved by the county, the township, and conservancies, represent most of the farming acreage in Wrightstown Township.

Newtown Township contains several farms and is still committed to preserving agricultural lands from development and encouraging active farming. The township also seeks to continue to preserve open space for passive and active recreation.

The joint municipal zoning ordinance contains provisions that require open space preservation and protection of agricultural soils as part of new development. Protection of farm soils, which is a permitted

purpose of zoning under Pennsylvania law, is one step that municipalities can take in order to preserve a valuable resource.

Bucks County Agricultural Easement Program

In May 1989, the Bucks County Commissioners appointed a nine-member board to develop and oversee a county farmland preservation program. The Bucks County Agricultural Land Preservation Program (BCALPP) seeks to acquire agricultural conservation easements on viable farmland within the county.

An agricultural conservation easement can be secured from a willing landowner and is a legally binding document filed in the land records for the deed of a farm property, restricting its use to agricultural and directly associated uses. Restrictions are binding upon the owners and future owners, carrying with the land. A conservation easement allows a landowner to protect his farmland for agricultural uses while retaining private ownership.

The BCALPP compensates farmers for the difference between the fair market value (development value) and the agricultural value of their land. To be eligible for this program, the strict criteria must be satisfied, including farm size, soils types, enrollment in the agricultural security district, and other measures of farm viability. Landowners apply to become eligible for the preservation program.

Several farmers in the Jointure have participated in the program. Farms preserved in Upper Makefield Township consist of the two Gunser properties (93.1 and 131.7 acres), the Siegel property (90.9 acres), the Thorpe property (133.5 acres), the Schleyer property (70.3 acres), the Rapuano Estate (172.8 acres), the Slack farm (100 acres), and the David Library (52.6 acres). The program preserved the Trivellini property (48.1 acres), Webb/Hartman property (21 acres) and the Stott-Cohen property (127.4 acres) in Wrightstown Township.

Lands with Preferential Assessment

Numerous residents within the townships have registered their properties with the county under the Pennsylvania Farmland & Forest Land Assessment Act of 1974 (Act 319). Bucks County has entered into voluntary covenants with owners who have valuable open space resources in order to encourage retention of open space by granting a lowered assessment. Under this program the property, except for the portion considered part of the home site, is assessed by the county at the fair market value (or at less than its highest and best use). As a result, the property owner is afforded significant savings through a preferential property tax assessment as an incentive to maintain the land as farmland or forest land. Act 319, also known as the “Clean and Green Act,” is available to landowners for the following uses: agricultural use, agricultural preserve, and forest preserve. Enrollment in this program is continuous unless dissolved by the landowner or eligibility requirements are not met.

Lands covenanted under Act 319 are not permanently protected because the property owners can terminate the agreement at any time. Commitment to Act 319 is an example of a local grassroots action that should be considered in the overall open space planning process. In total, there are approximately 6,877 acres of land covenanted under Act 319 within the Jointure (590 in Newtown Township, 4,514 in Upper Makefield Township, and 1,773 in Wrightstown Township).

Agricultural Security Areas

Enrollment into an Agricultural Security Area (ASA) suggests a voluntary commitment by property owners for ongoing farmland preservation. The ASA program was created by the Agricultural Security Area Law (Act 43 of 1981) to protect the agricultural industry from increasing development pressure. ASAs are intended to promote permanent and viable farming operations by strengthening the farmer's sense of security in his right to farm.

For properties to be eligible for enrollment into an ASA, the aggregate total of the properties must be a minimum of 250 acres of viable farmland, and the zoning district in which these properties are located must permit agricultural uses. Individual parcels comprising a designated ASA must be at least 10 acres in area of which at least 50 percent contains Class 1–4 soils. Respective property owners must petition the township supervisors in order to gain approval into the program. Consequently, once enrolled into an ASA, farmers gain the following benefits:

- Protection from municipal nuisance ordinances which restrict odors and noise in a community;
- Protection from governmental acquisitions of land through condemnation or eminent domain; lands proposed for such action within an ASA must first be approved by the Agricultural Lands Condemnation Approval Board;
- To be eligible for the county's agricultural land preservation program, a farm must be enrolled in an Agricultural Security Area.

The voluntary participation of landowners in Act 319 and in Agricultural Security Areas is important to consider in future farmland preservation planning.

The preservation of farmland is only one component of open space preservation in the three communities, which includes parkland, recreation areas, and natural areas or resource-protected areas. But farmland is important for the role it plays in providing local food sources for residents and for livestock. All efforts, from encouraging agricultural security areas to patronizing local farmers' markets, will help to sustain local farming in the Jointure.

Municipal Agricultural Preservation Efforts

Outside of preservation efforts originating from county and other agency-led initiatives, the Jointure municipalities have been active in their own right in preserving farmland. The following table outlines the parcels preserved under agricultural conservation easements by municipalities.

TMP#	Township	Acreage	Date Original Easement Recorded or Property Acquired
29-007-020	Newtown Township	62.25	Jan 26,1998
47-001-002	Upper Makefield Township	110.39	12/30/2008 & 12/19/2018
47-001-016	Upper Makefield Township	42.29	Dec 20,1999
47-001-035	Upper Makefield Township	33.77	Dec 30,2002
47-001-044	Upper Makefield Township	44.12	Nov 12,2002
47-001-045	Upper Makefield Township	50.3	Nov 12,2002
47-001-051	Upper Makefield Township	27.5	May 06,1999
47-001-051-001	Upper Makefield Township	35.41	May 06,1999
47-001-051-002	Upper Makefield Township	62.36	May 06,1999
47-001-051-004	Upper Makefield Township	20.37	May 06,1999
47-004-023	Upper Makefield Township	71.91	Dec 31,2001
47-004-062	Upper Makefield Township	31.43	Dec 30,2008
47-004-066	Upper Makefield Township	28.53	Jun 06,2003
47-004-080	Upper Makefield Township	126.18	Dec 30,2002
47-004-104	Upper Makefield Township	15.28	Dec 28,2001
47-007-084	Upper Makefield Township	4.37	Sep 18,2014
47-008-002	Upper Makefield Township	20.05	May 18,2018
47-008-005	Upper Makefield Township	17.85	Dec 31,2007
47-008-005-001	Upper Makefield Township	10.88	Dec 31,2007
47-008-019-001	Upper Makefield Township	48.96	Dec 31,2007
47-008-020	Upper Makefield Township	88.8	Jan 04,1999
47-008-042	Upper Makefield Township	24.53	Dec 30,2005
47-008-047	Upper Makefield Township	31.87	May 23,2002
47-008-047-001	Upper Makefield Township	50.17	May 23,2002
47-009-012-002	Upper Makefield Township	10.01	Sep 18,2014
47-009-012-003	Upper Makefield Township	21.25	Sep 18,2014
47-020-001-001	Upper Makefield Township	76.5	Apr 11,2002
47-020-002-001	Upper Makefield Township	61.12	Jul 12,2007
53-001-018	Wrightstown Township	17.3	Jun 25,2004
53-001-057	Wrightstown Township	0.11	Jun 25,2004
53-001-079	Wrightstown Township	1.78	Apr 08,2004
53-001-082	Wrightstown Township	24.77	Apr 08,2004
53-002-035	Wrightstown Township	36.03	Dec 31,2003
53-012-028	Wrightstown Township	33.13	Jul 14,2017
53-012-028.001	Wrightstown Township	4.25	Jul 14,2017
53-012-053	Wrightstown Township	64.69	Aug 06,2020
53-012-093	Wrightstown Township	36.61	Mar 27,2003

Strategies and Actions

1. Support the maintenance and extension of Agricultural Security Areas, which protects farmers from nuisance regulations and allows interested farmers to participate in the Bucks County farmland preservation program.
2. Continue protection of agricultural soils through the zoning ordinance.
3. Accommodate accessory farm businesses consistent with the existing zoning regulations without jeopardizing the true agricultural nature of farms within the Jointure.
4. Revise the joint municipal zoning ordinance to include buffer standards to separate new development from farmland.
5. Support the efforts of the Bucks County Foodshed Alliance and other similar organizations (e.g., public awareness initiatives, procurement of funding sources) and consider other mechanisms to create community-supported agricultural enterprise to help preserve farming operations, provide food and energy sources close to home.
6. Monitor trends in agricultural and horticultural uses and practices to determine if changes are necessary to the use, area, and dimensional requirements related to these uses in the joint municipal zoning ordinance and municipal subdivision and land development ordinances.
7. Continue farmland preservation efforts.
8. Continue open space requirements as part of development options. Improve the joint municipal zoning ordinance standards for open space set-asides by mandating meaningful and useful open space as part of new developments.
9. Support county, state and federal programs that result in the continuation of open space preservation efforts in the municipalities and evaluate and develop potential funding sources for open space acquisition.
10. Promote private initiatives in conjunction with public funding sources to protect strategic open space lands.
11. Remain supportive of any future county programs regarding land and easement purchases, such as the Bucks County Open Space and Natural Areas programs.
12. Develop, adopt, and implement specific goals and metrics for open space preservation as set out in each of the three Township's most current individually adopted open space plans.

PRINCIPLE 5 – LIVABLE COMMUNITIES

“Adequate community services and facilities such as police protection and schools and area for community institutions are important community assets. Community services and facilities are often what attract new residents to a community like the Jointure area. Some community facilities and services are provided by municipalities. Other services are provided by private contractors, by non-profit organizations, or by other levels of government. The Newtown Area is part of a larger region, and fostering a good community includes working well with neighboring communities.”

Land use planning and planning for community facilities and services should be coordinated so that the resources and activities of public, private and non-profit entities operating within a community can be blended to meet goals and outcomes. Community facilities are part of the constellation of factors that can either enhance or detract from the quality of life in a community and are essential for the health, safety, and welfare of its residents.

This was confirmed by the survey of area residents, who selected quality of life, the family environment, and the school system as the primary reasons for locating in the Newtown Area. See Map 10. Community Facilities.

This section will analyze the adequacy of existing and projected community facilities and services (i.e., water facilities, wastewater facilities, police services, fire protection, emergency medical services, schools, libraries, solid waste management, stormwater management facilities).

As the community changes, community facilities and services need to be adjusted to keep pace with growth and with changing needs.

Water Supply and Wastewater Disposal

Land use planning and planning for water and wastewater services should be closely integrated. There are two important principles that will guide future decisions and actions:

1. Maintaining a sustainable water supply for homes and businesses is central to planning and involves all aspects of water use and disposal.
2. Wastewater and water decisions should support and help implement the region's land use planning policies.

Wastewater and water planning activities are the responsibilities and prerogatives of the individual municipalities. The basic principles of protecting water resources by considering water supply in land use planning and by disposing of wastewater in ways that replenish groundwater are shared goals of the three municipalities and fundamental to the area's comprehensive plan.

Wastewater Facilities

Coordination of the planning for wastewater collection, conveyance, treatment, and disposal with regional land use planning is a primary intent of this joint municipal planning program.

Public Wastewater Systems—Over 95 percent of the homes and businesses in Newtown Township are served by public wastewater through the Newtown, Bucks County, Joint Municipal Authority (NBCJMA) system, which discharges directly and indirectly (through the Core Creek Interceptor) to the Neshaminy Interceptor system of the Bucks County Water and Sewer Authority (BCWSA). The Neshaminy Interceptor ultimately discharges to the Northeast Philadelphia Treatment Plant. Under an existing agreement with the BCWSA, the NBCJMA is obligated to operate and maintain its collection system and make any necessary replacements and improvements to maintain service. The NBCJMA reports that there are no major maintenance issues with the collection and conveyance system (e.g., infiltration and inflow problems).

The other public wastewater systems in the Newtown Area exist in: 1) Upper Makefield Township which has three public, municipally owned and operated water and sewer treatment systems; and 2) Wrightstown Township which has two public, municipally owned and operated wastewater treatment systems.

Upper Makefield Township

The Heritage Hills water and sewer treatment plant serves the Heritage Hills and Traditions developments and single-family homes in development in the Taylorsville area. The plant's capacity has been expanded and upgraded to 172,544 gallons per day (gpd).

The Dutchess Farms sewer treatment plant provides sewer treatment for the 67 single-family homes in that development with a capacity of 3,900 gpd.

The Enclave water and sewer treatment plant serves the 96 units in the development and three neighboring lots with a capacity of 20,000 gpd, but with an approved planning module to be expanded to 55,500 gpd to serve neighboring developments on the White Farm and Melsky developments.

Wrightstown Township

The Brownsburg Road facility, serving the Matthews Ridge development, is a drip irrigation system designed to accommodate neighboring homes and is not designed for expansion. It has a capacity of 5,400 gpd and serves 26 homes.

The Wrightstown Road facility, serving the Jane Chapman development, is a stream discharge system designed to accommodate neighboring homes and is not designed for expansion. It has a capacity of 16,100 gpd and serves 78 homes.

There are several small nonmunicipal, industrial, and individual alternative wastewater treatment facilities in Wrightstown and Upper Makefield townships. Several of the nonmunicipal facilities in Wrightstown use spray irrigation for treatment and disposal. The remaining nonmunicipal facilities utilize stream discharge. There are individual alternative wastewater treatment facilities with stream discharge serving single-family homes in Wrightstown and in Upper Makefield and two alternative sand mound systems serving single-family homes. There is one wastewater facility in Wrightstown that treats industrial wastewater with discharge to an unnamed tributary of Mill Creek.

Much of Wrightstown and Upper Makefield townships and a small portion of Newtown Township rely on individual on-lot disposal systems. The Newtown Area is somewhat evenly divided between soils suitable for conventional subsurface systems and soils that are not suitable for such systems. Large concentrations

of soils generally suitable for on-site systems exist in the eastern portion of Upper Makefield bordering the Delaware Canal from Dolington Road to north of Washington Crossing State Park. Large concentrations of soils generally unsuitable for on-site systems exist in the central portion of Upper Makefield surrounding Jericho Mountain and scattered throughout Wrightstown.

The major soil limitations in the Newtown Area are high water tables, slow permeability, and shallow depth to bedrock. Past studies and surveys have documented the presence of malfunctioning on-lot disposal systems scattered throughout Wrightstown and Upper Makefield townships and concentrated in the Windybush, Penns Park, and Anchor Estates areas of Wrightstown and in the Dolington, Taylorsville, and Mt. Eyre areas of Upper Makefield.

All three townships have adopted management programs for on-lot systems that include educational material for homeowners and specify requirements for the proper operation and maintenance of these facilities. Wrightstown and Upper Makefield have adopted On-Lot Disposal System management plans, with requirements for periodic pumping of on-lot tanks.

Wastewater Facilities Planning

Pennsylvania laws, which authorize sewage facility and land use planning functions, direct and encourage municipalities to coordinate these efforts. The Pennsylvania Code, Title 25, Chapter 71, Section 71.21 directs municipal officials to consider their comprehensive plan, zoning ordinance, and subdivision ordinance in the preparation, review, and amendment of their official sewage facilities plan. The Pennsylvania Municipalities Planning Code addresses the connection between planning and water/wastewater infrastructure in several sections.

- Section 301(4) of the MPC provides that a plan for community facilities and utilities, including wastewater facilities, be made part of a comprehensive plan.
- Section 303(4) of the MPC specifies that any construction, extension, or abandonment of any wastewater line or sewage treatment facility be reviewed by the municipal planning commission, for consistency with the comprehensive plan.
- Section 604(l) of the MPC, which deals with the purposes of zoning, states that the provisions of zoning ordinances shall protect the public health and general welfare through adequate provisions for wastewater facilities.
- Section 503(3) of the MPC states that a subdivision and land development ordinance should contain standards for the installation of wastewater facilities.

The Pennsylvania Sewage Facilities Act (Act 537) assigns certain responsibilities to municipalities for wastewater planning. Each municipality is required to have an official wastewater facilities plan and, unless proposed facilities are consistent with the plan, the Pennsylvania Department of Environmental Protection (DEP) cannot issue permits for the facilities. A landowner may request revisions to the municipal sewage facilities plan and may appeal a municipal refusal to revise the plan. Pursuant to the Sewage Facilities Act amendments (Act 149 of 1994), DEP is required to consider a municipality's zoning and comprehensive plan in the evaluation of private requests to change a community's official sewage facilities plan. Thus, it is most important that the comprehensive plan, zoning, and the municipal sewage facilities plan are coordinated.

Comprehensive wastewater facility planning is a complex process. For public or off-site wastewater services, considerations include methods to collect, convey, treat, and dispose of wastewater and related solids. Interaction among the municipality, various agencies, and users of the service is essential in the planning process. For areas where public service is not appropriate, procedures and standards to ensure adequate on-site or off-site land application wastewater disposal methods should be established.

The Newtown Area is represented by three wastewater facilities plans. Newtown Township is represented by the *Township of Newtown Act 537 Sewage Facilities Plan Update (2020)*. The plan calls for updating existing conveyance system components (Neshaminy Interceptor upgrades) along with continued use of the existing wastewater collection, conveyance and treatment facilities, and implementation of infiltration and inflow measures to reduce extraneous flows in the sanitary sewer system. In areas not designated for public sanitary sewer nonstructural comprehensive planning alternatives and the sewage management program will remain in place. Sections of the township zoned conservation management will rely on on-lot sewage disposal systems unless unsuitable soils exist.

The *Township of Upper Makefield Act 537 Sewage Facilities Update (2015)* is the official Act 537 Plan for Upper Makefield Township. That plan confirms that the continued use of individual on-lot sewage disposal systems (OLDS) will address both the short-term and long-term sewage disposal needs of the majority of properties within the township. Ordinances were adopted governing the design, operation, and maintenance of all waste disposal systems in the township. Areas of the township that had been identified as “Needs Areas” due to problems with the functioning of existing OLDS are to be monitored during the short-term planning period and re-assessed during the long-term planning period to determine if future actions need to be taken by the township. In conjunction with the continuing use of OLDS within Upper Makefield, the township has committed to continue to implement its Sewage Management Program (updated in 2015) to ensure the systems will continue to function properly. In addition, existing private and/or community treatment plants or public sewage treatment facilities will continue to be utilized to meet the immediate five- and ten-year wastewater disposal needs of areas of the township, where previously approved by the Board of Supervisors. All future subdivisions greater than ten lots or, at the discretion of the Board of Supervisors, subdivisions less than ten lots, would be required to submit a detailed wastewater alternatives analysis including the need for and suitability of community and/or public treatment facilities (currently required in the subdivision and land development ordinance).

Wrightstown Township is represented by the *201 Facilities Plan, Township of Wrightstown, Bucks County, Pennsylvania (1984)*. This plan, adopted as an addendum to the *Wrightstown Township Act 537 Plan*, dated June 1979, recommends the construction of a septic tank effluent pump pressure wastewater system, with discharge to the Newtown Township Treatment Plant. The proposed system would be designed with capacity to serve only existing and infill development in the more densely populated centers of the township (villages). The remainder of the township would be served by on-lot sewage disposal systems. The proposed septic tank effluent pump system was never constructed because of costs and lack of general support. The plan also recommends that the township pass a water resources ordinance to protect groundwater supplies, which it has done.

Wastewater Issues

The wastewater facilities plan for Wrightstown Township is more than 20 years old. The implications of the future land use plan presented in this update must also be taken into consideration. New wastewater

plans should ensure the maximum utilization of land-based wastewater treatment technologies that optimize the return of locally sourced water back to the local water systems as effluent.

The wastewater facilities plans for the Jointure should be updated as needed and should address how the wastewater facilities needs in Wrightstown Township intended to support any future development will be met.

Water Resources

The availability of reliable sources of water helps to shape the types and intensity of development that can occur in a community and should play a major role in planning for the future. Protecting the environment and water resources requires consideration of the entire water cycle. This means that the amount of water we have should be considered, as well as how it is being used. Methods for stormwater, water withdrawn for home and business use, wastewater disposal, and protection of lakes and streams will all influence water quality and water quantity.

Pennsylvania's Municipalities Planning Code (MPC) requires that comprehensive plans include "a plan for the reliable supply of water, considering current and future water resource availability, uses and limitations, including provisions adequate to protect water supply sources." In accordance with the MPC, this plan is generally consistent with the State Water Plan¹ and the *Water Resources Plan for the Delaware River Basin*, released by the Delaware River Basin Commission in September 2004. It also recognizes that lawful activities such as extraction of minerals and commercial agriculture production impact water supply sources (Sections 301(b)(1) and (2) of the MPC).

Water Supply

Communities throughout Bucks County are concerned with water supply issues related to the safe yield of groundwater and the potential reduction in groundwater recharge to local aquifers. Although approximately one-half of the water provided by the Newtown Artesian Water Company (NAWC) originates from the Delaware River, groundwater accounts for most of the water that is supplied in the Jointure by both individual systems and community water suppliers. The protection of these groundwater resources must be a critical consideration in planning for the current and future needs of the community.

At the regional level, the Delaware River Basin Commission (DRBC) has established groundwater protected area regulations for portions of southeastern Pennsylvania where the potential for groundwater shortages has been identified. Newtown and Wrightstown townships are included in these areas. Groundwater-protected area regulations apply to new or enlarged daily withdrawals of 10,000 gallons or more involving municipal, public, industrial, and commercial water suppliers. The DRBC monitors such withdrawals and plans for future water demand. Owners of individual wells are also entitled to mitigating measures when their supplies are affected by a new water withdrawal. In municipalities outside of these

¹ Act 220 recognizes the need to plan and manage water on a watershed basis without regard for political boundaries and with the understanding that water management programs should be based upon an accurate and current State Water Plan. Critical Water Planning Areas, where the demand for water exceeds or is projected to exceed available supplies, will be identified on a multi-municipal basis. A Critical Water Planning Area would serve as the planning boundary for a Critical Area Resource Plan or "water budget" for that area. Critical Resources Area Plans will include a water availability evaluation, will assess water quantity and quality issues, and will identify existing and potential adverse impacts on water resources. Act 220 makes clear that municipalities do not have the power to allocate or regulate water resources while preserving their power to regulate land use under the MPC. The act also establishes a program to promote voluntary water conservation and water use efficiency practices.

groundwater-protected areas approval is required from the DRBC for water withdrawals exceeding 100,000 gallons per day. DRBC also encourages municipalities to monitor public and private water use to determine each community's sustainable groundwater yields.

Groundwater supply is a product of the underlying geology of an area and, due to the different geologic conditions found in the Jointure, a wide range of water yields can be expected to be found. Two of the three municipalities require applicants to document the effects of proposed withdrawals smaller than those regulated by DRBC. Wrightstown Township (Ord. 167) requires a water impact study for all subdivisions consisting of 3 or more lots which will draw more than 1,000 gallons per day. Upper Makefield Township (Section 608 of the subdivision and land development ordinance) mandates a hydrogeologic report for similar-sized developments. Newtown Township does not have such regulations in its subdivision and land development ordinance; the service area of the Newtown Artesian Water Company (NAWC) covers most of the township. See Map 9, Groundwater Limitations.

Wrightstown and Upper Makefield require well depletion agreements so that new water withdrawals do not adversely affect existing wells.

An important consideration for protecting water resources involves ensuring that water is not wasted and is used wisely. Government programs and the efforts of numerous non-profit organizations committed to environmental protection have been aimed at educating the public about how much water is consumed and what can be done to reduce unneeded consumption. All Jointure municipalities follow DRBC Resolution No. 88-2 which sets water conservation performance standards for plumbing fixtures and fittings.

Efforts to promote the recharge of groundwater-supply areas stand as another important part of preserving water resources.

Water Suppliers

Portions of the Jointure are included in the service areas of two public water suppliers. The Newtown Artesian Water Company (NAWC) provides service to Newtown Township, Newtown Borough, and a portion of Middletown Township; its service area covers most of Newtown Township and was extended to the northeast corner of the township (an area of Linton Hill Road and north of PA 532) in 2006. NAWC obtains its water from five groundwater sources and by means of an interconnection with the Bucks County Water and Sewer Authority (BCWSA) which supplies water from the Delaware River. The NAWC's wells provided approximately one-half of the total water supplied by the company. Upper Makefield Township Heritage Hills serves a small portion of the township southwest of Taylorsville Road and Woodhill Road. No public water supply services exist in Wrightstown Township.

Water service supplied by a larger, off-site supply system is a service that is a growth facilitator and should be permitted only in the areas that have been planned for intensive nonresidential and higher density residential development. Areas intended for these uses and the provision of municipal or off-site wastewater service would be the areas where off-site or community water systems should be provided. Off-site water should not be provided in areas that are intended to maintain a rural character or to support farming.

The capability of the water system for firefighting is an important community safety matter. Communities have addressed this in different ways, through coordination with local firefighters.

Water Quality

Groundwater quality is continually threatened by land uses and the activities that take place on those lands. Some land uses and activities are more compatible with maintaining good water quality and some are less compatible with maintaining good water quality. Common sources of groundwater contamination are listed in the table below.

Common Sources of Groundwater Contamination

Category	Contaminant Source	
Agricultural	Animal burial areas Animal feedlots Fertilizer storage/use	Irrigation sites Pesticide storage/use Manure spreading areas/pits
Commercial	Auto repair shops Construction areas Car washes Cemeteries Dry cleaners Gas stations Golf courses	Laundromats Paint shops Photography Railroad tracks and yards Research laboratories Scrap and junkyards Storage tanks
Industrial	Asphalt plants Chemical manufacture/ storage Electronics manufacture Foundries/metal fabricators Machine/metal working shops Mining and mine drainage	Petroleum production/ storage pipelines Septage and sludge lagoons Toxic and hazardous spills Wells (operating/abandoned) Wood preserving facilities
Residential	Fuel oil Furniture stripping/refinishing Household lawn chemicals Household hazardous products	Septic systems, cesspools Sewer lines Swimming pools (chemicals)
Other	Hazardous waste landfills Highway spills Municipal incinerators Municipal landfills Municipal sewer lines Open burning sites	Recycling/reduction facilities Road deicing operations Road maintenance depots Stormwater drains/basins Transfer stations

(Adapted from US EPA. 1991. *Protecting Local Groundwater Supplies Through Wellhead Protection*)

The Bucks County Department of Health (BCDH) monitors the water quality of public supplies and enforces the water quality standards set by federal and state agencies. Private water supplies are owned and operated by individual property owners, and the quality of the private water supply is the responsibility of the property owner.

The BCDH in 2005, began certifying new private wells to help prevent residents from drinking contaminated water, by requiring that each new private well has a proper sanitary seal that can safeguard against groundwater contamination.

Amendments to the Safe Drinking Water Act of 1986, require that states create a wellhead protection program to protect the quality of groundwater used as sources of public drinking water supplies through local land use planning and other management means. Open space and low-density land uses are appropriate uses near high-protection well fields. Wellhead protection programs have become both pollution prevention and a water supply planning tool.²

Stormwater Management

Stormwater runoff is the rainwater that moves over the ground during and immediately following a rainfall event. Stormwater runoff moves through specific drainage areas referred to as watersheds. In a watershed undergoing land development and urban expansion, the amount of stormwater runoff from a rainfall event can increase dramatically. This is due to the reduction of natural grassy or wooded areas resulting from increasing the impervious land (i.e., natural landscape being covered by pavement, rooftops, or buildings), which reduces infiltration.

It is this increased amount (volume) and speed (rate) of runoff that is responsible for some of the localized flooding and drainage problems associated with stormwater runoff. As development and impervious surfaces increase within the watershed, so does the problem of dealing with greater quantities of stormwater runoff. Failure to properly manage this runoff can result in more flooding, greater stream channel erosion, siltation and sedimentation, and a reduction in groundwater recharge. It is important to recognize the watershed scope of stormwater management problems and potential solutions.

In the 1970s, Bucks County began making several structural improvements in the Neshaminy Creek watershed. A network of flood control structures was planned and constructed to reduce the potential for flood damage in the upper and lower reaches of Neshaminy Creek. The Newtown Creek Dam was constructed in the late 1970s on the stream that it is named after, in Newtown Township. This facility holds 663 acre-feet of water and drains an area of 3.04 square miles. While this dam and other impoundments provide stormwater storage and flood control to a considerable extent, they do not provide full flood reduction and do not adequately address more localized stormwater runoff and flooding. Moreover, the approach to stormwater management has changed significantly since the time when these large regional structures were constructed.

Act 167, the Pennsylvania Stormwater Management Act of 1978, was enacted to address the growing negative impacts of stormwater runoff. Act 167 requires the Pennsylvania Department of Environmental Protection (DEP) to designate watersheds and establish guidelines for the preparation of stormwater management plans for these watersheds. Counties are responsible for preparing the plans and developing ordinance language that municipalities must adopt to manage the volume and rate of stormwater runoff and its impact on water quality.

The Newtown Area is located within two DEP-designated watersheds: the Neshaminy Creek Watershed and the Delaware River South Watershed. Nearly all of Newtown Township and more than three-quarters

² The Pennsylvania Safe Drinking Water Act (1994) mandates that after October 9, 1995, for any new or expanding community water system (i.e., systems serving more than 25 persons on a regular basis or systems with over 15 service connections) the municipality, municipal authority, or private water purveyor that provides a community water supply to the public must have ownership, or substantial control by deed restriction, the area known as Zone 1 surrounding the wellhead. As required by 25 PA Code Chapter 109, Zone 1 should contain a minimum wellhead protection radius of 100 feet but can be expanded based upon the results of detailed hydrological testing of the area surrounding the wellhead.

of Wrightstown Township are in the Neshaminy Creek Watershed while the remainder of these two townships and all of Upper Makefield Township are located in the Delaware River South Watershed. Bucks County has prepared and adopted stormwater management plans for the two watersheds.

The *Neshaminy Creek Watershed Stormwater Management Plan* was prepared and approved by DEP in 2010. That plan updated the 1992 *Neshaminy Creek Watershed Stormwater Management Plan*. The 2010 update was prepared in two volumes, Volume I: Plan and Model Ordinance and Volume II: Technical Appendices. The objectives of the *Neshaminy Creek Watershed Stormwater Management Plan* are: 1) to encourage comprehensive stormwater management planning throughout the watershed that addresses the impacts of future development on the watershed; and 2) to develop standards for municipalities to implement sound water and land use practices and ordinances to protect water quality, promote groundwater recharge, and control the amount of runoff resulting from new development.

The standards of the *Neshaminy Creek Watershed Stormwater Management Plan* are designed as runoff controls and consider how development in any one part of the watershed will affect stormwater runoff in other parts of the watershed. Stormwater runoff control is achieved through municipal ordinances which are required to be consistent with volume control requirements, peak rate control requirements, and stormwater management site plan requirements subject to the plan.

The *Delaware River South Stormwater Management Plan* was prepared in 2004. The plan requires adequate storage and treatment facilities necessary to capture and treat stormwater runoff specifically for water quality purposes. A portion of the runoff volume must be infiltrated for groundwater recharge and attempts made to maximize the capabilities of a development site to meet infiltration criteria. The plan also contains a design criterion to control the runoff release rates to prevent downstream flooding and streambank erosion. Low impact design and conservation development techniques must be considered for development sites and design sequencing must be followed to avoid sensitive areas on a site (e.g., areas suitable for infiltration), to reduce site disturbance as much as possible, and to minimize increases in runoff and impacts to water quality.

Following the 2010 update to the *Neshaminy Creek Watershed Stormwater Management Plan*, in 2011 all three Jointure municipalities adopted new ordinances to control stormwater consistent with the volume control requirements, peak rate control requirements, and stormwater management site plan requirements of the 2010 plan. Wrightstown Township subsequently adopted an additional update to its standalone stormwater ordinance in 2014, which added an enforcement and penalties article to the existing stormwater ordinance.

In addition to the stormwater management ordinances that were adopted in accordance with the Delaware River South and Neshaminy Creek plans, each Jointure municipality has regulations related to stormwater structures in their subdivision and land development ordinance. These regulations are mainly comprised of general drainage requirements, stormwater plan submission requirements, and specific design criteria for storm sewers and detention basins. All the subdivision and land development ordinances should include appropriate references to the separate stormwater management ordinances. In addition, the design requirements of facilities addressed by the subdivision and land development ordinances should be evaluated by municipal engineers to ensure that they are consistent with the BMP designs prescribed by the stand-alone stormwater management ordinances.

Portions of the Jointure municipalities were developed prior to adoption of the mandated plans and ordinances. Stormwater in some of these areas is channeled into storm sewers or directly into streams, with no control over the velocity and amount of runoff. Stormwater management facilities constructed before the recent regulations do not provide water quality protection or groundwater recharge benefits. The member municipalities should look for grant funding that may become available to retrofit or replace substandard facilities or install new stormwater facilities.

NPDES II Regulations

The National Pollutant Discharge Elimination System (NPDES) is a two-phase federal program created as an outgrowth of the Federal Clean Water Act (1972), which attempts to establish local regulations creating a nationwide reduction of the pollutants found in our nation's waterways. The purposes of the program are to reduce pollution, promote and require better stormwater management, and educate the public about water pollution. This program was amended in 1987 to include stormwater discharge regulations. The first phase of the NPDES program was established in the early 1990s and targeted large communities and industrial facilities. These entities were required to obtain permits from the state to enforce good housekeeping practices on-site and to bring about a reduction of the hazardous materials kept on the premises where they could be washed off the site by rainfall and enter local waterways. This latest phase of the NPDES program, Phase II (2003), is aimed at smaller urban communities, as defined by the Pennsylvania Department of Environmental Protection (DEP) based on U.S. Census data. Small urban areas that are designated as "MS4s" (Municipal Separate Storm Sewer System) must obtain a state permit showing how they intend to manage pollution in the municipality.

In accordance with the goals of the NPDES program, small communities, including the three municipalities in the Jointure, must develop a stormwater management program that includes six minimum control measures. These measures include public education and outreach, public participation, illicit discharge detection and elimination, construction site and post-construction runoff control, and pollution prevention. Communities have an 8-year period to fully establish a program to satisfy these requirements and evaluate its effectiveness. Such a program must be integrated with the Act 167 stormwater management plan. Municipal adoption of separate stormwater management ordinances consistent with the stormwater management plans satisfies the post-construction runoff control requirement. Annual reports must be submitted to DEP to document how the municipality is meeting the incremental elements of the program.

Beginning in March of 2018, NPDES permit requirements for small MS4s include the development of a Pollution Reduction Plan (PRP) for many communities. Previous regulations only required a PRP for communities within the Chesapeake Bay watershed area. A PRP requires a municipal stormwater program to identify and map all surface waters within their jurisdiction, and to identify all areas within the municipality which drain into those surface waters. Municipalities are then obligated to identify the locations where specific pollutants such as phosphorous and nitrogen are discharged into the surface waters (outfalls), and to develop strategies and best management practices for the reduction of pollutants into surface waters.

The pollutant reducing BMPs are to be completed within 5 years of DEP's permit approval. All three Jointure municipalities have developed PRPs in accordance with their MS4 permits and are in the process of seeking funding for the implementation of pollutant reducing BMPs.

Green Stormwater Infrastructure

The Jointure may benefit from a network of green stormwater infrastructure incorporated throughout the three communities. Such a network of stormwater management improvements has the potential to significantly lessen the burden on both the Jointure's surface waters and existing network of stormwater management infrastructure to effectively manage stormwater for the future.

The difference between traditional stormwater management infrastructure and green stormwater infrastructure is that traditional infrastructure manages stormwater by collecting and conveying stormwater from a site to be treated and released elsewhere, while green stormwater infrastructure attempts to retain and treat stormwater on the site by using natural vegetation in a way that allows the water to be absorbed and filtered by plants. Green infrastructure can be both environmentally and economically beneficial, as it reduces both pollution and the need for traditional, often more costly, stormwater management systems.

At a larger scale, green stormwater infrastructure can include the restoration or preservation of wetlands and floodplains, and riparian corridor buffers. On a smaller scale, this may include rain gardens, green roofs, rain barrels, planter gardens, street trees that absorb water, the use of porous paving materials, and vegetated detention basins.

All three Jointure municipalities have embraced the principles of green stormwater infrastructure both through BMP implementation and other programs with overlapping goals. For instance, Upper Makefield Township created a Riparian Restoration and Preservation Grant Program in 2007, which gives residents funds to reforest riparian areas, repair stream banks, and to establish riparian area easements. While not green stormwater infrastructure in its most traditional sense, riparian reforestation and restoration helps to preserve water quality and reduce flooding, both of which are key tenets of green stormwater infrastructure projects.

Stormwater management planning should involve determining responsibilities for, and scheduling of maintenance for, stormwater management facilities. Narrative or other descriptive information that details short-term and long-term operation and maintenance tasks and estimates the projected life span of a stormwater management facility should be provided for every such facility constructed. This information is critical for municipalities to monitor the development and use of stormwater management techniques. Ensuring proper long-term operation and maintenance would aid the municipality in complying with federal and state requirements (e.g., the NPDES II Stormwater Program). Projected scheduling also allows budgeting time and funds to inspect, repair, or condemn facilities, if necessary, throughout their functional life span.

Solid Waste Management

Solid waste management is the process of providing an economically and environmentally sound means for the storage, collection, transportation, processing, and disposal of municipal waste and recyclable materials. In Pennsylvania, through the Municipal Waste Planning, Recycling, and Waste Reduction Act of 1988 (Act 101), municipalities are empowered to adopt resolutions, ordinances, regulations, and standards to carry out the responsibilities mandated by state regulations. In addition, counties are given the responsibility to prepare a solid waste management plan that guides the management of municipal solid waste for a ten-year period. Bucks County's Solid Waste Management Plan (2018) provides guidance

for the management of solid waste in Bucks County through the year 2028. It includes recommendations for attaining the goal of recycling 35 percent of the waste stream and proposes language to amend municipal ordinances.

Most of the property and business owners in the townships of Newtown, Upper Makefield, and Wrightstown contract directly with private haulers to collect, transport, and dispose of their municipal solid waste.

Act 101 requires that all municipalities either with a population of between 5,000 and 10,000 residents and a population density of over 300 persons per square mile or with a population greater than 10,000 residents establish and implement a source-separation (curbside) and collection program for recyclable materials. Based on the most recent census results, Newtown and Upper Makefield townships are considered to be mandated communities, must establish, and implement a curbside recycling program and must report the results of the program annually to the county. Wrightstown Township is not required at this time to implement a curbside recycling program.

All three townships have instituted mandatory curbside recycling programs. The materials collected as part of the curbside programs generally include aluminum/steel food/beverage containers, three colors of glass food/beverage containers, #1 and #2 plastic bottles, newspaper, magazines, catalogs, and junk mail. The drop-off program provides for: aluminum cans, three colors of glass food/beverage containers, newspaper, magazines, catalogs, and junk mail. Additional items can be recycled based on the capability of the trash hauler servicing the townships.

Pennsylvania set a goal in 1997 to recycle 35 percent of the municipal waste stream by 2003. Although the Commonwealth and Bucks County both reportedly reached this goal in 2002, all three Jointure communities individually appear to have fallen short of this goal. No yard waste was reported as being recycled, and yard waste typically comprises about 18 percent of the municipal waste stream. A failure of the haulers to report all recycling numbers may account for this shortfall.

It is anticipated that private haulers operating within the three municipalities will continue to provide for the collection, transportation, processing, and disposal of municipal solid waste as well as the recyclables generated in the townships.

The issue of reporting can, in part, be addressed through municipal ordinances. Through such ordinances these municipalities could regulate haulers operating within their borders and require the reporting of all recyclables collected from both residential and nonresidential customers. The enforcement of the ordinance would enable the municipalities to determine more accurately the recycling rate within each community. In addition to increasing recycling rates, having a better accounting of nonresidential recycling tonnages can increase the eligible tonnages of recyclable materials that can be included on percent Performance Grant applications, which could result in greater income to the municipalities through this program. Under PADEP regulations, municipalities have responsibility for ensuring that yard waste is also composted or recycled. The activities associated with the development of ordinances and educational programs are themselves eligible for funding assistance through Section 902 of Act 101. Assistance in the evaluation of instituting a yard waste collection program is available through the Technical Assistance Grant program. These programs are administered through the PADEP.

Community Services

A host of other government agencies and non-profit organizations provide important services that enhance the quality of life for residents in a community. Growth and development can have an important impact on the quantity and quality of services that those entities provide. Land use planning in the Jointure should include a general consideration of the current state and future needs of such organizations, even though they may not be under the control of the municipalities themselves. The Jointure communities should cooperate, communicate, and share information with these organizations to improve the efforts of all parties to enhance the quality of life for all residents.

Administration

Newtown, Upper Makefield, and Wrightstown townships each have individual administrative offices. The administrative functions include public works, planning and zoning, and parks and recreation.

Police

The Newtown Township Police Department provides police protection for residents in both Newtown Township and Wrightstown Township. The department is headquartered at the Newtown Township Municipal Center.

The Upper Makefield Township Police Department provides police protection for residents of the township. The department occupies a facility located on Eagle Road on the same site as the township municipal building. Police services are expanded as needed to meet the growing population.

Members of the Newtown Area Police Departments are part of the Bucks County Special Emergency (SERT) and Major Incident Response Teams (MIRT). The members of the SERT team are selected and highly trained tactical officers who are called upon to resolve high risk situations throughout the response area.

The MIRT provides support for emergencies especially large-scale events that also draw members from Newtown Area police departments.

They also have a Crisis-Intervention Team (CIT) which is designed to improve the outcomes of police interactions with individuals whose behavior is influenced by mental illness, substance abuse, intellectual disabilities, and related conditions. CIT training reduces arrests, the use of restraint, citizen and police officer injuries, hospitalization, and vastly improves the safety and satisfaction of all involved.

The Newtown Area is provided with police protection by two departments. Police protection is expensive and some communities including several in Bucks County have joined to create regional departments. The boroughs of Chalfont, New Britain, and Doylestown entered into an agreement to form the Central Bucks Regional Department in 2013. The consolidation was preceded by a study undertaken by Pennsylvania's Center for Local Government Services, which offered several advantages to consolidation including improving the uniformity and consistency of enforcement, improvements in training and personnel efficiency, improved management, and supervision as well as reduced costs. The disadvantages are loss of local law enforcement services, loss of local control and loss of citizen contact.

Fire Protection

The Newtown Fire Association provides fire protection for Newtown Township and Newtown Borough, as well as to a small portion of Upper Makefield and Wrightstown townships. The association staffs two stations, one of which is in the borough (Station 45). The other (Station 55) is in the Newtown Township Municipal Center at 55 Municipal Drive. In 1996, in response to an increase in the number of fire calls and a decrease in the number of volunteers available during daytime working hours, the association and the township created the Newtown Township Emergency Services Department. The Emergency Services department operates out of Station 55 and provides daytime coverage for calls with support from the existing volunteer membership.

The Emergency Services Department is staffed by a Fire Chief, Director/Fire Marshal, a part-time administrative assistant, and firefighters. In addition to responding to emergencies during the day the department performs numerous related duties, including annual fire inspections on all commercial occupancies, code enforcement, and fire prevention education.

The Upper Makefield Fire Company serves the township out of two stations. Station 81 is part of the Upper Makefield Township Complex on Eagle Road. Station 71, is located on Taylorsville Road.

The Lingohocken Fire Company provides fire protection for all of Wrightstown Township, and portions of Buckingham and Upper Makefield townships from three stations. The main station is in the village of Wycombe in Wrightstown Township (Station 35) with a substation at the Wrightstown Public Works Building (Station 85) and an additional substation in the village of Forest Grove, Buckingham Township (Station 95).

Staffing, space, and equipment for fire protection are no longer deemed satisfactory for the safety and health of firefighters. Volunteer membership and the number of volunteers responding to fire calls is decreasing and volunteer firefighters' response time is increasing. Over the next decade, it is likely that communities in Bucks County will need to rely more on paid firefighters; this is something the municipalities will need to anticipate. (See the Bucks County Planning Commission's report "The Future of Bucks County's Fire Services".) Consideration will need to be given to the hiring of additional career firefighters and providing fire stations that safely accommodate 24/7 career firefighters.

Medical Services

Hospitals serve the immediate health care needs of a community by providing inpatient and outpatient medical and health care services. Long-term care facilities serve elderly patients who can no longer function independently or who have a condition requiring skilled nursing care.

Medical centers close to Newtown Area are St. Mary Medical Center, in Middletown Township on Route 413, south of the Newtown Borough.

Although not located within the boundaries of the Jointure, St. Mary Medical Center is a regional hospital that provides important services to residents of the Newtown Area. The hospital is licensed for 371 beds and has a staff of 700 physicians, 3,000 colleagues, and 1,100 volunteers. Also within the nearby area are hospitals in Doylestown, Jefferson Bucks Hospital in Falls Township, Bristol, Abington, Trenton, and Philadelphia.

Health Care/Elder Care Facilities

Long-term health care for the elderly is available at the assisted-living and skilled nursing facilities at Friends Home and Village in Newtown borough, and at The Birches at Newtown, Chandler Hall, and Pickering Manor.

The aging of the baby boom generation will be a major factor in the need for long-term health care in the upcoming years. This group, born between 1946 and 1964, started to turn 65 in 2011 and the youngest boomers will not turn 65 until 2029. An increase in the elderly population and the need for greater long-term care will likely require less costly and more appropriate alternative care methods to meet the medical and personal needs of many members of this population. These alternatives include in-home services, adult daycare, personal care facilities, and continuing life care facilities.

Emergency Medical Services

Emergency medical services within the Jointure are provided by the Newtown Ambulance Squad and the Central Bucks Ambulance Squad.

Ambulance services are provided by the Newtown American Legion Ambulance Squad, Inc., based at 2651 South Eagle Road in Newtown Township. The squad is the sole provider of emergency transport services to Newtown Borough and township, and also serves parts of other surrounding townships.

The emergency medical service staff includes paid and volunteer personnel, and the headquarters house garages and a fleet of emergency vehicles. Currently, office space is adequate and vehicle storage space is fully used and is supplemented off-site.

The squad provides Advance Life Support (ALS) 24 hours a day with a Paramedic and Emergency Medical Technician (EMT). During high call volumes, Basic Life Support (BLS) includes two EMTs. One BLS unit is also a Bariatric Support Unit (BSU) capable of transporting patients up to 1,100 pounds. Paratransit services are provided, and standby EMS is offered for prescheduled large events. The BLS squad response time is approximately five minutes (2019). The ALS squad responds in approximately 3 three minutes (2019), a time which has not changed significantly.

The service is funded by a municipal EMS tax (0.25 mills) and insurance reimbursements. Newtown Borough gives the squad \$10,000 annually. But the squad states it has insufficient funding which limits the squad's ability to maintain staffing and purchase and maintain equipment.

Upper Makefield is served by an ALS unit stationed at the Upper Makefield Fire Company Station 71 on Taylorsville Road. Service is provided 24/7 by the St. Mary Medical Center which is contracted to provide service at no cost to the township. The ALS Response time in 2016 was 5.5 minutes. The Newtown squad and Central Bucks Emergency Medical Services provide backup service.

Wrightstown Township is served by the Central Bucks Emergency Medical Services and the Newtown American Legion Ambulance Squad. The Central Bucks Emergency Medical Services operates from a substation in the village of Wycombe in Wrightstown Township. Sub-station 135 in Wycombe (known as the Lingohocken station) is housed in the Lingohocken Fire Station in the village of Wycombe. It has one ALS unit staffed 24 hours a day by a Paramedic and EMT. Central Bucks Ambulance and Rescue Unit also

provides paratransit services. The services are funded by a .50 millage from Wrightstown. ALS response time in 2016 was 6 minutes.

Emergency Communications/9-1-1 Service

Anyone dialing “9-1-1” from anywhere in the county will reach a county dispatcher in the Ivyland Emergency Management Center who will then contact the closest emergency service provider for response. The local fire and police departments and ambulance squads participate in this service.

Schools and Colleges

Council Rock School District—The Council Rock School District is comprised of five municipalities: Newtown Borough, Newtown, Northampton, Upper Makefield and Wrightstown townships. Current district-wide enrollment in October 2020 was 10,514 students. There are ten elementary schools (grades K-6), two middle schools (grades 7-8) and two high schools (grades 9-12) in the district. Newtown, Goodnoe, Sol Feinstone, and Wrightstown Elementary Schools along with Newtown Junior High and Council Rock High North are located within the boundaries of the Jointure.

School district total enrollments have declined by approximately 11 percent between 2009 and 2019. The school district implemented a redistricting plan in 2018 to revise the attendance areas for the district schools. The redistricting plan was designed to bring all elementary schools as close to 90 percent capacity as possible and to balance enrollment at the secondary schools. Enrollment projections for the entire district predict less than one percent growth in the number of students attending schools in the district each year up to the 2027-2028 school year.

Private School—The Saint Andrew Catholic School is a private K-8 school located in Newtown Township. Current enrollment numbers nearly 1,000 students. The school moved to its present location in January 1995 after the construction of the education building, which was originally designed to hold 750 students. From 1998 to 2000 an additional 20,000 square feet of classroom and cafeteria space was added to accommodate the increase in enrollment, which also resulted in the establishment of four classes in every grade level.

Colleges—The main campus of Bucks County Community College (BCCC) is located on Swamp Road in Newtown Township. BCCC is a two-year institution that offers a wide variety of certificate, associate degrees, and transfer programs in fields such as business, education, nursing, and the liberal arts. The Bucks County Center of LaSalle University is one of two branch campuses of LaSalle University whose main campus is located in Philadelphia. Opened in 1994, Holy Family University-Newtown occupies 79 acres in the township. The 44,000-square-foot building provides space for administrative and student services, faculty offices, and a variety of classrooms and laboratory facilities.

Post Office

The Newtown Area is served by post offices located in Pineville, Newtown, Washington Crossing, Wrightstown (Penns Park), Rushland, and Wycombe. Post offices are operated by the federal government and any suggested changes must be submitted to U.S. government officials.

Religious Institutions

Religious institutions in the Newtown Area play a significant role in community life by providing for spiritual needs. In addition to their religious activities, they often host outside organizations or sponsor events and programs that address cultural and social needs for residents of the Newtown Area and surrounding areas. Congregations in the area include several who worship in historic churches that date back to the early 1800s.

During the pandemic, churches offered online services and food pantries. Electronic services permitted outreach to local members and those who have moved out of the area. Donations fund food pantries and other assistance to the community.

Civic Groups and Facilities

There are several civic, fraternal, and charitable groups active within the Newtown Area such as the local chapters of the Lions, Kiwanis, and Rotary clubs, Newtown Community Foundation, and Middletown Grange. The Council Rock Senior Citizen Center in Northampton Township also serves as a regional location where seniors gather. Like the religious institutions, civic groups contribute to the community fabric and run programs and facilities of wide-ranging benefits. Business and economic development-oriented organizations include the Newtown Business Association. Some of these groups provide social services.

Their visible role in public and private community endeavors helps create the quality of life which brings a community together. Services and facilities operated by nonprofit organizations and other types of privately funded and sponsored civic groups supplement and complement the efforts of public organizations and provide cost-effective benefits to the community. Continuation of these efforts should be supported.

Libraries

The Village Library of Wrightstown is one of eleven community public libraries in the Bucks County Free Public Library system and serves Wrightstown, Newtown, and Upper Makefield townships. The library has a collection of nearly 23,000 items and a total circulation of 25,000 materials each year. The number of patrons per year ranges between 11,000 and 12,000 visitors.

The library has a full children's section, a basic adult non-fiction section, and an extensive collection of adult fiction that supports the library's role as a recreational reading library. The library is staffed by one full-time library director, part-time adult and children's program coordinators, and numerous volunteers. The library has programs such as movie nights and story time and hosted the annual Village Renaissance Faire to raise funds until 2019.

The library serves Wrightstown and surrounding communities but most library patrons live in Newtown Township.

The building once served as a one-room schoolhouse and is owned by the township which is responsible for exterior maintenance. The building is suitable for current needs.

Residents of the Jointure are also served by the Bucks County Free Library System, with branch libraries in Lower Makefield Township and Langhorne Borough. The free public library system has 1,962,942 total volumes, which includes those of the eleven other community libraries. In addition, the county public library system has 58,959 e-books and e-audio titles. The system includes several more specialized libraries such as the law library at the Bucks County Courthouse and the libraries located on various campuses of Bucks County Community College.

The main library of Bucks County Community College is located on its campus on Swamp Road. Members of the public who are also members of the Bucks County Free Library System can check out materials from the library. According to information supplied by the college, the library has 140,000 volumes with a yearly circulation of approximately 26,000 books and about 50,000 visits per year. Public use of the library has generally remained constant over the last several years and no major expansion of facilities or staffing is anticipated at this time.

There is also a public library in Richboro, Northampton Township, which is easily accessible from many parts of the Jointure.

Telecommunications

Telecommunication is the transmission of voice, video, or data between two points and has become a significant part of our information-based economy and culture. The growth of the telecommunications industry has been driven by the increasing advancement of technology and has resulted in greater business and consumer demand. The Centers for Disease Control and Prevention's National Center for Health Statistics has traced the decline of landlines as part of their ongoing studies of the health of Americans. The studies found that in 2017, 50.8 percent of US households had only cell phones. The number of households with landlines only is steadily decreasing and in 2017 stood at only 6.5 percent.

Many communities have started to realize that telecommunications will be an integral part of the municipal infrastructure just as water, sewer, and electricity are now. Planning for telecommunication systems allows for control of the right-of-way, public property, aesthetics, and enhanced quality of life. Effective telecommunications infrastructure promotes economic development, household use, and broader emergency and municipal communications.

Telecommunication facilities and equipment are located on towers to provide wireless service to nearby communities. As the telecommunications environment matures and technology changes infrastructure needs will change. New towers providing wide coverage may no longer be needed but more antennae at lower heights may be needed to meet resident and business demand for capacity.

The Upper Makefield Township Police chief noted there is a loss of connectivity in parts of the township for digital radio signals. The chief noted that officers often complete reports at the parking lot at Bowman Hill tower to ensure effective transmission to the office. The length of Taylorsville Road between Aqueduct and Mt. Eyre roads and the intersection of Taylorsville and River Road are reportedly a dead zone for cellphone signals.

Distributed Antenna Systems (DAS) is a technology which involves an interconnected web of small antenna located at lower heights connected to a single base station. This system provides enhanced capacity for denser communities like Newtown and has already been installed in Doylestown Borough. This technology utilizes a network of small antennae located at heights lower than 50 feet. DAS technology

allows for new carriers to share the existing antenna, equipment box, and pole. No new equipment will be necessary for multiple carriers. These antennae will provide enhanced service for cellphones, personal computers, gaming, and other mobile devices. They will also enable 5G service which is demanded by consumers and emergency services. Because these facilities will be more numerous and visible, aesthetics may be a concern. Some communities have developed design guidelines for DAS for appearance and safety purposes.

The Pennsylvania Public Utility Commission has deemed certain wireless providers utilities so they may locate in the public right-of-way without zoning approval. Other regulations to protect public health and safety may be enforced.

Hazard Mitigation Planning

Hazard mitigation planning is integral to a community as it addresses both natural hazards and those caused by human activity. Stakeholders such as emergency management personnel, elected officials, businesses, institutions, and local historical and environmental organizations collaborate to support proactive efforts that will minimize risks to life and property. Hazardous incidents and disasters can stretch local resources and budgets. Pre-disaster mitigation actions are taken in advance of a hazard event and are essential to breaking the disaster cycle of damage, reconstruction, and repeated damage. With careful selection, pre-planned mitigation actions can be cost-effective means of reducing the risk of loss.

The Disaster Mitigation Act of 2000 requires local and county governments to have an official mitigation plan in order to receive federal disaster mitigation funds. Bucks County adopted its Hazard Mitigation Plan Update (HMPU) in 2021 to identify and assess areas of vulnerability in municipalities and prioritize the mitigation strategies with an implementation schedule. The updated plan is a pre-disaster plan that guides the county towards comprehensive multi-hazard mitigation, while respecting the needs and character of municipal communities. It is a blueprint for reducing property damage and saving lives from future disasters and enhancing community resiliency following an event. Furthermore, the approved plan qualifies Bucks County and its municipalities for pre- and post-disaster grant funding.

Each Jointure municipality had representatives who actively participated in the planning process by attending meetings, completing assessment surveys, and submitting comments. Newtown Township adopted the HMPU on November 22, 2022, Wrightstown Township on November 11, 2022, and Upper Makefield Township on October 19, 2021. The next county hazard mitigation plan update is scheduled for 2026. Jointure municipalities should continue to participate as stakeholders in the process.

Risk Assessment

The Bucks County 2021 HMPU identifies 21 hazards as being prevalent throughout or in parts of the county. The methodology for assessing risk factors assigns a weighted value for probability, impact, spatial extent, warning time, and duration. In assessing risks for the Jointure, it was noted that the highest ranked hazards are (1) flood, flash flood, and ice jam; (2) winter storm; (3) hurricanes, tropical storms, and nor'easters; (4) environmental hazards; and (5) utility interruption. The moderately ranked hazards are (1) transportation accident; (2) drought; and (3) wildfire.

Bucks County Hazards

Natural Hazards

Drought
Extreme Temperature
Flood, Flash Flood, Ice Jam
Hailstorm
Hurricane, Tropical Storm,
Nor'easter
Landslide
Lightning Strike
Pandemic
Radon Exposure
Subsidence, Sinkhole
Tornado, Windstorm
Wildfire
Winter Storm

Human-Made Hazards

Dam Failure
Structure Collapse (Infrastructure)
Terrorism
Transportation Accident
Urban Fire and Explosion
Utility Interruption

From this assessment, it appears that mitigation activities should be directed toward weather-related events. Recommended mitigation strategies for protecting property and life under such hazards include increasing resident awareness of emergency actions, reviewing the floodplain ordinance, incorporating snow removal and emergency access logistics with new development planning, and securing access to generator power.

COVID-19 Pandemic

In the course of the preparation of this comprehensive plan the Jointure found itself in the midst of the COVID-19 pandemic, a worldwide event that affected the physical and economic well-being of the townships' residents. Since this event was ongoing the extent of the effects on the Jointure could not be known for some time. However, there are some lessons that can be taken from early experiences in Bucks County. Shortages of essential supplies and equipment and disruptions to business and government operations were evident in the initial of stages of response to the event. These issues, along with coordination with county, state, and federal agencies, should be addressed in future emergency management and government operational planning efforts.

Critical Facilities

The HMPU also evaluates the vulnerability of the Jointure's critical facilities. For the purposes of the plan, critical facilities are those entities that are essential to the health and welfare of the community, transportation infrastructure, and facilities related to the care of children. This includes law enforcement, emergency response, medical services, wastewater plants, correctional facilities, airports, rail stations, municipal buildings, day cares, and schools. The list of critical facilities will be developed based on information available from the Bucks County Emergency Management Agency (EMA), the Bucks County Geographic Information Systems (GIS) Department, PEMA, and FEMA.

Mitigation Action Plan

As background to specific actions for the Jointure, it is important to look at the six categories of mitigation actions that can be taken.

Prevention

Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning, zoning, building codes, code enforcement, subdivision regulations, hazard specific regulations (such as floodplain regulations), capital improvement programs, open-space preservation, and stormwater regulations.

Property Protection

Actions that involve modifying or removing existing buildings or infrastructure to protect them from a hazard. Examples include the acquisition, elevation and relocation of structures, structural retrofits, flood-proofing, storm shutters, and shatter-resistant glass. Most of these property protection techniques are considered to involve “sticks and bricks”; however, this category also includes insurance.

Public Education and Awareness

Actions to inform and educate citizens, elected officials, and property owners about potential risks from hazards and potential ways to mitigate them. Such actions include hazard mapping, signage indicating flood-prone areas, outreach projects, library materials dissemination, real estate disclosures, the creation of hazard information centers, and school age / adult education programs.

Natural Resource Protection

Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, forest and vegetation management, wetlands restoration or preservation, slope stabilization, and historic property and archeological site preservation.

Structural Project Implementation

Mitigation projects intended to lessen the impact of a hazard by using structures to modify the environment. Structures include stormwater controls (culverts), dams, dikes, levees, and safe rooms.

Emergency Services

Actions that typically are not considered mitigation techniques but reduce the impacts of a hazard event on people and property. These actions are often taken prior to, during, or in response to an emergency or disaster. Examples include warning systems, evacuation planning and management, emergency response training and exercises, and emergency flood protection procedures.

Hazard Mitigation Priority Actions

Of all the mitigation actions listed for the HMPU, the Jointure municipalities are identified for the following high- and medium-priority general actions:

- Proceed with grant applications to suitably protect repetitive-loss properties within the 1 percent annual chance floodplain (for owners interested in FEMA mitigation funding).
- Evaluate, implement, and perform mitigation projects identified in this and other planning mechanisms. Mitigation projects include acquisition, elevation, foundation and building stabilization, securing access to generator power, and other mitigation methods.
- Elevate existing homes in the floodplain to limit damage during future flood events.
- Work with township officials and property owners to increase awareness of the floodplain ordinance, including informational mailings to property owners in the 1 percent annual chance floodplain. Sponsor a series of workshops about costs and benefits of acquiring and minimizing the cost of flood insurance coverage.
- Evaluate and/or pursue Community Rating System (CRS) participation for insurance premium reduction (and flood damage reduction).
- Obtain information for all remaining structures in the 1 percent annual chance floodplain to determine the best property protection methods to promote to individual property owners.
- Continue to implement measures for mitigation of flood hazard per the December 2001 “Neshaminy Creek Supplemental Watershed Work Plan No. 5.” including flood warning system, voluntary property acquisition, voluntary building elevation and floodproofing, and continuation/enhancement of floodplain ordinances, flood insurance, and stormwater management.
- Continue coordination and planning with local colleges and universities to be partners to mitigate, prepare, and respond to hazards.
- Inventory the historic properties vulnerable to the identified hazards, assess vulnerability of these assets, and establish preservation priorities by determining which assets are most valuable to the community.
- Engage the community on the vulnerability of the historic properties to hazards in the community and identify community members interested in becoming core planning team members to continue the historic property hazard mitigation planning process.
- Restore native plants and wetlands to the watershed to address flooding issues.

Strategies and Actions

1. Township administration:
 - a. Cooperate with providers to deliver effective community services and facilities.
 - b. Monitor facility needs to determine needs for the future.
2. Police Services:
 - a. Monitor police operations to anticipate needs for space and equipment.
 - b. Evaluate benefits of consolidation.
3. Fire Protection:
 - a. Continue to evaluate volunteer membership training, capabilities, and response times to national standards and consider the need to hire additional career firefighters.

- b. Assess the need and locations for new fire stations to support requirements of the residents and businesses and the safety and health of firefighters.
 - c. Evaluate benefits of consolidation.
- 4. Cooperate with the emergency services companies to provide sufficient emergency services.
- 5. Monitor the health needs of the population to plan for future needs.
- 6. Monitor school enrollments and cooperate with schools to provide adequate facilities.
- 7. Civic Groups and Facilities:
 - a. Monitor adequacy of civic facilities, plan for renovations, expansions, or additions, as needed.
 - b. Partner with public or private agencies, as appropriate.
 - c. Support community groups, public and private, that provide services and facilities.
 - d. Explore additional opportunities for multi-municipal or other regional approaches to the provision of services and facilities.
- 8. Water Supply
 - a. Monitor efforts of both the Newtown Artesian Water Company and the BCW&SA to continue to supply safe and adequate water.
 - b. Modify township ordinances to establish wellhead protection zones around each public water supply well. Encourage Newtown and Wrightstown townships to do the same.
 - c. Investigate the benefits of pursuing the development of an Integrated Water Resource Plan to address the diversity of water resources planning needs for the Jointure in cooperation with the Newtown Artesian Water Company and Newtown, Upper Makefield, and Wrightstown townships.
 - d. Coordinate with local fire companies to protect groundwater from contamination by enhancing response to accidental spills.
- 9. Stormwater Management
 - a. Revise municipal stormwater management ordinances to comply with the updated model ordinance from the Pennsylvania Department of Environmental Protection, as mandated.
 - b. Continue to enforce the recommendations of the *Neshaminy Creek Watershed Stormwater Management Plan*, as updated.
 - c. Identify areas continuing to experience flooding problems and determine what remediation measures are feasible; participate with county, state, and federal efforts to reduce flooding damages.
 - d. Encourage retrofits of existing stormwater management facilities to meet current standards for volume control and water quality improvement.

- e. Ensure that maintenance programs for stormwater management facilities are in place and meet National Pollution Elimination and Detection System (NPDES/MS4) requirements.
- f. Review ordinances to ensure the townships are encouraging the use of state-of-the-art stormwater BMPs, including the provision of Green Stormwater Infrastructure.
- g. Implement the *Upper and Middle Neshaminy Creek River Conservation Plan* that includes sub-watersheds of the Delaware River Watershed and that was developed by the Delaware Riverkeeper.
- h. Support public and private efforts to develop and implement conservation plans for all streams and creeks, including existing and desired low-impact land use, water quality, public access.
- i. Implement necessary minimum control measures (MCMs) to improve water quality and reduce pollution in our impaired watersheds.
- j. Review municipal land use ordinances and approvals to formulate improved enforcement mechanisms to ensure practical compliance with existing stormwater management requirements.

10. Telecommunications

- a. Coordinate the provision of telecommunications facilities which will provide a desired level of service.
- b. Maintain existing telecommunication regulations and be proactive in the oversight of emerging technologies and legislation.
- c. Coordinate with DAS providers to enhance wireless service and provide adequate coverage where needed.
- d. Consider development of DAS design guidelines for appearance and safety.
- e. Work with wireless companies to address gaps in coverage.

11. Hazard Mitigation

- a. Implement recommended actions, as applicable, from the *Bucks County 2021 Hazard Mitigation Plan Update*.
- b. Participate in the planning process for the anticipated 2026 update to the county hazard mitigation plan.

PRINCIPLE 6 – PROVIDE PARKS AND RECREATION

“Foster the development of active and passive recreation to promote the physical and mental well-being of residents of all ages. Parks, recreation facilities, and open areas are important improvements and are vital aspects of sound communities.”

Parks and recreation areas are important community features, ranking high by Jointure residents as valued assets of the community. Open space contributes to a municipality’s character and preserves natural ecosystems, thereby fostering a healthier environment. The Jointure townships have planned for and provided recreation land, parkland, and passive open space, by preparing plans outlining goals for parks, recreation, and open space and by working with developers and residents to help meet those goals. As a result, the Jointure’s park, recreation, and open space resources are a highlight of planning efforts by each township.

See Map 11, Park, Recreation and Open Space. It should be noted that areas designated for parks, recreation, and open space do not include those areas dedicated to agriculture and farmland preservation.

Funding Initiatives

Within the Jointure, park, recreation, and open areas are provided at the municipal, county, and state levels. Given the desirable location of the Newtown Area, local officials recognized that land preservation is integral to maintaining the character of the region. While the Jointure communities operate together under one comprehensive plan and one zoning ordinance, the three townships have undertaken individual initiatives to preserve open space and provide park and recreation facilities.

Municipal and county open space bond referendums approved by voters have played a significant role in land preservation. In 1996, Upper Makefield residents voted to approve a \$5.9 million bond issue to preserve open space. Following the success of the original open space bond, a voter referendum for an additional \$15 million was approved in 2000, and a third bond referendum, for \$10 million, was approved in 2005. Wrightstown Township had three voter approved open space referenda. The first was in 1995 through a real estate tax increase of \$1.5 million. The second, through an earned income tax, was approved in 2002 for \$1.5 million. And finally, the third was approved in 2006, also through an earned income tax, which allocated another \$1.5 million toward open space preservation. Through these initiatives, the townships have preserved hundreds of acres, primarily through conservation easements on private lands. According to the Upper Makefield Township’s website, it alone has permanently preserved more than 37 percent of land in the township.

The three townships participated in both rounds of the county’s municipal open space program. Funding from the second, and most recent, 10-year round (2007 to 2017) was used by Jointure townships for land acquisition as well as park and open space improvements. Newtown used the funding to update the municipal open space plan and for recreational improvements at Veterans Park and the Wrights Road Trail. Upper Makefield’s allocation was used for recreation improvements at Lookout Park and toward the acquisition of the 34.71-acre Zimmerman tract. Wrightstown used the township’s allocation toward the acquisition of the 56.5-acre Gorski tract.

Local township parks and recreation areas are supplemented by parks provided by the county and the state.

Overview of Open Space and Protected Lands

The following chart provides acreages of permanently and temporarily protected lands in the Jointure. Permanently protected lands include areas that are more likely to be preserved due to their ownership. Temporarily protected lands are areas currently in open space use or partial open space use in conjunction with recreational facilities.

Open Space Type	Newtown Twp (Acres)	Upper Makefield Twp (Acres)	Wrightstown Twp (Acres)	TOTAL
Permanently Protected Lands				
State Parks	519	286	8	813
County Parks and Open Space	129	0	10	139
Municipal Parks and Open Space	305	173	303	781
Open Space within Residential Developments	1,426	840	43	2,309
Privately Preserved Open Space	548	4,887	1,580	7,015
Agricultural Conservation Easements	0	845	198	1,043
Land Trust Properties	0	148	53	201
Total Permanently Protected Lands	2,927	6,334	1,997	11,258
Temporarily Protected Lands				
Lands with Preferential Assessment	590	4,514	1,773	6,877
Agricultural Security Areas	222	1,506	372	2,100
Public and Private Schools	483	30	92	605
Private Recreational Areas	67	185	115	367
Other Temporarily Protected Lands	162	35	71	268
Total Temporarily Protected Lands	1,524	6,270	2,423	10,217

Acreages are intended to provide information on the amount of land applicable under each open space type. Many lands with preferential assessment and lands within the agricultural security area commonly occur within land included under the privately preserved open space, agricultural conservation easements, and potentially land trust properties.

State Parks

Three state parks are located in the Jointure: Tyler State Park, Washington Crossing Historic Park, and Delaware Canal State Park. Newtown Township has about 519 acres and Wrightstown Township has 8 acres of the 1,700-acre Tyler State Park, which is located along the banks of the Neshaminy Creek. Approximately 8 acres of Tyler State Park also fall within Wrightstown Township’s boundaries. The park offers numerous recreational opportunities, including boating, hiking, fishing, ice skating, disk golf, sledding, cross-country skiing, picnicking, biking, horseback riding, and nature study. In addition to internal park trails, the bridge across the Neshaminy Creek on Newtown-Richboro Road—which runs adjacent to the south side of the park—has a dedicated bike lane that provides pedestrian and bicycle connections between Newtown and Northampton townships.

Washington Crossing Historic Park, operated by the Pennsylvania Department of Conservation and Natural Resources, is located along the Delaware River in Upper Makefield Township in two sections: McConkey’s Ferry and Thompson’s Mill. The McConkey’s Ferry section is located at the village of Taylorsville and contains about 152 acres. Amenities in this section include a visitor’s center, historic buildings, and picnic pavilions. The Thompson’s Mill section is located within Upper Makefield and Solebury townships. The park contains Bowman’s Tower and Wildflower Preserve on about 91 acres. The wildflower preserve features walking trails, birding opportunities, classes and guided tours, and an arboretum.

The Delaware Canal State Park is located along the Delaware River in Upper Makefield Township. The canal and towpath extend 5 miles through the township and encompass about 43 acres. A national historic landmark, the park provides opportunities for walking, biking, horseback riding, picnicking, fishing, and nature study.

County Park and Open Space

There are several county-owned properties in the Newtown Area. A small area of Core Creek Park, encompassing about 18 acres, is located in the southeast part of Newtown Township. The Shull Farm, located at the corner of Wrights and Linton Hill roads, is an active farm on 111 acres in Newtown Township.

Bucks County has also acquired several properties (about 26 acres) along the Neshaminy Creek in Wrightstown Township. The Bucks County Parks and Recreation Department has been preserving property along the Neshaminy and Little Neshaminy Creeks for the purpose of protecting the floodplain and the “forks of the Neshaminy” natural areas. This program focuses on preserving farms and natural lands near the confluence of these creeks in Warwick, Buckingham, Wrightstown, and Northampton townships. In Wrightstown Township, several properties have been identified for preservation in this area.

Municipal Park and Open Space

Municipal park and open space encompasses lands owned entirely by Jointure municipalities. Newtown owns about 305 acres of park and open space land, including lands dedicated to the township as part of new residential developments. Wrightstown Township owns approximately 303 acres of land, and Upper Makefield Township owns about 173 acres of land. The following tables detail the municipal-owned

parkland. This listing does not detail all open space acreage owned by each township, but rather lists parkland and facilities.

Newtown Township Parks

Name	Location	Facilities	Acreage
Chandler Fields	Buck Road	Ball fields	7.1
Carl Sedia Park	Buck Road	Exercise trail	4.3
Helen Randle Park	Swamp Road	Ball fields	30.8
Roberts Ridge Park	Lower Dolington Road and Frost Lane	Playground	24.8
Clark Nature Center*	Durham Road	Passive recreation	50.6
Veterans Park	Durham Road	Ball fields; playground and walking trails	37
Silver Lake Park	Newtown Bypass and Campus Drive	Passive recreation	22.6
Staples Field	West Road	Skate park and multi-purpose field	4.2

*Purchased through the Bucks County Municipal Open Space Program

Wrightstown Township Parks

Name	Facilities	Acreage
Anchor Run Farm*	Farm and passive park	101.4
Neshaminy Cliffs	Wooded lot. No plans for development at present time	0.3
Pheasant Lane Extension	Future walking trail to Anchor Run Farm	1.1
Octagonal Schoolhouse	Historic schoolhouse	8.2
Boat Ramp	Boat ramp	1.4
Chippewa Farm	Municipal complex	62.6

*A portion of this property was purchased through the Bucks County Municipal Open Space Program.

Upper Makefield Township Parks

Name	Location	Facilities
Lookout Park	River Road	Baseball and softball fields, walking and biking trails, playground, pet stations, picnic tables
Brownsburg Tract	River Road	Soccer fields, basketball court, tennis court, playground, pavilion, pet stations

Open Space within Residential Developments

Providing open space as part of new developments is encouraged by the joint municipal zoning ordinance (JMZO). The JMZO provides several development options. Natural features on a development site must be set aside as open space, and the cluster opportunities result in open space as part of most new developments.

The Municipalities Planning Code allows local governments to mandate the dedication of recreation land to meet the recreation needs created by new development. A fee-in-lieu of dedication is also an option. The subdivision and land development ordinance of each municipality in the Jointure requires a dedication of recreation land or a fee-in-lieu of such dedication that could be used for the purpose of purchasing and developing park and recreation land. In Wrightstown Township applicants for single-family detached developments are required to dedicate 1,500 square feet per dwelling unit for park and recreation areas. Single-family cluster and multifamily developments must adhere to the open space and recreation requirements of the zoning ordinance.

Upper Makefield and Newtown townships contain similar regulations for the dedication of recreation land. In Upper Makefield applicants for single-family detached, two-family, and multifamily developments are required to dedicate 4,000 square feet per dwelling unit for park and recreation areas. In Newtown Township applicants must dedicate 3,000 square feet per dwelling for these development types. Nonresidential subdivisions and land developments in Upper Makefield Township are required to dedicate 1,300 square feet of land for every 4,000 square feet of building area. Nonresidential subdivisions and land developments in Newtown Township are required to dedicate 750 square feet of land per 1,000 square feet of building area. Suitable facilities required for nonresidential areas in Newtown and Upper Makefield include playing fields, tennis courts, tot lots, basketball courts, and jogging parks with exercise stations. Each Jointure municipality also has design requirements for locating and developing dedicated recreation areas so that such areas are usable and accessible to nearby residents.

Many residential subdivisions in the Jointure have some sort of open space associated with them. Some of this space has been dedicated to the townships; most of it remains in the hands of homeowners' associations. In Wrightstown Township, 43 acres of open space land is associated with residential subdivisions. In Upper Makefield Township, 840 acres of open space land is associated with residential subdivisions. In Newtown Township, 1,426 acres of open space land is associated with residential subdivisions. A total of 2,309 acres of land is associated with residential subdivisions in the Jointure.

Schools

The Jointure contains several private and public schools. Public schools in Newtown Township include Newtown Elementary (37 acres) on Wrights Road, Goodnoe Elementary (17.1 acres) on Frost Lane, Newtown Middle School (32.5 acres) on Newtown-Richboro Road, and Council Rock High School North (61.8 acres) on Swamp Road. Private schools include St. Andrew Catholic School (24.1 acres) on Wrights Road and lands associated with the George School (11.2 acres) at the intersection of Newtown-Langhorne Road and the Newtown Bypass. Colleges include Bucks County Community College (200 acres) on Swamp Road, Holy Family University—Newtown Campus (79.2 acres) at the intersection of Lindenhurst Road and the Newtown Bypass, and the LaSalle University Bucks County Center (6.5 acres) on University Drive. In Wrightstown Township, the Wrightstown Elementary School (22.5 acres), a public school, is located along Penns Park Road. In Upper Makefield Township, the Sol Feinstone Elementary School (28.2 acres), a public school, is located on Eagle Road.

Private Recreational Areas

Other private recreational areas, such as golf courses, camps and campgrounds, and nature preserves, contribute to recreation options. Jericho National Golf Club, a private golf course and country club on 171 acres, is located along Brownsburg Road in Upper Makefield Township. In Wrightstown Township the Middletown Grange #684 (the local branch of the Pennsylvania State Grange) owns 49 acres of fairgrounds. The Grange hosts a number of events throughout the year, including the Middletown Grange Fair, the Wrightstown Farmers Market, car shows, and festivals, and provides fields for the Tri-Township Baseball League.

Planning for Open Space and Park and Recreation Development

Open Space Plans

Each of the three townships prepared updates to their respective open space plans since the previous joint comprehensive plan was prepared, in part to qualify for the county's municipal open space program. Newtown and Upper Makefield completed updates to their open space plans in 2009 and Wrightstown updated their open space plan in 2011. Each municipal plan includes specified goals for open space, many of which are common among the communities. Shared goals include: preserve the municipal character; support and preserve farmland; protect natural features and resources; enhance biological diversity; establish greenway corridors; and protect scenic resources and viewsheds.

Park and Recreation Plans

Within their open space plans, both Newtown and Upper Makefield townships include a goal to provide for recreational open space. Both townships have prepared recreation plans. The *Township of Newtown Comprehensive Recreation Plan* (April 1999) includes an inventory of facilities, identifies the recreation needs of the township, lists park and recreation goals, and discusses methods to achieve those goals. Upper Makefield updated the township's 1992 park and recreation plan in 2005. The township's 2005 park and recreation plan update also includes an inventory of existing facilities, an analysis of park and recreation needs, and recommendations.

Municipal-Based Open Space Link Planning

In 2016, Newtown adopted the *Newtown Township Comprehensive Trail Plan* which focuses on the development of a township-wide network of pedestrian and bicycle facilities. Key recommendations include creating multi-use trails that link to community destinations and nearby regional trail systems, completing gaps in sidewalks where they exist, and providing trail markers and maps. The municipal open space plans for Upper Makefield and Wrightstown also address open space linkages and greenway corridors, noting that linked trails and greenways provide recreational, environmental, and scenic values. Although not without debate, the use of utility corridors for potential linkages has been discussed. It should be noted that the Philadelphia Electric Company (PECO) has recently reevaluated the company's policy on trails within their utility corridors. While PECO may allow trails in some corridors, they are not allowed in all corridors.

Strategies and Actions

1. Enhance cooperative efforts amongst participating municipalities, the school district, the Commonwealth, and private entities, to offer a wider range of facilities and programs than a single municipality can provide and avoid the unnecessary duplication of facilities and programs.
2. Continue to implement park and recreation plans of the Jointure townships and update when needed.
3. Define and map existing trails and look for opportunities to expand them where appropriate.
4. Coordinate with the public school district and local private schools for use of school facilities for public recreation programs.
5. Periodically reassess the mandatory dedication/fee-in-lieu contribution requirements in the subdivision and land development ordinances to determine if they should be adjusted to reflect current park and recreation needs and costs.
6. Address the joint municipal zoning ordinance requirements, as needed, to provide useable open space in residential developments that is suitable for active or passive recreation.
7. Consider trail connections between open space areas, recreation lands, and appropriate community facilities, local sidewalks and bicycle paths/lanes, and points of interest on a region-wide basis. Obtain access easements along the designated greenway/trail linkages network when possible as part of the subdivision and land development review process.
8. Consider designating locations for future public parks, playgrounds, and open space on an official map which provides a legal means for reserving such sites.

PRINCIPLE 7 – SUSTAIN AND SUPPORT OUR COMMERCIAL AND JOBS BASE

“Maintain the area’s convenient and attractive commercial areas for the purchase of necessary goods and services, but prevent the over-commercialization of the area. Maintain and enhance the area’s economic vitality, businesses and industries that provide jobs, convenient shopping and services, and quality of community life. Good land use planning can direct nonresidential development to areas where it makes sense.”

Commercial and Business Areas in The Jointure

Commercial areas in the Jointure are located in Newtown Township in the vicinity of Newtown Borough, near the Taylorsville-Washington Crossing area in Upper Makefield and in the vicinity of Anchor and Penns Park in Wrightstown Township. The various commercial areas indicated on the plan permit development consistent with the function (i.e., neighborhood or community commercial areas) for which they are intended in a manner consistent with the land use policies discussed in this plan. Commercial areas in the Jointure are not intended to function as regional commercial centers featuring sprawl or strip-mall forms of development, but as sub-regional community commercial areas where development is concentrated in town-center fashion to serve local customers and residents.

Newtown Borough

While Newtown Borough is not a part of the official joint Newtown planning program, its location at the geographic center of the Jointure has a significant impact on the nonresidential needs of the community. The Borough has often been referred to as the “hub” of the region and draws many of its customers from the surrounding areas within the Jointure. One of the economic development objectives of the Comprehensive Plan for the Borough of Newtown involves fostering a balance between businesses that serve the needs of borough residents and businesses whose customer base is more regional in nature.

The nonresidential districts in the borough have been developed with a variety of uses. Although there may be room on some of these properties for the expansion of the existing uses, there are no open larger parcels that would provide for substantial nonresidential development. Previous zoning changes enacted by the borough were geared toward providing suitable regulations for the different types of businesses found in various parts of the borough and did not significantly increase its nonresidential areas as a whole.

Newtown Township

Newtown Township provides the commercial, office, and business core to the Jointure outside of the borough.

The typical large lot area requirements associated with corporate headquarters, administrative offices and research facilities are provided for within Newtown Township near the I-295 Interchange. A large office-research area along Newtown-Yardley Road near I-295 provides area for the larger employers, including KVK Technologies, Holy Family College, and others.

Interim low intensity uses, such as various agricultural activities, are also permitted in this area by the zoning ordinance. Residential uses permitted by the zoning ordinance may also be appropriate in the portion of these areas north of the Newtown Bypass and have been permitted to be developed.

The Newtown Business Commons has been restructured since the 1998 Jointure plan to adjust to changing economic times and market needs. Through the early 2000s, this area catered less to industrial clients and included more business and office development. However, with continued economic changes and employment trends, the township will be considering revisions to the zoning in this area to better reflect current needs and conditions.

A series of zoning districts in Newtown provide for a range of commercial uses, from shopping centers to small local shops along Sycamore Street. The shopping centers along the Newtown Bypass provide community-based retail uses that serve the Jointure. These centers have undergone recent changes, adding more commercial space. Sycamore Street has been improved with sidewalks, lighting, land configuration, paving, and amenities. The former “Goodnoe’s Corner” has been redeveloped with buildings closer to the road and design elements that make it consistent with a more Main Street-type look. The former Acme market site was redeveloped to fit along the improved Sycamore Street. The site now contains a mixed-use building with commercial space on the first floor and residential units on the upper floors. As with the “Goodnoe’s Corner” development, the building has been situated closer to Sycamore Street, with parking provided behind the structure.

Upper Makefield Township

Washington Crossing

The village commercial district at Washington Crossing extends along Taylorsville Road and south along the Delaware Canal between Taylorsville Road and the canal.

The Gateway project undertaken by Upper Makefield made significant improvements to this area, with pedestrian ways, design controls on commercial uses, and connections between the core neighborhood commercial uses and the historic sites. The township had received several grants for public improvements to the Gateway area.

Wrightstown Township

Commercial Areas

Wrightstown Township’s commercial zoning is located in Penns Park in the vicinity of the intersection of Second Street Pike (PA Route 232) and Penns Park Road and in Anchor, north and south of the intersection of Second Street Pike and Durham Road (PA Route 413).

Professional Services District

The Professional Services/Office District is located in Anchor, east and west of the intersection of Second Street Pike and Durham Road, where a small shopping/office complex is located, along with two service stations.

Wrightstown

This village district allows single-family detached dwellings, limited commercial and office use. This district can be found in the village of Wrightstown along Durham Road.

Industrial Districts

The Rural Industrial District is intended for less intensive industrial uses in areas where public water and wastewater facilities are not provided. The RI-A District serves the same purposes as the RI District and provides appropriate locations for recycling and refuse facility uses.

Two rural industrial districts are found in Wrightstown Township. One is located southwest of Penns Park along both Second Street Pike and Penns Park Road. The other is located southwest of the intersection of Second Street Pike and Swamp Road. The RI-A District is located southwest of Penns Park along Penns Park Road.

Quarries

Four quarries are located in the southwestern portion of Wrightstown. Areas delineated in this plan for quarry activity recognize existing uses. Appropriate safety and setback requirements are intended to ensure these intensive uses are compatible with the residential and agricultural uses permitted in surrounding areas. Upon termination of quarry activities within each area, reclamation shall be undertaken and completed in a timely and appropriate manner in accordance with the Pennsylvania Surface Mining and Reclamation Act.

Trends in Nonresidential Land Use

Jointure communities, and indeed communities across the country, are increasingly being asked to confront emerging trends in how nonresidential land use is managed. In many cases, the COVID-19 Pandemic has played a role in exposing, fast-tracking, or directly bringing about many of these trends. It is incumbent upon the Jointure communities to remain keenly aware of these trends as they become ever more relevant.

ADAPTIVE REUSE AND INFILL DEVELOPMENT—Communities must look for ways to innovate land use policy to capture new economic trends and provide flexibility and adaptability in land use planning. This can be done by permitting a mix of complementary uses, such as healthcare, recreational, and multifamily residential uses in traditional retail- and office-oriented zoning districts. Carefully crafted design requirements are a must to ensure good development outcomes.

COMMERCIAL AND OFFICE SPACE—Vacancies remain high in both retail commercial and office space. After a glut of office space was developed between the 1980s to the early 2000s, no significant amount of office development has been developed in the Jointure communities or in Bucks County at large.

Historically, many communities likely overzoned for such space because this type of development can pay for itself in terms of tax revenues over the cost of providing services.

By many evaluations the U.S. has become vastly overretailed, with estimates on retail space ranging from 23.5 to 46.6 square feet per person. By comparison, places like Germany and Mexico have only 2.4 and

1.5 square feet of space per person, respectively. Developing strategies for adapting land use policy to the changing landscape in commercial and office space will be of utmost importance in the coming years.

WAREHOUSE SPACE—Growth in e-commerce has accelerated the demand for warehouse space across the U.S. While the Jointure itself has not directly seen a sharp rise in warehouse space development, many of its neighboring municipalities indeed have. As a whole, Bucks County is seeing a record year in proposed square footage for industrial space, as e-tailers look to bring inventory closer to their customer base. Implications could certainly be felt within the Jointure in areas related to traffic concerns, environmental considerations, and an increased demand for services.

Strategies and Actions

1. Allow commercial development in village neighborhood centers consistent with the character of existing village buildings in terms of mass, use, scale, and appearance.
2. Review the joint municipal zoning ordinance to ensure that commercial uses and mixed-use development, which include commercial uses, preserves the form and function of village areas and contributes to the preservation of historic structures.
3. Limit commercial activities to existing commercial centers, villages, and districts, including the Newtown Village shopping area, Sycamore Street, Washington Crossing Gateway, Penns Park, and Anchor and Wrightstown villages.
4. Maintain the existing commercial zoning district boundaries to reflect the intended future commercial land use pattern delineated in the comprehensive plan. No expansion of commercial districts is needed or proposed.
5. Support Sycamore Street area as a commercial and cultural center of the Jointure with its architectural diversity and history and strengthen the area's economic stability and contribution to the Jointure through connectivity with the borough and on-going Main Street programs.
6. Review municipal ordinances to promote use, streetscape, and design requirements consistent with Sycamore Street Plan and the town commercial districts in other appropriate commercial areas.
7. Promote pedestrian connections within and to all commercial areas.
8. Support the plan for Washington Crossing Gateway.
9. Reevaluate zoning regulations in the LI and O-LI zoning districts in Newtown Township (area of Newtown Business Commons) to ensure permitted uses and district regulations are geared to ensure continued viability of this area.
10. Locate rural industrial uses not requiring public utilities in an area adjacent to the Penns Park neighborhood center and in a portion of land bounded by the Neshaminy Creek, Route 232, Swamp Road and the quarries in Wrightstown Township.
11. Explore additional uses to complement existing uses (e.g. corporate office and research use) in the Office Research Area near the access to I-295 and the Newtown Bypass. This area will continue

to serve as a major employment center, enhanced with open space and ancillary facilities that support office and job centers, such as hotels and conference facilities.

12. Ensure that buffer standards and setback requirements in the joint municipal zoning ordinance protect properties adjoining commercial, industrial, business, and quarry uses.
13. Provide for the continued extraction of quarry material within the confines of the existing areas designated for quarry use.
14. Ensure that quarry operations are conducted in a manner that protects the health, safety and welfare of employees and residents of the community.
15. Ensure that adjoining properties and the region as a whole are protected from the visual and environmental impacts of quarry activities.
16. Work and coordinate with the PADEP, Bureau of District Mining Operations to ensure that quarry reclamation will be undertaken and completed in a timely and appropriate manner.
17. Remain apprised of ongoing and emerging trends in nonresidential land use, including but not necessarily limited to: 1) adaptive reuse and infill development; 2) commercial and office space; and 3) warehouse use.
18. Encourage revitalization as needed to ensure viability.

PRINCIPLE 8 – PROTECT HISTORIC RESOURCES

Ensure the preservation of the area's historic resources by regulating future growth to recognize, protect, and incorporate landscapes, buildings, and other structures of historic, architectural, and cultural significance, as required by the Pennsylvania Municipalities Planning Code.

Historic Preservation

Historic preservation is the process of maintaining and enhancing historically significant parts of a community, from individual buildings to whole neighborhoods. It involves identifying and celebrating a community's history to provide a better understanding of its past and a context for future decision-making. The historic buildings, structures, and sites found throughout the Newtown Area are an integral component of the fabric of the community. They highlight the importance of this region, serve as a reminder of its past, and contribute to the character and charm of the area.

Historic preservation is an inherently sustainable activity that maximizes the use of existing materials and infrastructure, reduces waste, and preserves the historic character of older places. By preserving historic structures, we are able to share the very spaces and environments in which the generations before us have lived. Cultural and historic resources provide a tangible connection to the past and are crucial to understanding settlement patterns and the heritage of a community. In addition to solidifying a community's past, preservation can strengthen a community's future, boost the economy, and foster a healthier quality of life. Historic resources create vibrant, cultural destinations that can be centerpieces of community life. The Jointure's historical and cultural landscapes give the area a unique and valuable heritage and a sense of place that should be preserved.

Identifying Historic Resources

National Register of Historic Places

The National Register of Historic Places is the official list of the nation's cultural resources, providing recognition that buildings or districts have historic, architectural, or archeological significance. The register was established by the National Historic Preservation Act of 1966 and is maintained by the National Park Service. The Pennsylvania State Historic Preservation Office (SHPO) manages the National Register program. The National Register is a nationwide program to coordinate and support public and private efforts to identify and recognize resources of significance in American history, architecture, engineering, and culture.

A "resource" worthy of preserving can be defined as a historic building, structure, district, landscape, site, or object. To be considered eligible for the National Register, the resource needs to be at least 50 years old or older, and have significance to historic events or persons, architecture, engineering, or archaeology, at the national, state, or local level. The historic resource must also reflect the significance of the property through retention of historic integrity. The resource must look a lot like it looked when it was constructed. A historic resource should retain historic integrity in location, design, setting, material, feeling, workmanship, and association.

Section 106 of the National Historic Preservation Act requires federal agencies to consider the effect of their undertakings on historic resources that are listed or eligible for listing on the National Register. Federal undertakings include projects with direct or indirect funding, or that require a federal license or a federal permit. Sale of historic property from federal ownership is also, by definition, a federal undertaking. Similarly, the State History Code requires state agencies to consider the impact of their projects on historic properties.

The National Register does not limit the rights of private property owners to alter or convey their property. That being the case, regulations to protect historic resources need to be adopted by local government.

The Pennsylvania Historical and Museum Commission (PHMC) is the official history agency of the Commonwealth of Pennsylvania. The PHMC is responsible for the collection, conservation, and interpretation of Pennsylvania's historic heritage. Heritage resources, as defined by the PHMC, are resources that are eligible for listing, or listed in the National Register of Historic Places, as well as those identified as historic by the community based on age and local importance.

The specific department within the PHMC that administers the federal historic preservation programs and all official state historic preservation programs and activities is the State Historic Preservation Office (SHPO). These programs are the National Register nomination program, federal and state tax credit program, historic preservation grants, and other services. Every five years, the SHPO develops a statewide historic preservation plan that provides assistance to local governments to develop and implement their own historic preservation planning initiatives.

The Jointure contains 27 historic resources that are located on the National Register of Historic Places, including six historic districts that are located either in part, or in their entirety in the municipalities of the Jointure.

Newtown Township contains the following 7 historic resources that are located on the National Register:

- David Leedom Farm, added on January 1, 1976
- Newtown Historic District, added on December 17, 1979
- Twining Farm, added on July 1, 1982
- George F. Tyler Mansion, added on July 16, 1987
- Newtown Presbyterian Church, added on July 16, 1987
- Newtown Creek Bridge, added on June 22, 1988
- Peter Taylor Farmstead, added on May 5, 1989

Upper Makefield Township contains the following 10 sites that are located on the National Register:

- Makefield Meeting, added on January 18, 1974
- John Chapman House, added on January 24, 1974
- Hayhurst Farm, added on February 12, 1974
- Eagle Tavern, added on April 20, 1978
- Keith House-Washington's Headquarters, added on November 14, 1978
- Smith Family Farmstead, added on January 30, 1978
- John Burroughs Homestead, added on March 5, 1984
- Dolington Village Historic District, added on May 26, 1994

- Brownsburg Village Historic District, May 26, 1994
- Buckmanville Historic District, added on March 20, 2002

Wrightstown Township contains the following 10 sites that are located on the National Register:

- Wrightstown Friends Meeting Complex, added on October 29, 1975
- William Smith House, added on April 13, 1977
- Vansant Farmhouse, added on August 2, 1977
- Penns Park General Store Complex, added on January 8, 1985
- Wycombe Village Historic District, added on January 31, 1985
- Penns Park Historic District, added on March 13, 1986
- Waldenmark, added on August 30, 2001
- Isaiah Warner Farmstead, added on August 20, 2004
- Wrightstown Octagonal Schoolhouse, added on November 9, 2007
- John and Alice Fullam House, added on March 15, 2019

Native American Heritage Sites

The Native American Heritage of Bucks County traces its roots back 10,000 years. The last of the Native American culture to inhabit the Delaware Valley was the Lenape. During William Penn’s lifetime, there were as many as 12,000 Lenape in the Delaware Valley in villages along the Delaware River and its tributaries. Almost all Native American archaeological sites from the Late Woodland Period (500-1500 A.D.) and the time of first contact with European settlers are found on river flats and slightly elevated areas of generally low ground. By the middle of the 18th century, the Lenape no longer inhabited the region. Evidence of Native American settlements is periodically uncovered during the development process. If artifacts are found, the PHMC will require developers to preserve found objects. Further, projects that have federal or state involvement, such as funding or a license, may require that an archaeological study be conducted in consultation with the SHPO.

National Historic Landmarks

A National Historic Landmark (NHL) is a building, district, site, or structure that is officially recognized by the United States government for its historical significance. The National Park Service describes NHLs as resources that evoke the “common bond between all Americans.” Nearly 2,600 sites nationwide have been given this designation by the National Park Service. Portions of two such sites are located within the Jointure.

Washington Crossing State Park—On December 25, 1776, George Washington and his army of soldiers crossed the Delaware River to successfully attack a Hessian garrison at Trenton, New Jersey. The victory was a celebrated turning point in American efforts to continue the Revolution after a series of defeats. Washington Crossing State Park consists of approximately 500 acres, including many historic buildings and the Bowman’s Hill Wildflower Preserve. The state park is operated by the Pennsylvania Department of Conservation and Natural Resources in partnership with the Friends of Washington Crossing Park.

Delaware Canal and Delaware Canal State Park—Canals played an integral role in the transportation of coal and other products from the Upper Lehigh Valley to industrial centers in Philadelphia and other cities along the eastern seaboard. The Delaware Canal runs through Bucks County, and a portion of the

canal runs through Upper Makefield Township. Paralleling the Delaware River, the Delaware Canal runs from the mouth of the Lehigh River in Easton, south to Bristol. The Delaware Canal State Park contains a historic canal and towpath, 60 miles of trail, several miles of river shoreline, and 11 river islands. The canal towpath has also been classified by the United States Secretary of the Interior as a National Recreation Trail, which is a designation given to existing trails that contribute to health, conservation, and recreation goals in the United States.

These designated historic resources, along with other historic resources not yet recognized for their historic significance in the Newtown Jointure, have value for many reasons. Historic resources give the Jointure a unique physical and cultural character. Older buildings frequently are built better, with a high degree of craftsmanship and quality materials that are rarely duplicated today. Each historic site represents a past investment for future generations. Maintenance and rehabilitation of historic buildings and neighborhoods also represent a savings in terms of energy and materials. Well-kept historic buildings contribute to the vitality of a community and tend to strengthen property values. Neglect or loss of historic buildings and structures would pose a significant threat to the identity of the Jointure. Historic preservation proves to foster civic pride and appreciation for historic value. Appropriate preservation and restoration projects can enhance and improve the surrounding non-historic property values.

Jointure municipalities are engaged in developing comprehensive inventories of all resources in the community based on the information provided by the numerous studies, reports, and listings that have been prepared in the past, and additional research to bring these inventories up to date to chronicle such resources. An up-to-date and complete listing will help direct the actions of the community to protect historic resources.

Historic Preservation Plan

Although historic resources are valuable, they are often taken for granted until they are endangered; preservation planning can lessen that threat. However, sound preservation planning must occur before historic elements are imperiled, as last-minute preservation responses are rarely effective in the long term. If historic resources are to be retained, it is essential to develop an effective local historic preservation program. Local historic resources, most of which are privately owned and maintained, are at risk unless residents are properly educated about the historic importance of their properties and are encouraged to cooperate with the Jointure's preservation goals.

A historic preservation plan is a program for conserving historic resources. The plan contains a historic resources survey, an assessment of constraints and threats to preservation of those resources, goals and objectives, and implementation strategies. The plan may be a chapter in the community's comprehensive plan, or a separate document. The plan can be developed by an existing organization like the planning commission or by a historic commission or society. Historic preservation plans are typically adopted by the governing body by means of a resolution and then implemented through programs, policies, and regulations.

This chapter does not serve as an historic preservation plan but describes the components of such a plan. The first step in preparing a plan is to determine what resources exist through updating the historic resources survey.

Historic Resources Survey

The foundation of any historic preservation plan is a historic resources survey. A historic resources survey is more than a listing of historic buildings and places. It is a process of identifying and gathering data on historic resources. There are two types of historic resources surveys:

Reconnaissance level surveys—A reconnaissance level historic resources survey involves first examining photographs, archives, and documents to generate data about the general age, construction, architectural style, and significance of historic buildings and structures in the area to be surveyed. Secondly, in order to ensure survival of historic resources and make effective use of them, it is necessary to inventory historic resources on a property-by-property basis. It is possible that hundreds, or even thousands of properties could be included in the survey. While volunteer historians or local historic societies may be able to document resources and otherwise assist in preparing this type of survey, it is highly desirable to have such surveys done by a qualified professional. A reconnaissance historic resources survey will also consist of a thorough description of the exterior of a historic resource including its architectural style, size, use, materials, shape, estimate of year built, alterations, and accessory buildings, etc. Current, good quality, exterior photographs of the historic resource are also included in the survey. Typically, a lengthy history of the building is not included, except a brief history may be included if the resource is already well documented.

Evaluation surveys—An evaluation survey is conducted on a historic resource that has potential for listing on the National Register. The property is subject to intense historic research and architectural analysis. A form is prepared that is provided by the SHPO. The SHPO reviews the form and determines if the historic resource is eligible for listing on the National Register.

Assessment of Threats and Constraints

The assessment of threats and constraints involves an evaluation of the negative influences that impact historic resources. These factors include air pollution and vibration from traffic, as well as zoning regulations that permit incompatible uses in historic structures, require setbacks, height, or parking minimums that may detract from a building's historic integrity, or that suppress the economic viability of a historic building. The inability of property owners to fund maintenance and improvements to historic buildings is also a threat. Funding that currently exists for historic resources should be publicized and new sources of funding identified to assist property owners. In general, grants, funding, and financial incentives for property owners in regulated historic districts are nonexistent.

Goals and Policies

Goals and policies are necessary to guide and provide a focus for a preservation program. These goals and policies should reflect the wishes of the community. It is also wise to consult with the owners of historic properties because their participation in the preservation program is important. The comprehensive plan should incorporate a preservation policy as well.

The Comprehensive Plan

The comprehensive plan is also an important element in the program for historic preservation. The comprehensive plan should bring preservation concerns to the forefront because it establishes policy for

all the activities of a community. Section 301(a)(1) of the Municipalities Planning Code (MPC) requires the comprehensive plan to include a statement of objectives concerning the future development of the municipality. Identifying historic preservation planning as an objective of a municipal comprehensive plan reflects the desire to preserve buildings and structures with historic value. A historic preservation chapter and objective also provides a historical context for future planning and land use policies in the zoning ordinance.

Preservation Tools and Implementation

These preservation and implementation tools must be developed in order to make the preservation plan work. These tools take the form of historic district ordinances, zoning provisions, design guidelines, and other regulations. In most cases, the primary responsibility for protecting historic resources falls on the property owner; however, communities can enact regulations and laws to preserve these historic resources.

Historic Districts and Review Board

A commonly used planning strategy for historic preservation is the adoption of ordinances that establish historic districts. The PHMC must approve historic districts before local regulations can be enforced. This planning strategy is most appropriate in those municipalities that have concentrations of historic structures or sites. A local historic district ordinance designates an area containing historic structures and protects it by (1) limiting the type of alterations that may be made to existing buildings, (2) reviewing proposed demolitions, and (3) ensuring compatible design of new construction. Act 167, the state Historic District Act of 1961, provides authorization for Pennsylvania municipalities to designate historic districts and regulate the alteration of buildings within them based on the historic context. Historic districts created under the authority of Act 167 are not zoning districts, but rather a review process separate from zoning concerns.

The creation of historic districts has many benefits; historic buildings have a unique character and heritage, providing a source of pride to residents. The character of historic neighborhoods is valued as an attractive environment and some communities have capitalized on their historic character to promote economic development and tourism.

Communities creating historic districts must follow procedures outlined in Act 167 for regulating alterations to structures within the districts. A local historical architectural review board (HARB) must be appointed and must consist of an architect, a real estate broker, a municipal inspector, and at least two citizens with an interest in, or knowledge of historic preservation. The HARB reviews proposals and advises the governing body who then makes the decision to approve or deny a proposal. In determining if a change is appropriate, the HARB and governing body may consider its visibility from the public right-of-way, and general design, arrangement, texture, material, and color of the building or structure, and its relation to the historic character of the district.

Local historic districts provide the credibility that may be lacking in the nomination of a district to the National Register of Historic Places. A local historic district ordinance provides a means for limiting the amount of change that can occur to historic structures. The National Register program is a credible way to identify a community's historic resources while the local district designation can further protect and enhance them. Thus, what the National Register helps identify, the local district helps protect.

There are three existing historic districts in the Jointure that have been approved by the PHMC and that have established HARBs and are regulated by an Act 167 Historic District ordinance. There are three other areas that have already been listed on the National Register but have not been regulated by the adoption of an Act 167 Historic District ordinance. These are the Village of Wycombe in Wrightstown and Buckingham; the Core Creek Historic District in Newtown Township; and the Penns Park Historic District in Wrightstown Township.

The townships of the Jointure should consider creating additional historic districts for those villages that have already been listed on the National Register of Historic Places but are not regulated with local Act 167 Historic Districts and HARBs.

Local preservation ordinances and guidelines can be effective; however, they do not address the financial pressures that face owners of historic properties. To be more effective, preservation efforts should also address pressures that may conflict with historic preservation planning. Financial incentives and grant programs are ways local government and local financial institutions can encourage historic preservation. The provision of financial incentives encourages private property owners to become involved in preservation efforts and invest in historic properties. These incentives are intended to eliminate many of the financial advantages of new construction compared with restoration or preservation projects.

Historic Preservation Zoning

While historic districts are useful methods of protecting historic buildings, often a municipality's historic structures or sites are not necessarily located within an easily defined district. A historic preservation overlay zoning ordinance can contain provisions to encourage property owners of historically significant properties to use and maintain such properties in order to protect individual landmarks throughout the area, without being located within a designated historic district.

Historic preservation overlay zoning can allow for additional uses within historic buildings, in order to encourage the continued use of a historic resource, rather than demolition. Additional uses are often permitted by special exception only, and standards for uses would have to be met to protect surrounding areas. Historic preservation overlay ordinances can also require local historic commissions to review proposed demolitions and alterations to historic structures, require the preparation of impact statements for proposed subdivisions and land developments, and require the placement of buffering adjacent to historic properties. However, the extent to which zoning regulations may be used to preserve historic resources is limited. Historic buildings derive their character not only from the setback and bulk regulations that zoning can control, but also from the materials used to construct them and the design and pattern of their façade.

If a subdivision or land development is proposed for the site of any structure identified on official township lists of historic resources, the lot lines of the proposed subdivision or land development can be drawn to preserve the historic context of the buildings, including outbuildings, with adequate setbacks. The township can encourage the preservation of historic resources and permit the alteration of lot sizes or setbacks on other proposed lots within the same development to allow adequate land area and setbacks to preserve the historic character of the resources, without increasing the overall permitted density. Adequate land areas and setbacks represent a site sufficient to protect the real estate values of the historic resources to the extent that investment in the restoration and continued maintenance can be ensured. Consideration can be given to exempting a preserved historic building from density calculations.

The most flexible tool available to municipalities to encourage the protection of its history is through zoning. Pennsylvania law encourages this by requiring local zoning ordinances to protect historic resources. The Planning Code states, in Section 603(g)(2), that zoning ordinances “shall provide for the protection of natural and historic features and resources.” Zoning ordinances can encourage the protection and preservation of historic resources in several ways:

Protect Villages—Require new construction around villages and reconstruction within villages to keep prevailing setbacks, scale, style, and bulk. This would apply to areas where buildings remain at crossroad villages, such as Washington Crossing, Penns Park, Brownsburg, Dolington, and Wycombe.

- Require documentation prior to allowing for demolition of a building.
- Encourage new buildings to be constructed on the same footprint as the historic buildings and allow for more flexible setbacks.
- Require new buildings to have the same style, scale, and architecture as the district.

Encourage the preservation of houses and barns on sites slated for development by allowing flexibility so that the farmstead and outbuildings can be protected. Zoning ordinances should require that all historic resources, houses, barns, and outbuildings, be identified and described on subdivision submissions. Often, a proposed subdivision will assume the removal of older buildings so the development can receive a higher yield. Encourage cooperation with state licensed conservancy organizations.

Allow Additional Use Opportunities—Buildings that have been identified and are designated by the municipality as historic resources are given additional use opportunities under this type of zoning ordinance. Typical uses are bed and breakfast, museums, or low-impact offices. This can be done under the authority of the Pennsylvania Municipalities Planning Code (Section 605 (2) (vi)), which allows for special classification and regulations of “places having unique historical, architectural or patriotic interest or value....” These zoning approaches must consider local conditions to protect neighborhood character.

The objective is to encourage the protection and preservation of landmarks that have historic or architectural interest by allowing them to be used for activities not otherwise permitted. The purpose of allowing additional uses in historic buildings is to provide for increased economic opportunities and the ability of the building to produce additional income for the owner, thus providing funds for maintenance and restoration.

An incentive to protect historic resources on larger tracts of land is to provide a density bonus to the developer in exchange for preserving a historic resource and protecting its setting. The historic house and related farm buildings can be allowed to be on a larger lot, buffered from the new development to retain its setting. The house and the lot can then be sold by the developer with a covenant that it cannot be demolished or significantly altered in perpetuity. A density bonus as a historic preservation tool can be written into the zoning code either as an option to the developer or can be made a requirement on properties that have designated historic resources.

The Newtown Area Joint Municipal Zoning Ordinance includes some regulations geared toward protecting historic buildings and districts but does not include extensive controls related to historic preservation. References are made to signs and some accessory uses in historic districts, as well as demolitions of historic structures. There is a continued effort to encourage the preservation of historic resources. The

Jointure plan encourages action to promote the preservation of individual historic structures and the character of historic districts.

Demolition Regulations

The regulation of demolition is an important part of a community's effort to preserve historic resources. Demolition by neglect is the destruction of a building through abandonment or lack of maintenance. Property owners may use this type of long-term neglect to avoid historic preservation demolition regulations. A municipality can use property maintenance codes to help prevent demolition by neglect. Enforcing laws that require buildings to be secure from vandalism and prevent blight can put pressure on owners to maintain their properties.

A demolition delay ordinance requires a waiting period after the submission of a request for a demolition permit. Many ordinances require a delay for structures of more than 500 square feet and older than 50 years. A delay provides time for research about the architectural or historical significance of the property and time to develop alternatives for preservation, or to document the property if demolition cannot be averted.

Demolition can also be regulated using zoning. This can be done by means of an overlay zone that requires a special exception or conditional use for demolition of a historic building. The zoning hearing board or township board of supervisors can put conditions on the demolition such as demolition delay, requiring the building be documented, requiring a structural engineer's report, or deny granting the special exception or conditional use.

Financial Incentives and Grant Programs

Local preservation ordinances and guidelines can be effective; however, they do not address the financial pressures that face owners of historic properties. To be more effective, preservation efforts should also address pressures that may conflict with historic preservation planning. Financial incentives and grant programs are ways local government and local financial institutions can encourage historic preservation. The provision of financial incentives encourages private property owners to become involved in preservation efforts and invest in historic properties. These incentives are intended to eliminate many of the financial advantages of new construction compared with restoration or preservation projects.

Financial incentives may include low-interest loan programs and tax incentives from governmental bodies. A revolving loan fund provided by a local bank and administered by a nonprofit or the Jointure may also assist with the cost of preservation. Banks can get involved by making low interest funds available to the local government or nonprofits. The local government or nonprofit administers the program by performing application intake, evaluation of projects, project oversight, and technical assistance. The property owner pays back the loan with additional interest and the funds are then re-loaned for another project. These revolving loan funds have a positive impact on the historic area and provides the bank with an opportunity for compliance with the community reinvestment act. Local governments may offer tax incentives such as property tax abatement freezes or credits. The availability of particular incentives depends on state enabling legislation.

The Pennsylvania Historical and Museum Commission offers Keystone Historic Preservation grants that may fund cultural resource surveys, national register nominations, and planning and development

assistance projects. The State Historic Preservation Officer at the Pennsylvania Historical and Museum Commission (phmc.pa.gov/), the regional office of the National Park Service (nps.gov), and the National Trust for Historic Preservation (savingplaces.org/) can provide information regarding available funding to eligible parties.

A local government that fulfills historic preservation program standards for the National Park Service's Certified Local Government program, as administered by the SHPO, can become a designated certified local government (CLG). After becoming a CLG, local governments are eligible to apply for grants to help fund historic resource surveys, technical planning and assistance, educational and interpretive programs, and other preservation activities. Upper Makefield is a CLG.

To participate in this program, municipalities need to meet certain other criteria, including effective enforcement of the historic district ordinance or a historic zoning overlay, compliance with appointment, training, and reporting requirements.

In addition, certain state and federal grants, not specifically for historic preservation, have a historic preservation component. The PA Department of Community and Economic Development's Redevelopment Assistance Capital Program (RACP), allows for use of funds for construction projects involving historic buildings. The U.S Department of Housing and Urban Development (HUD) has the Community Development Block Grant (CDBG) program that allows for use of funds for historic preservation construction projects.

Income producing properties that are listed on the National Register of Historic Places are eligible for a state and federal historic preservation income tax credit for the cost of appropriate rehabilitation work. The federal tax credit is an incentive for developers of historic buildings to do rehabilitation work that meets the Secretary of the Interior's Standards. In exchange for appropriate rehabilitation work the developer receives a federal income tax credit that is equal to 20 percent of the cost of the rehabilitation work. The building must be income producing, which includes residential rental units, retail, offices, hotel, and other commercial or industrial uses. The federal tax incentive is administered by the Pennsylvania SHPO in coordination with the National Park Service and the Internal Revenue Service. In 2018, in Pennsylvania developers performed \$466,800,000 worth of qualified historic rehabilitation work under the federal historic preservation tax credit incentive. This resulted in over 7,500 jobs and generated significant tax revenue at the local, state, and federal level. The federal historic preservation tax credit can also be used in conjunction with low-income housing tax credits.

The Commonwealth of Pennsylvania also has its own tax credit program which is applied for through the Department of Community and Economic Development and administered by the Pennsylvania SHPO. The state tax credit is similar to the federal incentive. Developers will receive a tax credit of 25 percent of qualified cost of rehabilitation and can receive a 30 percent tax credit for a project that consists of work force housing.

Another form of tax incentive for owners of historic properties is the federal income tax deduction for donation of a façade easement. This incentive is available to any owner of a National Register listed building that pays federal income tax. The building can be used for any purpose including single family residential. A façade easement is donated to a nonprofit historic preservation organization. The property owner gives the nonprofit the rights to control changes to the façade. In exchange the property owner can take a one-time deduction for the value of the façade from their federal income tax. The property

owner cannot make changes to the façade of the historic building without getting permission from the nonprofit historic preservation organization. However, the property owner must continue to maintain and repair the facade at their expense. It is also helpful and many nonprofit historic preservation organizations require, a donation from the property owner of an endowment that pays for legal expenses and pays for staff to monitor changes to the façade.

Local historic preservation organizations that may accept façade easement donations include the Heritage Conservancy in Doylestown and the Preservation Alliance for Greater Philadelphia located in Philadelphia.

Design Guidelines

Design guidelines consist of recommended design options for alteration or rehabilitation of existing buildings and construction of new buildings, encompassing features like material, architectural style, and signage. Such guidelines, especially when illustrated, can help maintain the character of the community. Design guidelines are also useful when coordinated with the requirements of a historic district. Residents recognize what is encouraged and what is discouraged when making design choices, avoiding conflict with the Historical and Architectural Review Board.

Adherence to guidelines ensures that buildings fit within the context of the existing architecture of an area. Although guidelines are not binding, they make a strong statement about the importance of preservation to a community.

Conservation Districts

The creation of conservation districts has the ability to work with design guidelines. As noted previously, the Jointure contains three existing historic districts that are subject to HARB review; however, areas that abut the historic districts are not subject to design review. Development in these adjacent areas could negatively impact the integrity of the historic district. Conservation districts, which could be established to adjoin the historic district, combine components of historic preservation and zoning techniques that regulate structures and appearance, and could minimize threats to the historic districts. Such districts seek to preserve an area's main defining features, such as scale, setbacks, mass, and architecture. New construction, building alterations, and demolitions are subject to review, but changes are not regulated as stringently as within the delineated districts. Neighborhood character is maintained despite allowing some alterations that would not normally be allowed in the designated historic districts. Conservation districts can be established as an overlay zoning district in the municipal zoning ordinance.

Heritage Markers and Signage

Historic landscapes and other features can be noted by plaques, street markers, or storyboards. This signage may describe the features itself and the reason it is significant. Historic trees can be noted with tree plaques. Historic resources can be commemorated with a marker through the Pennsylvania Historical Marker Program of the PHMC. Any individual or group may nominate a structure or site for such a marker, subject to approval through the PHMC. Each marker within the Jointure is an opportunity to celebrate and understand the heritage of the community.

Historic Preservation Awards

A historic preservation awards program that recognizes the efforts of property owners to appropriately rehabilitate and maintain their historic property can be a very valuable tool in the preservation effort. Awards can be provided for projects of any size, such as for the rehabilitation and adaptive reuse of a historic factory building, or maintenance and repair of historic details on the porch of a historic house. The recognition provided by an awards program creates an overall sense of pride in workmanship that is well done. Awards can be given annually, biennially, or upon completion of a project.

Strategies and Actions

1. Continue to recognize, preserve, and protect historic resources in the area.
2. Require all development plans to identify historic resources on the development site and surrounding properties.
3. Ensure that the regulations governing the zoning districts in which historic resources are located promote the preservation of individual historic structures and the character of historic districts. Develop zoning standards that are designed to preserve historic villages, protect individual historic structures throughout the Jointure, and preserve the viewsheds of historic districts.
4. Review the joint municipal zoning ordinance and other municipal regulations to ensure it promotes appropriate restoration and reuse of historic resources; add or amend provisions for adaptive re-use and delay of demolition.
5. Encourage efforts of private property owners toward restoration and adaptive reuse of historic structures and sites by providing additional use opportunities as incentives for preservation.
6. Work with the Pennsylvania Historical and Museum Commission to determine whether important Native American and other historic sites might be located in the Jointure and explore what measures can be taken to ensure that they are documented and, where possible, preserved.
7. Conduct a historic survey in order to identify any historic resources that are to be protected or added to the National Register of Historic Places.
8. Adopt design guidelines for designated historic areas.

PRINCIPLE 9 – PRESERVE OUR VILLAGES

Protect the scale and character of the villages through land use and design controls so that the historical and cultural heritage of these villages in the Jointure can enhance the quality of life in the present and be preserved for future generations.

Over one hundred identifiable villages remain in Bucks County; however, many have been overshadowed by growth and development. Historic villages are unique resources, but once they are lost, they are irreplaceable. The villages within the Newtown Area represent an important part of the area's culture and heritage. The area's history is manifested through these small settlements in several ways. Villages such as Wycombe, Penns Park, Brownsburg, and Dolington contain prime examples of 18th and 19th century architecture. Villages along historic transportation routes, such as railroad lines, or at crossroads, remain as evidence of early settlement patterns in Bucks County. The character and quality of the Newtown Area would be permanently diminished if small settlements were to disappear from the landscape, becoming unidentifiable as new development engulfs the village image. While municipalities cannot prevent growth, the impact that development can have on villages can be alleviated through land use policies and regulations.

What is a Village?

A village is generally conceived of as a relatively small, clustered settlement which is often dominated by houses and structures of a certain historical period. Villages are often located in a rural setting, usually at a crossroads. Lots are typically small or narrow and contain structures which pre-date the 20th century. The combination of historic structures with a distinctive development pattern creates village characteristics.

Villages in Bucks County can be grouped into three basic categories:

1. **Hamlet:** the smallest type of village, consisting of a few houses located in close proximity to each other, and having no commercial uses or services.
2. **Residential Village:** the classic type of village, a settlement which is mainly residential but contains community related services, such as a post office or general store.
3. **Commercial Village:** the 20th century or motorized version of a previously residential village, it is a settlement that is largely and originally residential in use but is characterized by commercial uses or services that draw on a broader region for support, such as a gas station, antique and furniture stores, inns and taverns.

Villages of the Newtown Area

The Newtown Area contains a variety of hamlets and villages. There are no longer any villages present in Newtown Township; however, the Bucks County Planning Commission Publication, *The Villages of Bucks County a Guidebook*, identifies 12 residential and commercial villages and hamlets within Upper Makefield Township and Wrightstown Township.

Villages of Upper Makefield Township

Brownsburg—Brownsburg was originally known as Pebbletown due to the large pebbles collection from the river shore and used by nearby cities and towns for street paving. The present name of Brownsburg hails from Stacy Brown, the postmaster appointed in 1827. By 1857, Brownsburg was a thriving settlement with a store, hotel, ferry, lumber mill, several shops, and around 20 residential dwellings. Brownsburg is a residential village that contains a well-preserved core of historic structures along River Road. To the south of the village is an area zoned POS Parks and Open Space District, containing a 37.6-acre parcel owned by the township and preserved through the township open space program. The area is known as Brownsburg Park. The surrounding village area is zoned Conservation Management.

Buckmanville—Buckmanville was once a thriving settlement and the site of several successful businesses, including a general store, blacksmith shop, plow factory, and wheelwright shop. The village gets its name from George Buckman, the owner of the blacksmith shop. Buckmanville is a hamlet in the vicinity of Street and Lurgan roads containing only a few remaining structures. It is comprised of some dwelling units and accessory structures and the Jericho Valley Community Center. The hamlet is located entirely within the Conservation Management District. Areas surrounding the hamlet consist of rural residential and agricultural uses. There have been some large conventional houses constructed just east of the intersection of Street and Lurgan roads.

Dolington—Dolington is one of Bucks County's locally recognized historic districts. The settlement grew slowly and prior to 1800, the village only contained three houses. Two of these houses were constructed by Peter Dolin, for whom the village was named after. Dolington is a residential village located along the border with Lower Makefield Township. Dolington is in the Village Residential Zoning District in Upper Makefield Township. Dolington Village Historic District was added to the National Register of Historic Places in 1994.

Jericho—Jericho is a hamlet that is situated on the southeastern slope of Jericho Mountain along a scenic portion of Eagle Road. Located within the Jericho Mountain Zoning District, the boundaries of the hamlet are difficult to identify, but there are several old stone houses which extend along Eagle Road. The area surrounding the hamlet includes agricultural and rural residential uses.

Washington Crossing/Taylorsville—Washington Crossing/Taylorsville is located at the point where George Washington and his army crossed the Delaware River in 1776. The land covers the upper portion of Washington Crossing State Park. The village is a large commercial village located along River Road, Taylorsville Road, and Washington Crossing Road. Primarily commercial in the center and residential on the outskirts, there is a variety of stores, inns, shops, banks, and offices. New suburban development surrounds Taylorsville and traffic through the village is heavy. Taylorsville is zoned Village Commercial and contains a mix of residential and nonresidential uses. Most of the commercial uses are located along Taylorsville and Washington Crossing roads, classified as minor arterial and minor arterial/major collector roads, respectively. A major asset of the village is its proximity to Washington Crossing State Park, which is located along the northeastern perimeter of the village.

Woodhill—Woodhill is a hamlet located along Eagle Road in the vicinity of its intersection with Woodhill Road. Woodhill consists of a few buildings, including a few large stone houses and what appears to be a small white church converted to residential use. The hamlet's hilltop location in the Conservation

Management district provides the residents with a scenic view of the surrounding countryside. The surrounding area includes a rural mix of agricultural, rural residential, and vacant uses.

Villages of Wrightstown Township

Chain Bridge—Chain Bridge was named after the only chain bridge to be built in the county, built over the Neshaminy Creek in 1809. Chain Bridge is an almost indiscernible hamlet located just north of where Second Street Pike crosses the Neshaminy Creek. The Chain Bridge Octagonal Schoolhouse, owned by Wrightstown Township, was one of nine octagonal schools built in Bucks County between 1800 and 1840. The schoolhouse is still standing and was added to the National Register of Historic Places in 2007. The area is zoned Conservation Management (CM), and except for the schoolhouse and two other structures, the original settlement of Chain Bridge has disappeared.

Penns Park—Penns Park is the location of the land that William Penn had originally set aside for a park or town square. In 1719, the park was divided among the surrounding landowners. Penns Park is a commercial crossroads village that has the distinction of being listed on the National Register of Historic Places and is the oldest village in Wrightstown Township. Penns Park is a sizable village consisting of residential and commercial uses. There are many older homes of both Colonial and Victorian architectural styles in the village. The village also houses a church, yarn shop, tavern, offices, and restaurant. Penns Park is surrounded by areas zoned Conservation Management and Rural Industrial. Over the years, conventional-style development that has been developed adjacent to the village and potential development on various vacant lots and rural residential lots may further threaten to dilute the historic character of Penns Park.

Pineville—Pineville is the second village which is located astride the township line between Buckingham and Wrightstown. The village was first named The Pines for the pine trees which once grew there, and included a schoolhouse located near the intersection of Durham Road and Township Line Road. Among the commercial enterprises found there are antique shops, a tavern, a greenhouse, and a restaurant. The center of the village is easy to identify by the post office and tavern, at the intersection of Township Line Road and Route 413. The village also contains several attractive houses, including some large Colonial stone houses. In Wrightstown Township, the village is zoned Village Residential Low Density District. The area surrounding Pineville is zoned Conservation Management District and is defined by the farmland and a large vacant parcel. In Buckingham, the village is zoned Village Center District. The remaining lands adjacent to the village are rural residential or agricultural uses.

Rushland—Rushland is located along Swamp Road and Mill Creek. The New Hope—Ivyland Rail line passes through the village; however, the railroad station is vacant. The village contains many businesses, including Davis Feed Mill, quarry, retail shops, formica manufacturer, and post office. The businesses seem to generate a considerable amount of traffic, particularly the quarry which has numerous heavy trucks coming to and from the site. The village is zoned Low Density Village Residential and the areas surrounding the village are zoned High Density Residential, Conservation Management, and Quarry.

Wrightstown—Wrightstown village takes its name from the township. Wrightstown was the starting point of the controversial Walking Purchase of 1737. The modern-day village of Wrightstown is located along a busy stretch of Durham Road (Route 413) near its intersection with Penns Park Road. The village has no distinct edges and is more commercial than residential in character. Wrightstown contains several

old stone buildings. There are several commercial uses in and around the village, including a nursery, retail shops, restaurant and store, and post office. The Wrightstown Friends Meeting House is also located within the village. Wrightstown is zoned Village Residential Village Community. It is surrounded by the Conservation Management District and the Country Residential District.

Wycombe—Wycombe came into existence when the Northeast Pennsylvania Railroad was built through the village between 1890 and 1891. Straddling the Wrightstown and Buckingham township border, it was placed on the National Register of Historic Places in 1985 and contains several buildings and structures that are considered historically significant. It may still be considered a residential village, although it has a traditional nonresidential component with uses such as a church, the Wycombe Inn, post office, and Histan's farm supply store. The village has characteristics of several settlement forms. It is elongated along Township Line Road and Mill Creek Road like a linear village. The village is centered near the train station and post office at the junctions of the railroad, Forest Grove Road, Township Line Road, and Mill Creek Road like a nodal village and crossroads village.

In 2000, the Bucks County Planning Commission assisted the Jointure with a village study for Wycombe. The primary purpose of the study is to determine if current zoning regulations and district boundaries for the village are appropriate for the existing conditions, and if the regulations are conducive for maintaining and enhancing the characteristics of a village. The study presents detailed analysis and planning for the village that can form the basis for future actions of public officials and private citizens.

The villages in the Newtown Area are each unique in their size, composition, and function. For planning purposes, they have been categorized based upon their composition and intended level of future growth. However, preservation and enhancement are an underlying principle for villages and hamlets in the Jointure, regardless of classification. The three primary categories are:

1. **Growth Villages:** These villages contain a village zoning district (VR1 Village Residential Low Density, VC1 Village Commercial, VR4 Village Residential Rural Community, and VC2 Village Commercial Districts) and are intended to accommodate growth because they are located adjacent to areas zoned for higher density/intensity development. Growth Villages include Rushland, Penns Park, Wrightstown, and Taylorsville. The planning policy for these villages is to explore ways to preserve and enhance the historic village character while accommodating future growth within and adjacent to the village. Permitted uses as well as area and dimensional regulations and other planning techniques should be examined to determine if they are still appropriate.
2. **Limited Growth Villages:** These villages contain an associated village zoning district (VR1 Village Residential Low Density, VR4 Village Residential Rural Community, VC1 Village Commercial, VC2 Village Commercial districts) and are intended to accommodate modest infill development in the future. Limited Growth Villages include Brownsburg, Dolington, Wycombe, and Pineville. While these villages are not located adjacent to areas intended for higher density/intensity growth, there is still concern with incompatible development that may overshadow or undermine their historic character. The planning policy for these villages is to maintain the current village district boundaries and to examine any and all village planning techniques (e.g., scenic overlay district, design guidelines, sidewalks) deemed necessary to preserve and enhance the village's historic character.

3. **Hamlets:** Typically, these historic settlements are very limited in area and do not contain separate village zoning districts. Hamlets include Buckmanville, Jericho, Woodhill, and Chain Bridge. These small settlements are particularly vulnerable to the development of adjacent properties. The prescribed planning policy for a hamlet is to evaluate the feasibility of providing a village zoning district and/or overlay district to preserve or enhance the area in and around the hamlets. Development that is proposed adjacent to a hamlet should be encouraged to contain village-style form and architecture. To enhance the rural historic character, additional preservation measures may be appropriate.

Elements of Villages

Key factors necessary for successful village preservation and enhancement include: village entrances, village viewsheds, village district boundaries, and use and dimensional requirements. The following provides a summary of these key features.

Village Viewsheds

The area immediately surrounding the village, known as the viewshed, is another important element to consider in preserving village identity. A viewshed begins at the transitional point where the built environment meets the surrounding landscape. Generally, the viewshed is determined by identifying those areas that can be seen from sites of significance in the village. The size of the viewshed varies with the topography, vegetation, and other structures or features of the village's surroundings. Because the viewshed serves as a transition between the countryside and the village, it is important to minimize or discourage development that will have a negative impact on this area. Alternative types of residential development, such as clustering, that function to preserve the open space of the viewshed should be considered in this area.

Integrating or separating new development within the viewshed can help protect the existing village character. To integrate development, zoning regulations (i.e., use and dimensional requirements) should be consistent with the original village character so that new development will function as an extension of the existing village. If new development is not compatible with the existing architectural style or character of the existing village, a physical separation should be provided between the proposed development and the village so that there is adequate transitional area in the form of an open space or buffer yard. The intent is to protect the viewshed by providing the required open space adjacent to the village. The placement of new structures should be sensitive to both the village and the viewshed and located in the least obtrusive areas.

The viewsheds for the Newtown Area's villages are not regulated by local ordinances. A village viewshed overlay district is a technique for regulating permitted uses and requiring buffer yards for conventional development within the designated village viewshed. For instance, a village's viewshed can be identified by individual tax map parcel numbers and future development upon these parcels would have to comply with the established viewshed overlay district regulations.

Village District Boundary

The perception of what constitutes a village varies. Typically, a village is viewed as a small, concentrated settlement that is dominated by older single-family homes, interspersed nonresidential buildings such as

businesses, churches, and post offices. The structures are usually spaced closely together, at crossroads, evoking the image of the village as an identifiable place. However, since villages are not incorporated, they do not have fixed edges. Thus, the most commonly used mechanism for delineating the limits of a village is establishing a village district boundary.

In the villages of Wycombe, Wrightstown, Taylorsville, and Brownsburg, the size of the village districts could potentially be reduced to correspond to the actual village entrances. Village preservation/enhancement techniques will afford greater protection from incompatible future development for these village resources and outlying areas.

Village Interior

The village interior is a major element in strengthening the visual identity of the village. The entrance is the perceived edge of the village, a transition point that indicates the presence of a place that is different from its surroundings. A change in land use character or in the existing character of the landscape may be a signal to motorists that they are entering a village and need to reduce speed. Typically, villages have at least one of the following characteristics that can heighten the sense of entry to a village:

- Abrupt change of land use, such as the change from open agricultural land to a tight cluster of buildings in a village;
- Change of elevation, such as the crest of a hill or a dip in the road;
- Mature trees lining the street;
- Lot size and configuration, usually small, narrow lots often in a lineal arrangement;
- Architecture—buildings of a similar architectural period, located close to road;
- Village entrance signs.

These factors would be an indicator of a change in land use or in the character of the land. Various design and planning techniques can be used to enhance or establish an effective entrance creating an increased awareness to motorists that they are entering a small community. This can be achieved through amenities such as landscaping, lighting, and pavement detailing. The village entrance is one means of identifying the limits of a village along its main thoroughfares. Based upon a field survey, it appears that the existing village district zoning boundaries are consistent with the perceived entrances to the villages.

Use and Dimensional Requirements

Each of the four village zoning districts permits a range of residential and nonresidential uses. Generally, the residential village zoning districts are more restrictive than the village commercial districts in terms of permitted nonresidential uses. The VR1, Village Residential 1—Low Density permits only single family detached dwelling and limited nonresidential uses such as school, hospital, and child care facility. The VR4, Village Residential/Mixed Development, and the VC1 and VC2 Village Commercial districts allow for a wider range of both residential and nonresidential uses, but the permitted uses and area and dimensional requirements may vary slightly between districts.

If the mass, scale, or nature of proposed buildings and/or uses are not compatible with those of the existing building and uses in a village, they may undermine the historic character and quality of a village. If this is the case, municipal officials may wish to eliminate those uses from the village zoning district. Conversely, adding new uses that encourage village-oriented development featuring compact,

pedestrian-oriented, mixed-use communities should be examined and implemented where appropriate. An evaluation of the new and proposed development activity in and around the villages may prompt municipal officials to revise certain use and dimensional requirements. Integrating these elements along with the provision of public open space can help to create a sense of community and provide an opportunity for social interaction among residents. Principle 8 Protect Historic Resources references the importance of design guidelines to ensure that new development fits within the context of existing architecture of an area. Design guidelines could be used to help guide the design and layout of proposed developments to be compatible with the prevailing village characteristics.

Strategies and Actions

1. Continue to recognize, preserve, and protect historic villages in the area.
2. Work with Buckingham Township on villages that share a municipal boundary (Pineville and Wycombe).
3. Evaluate current village zoning regulations to determine if revisions should be made to use and dimensional requirements and if setbacks, design elements, or zoning techniques should be modified. Evaluate the village zoning district boundaries to determine if they are appropriate for the existing conditions and revise if necessary.
4. Ensure the road system serves to improve rather than diminish the quality of life in the villages through traffic calming, signs, and street design.
5. Apply for grants for pedestrian and streetscape improvements for the villages if it enhances the quality of life.
6. Consider village viewshed overlay zoning regulations.
7. Conduct village studies to determine eligibility for the National Register of Historic Places.
8. Conduct a historic survey in order to identify any historic resources within the villages
9. Adopt village-centered design guidelines.

NEWTOWN AREA JOINT COMPREHENSIVE PLAN

APPENDICES AND MAPS

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NEWTOWN TOWNSHIP ADDENDUM

The following addendum was developed by Newtown Township and speaks specifically to its own Township's views, goals, and objectives. For this reason, it has been included in the form of an appendix.

Principle #1 – Promote Smart Growth

The Newtown Township Planning Commission is in agreement with this section and feel that we must commit to focusing on the plan when reviewing new applications for land development and adaptive reuse of existing developed properties. To this end we would recommend that Newtown Township's Codes Department provide applicants with either a link to or summary of relevant portions of the plan. The plan does not predict a need for large-scale growth but does point out that we may need to address some increase in multi-family housing.

Principle #2 – Promote Sustainable Development and Protect Natural Resources

The EAC review of Principle #2 made the following recommendations:

- Promote use of electric vehicles by supporting zoning amendments for charging stations and by encouraging the use of electric vehicles by the municipalities for their fleets.
- Create and support programs to reduce or eliminate the use of single use plastics for personal and business uses
- Encourage the use of native plants and revise the list of permitted plants to be used for new development
- Look toward using LED lighting throughout the Jointure
- Establish specific benchmarks for meeting these goals

As technology advances, we do not want to be tied to outdated recommendations but also do not want to fail to recommend and support necessary steps to preserve our rural environment.

Principle #3 – Provide for Mobility and Connections

This section discusses transportation, including roadways, buses, and trails/sidewalks. We reviewed existing trail plans, roadway improvements, traffic calming and bus routes. There are a number of projects in the Jointure already on the DVRPC TIP list, including repair of a few bridges. The Township has been working on some pedestrian safety measures and we agreed that this would require more than just traffic calming. The public increasingly will need education on driver/pedestrian interactions, as much for pedestrians as for drivers. We reviewed the strategies and actions and were in agreement with the BCPC plan.

In addition to the plan, we would also suggest focusing on cooperation with Newtown Borough on pedestrian safety, especially around our business districts such as Sycamore Street and the Business Commons, including supporting Borough plans for pedestrian bridge access over Newtown Creek. We encourage continued efforts for grant opportunities with our Jointure partners to extend trails. We would also encourage promotion of the SEPTA 130 bus.

Principle #4 – Preserve Open Space and Protect Agriculture

This section discusses preservation of our existing farms and farming businesses through programs including agricultural easements, preferential assessments, Agricultural Security Areas, and conservation easements. The strategies include protection of ag soils through the zoning ordinance, support of accessory farm businesses, amending the JMZO to include buffer areas between new development and farms and continued efforts to require open space preservation as part of development.

The commission has been fully supportive of this section of the plan and has noted the importance of open space and ag soil preservation when we consider new development. The plan does include among its strategies to develop, adopt, and implement specific goals and metrics for open space preservation. As Newtown approaches being built out, we will need to keep these goals in mind when we review new plans and will also need to reinforce our commitment and make this a priority when reviewing plans. Applicants should be notified of this so as not to include excessive zoning relief and waiver requests in their applications.

Principle #5 – Livable Communities

This section deals with issues like water supply and wastewater disposal, stormwater management, telecommunications, wireless communications, resources, including water quality protection and municipal services, including educational, police, fire and emergency services. The strategies and actions in the plan are primarily to continue to monitor and be aware that we continue to provide adequately for our health and welfare.

The planning commission supports this section of the plan as written. We are still awaiting recommendations from outside counsel on telecommunications facilities and must strive to protect the community from both unsightly wireless facilities and from possible health risks from direct exposure.

Principle #6 – Provide Parks and Recreation

This section of the plan deals with providing active and passive recreation opportunities for the residents of the Jointure. It reviews our existing preserved open space for possible recreational use. It is noted that the township has four parcels not specifically designated for active or passive recreation which could be considered for future active use if needed. The recommended strategies include cooperation among the Jointure partners on shared active recreational facilities, which we already do through our parks and recreation department, sports organizations, private facilities and CRSD. It also focuses on continued cooperation among the Jointure Partners on connecting trail systems.

We support this section of the plan as written, but going forward, the planning commission should refocus periodically on the recreation department's needs for preservation of land vs fees in lieu, which are needed to maintain and upgrade our existing facilities.

Principle #7 – Sustain and Support our Commercial Jobs Base

This section deals with Newtown's commercial centers in the LI/OU and the office research zoning districts as well as our shopping areas. Among the strategies and actions were recommendations to re-evaluate zoning regulations in our LI/OLI zoning district, which is already underway. We discussed the possible

future need for flex space, combining warehousing with light manufacturing as more small assembly manufacturing moves back to the US.

The commission supports the plan as written as it allows flexibility to adapt to changing business needs. Many of the strategies are already being considered, as we have recently attempted to add some new commercial uses to our JMZO for our business districts. The language in this section allows the townships to adapt to changing commercial needs that are, at this time, unanticipated.

Principle #8 – Protect Historic Resources

This section deals with the preservation and protection of our historic resources including structures of historic, architectural, and cultural significance. The plan identifies the historic resources already listed on the National Register of Historic Places. The plan also identifies tools for the Jointure to continue to identify and protect significant historic places as they pass among different owners. Included in the strategies are requirements for developers to identify historic resources and develop plans to protect such resources and to conduct a historic survey and design guidelines.

The commission fully is in agreement with this section of the plan and we note that while the resources already identified on the national register are protected, we should continue to work with both the Jointure and Newtown Borough to continue to survey these assets. The Joint Historic Commission and HARB have made efforts to strengthen the requirements for maintenance of these properties to avoid "demolition by neglect."

STRATEGIES AND ACTIONS PLAN SUMMARY CHART

Principle 1 – Promote Smart Growth
<i>Guide new growth into development districts and guide the form of new development to create good places to live that are respectful of neighbors and to the community and that adhere to the principles of the Jointure. Accommodate anticipated growth in defined development districts in all three Jointure townships to meet the area's obligations to provide for new residents in a variety of housing choices.</i>
Recommended Strategies and Actions
<ol style="list-style-type: none"> 1. Promote a land use pattern which recognizes, preserves, and promotes the agricultural, historic, cultural and natural features which makes the area unique. 2. Provide areas sufficient to accommodate the anticipated growth for a variety of housing types and densities for the 2020 to 2030 period by maintaining current land use regulations. 3. Direct residential and nonresidential development into Development Areas in all three Jointure townships where supportive services and facilities exist or can be economically and efficiently provided to prevent sprawl and inefficient development patterns. Simultaneously, planning and zoning changes should be made to limit development within the CM and JM zoning districts. 4. Maintain the boundaries of the existing zoning districts of the Newtown Area Joint Municipal Zoning Ordinance.

5. Evaluate all zoning changes requests in light of the Comprehensive Plan policies so that changes are consistent with the Plan.
6. Continue and advance efforts to permanently preserve open space and farmland.
7. Continue and support the joint municipal planning and zoning program.
8. Emphasize limiting development where it jeopardizes aquifer recharge. Development should prioritize aquifer recharge above all other methods of stormwater management.

Principle 2 – Promote Sustainable Development and Protect Natural Resources

Development will be accommodated in a way that protects the land, area, and water for present and future generations. Policies to protect the landscape, vegetation, natural topography, farmland resources, wetlands, and floodplains that have been part of the Jointure standards for three decades will be continued. Updates to these policies to address flooding problems, site disturbance, water quality degradation, loss of tree cover, and energy conservation are recommended, in accordance with the mandates of the Pennsylvania Municipalities Planning Code.

Recommended Strategies and Actions

1. Recognize that the protection of natural resources has direct effects on the health, welfare, and safety of the community.
2. Develop a climate resiliency plan to prepare the community for extreme weather events and utility and other disruptions.
3. Provide for the protection of critical natural resources including watersheds, groundwater, floodplains, floodplain soils, wetlands, prime agricultural soils, steep slopes, woodlands and stream corridors, and protection from hazards due to areas of hazardous geologic and topographic features.
4. Recognize and protect open land, farms, and farmland as valuable resources for current and future generations.
5. Increase riparian buffer protection in areas lacking sufficient vegetative buffers.
6. Protect sensitive natural resource areas to ensure adequate habitat for threatened or endangered plants and animals.
7. Consult the DCNR Climate Change Mitigation and Adaptation Plan.
8. Ensure that the permitted intensity of development reflects the suitability of particular landscapes to accommodate disruption without affecting natural cycles within and beyond sites where development is proposed.
9. Enforce the natural resource and agricultural soils protection standards in the joint municipal zoning ordinance.

10. Revise zoning standards for wetland buffers and 8 to 15 percent slopes to adequately protect these resources.
11. Revise municipal subdivision and land development ordinances to require that subdivision and land development plans show priority sites designated in the Natural Areas Inventory of Bucks County, Pennsylvania.
12. Use the provisions of the Municipalities Planning Code to require energy conservation in new development.
13. Require the use of Low Impact Development techniques (e.g., site analysis and resource conservation plans) that respect a site's natural topography and drainage system while minimizing grading and site disturbance.
14. Support recycling and reduction of solid waste.
15. Consider the use and protection of all water resources: groundwater, wastewater, and stormwater to ensure a safe and reliable water supply and good water quality in streams.
16. Tree Protection:
 - a. Establish a policy of "increasing tree canopy and increasing the number of native trees" through tree protection, tree replacement, and forest renewal efforts.
 - b. Adopt planning and zoning provisions that require that any variance granted that involves the elimination of existing trees require a two-for-one replacement or commensurate in lieu payment for offsite replacement.
 - c. Enact more stringent requirements for reforestation and afforestation by developers.
 - d. Establish a community tree management program, to include an inventory of public trees and wooded areas and a maintenance schedule prioritizing replacement with native trees, understory, and herbaceous plants.
 - e. Prioritize selected areas for tree management and reforestation and the removal of invasive plants, especially those that threaten the viability and regeneration of native trees and shrubs.
 - f. Develop a plan for native species diversity, stormwater mitigation, increased shade, extended green corridors, and other benefits of trees.
 - g. Explore pursuing a study to determine the locations and costs associated with removing dead trees, particularly in areas where development or revitalization opportunities are feasible.
17. Native Plants:
 - a. Supplement existing woodlands protection requirements in the joint municipal zoning ordinance by requiring additional tree planting in appropriate environmentally sensitive areas and a mix of native plants as the preferred planting scheme for required landscaping.
 - b. Explore the possibility of adopting ordinances providing for the protection of native trees and trees of significance.
 - c. Establish a goal of ensuring that all community properties use native plants in new plantings.

- d. Establish a goal of transitioning at least fifty percent of private properties to include no less than twenty percent native plants.
- e. Require the removal of noxious and invasive plants that compete with native trees and other plants, before landscaping begins, as part of the planting plan for new development.
- f. Prohibit the sale or use of noxious weeds and invasive plants and trees.

18. Water Resources Protection:

- a. Ensure an adequate supply of potable water to meet the needs of the region and to ensure adequate quantity and quality of municipal and private water systems.
- b. Explore opportunities for all three townships to work together to encourage water conservation in the Jointure.
- c. Review current zoning regulations to ensure that they adequately protect critical areas of groundwater recharge. The pattern and intensity of development should be carefully controlled in order to prevent the depletion of the groundwater resources.
- d. Continue township-level requirements for hydrologic studies to ensure protection of water resources. Studies should continue to address the environmental effects of removing large quantities of groundwater (versus the use of surface water), a determination of the maximum rates of groundwater withdrawal (versus groundwater recharge), and an identification of critical recharge areas within the region.
- e. Establish regulations for wellhead protection zones.

19. Wastewater:

- a. Update the wastewater facility plans for the Jointure municipalities and make sure that wastewater policies are consistent with land use policies.
- b. Require detailed wastewater facilities alternatives for proposed extensions of sewer service outside the delineated development area. Such analyses should include the evaluation of community systems and the impact of providing sewer service on the available capacity intended for the development area.
- c. Consider the long-term impacts of community wastewater systems and their management.
- d. Adopt ordinances which address operation and maintenance requirements and design requirements of individual alternative systems (e.g., spray irrigation or stream discharge systems) supplemental to PADEP and BCDH regulations.

20. Study deer and goose control issues and adopt any necessary related ordinance language to protect the public against threats from diseases and other threats. Promote the ongoing education of resource protection programs and activities sponsored by various public and private organizations/agencies. Support and foster intermunicipal cooperation on deer control matters.

21. Promote use of vegetated buffers around BMPs and ponds to discourage use by Canada Geese.

22. Renewable Energy and Energy Conservations:

- a. Direct residential and nonresidential development into development areas in all three Jointure townships where supportive services and facilities exist or can be economically and efficiently provided to prevent sprawl and inefficient development patterns.
- b. Continue and advance efforts to permanently preserve open space and farmland.
- c. Continue to review the joint municipal zoning ordinance to ensure it promotes compact mixed-use development that is conducive to pedestrian and bicycle travel and reduction in vehicle trips.

- d. Encourage connecting neighborhoods; provide traffic safety measures to discourage speeding and cut-through traffic on neighborhood streets.
- e. Encourage the expansion of the public transportation and non-automotive options for travel within the Newtown area.
- f. Support the efforts of the Bucks County Foodshed Alliance and other similar organizations (e.g., public awareness initiatives, procurement of funding sources) and consider other mechanisms to create community-supported agricultural enterprise to help preserve farming operations, provide food and energy sources close to home.
- g. Consider amendments to township subdivision and land development ordinances to incorporate provisions encouraging the use of renewable energy systems and energy conserving building design, as authorized by the municipalities planning code.
- h. Consider amendments to the JMZO that are designed to promote access to incident solar energy, as authorized by the municipalities planning code.
- i. Work with homeowners' associations (HOAs) to discuss any restrictions on installation of home solar panels.
- j. Study the feasibility of installing renewable energy sources—including solar and geothermal—at community facilities.
- k. Incorporate LEED building standards into municipal ordinances.

Principle 3 – Provide for Mobility and Connections

Foster a safe, efficient, and comprehensive transportation system that provides a variety of options for traveling in and through the Newtown Area.

Recommended Strategies and Actions

1. Make the land use—transportation planning connection by considering the transportation effects of planning decisions.
2. Promote improvements that eliminate or avoid hazardous transportation conditions for motorists, bicyclists, and pedestrians and that are designed with consideration given to scenic, aesthetic, historic, environmental, and other community values.
3. Promote a complete streets approach in roadway design.
 - a. Revisit pedestrian safety on Sycamore Street, working in conjunction with Newtown Borough.
 - b. Pursue grants to improve pedestrian safety.
4. Encourage pedestrian/multi-use path facilities for all new developments. Support efforts to develop SEPTA's former Newtown Rail Line and the proposed Middle Neshaminy Greenway into a shared-use path and develop bike and pedestrian facilities to link Jointure communities to the Circuit Trail System. Jointure should incorporate recommendations found within the Newtown Township Trail Plan into its larger plan to build trails within its area.
5. Identify needed improvements to the road system and coordinate efforts with PennDOT to address improvements in a manner appropriate to the area (context-sensitive designs).
6. Review and revise the joint municipal zoning ordinance to ensure it promotes compact mixed-use development that is conducive to pedestrian and bicycle travel and reduction in vehicle trips.

7. Connect neighborhoods; provide traffic calming designs and street standards to discourage speeding and cut-through traffic on neighborhood streets.
8. Encourage the expansion of public transportation and non-automotive options for travel within the Newtown Area.
9. Make sure developers pay their share for traffic improvements to compensate for the impact of their development
10. Continue to work together on traffic solutions.

Principle 4 – Preserve Open Space and Protect Agriculture

Open space and agriculture remain important uses of the Jointure's landscape. Pressure from development counters the efforts to preserve these uses as pressure from development threatens these valuable resources. As agricultural practices continue to expand, so does the support of the area's farming community and ability to provide local food sources.

Recommended Strategies and Actions

1. Support the maintenance and extension of Agricultural Security Areas, which protects farmers from nuisance regulations and allows interested farmers to participate in the Bucks County Farmland Preservation Program.
2. Continue protection of agricultural soils through the zoning ordinance.
3. Accommodate accessory farm businesses consistent with the existing zoning regulations without jeopardizing the true agricultural nature of farms within the Jointure.
4. Revise the joint municipal zoning ordinance to include buffer standards to separate new development from farmland.
5. Support the efforts of the Bucks County Foodshed Alliance and other similar organizations (e.g., public awareness initiatives, procurement of funding sources) and consider other mechanisms to create community-supported agricultural enterprise to help preserve farming operations, provide food and energy sources close to home.
6. Monitor trends in agricultural and horticultural uses and practices to determine if changes are necessary to the use, area, dimensional requirements related to these uses in the joint municipal zoning ordinance and municipal subdivision and land development ordinances.
7. Continue farmland preservation efforts.
8. Continue open space requirements as part of development options. Improve the joint municipal zoning ordinance standards for open space set-asides by mandating meaningful and useful open space as part of new developments.

9. Support county, state and federal programs that result in the continuation of open space preservation efforts in the municipalities and evaluate and develop potential funding sources for open space acquisition.
10. Promote private initiatives in conjunction with public funding sources to protect strategic open space lands.
11. Remain supportive of any future county programs regarding land and easement purchases, such as the Bucks County Open Space and Natural Areas programs.
12. Develop, adopt, and implement specific goals and metrics for open space preservation as set out in the current Open Space Plan.

Principle 5 – Promote Livable Communities

Adequate community services and facilities such as police protection and schools and area for community institutions are important community assets. Community services and facilities are often what attract new residents to a community like the Jointure area. Some community facilities and services are provided by municipalities. Other services are provided by private contractors, by non-profit organizations, or by other levels of government. The Newtown Area is part of a larger region, and fostering a good community includes working well with neighboring communities.

Recommended Strategies and Actions

1. Township administration
 - a. Cooperate with providers to deliver effective community services and facilities.
 - b. Monitor facility needs to determine needs for the future.
2. Police Services
 - a. Monitor police operations to anticipate needs for space and equipment.
 - b. Evaluate benefits of consolidation.
3. Fire Protection
 - a. Continue to evaluate volunteer membership training, capabilities, and response times to national standards and consider the need to hire additional career firefighters.
 - b. Assess the need and locations for new fire stations to support requirements of the residents and businesses and the safety and health of firefighters.
 - c. Evaluate benefits of consolidation.
4. Cooperate with the emergency services companies to provide sufficient emergency services.
5. Monitor the health needs of the population to plan for future needs.
6. Monitor school enrollments and cooperate with schools to provide adequate facilities.
7. Civic Groups and Facilities:
 - a. Monitor adequacy of civic facilities, plan for renovations, expansion, or additions, as needed.
 - b. Partner with public or private agencies, as appropriate.

- c. Support community groups, public and private, that provide services and facilities.
 - d. Explore additional opportunities for multi-municipal or other regional approaches to the provision of services and facilities.
8. Water Supply
- a. Monitor efforts of both the Newtown Artesian Water Company and the BCW&SA to continue to supply safe and adequate water.
 - b. Modify township ordinances to establish wellhead protection zones around each public water supply well. Encourage Newtown and Wrightstown townships to do the same.
 - c. Investigate the benefit of pursuing the development of an Integrated Water Resource Plan to address the diversity of water resources planning needs for the Jointure in cooperation with the Newtown Artesian Water Company and Newtown, Upper Makefield, and Wrightstown townships.
 - d. Coordinate with local fire companies to protect groundwater from contamination by enhancing response to accidental spills.
9. Stormwater Management
- a. Revise municipal stormwater management ordinances to comply with the updated model ordinance from the Pennsylvania Department of Environmental Protection, as mandated.
 - b. Continue to enforce the recommendations of the *Neshaminy Creek Watershed Stormwater Management Plan*, as updated.
 - c. Identify areas continuing to experience flooding problems and determine what remediation measures are feasible; participate with county, state, and federal efforts to reduce flooding damages.
 - d. Encourage retrofits of existing stormwater management facilities to meet current standards for volume control and water quality improvement.
 - e. Ensure that maintenance programs for stormwater management facilities are in place and meet National Pollution Elimination and Detection System (NPDES/MS4) requirements.
 - f. Review ordinances to ensure the townships are encouraging the use of state-of-the-art stormwater BMPs, including the provision of Green Stormwater Infrastructure.
 - g. Implement the *Upper & Middle Neshaminy Creek River Conservation Plan* that includes sub-watersheds of the Delaware River Watershed and that was developed by the Delaware Riverkeeper.
 - h. Support public and private efforts to develop and implement conservation plans for all streams and creeks, including existing and desired low-impact land use, water quality, public access.
 - i. Implement necessary minimum control measures (MCMs) to improve water quality and reduce pollution in our impaired watersheds.
 - j. Review municipal land use ordinances and approvals to formulate improved enforcement mechanisms to ensure practical compliance with existing stormwater management requirements.
10. Telecommunications
- a. Coordinate the provision of telecommunications facilities which will provide for a desired level of service.
 - b. Maintain existing telecommunication regulations and be proactive in the oversight of emerging technologies and legislation.
 - c. Coordinate with DAS providers to enhance wireless service and provide adequate coverage where needed.

- d. Consider development of DAS design guidelines for appearance and safety.
- e. Work with wireless companies to address gaps in coverage.

11. Hazard Mitigation

- a. Implement recommended actions, as applicable, from the *Bucks County 2021 Hazard Mitigation Plan Update*.
- b. Participate in the planning process for the anticipated 2026 update to the county hazard mitigation plan.

Principle 6 – Provide Parks and Recreation

Foster the development of active and passive recreation to promote the physical and mental well-being of residents of all ages. Parks, recreation facilities, and open areas are important improvements and are vital aspects of sound communities.

Recommended Strategies and Actions

1. Enhance cooperative efforts amongst participating municipalities, the school district, the Commonwealth, and private entities, to offer a wider range of facilities and programs than a single municipality can provide and avoid the unnecessary duplication of facilities and programs.
2. Continue to implement park and recreation plans of the Jointure townships and update when needed.
3. Define and map existing trails and look for opportunities to expand them where appropriate.
4. Coordinate with the public school district and local private schools for use of school facilities for public recreation programs.
5. Periodically reassess the mandatory dedication/fee-in-lieu contribution requirements in the subdivision and land development ordinances to determine if they should be adjusted to reflect current park and recreation needs and costs.
6. Address the joint zoning ordinance requirements, as needed, to provide usable open space in residential developments that is suitable for active or passive recreation.
7. Consider trail connections between open space areas, recreation lands, and appropriate community facilities, local sidewalks and bicycle paths/lanes, and points of interest on a region-wide basis. Obtain access easements along the designated greenway/trail linkages network when possible as part of the subdivision and land development review process.
8. Consider designating locations for future public parks, playgrounds, and open space on an official map which provides a legal means for reserving such sites.

Principle 7 – Sustain and Support our Commercial and Jobs Base

Maintain the area's convenient and attractive commercial areas for the purchase of necessary goods and services, but prevent the over-commercialization of the area. Maintain and enhance the area's economic vitality, businesses and industries that provide jobs, convenient shopping and services, and quality of community life. Good land use planning can direct nonresidential development to areas where it makes sense.

Recommended Strategies and Actions

1. Allow commercial development in village neighborhood centers consistent with the character of existing village buildings in terms of mass, use, scale, and appearance.
2. Review the joint zoning ordinance to ensure that commercial uses and mixed-use development, which include commercial uses, preserves the form and function of village areas and contributes to the preservation of historic structures.
3. Limit commercial activities to existing commercial centers, villages, and districts, including the Newtown Village shopping area, Sycamore Street, Washington Crossing Gateway, Penns Park, and Anchor and Wrightstown villages.
4. Maintain the existing commercial zoning district boundaries to reflect the intended future commercial land use pattern delineated in the comprehensive plan. No expansion of commercial districts is needed or proposed.
5. Support Sycamore Street area as a commercial and cultural center of the Jointure with its architectural diversity and history and strengthen the area's economic stability and contribution to the Jointure through connectivity with Newtown Borough and on-going Main Street programs.
6. Review municipal ordinances to promote use, streetscape, and design requirements consistent with the Sycamore Street Plan and the town commercial districts in other appropriate commercial areas.
7. Promote pedestrian connections within and to all commercial areas.
8. Support the plan for Washington Crossing Gateway.
9. Reevaluate zoning regulations in the LI and O-LI zoning districts in Newtown Township (area of Newtown Business Commons) to ensure permitted uses and district regulations are geared to ensure continued viability of this area.
10. Locate rural industrial uses not requiring public utilities in an area adjacent to the Penns Park neighborhood center and in a portion of land bounded by the Neshaminy Creek, Route 232, Swamp Road, and the quarries in Wrightstown Township.
11. Explore additional uses to complement existing uses (e.g., corporate office and research use) in the Office Research Area near the access to I-295 and the Newtown Bypass. This area will continue to

<p>serve as a major employment center, enhanced with open space and ancillary facilities that support office and job centers, such as hotels and conference facilities.</p> <p>12. Ensure that buffer standards and setback requirements in the joint zoning ordinance protect properties adjoining commercial, industrial, business, and quarry uses.</p> <p>13. Provide for the continued extraction of quarry material within the confines of the existing areas designated for quarry use.</p> <p>14. Ensure that quarry operations are conducted in a manner that protects the health, safety, and welfare of employees and residents of the community.</p> <p>15. Ensure that adjoining properties and the region as a whole are protected from the visual and environmental impacts of quarry activities.</p> <p>16. Work and coordinate with the PADEP, Bureau of District Mining Operations to ensure that quarry reclamation will be undertaken and completed in a timely and appropriate manner.</p> <p>17. Remain apprised of ongoing and emerging trends in nonresidential land use, including but not necessarily limited to: 1) adaptive reuse and infill development; 2) commercial and office space; and 3) warehouse use.</p> <p>18. Encourage revitalization as needed to ensure viability.</p>
<p>Principle 8 – Protect Historic Resources</p>
<p><i>Ensure the preservation of the area’s historic resources by regulating future growth to recognize, protect, and incorporate landscapes, buildings, and other structures of historic, architectural, and cultural significance, as required by the Pennsylvania Municipalities Planning Code.</i></p>
<p>Recommended Strategies and Actions</p>
<p>1. Continue to recognize, preserve, and protect historic resources in the area.</p> <p>2. Require all development plans to identify historic resources on the development site and surrounding properties.</p> <p>3. Ensure that the regulations governing the zoning districts in which historic resources are located promote the preservation of individual historic structures and the character of historic districts. Develop zoning standards that are designed to preserve historic villages, protect individual historic structures throughout the Jointure, and preserve the viewsheds of historic districts.</p> <p>4. Review the joint municipal zoning ordinance and other municipal regulations to ensure they promote appropriate restoration and reuse of historic resources; add or amend provisions for adaptive re-use and delay of demolition.</p>

5. Encourage efforts of private property owners toward restoration and adaptive reuse of historic structures and sites by providing additional use opportunities as incentives for preservation.
6. Work with the Pennsylvania Historical and Museum Commission to determine whether important Native American and other historic sites might be located in the Jointure and explore what measures can be taken to ensure that they are documented and, where possible, preserved.
7. Conduct a historic survey in order to identify any historic resources that are to be protected or added to the National Register of Historic Places.
8. Adopt design guidelines for designated historic areas.

Principle 9 – Preserve our Villages

Protect the scale and character of the villages through land use and design controls so that the historical and cultural heritage of these villages in the Jointure can enhance the quality of life in the present and be preserved for future generations.

Recommended Strategies and Actions

1. Continue to recognize, preserve, and protect historic villages in the area.
2. Work with Buckingham Township on villages that share a municipal boundary (Pineville and Wycombe).
3. Evaluate current village zoning regulations to determine if revisions should be made to use and dimensional requirements and if setbacks, design elements, or zoning techniques should be modified. Evaluate the village zoning district boundaries to determine if they are appropriate for the existing conditions and revise if necessary.
4. Ensure the road system serves to improve rather than diminish the quality of life in the villages through traffic calming, signs, and street design.
5. Apply for grants for pedestrian and streetscape improvements for the villages if it enhances the quality of life.
6. Consider village viewshed overlay zoning regulations.
7. Conduct village studies to determine eligibility for the National Register of Historic Places.
8. Conduct a historic survey in order to identify any historic resources within the villages.
9. Adopt village-centered design guidelines.

RESIDENT SURVEY RESULTS

Response Counts

	Number of Responses
Newtown Township	386
Upper Makefield Township	270
Wrightstown Township	71
TOTAL	724¹

¹Three entries indicated both Newtown and Upper Makefield as their place of residence.

Survey Questions

1. How long have you lived here?

a. Newtown Township

- i. Less than 5 years – 9.33%
- ii. Between 5 and 20 years – 44.56%
- iii. Over 20 years – **46.11%**

b. Upper Makefield Township

- i. Less than 5 years – 15.19%
- ii. Between 5 and 20 years – **44.07%**
- iii. Over 20 years – 40.74%

c. Wrightstown Township

- i. Less than 5 years – 18.31%
- ii. Between 5 and 20 years – 35.21%
- iii. Over 20 years – **46.48%**

2. Why did you choose to live in your township? (Top three selections)

a. Newtown Township

- i. **Quality of school system – 61.66%**
- ii. **Community Character – 37.05%**
- iii. Crime rate/safety and security – 31.35%

b. Upper Makefield Township

- i. **Quality of school system – 41.48%**
- ii. **Community Character – 37.04%**
- iii. Access to open space/parks and recreation – 34.07%

c. Wrightstown Township

- i. **Quality of school system – 52.11%**
- ii. Rural lifestyle – 39.44%
- iii. **Community character – 32.39%**

3. What are the best characteristics of your community? (Top three selections)

a. Newtown Township

- i. Parks and Open Space – 68.39%**
- ii. School System – 63.47%
- iii. Historic Preservation – 43.52%

b. Upper Makefield Township

- i. Parks and Open Space – 63.33%**
- ii. Farmland Preservation – 58.89%
- iii. Historic Preservation – 58.15%

c. Wrightstown Township

- i. Farmland Preservation – 61.97%
- ii. School System – 60.56%
- iii. Parks and Open Space – 54.93%**

4. What do you consider to be the most important problems facing your community? (Top three selections)

a. Newtown Township

- i. Growth Management – 58.29%**
- ii. Traffic Control – 48.19 %**
- iii. Farmland Preservation – 37.05%

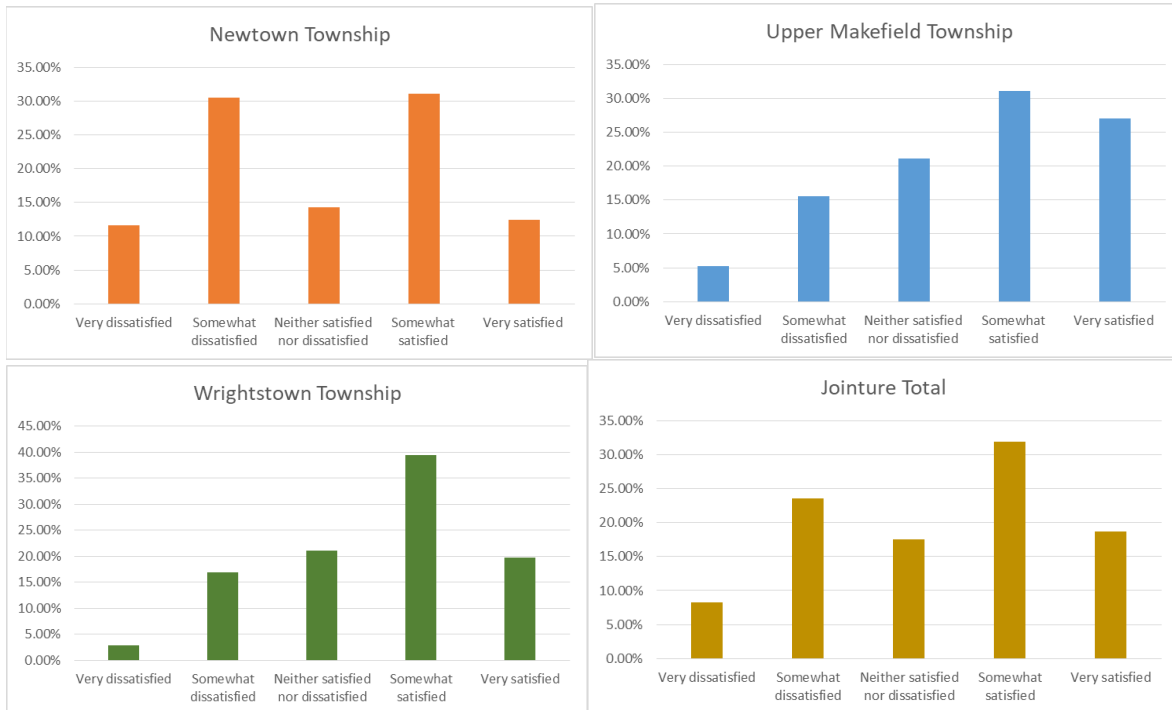
b. Upper Makefield Township

- i. Growth Management – 52.96%**
- ii. Taxes – 37.78%
- iii. Traffic Control – 28.89%**

c. Wrightstown Township

- i. Growth Management – 53.52%**
- ii. Traffic Control – 35.21%**
- iii. Taxes – 30.99%

5. Overall how satisfied or dissatisfied are you with the residential development in your community?



6. Overall how satisfied or dissatisfied are you with the commercial development in your community?



7. How would you describe the quality of life within your community?



8. Prior to completing this survey, had you heard of the Newtown Area Jointure? If yes, in what capacity?

a. *Newtown Township*

i. Yes – 38.96%

1. I had heard the name, but was unfamiliar with what they do – 15.33%
2. **I was somewhat familiar with what they do – 53.33%**
3. I was extremely familiar with what they do – 31.33%

ii. No – 61.04%

b. *Upper Makefield Township*

i. Yes – 40.37%

1. I had heard the name, but was unfamiliar with what they do – 4.59%
2. **I was somewhat familiar with what they do – 54.13%**
3. I was extremely familiar with what they do – 41.13%

ii. No – 59.64%

c. *Wrightstown Township*

i. Yes – 66.2%

1. I had heard the name, but was unfamiliar with what they do – 4.26%
2. **I was somewhat familiar with what they do – 53.19%**
3. I was extremely familiar with what they do – 42.55%

ii. No – 33.8%

Conclusions

- The **quality of the school system** and valuing the **community character** continue to be highest ranked **reasons for residents choosing to live in the Jointure**, similar to responses of 2009 resident survey.
- **Parks and Open Space, Historic Preservation, and Farmland Preservation** continue to be highest ranked choices for **“best characteristics”** of community, similar to responses of 2009 resident survey.
- **Growth Management, Traffic Control, and Taxes** continue to be highest ranked choices for **“most important problems”** facing the community, similar to responses of 2009 resident survey.
- **Respondents continued to rate their “overall quality of life” as high**, with 90.06 percent of respondents answering either “good” or “superb.”
- **The majority of respondents had not heard of the Jointure** prior to completing this survey (57.87percent answering “No”). And, of the 41.99 percent that answered “Yes,” 9.87 percent responded that they were only familiar with the Jointure in name, but were unfamiliar with what they do.

BACKGROUND ANALYSIS

The Demographics of the Jointure

Population Characteristics

The municipalities that are part of the Jointure generally experienced population growth during the 20th century, but it is clear that the majority of that growth has occurred between 1970 and 2010, particularly in Newtown Township. The total population in Newtown Township grew by 13,679 persons from 1980 to 2000 and the township added 1,400 persons from 2000 to 2020. Upper Makefield added 2,603 and 1,323 persons in those decades and Wrightstown added 632 and 255 persons. In total the Jointure gained 16,914 persons from 1980 to 2000 and 2,978 people from 2000 to 2020.

Table 1. Population, Jointure Municipalities, 1950—2020. (Source: U.S. Census 1950—2010 and American Community Survey 5-year estimates, 2016—2020).

Population	1950	1960	1970	1980	1990	2000	2010	2020
Newtown	1,013	1,468	2,002	4,527	13,685	18,206	19,299	19,606
Upper Makefield	1,410	1,991	2,905	4,577	5,949	7,180	8,190	8,503
Wrightstown	909	1,734	2,666	2,207	2,426	2,839	2,995	3,094
Jointure	3,332	5,193	7,173	11,311	22,060	28,225	30,484	31,203

The intensity of the Jointure's population growth peaked in the late 1900s but is still apparent in the early 2000s. Population increased by 6.0 percent in Newtown between 2000 and 2010 and an additional 1.6 percent between 2010 and 2020. In Upper Makefield, population growth has continued since 1970 but at a decreasing rate, with percentage increases of 14.1 percent (2000-2010) and 3.8 percent (2010-2020). Growth in Wrightstown Township in terms of percentage has also continued a declining rate, with percentage increases of 5.5 percent (2000-2010) and 3.3 percent (2010-2020). Overall, the Jointure saw a growth rate of 8 percent between 2000 and 2010 and 2.4 percent between 2010 and 2020.

Table 2. Population Change, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).

Population Change	2000	2010	2020
Newtown			
Population	18,206	19,299	19,606
Number Change	-	1,093	307
Percent Change	-	6.0%	1.6%
Upper Makefield			
Population	7,180	8,190	8,503
Number Change	-	1,010	313
Percent Change	-	14.1%	3.8%
Wrightstown			

Population	2,839	2,995	3,094
Number Change	-	156	99
Percent Change	-	5.5%	3.3%
Jointure			
Population	28,225	30,484	31,203
Number Change	-	2,259	719
Percent Change	-	8.0%	2.4%

Change in population in the Jointure and its member communities can also be compared with trends in adjacent municipalities as well as with trends in Bucks County, Pennsylvania and the Philadelphia metropolitan region (as defined by the Delaware Valley Regional Planning Commission). When compared in this fashion, it is apparent that rates of growth in the Jointure surpassed county, state, and regional rates of growth.

Table 3. Population Change in Surrounding Municipalities and Regional Entities, Jointure and Selected Municipalities, Bucks County, Delaware Valley Regional Planning Commission Area, and Pennsylvania, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).

Population Change in Surrounding Municipalities and Regional Entities	2000	2010	2020	Amount Change 2000-2020	Percent Change 2000-2020	Amount Change 2010-2020	Percent Change 2010-2020
Wrightstown Township	2,839	2,995	3,094	255	9.0	99	3.3
Upper Makefield Township	7,180	8,190	8,503	1,323	18.4	313	3.8
Newtown Township	18,206	19,299	19,606	1,400	7.7	307	1.6
Jointure	28,225	30,484	31,203	2,978	10.6	719	2.4
Warwick Township	11,977	14,437	14,644	2,667	22.3	207	1.4
Buckingham Township	16,442	20,075	20,266	3,824	23.3	191	1.0
Lower Makefield Township	32,681	32,559	32,743	62	0.2	184	0.6
Middletown Township	44,141	45,436	45,111	970	2.2	-325	-0.7
Northampton Township	39,384	39,726	39,215	-169	-0.4	-511	-1.3
Ewing Township, NJ	35,707	35,790	36,150	443	1.2	360	1.0

Hopewell Township, NJ	16,105	17,304	17,967	1,862	11.6	663	3.8
Solebury Township	7,743	8,692	8,557	814	10.5	-135	-1.6
Newtown Borough	2,312	2,248	1,951	-361	-15.6	-297	-13.2
Regional Population							
DVRPC	5,386,867	5,626,186	5,736,539	349,672	6.5	110,353	2.0
Pennsylvania	12,281,054	12,702,379	12,794,885	513,831	4.2	92,506	0.7
Bucks County	597,635	625,249	627,668	30,033	5.0	2,419	0.4

Numbers for each of the three townships from 2000 to 2020 suggest that the population of the Jointure is getting older. This is consistent with trends seen in the Commonwealth. The median age of Pennsylvania residents increased from 39.8 in 2010 to 40.9 in 2020.

Table 4. Median Age, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).

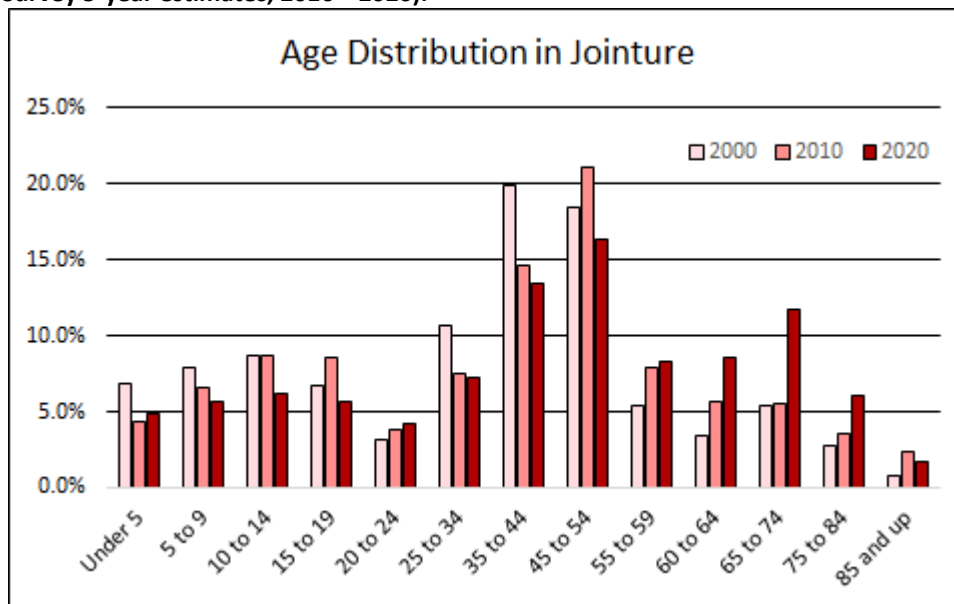
Median Age	2000	2010	2020
Newtown	36.8	42.1	44.9
Upper Makefield	42.4	48.1	52.9
Wrightstown	39.9	44.7	44.0

The population of the Jointure can also be broken down into age cohorts based on data supplied by the Census. Figure 1 below illustrates that the most significant changes between 2000 and 2020 involve a decrease in the percentage of residents aged 35 to 44 (from 19.9 percent to 13.5 percent) and an increase in the percentage of residents aged 65 to 74 (5.4 percent to 11.7 percent). Additionally, the percent of persons aged 25 to 34 has decreased from 10.7 percent to 7.3 percent and the percent of persons aged 55 to 59 increased from 5.4 percent to 8.3 percent. The increase in persons 55 to 74 and the decrease in persons 25 to 44 suggests the possibility that the Jointure population is aging, and a decreasing number of younger people are moving into the Jointure to replenish the 35 to 44 category. The retention of recent college graduates and younger residents has been a concern in recent years.

Table 5. Age Cohorts, Jointure, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).

Age Cohorts	Jointure					
	2000		2010		2020	
	Number	Percent	Number	Percent	Number	Percent
Under 5	1,933	6.8	1,299	4.3	1,521	4.9
5 to 9	2,217	7.9	1,989	6.6	1,761	5.6
10 to 14	2,452	8.7	2,637	8.7	1,941	6.2
15 to 19	1,886	6.7	2,566	8.5	1,772	5.7
20 to 24	872	3.1	1,159	3.8	1,320	4.2
25 to 34	3,021	10.7	2,264	7.5	2,277	7.3
35 to 44	5,630	19.9	4,417	14.6	4,224	13.5
45 to 54	5,200	18.4	6,386	21.1	5,125	16.4
55 to 59	1,527	5.4	2,379	7.9	2,589	8.3
60 to 64	972	3.4	1,676	5.6	2,637	8.5
65 to 74	1,521	5.4	1,668	5.5	3,646	11.7
75 to 84	765	2.7	1,045	3.5	1,870	6.0
85 and up	229	0.8	718	2.4	520	1.7
Total	28,225	100.0	30,203	100.0	31,203	100.0

Figure 1. Age Distribution, Jointure, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).



The Delaware Valley Regional Planning Commission (DVRPC) provides population projections for the nine-county region that it serves. Its most recent projections extend to the year 2050. These projections are broken down to the municipal level. Population projections for the three townships from 2025 to 2050 are provided below.

Table 6. Population Projections, Jointure Municipalities, 2025—2050. (Source: Delaware Valley Regional Planning Commission Population Forecasts, 2021).

Year	Newtown	Upper Makefield	Wrightstown
2025	19,699	8,602	3,103
2030	19,830	8,643	3,114
2035	19,905	8,656	3,130
2040	19,967	8,676	3,154
2045	20,004	8,707	3,163
2050	20,050	8,714	3,173

The Jointure’s racial and ethnic composition indicates the general homogeneity of the area. Although the number of residents who consider themselves white has declined from 2000 to 2020, the overwhelming majority, 85.2 percent, of the Jointure’s population is white alone. The percentage of the population that identified themselves as Asian alone are the largest minority in the Jointure, with 7.6 percent of residents characterizing themselves as such. About 2.4 percent of Jointure residents classified themselves as Black alone, 3.1 percent classified themselves as Hispanic alone, and 4.3 of Jointure residents classified themselves as two or more races.

Table 7. Population by Race, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020).

Population by Race	Newtown		Upper Makefield		Wrightstown		Jointure	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2000								
White Alone	17,052	93.7	6,973	97.1	2,752	96.9	26,777	94.9
Black Alone	191	1.0	58	0.8	24	0.8	273	1.0
Asian Alone	734	4.0	91	1.3	43	1.5	868	3.1
Some Other Race	53	0.3	22	0.3	3	0.1	78	0.3
Two or More Races	176	1.0	36	0.5	17	0.6	229	0.8
Hispanic³	242	1.3	81	1.1	17	0.6	340	1.2
Total	18,206	100.0	7,180	100.0	2,839	100.0	28,225	100.0
2010								
White Alone	17,236	89.3	7,758	94.7	2,830	94.5	27,824	91.3
Black Alone	229	1.2	94	1.1	41	1.4	364	1.2
Asian Alone	1,532	7.9	207	2.5	83	2.8	1,822	6.0
Some Other Race	75	0.4	50	0.6	17	0.6	142	0.5
Two or More Races	227	1.2	81	1.0	24	0.8	332	1.1

³ The 2000 Census featured a change which allowed individuals to select more than one race and which separated racial identification from Hispanic or Latino classification. The total in the table includes those who selected “Hispanic or Latino Alone” and those who selected “Hispanic or Latino” in addition to another race.

Hispanic Alone ⁴	375	1.9	186	2.3	41	1.4	602	2.0
Total	19,299	100.0	8,190	100.0	2,995	100.0	30,484	100.0
2020								
White Alone	16,052	81.9	7,704	90.6	2,840	91.8	26,596	85.2
Black Alone	425	2.2	291	3.4	47	1.5	763	2.4
Asian Alone	1,981	10.1	276	3.2	125	4.0	2,382	7.6
Some Other Race	78	0.4	36	0.4	8	0.3	122	0.4
Two or More Races	1,070	5.5	196	2.3	74	2.4	1,340	4.3
Hispanic Alone ₂	647	3.3	245	2.9	86	2.8	978	3.1
Total	19,606	100.0	8,503	100.0	3,094	100.0	31,203	100.0

The Jointure's homogeneity was further reflected in information regarding the place of birth of residents and the languages used at home. Just less than 90 percent of the population of the Jointure was born in the United States and lived in a dwelling where English was the only language spoken there.

Table 8. Ethnic and Linguistic Characteristics, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020)

Ethnic and Linguistic Characteristics	Born in USA	Percent of Total	English Only	Percent of Total
2000				
Newtown	16,789	92.0	15,253	90.3
Upper Makefield	6,704	93.4	6,326	93.3
Wrightstown	2,685	94.6	2,506	94.2
Jointure	26,178	92.7	24,085	90.0
2010				
Newtown	16,197	83.9	15,658	81.1
Upper Makefield	7,306	89.2	7,215	88.1
Wrightstown	2,751	91.9	2,745	91.7
Jointure	26,254	86.1	25,618	84.0
2020				
Newtown	15,076	81.6	15,739	85.2
Upper Makefield	7,664	92.3	7,657	92.5
Wrightstown	2,698	91.9	2,694	91.8
Jointure	25,418	85.6	26,090	87.9

⁴ Hispanic race calculated independently of other races.

Residents of the Jointure exhibit a high level of education attainment. About 97 percent of residents of each of the three townships have at least a high school diploma and between 56 and 67 percent of each have at least a Bachelor's degree. These figures put the communities in the Jointure above the county average for both measures of educational opportunity. The level of educational attainment that these numbers suggest should be a factor in decisions that the community makes regarding the types of employers and businesses that the Jointure hopes to attract.

Table 9. Educational Attainment of Residents 25 Years and Older, Jointure Municipalities and Bucks County, 2000—2020 (Source: U.S. Census 2000, American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Educational Attainment	Newtown	Upper Makefield	Wrightstown	Jointure	Bucks County
2000					
High school graduate or higher	96.5%	95.2%	92.7%	95.8%	90.1%
Associate's degree or higher	63.5%	66.4%	49.8%	62.9%	38.6%
Bachelor's degree or higher	55.1%	61.2%	42.4%	55.4%	31.7%
Graduate degree or higher	20.6%	25.2%	18.5%	21.6%	11.6%
2010					
High school graduate or higher	97.2%	98.2%	95.8%	97.4%	91.9%
Associate's degree or higher	64.7%	72.3%	52.5%	65.6%	41.9%
Bachelor's degree or higher	58.5%	64.2%	47.7%	59.0%	34.6%
Graduate degree or higher	24.8%	27.2%	18.7%	24.9%	13.4%
2020					
High school graduate or higher	96.2%	96.9%	99.3%	96.7%	94.3%
Associate's degree or higher	74.7%	71.9%	63.7%	72.9%	50.2%
Bachelor's degree or higher	67.7%	65.0%	56.1%	65.8%	42.2%
Graduate degree or higher	29.4%	34.1%	26.7%	30.5%	17.1%

Given that educational attainment is a strong predictor of income, it is not surprising that per capita income in the Jointure's municipalities ranges between \$66,551 and \$96,918, again above the county per capita income of \$47,266. This level of income will have an impact on the types of housing and the demand for goods and services in the community.

Table 10. Per Capita Income, Jointure Municipalities and Bucks County, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2016—2020)

Per Capita Income	2000	2010	2020
Newtown	\$34,335	\$47,867	\$66,551
Upper Makefield	\$56,228	\$80,765	\$96,918
Wrightstown	\$42,623	\$51,183	\$69,187
Bucks County	\$27,430	\$35,687	\$47,266

Housing Characteristics

Table 11. Housing Characteristics, Jointure Municipalities and Bucks County, 2000—2020. (Source: U.S. Census 2000, 2010 and American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Housing Characteristics	Newtown	Upper Makefield	Wrightstown	Bucks County
2000				
Median Age (years)	36.8	42.4	39.9	37.7
Households	6,761	2,512	971	218,725
Family Households	5,063	2,105	786	160,946
Married Couple Families	4,371	1,943	700	133,878
Nonfamily Households	1,698	407	185	57,779
Householders Living Alone	1,423	309	142	46,956
Average Household Size	2.7	2.9	2.9	2.7
Average Family Size	3.2	3.1	3.3	3.2
Median Household Income (1999)	\$80,532	\$102,759	\$82,875	\$59,727
2010				
Median Age (years)	42.1	48.1	44.7	43.1
Households	7,394	2,965	1,036	234,849
Family Households	5,427	2,483	831	168,665
Married Couple Families	4,617	2,262	756	136,531
Nonfamily Households	1,967	482	205	66,184
Householders Living Alone	1,675	393	158	53,912
Average Household Size	2.6	2.8	2.9	2.6
Average Family Size	3.1	3.0	3.3	3.1
Median Household Income	\$107,430	\$155,221	\$101,071	\$82,031
2020				
Median Age (years)	44.9	52.9	44.0	44.0
Households	7,881	3,152	1,190	240,763
Family Households	5,159	2,604	873	152,992

Married Couple Families	5,046	2,543	818	139,648
Nonfamily Households	2,722	548	317	87,771
Householders Living Alone	2,108	444	213	55,769
Average Household Size	2.5	2.7	2.6	2.6
Average Family Size	3.0	2.9	3.0	3.0
Median Household Income	\$130,609	\$169,688	\$129,286	\$93,181

A look at the Jointure household characteristics further illustrates the growth that has been experienced by the community. All three townships saw an increase in households and family households, consistent with the trend in the county. Average family size and average household size decreased slightly across the Jointure. Median household income increased by \$50,000 in Newtown, \$46,000 in Wrightstown, and \$67,000 in Upper Makefield between 2000 and 2020.

The number of housing units located in the Jointure is found below along with the breakdown of housing unit type. As with population change, the numbers indicate a fair amount of growth from 2000 to 2020. Single-family detached housing units make up 62 percent of the Jointure's housing stock and single-family attached units account for 30 percent of the housing stock. An overwhelming majority of the Jointure's twin and multifamily housing is located in Newtown Township. About 65 percent of all Jointure housing units are in Newtown.

Table 12. Housing Units by Type, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000 and American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Housing Units by Type	Newtown		Upper Makefield		Wrightstown		Jointure	
	Units	Percent	Units	Percent	Units	Percent	Units	Percent
2000								
Single-family detached	3,019	44.1	2,309	88.9	927	94.0	6,255	60.0
Single-family attached	2,953	43.1	271	10.4	11	1.1	3,235	31.0
Twins or duplexes	38	0.6	9	0.3	23	2.3	70	0.7
Multifamily	807	11.8	0	0.0	19	1.9	826	7.9
Mobile homes	27	0.4	9	0.4	6	0.6	42	0.4
Seasonal units	0	0.0	0	0.0	0	0.0	0	0.0
Total	6,844	100.0	2,598	100.0	986	100.0	10,428	100.0
2010								
Single-family detached	3,468	47.1	2,466	85.3	1,014	97.8	6,948	61.6
Single-family attached	3,060	41.6	402	13.9	14	1.3	3,476	30.8
Twins or duplexes	83	1.1	0	0.0	0	0.0	83	0.7
Multifamily	741	10.1	13	0.5	9	0.9	763	6.8
Mobile homes	6	0.1	9	0.3	0	0.0	15	0.1

Seasonal units	0	0.0	0	0.0	0	0.0	0	0.0
Total	7,358	100.0	2,890	100.0	1,037	100.0	11,285	100.0
2020								
Single-family detached	3,783	46.7	2,776	86.8	1,168	94.6	7,727	61.7
Single-family attached	3,393	41.9	423	13.2	10	0.8	3,826	30.5
Twins or duplexes	31	0.4	0	0.0	0	0.0	31	0.2
Multifamily	870	10.7	0	0.0	57	4.6	927	7.4
Mobile homes	22	0.3	0	0.0	0	0.0	22	0.2
Seasonal units	0	0.0	0	0.0	0	0.0	0	0.0
Total	8,099	100.0	3,199	100.0	1,235	100.0	12,533	100.0

The housing units in the Jointure municipalities were largely built towards the end of the 20th century. About 70 percent of housing units were built between 1960 and 1999. Since the turn of the century, the construction of new housing units has slowed. Around 12 percent of Jointure housing units were built between 2000 and 2009, 3 percent were built between 2010 and 2013, and 3 percent were built between 2014 and 2020.

Table 13. Housing Age, Jointure Municipalities and Bucks County, 2020. (Source: American Community Survey 5-year estimates, 2016—2020).

Year Built	Newtown	Upper Makefield	Wrightstown	Jointure	Bucks County
2014 or later	2.3%	7.2%	1.7%	3.5%	1.9%
2010 to 2013	2.8%	0.7%	5.9%	2.6%	1.4%
2000 to 2009	10.8%	16.2%	10.7%	12.2%	9.3%
1980 to 1999	62.5%	31.8%	22.8%	50.7%	27.9%
1960 to 1979	17.0%	24.0%	14.5%	18.6%	28.7%
1940 to 1959	2.5%	6.5%	16.4%	4.9%	20.4%
1939 or earlier	2.1%	13.7%	28.1%	7.6%	10.5%
Total housing units	8,099	3,199	1,235	12,533	251,373

Of the 12,533 housing units in the Jointure, 12,223, or 97 percent, are occupied. Newtown has a homeowner vacancy rate of 0.9 percent and a rental vacancy rate of 1.2 percent. Upper Makefield has a homeowner vacancy and rental vacancy rate of 0 percent, while Wrightstown has a homeowner vacancy rate of 1.9 percent and a rental vacancy rate of 0 percent. Of the Jointure's occupied units, 10,729, or 88 percent, are owner-occupied, meaning approximately 12 percent of the occupied dwellings are renter-occupied.

Table 14. Housing Occupancy and Tenure, Jointure Municipalities, 2000—2020. (Source: U.S. Census 2000 and American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Housing Occupancy and Tenure	Newtown		Upper Makefield		Wrightstown		Jointure	
	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
2000								
Total housing units	6,848	100.0	2,598	100.0	986	100.0	10,432	100.0
Occupied housing units	6,761	98.7	2,512	96.7	971	98.5	10,244	98.2
Owner-occupied	5,862	85.6	2,338	90.0	857	86.9	9,057	86.8
Renter-occupied	899	13.1	174	6.7	114	11.6	1,187	11.4
Vacant housing units	87	1.3	86	3.3	15	1.5	188	1.8
2010								
Total housing units	7,358	100.0	2,890	100.0	1,037	100.0	11,285	100.0
Occupied housing units	7,180	97.6	2,799	96.9	1,002	96.6	10,981	97.3
Owner-occupied	6,407	89.2	2,592	92.6	931	92.9	9,930	90.4
Renter-occupied	773	10.8	207	7.4	71	7.1	1,051	9.6
Vacant housing units	178	2.4	91	3.1	35	3.4	304	2.7
Homeowner vacancy rate	0.0	-	0.0	-	0.0	-	0.0	-
Rental vacancy rate	4.2	-	0.0	-	0.0	-	4.2	-
2020								
Total housing units	8,099	100.0	3,199	100.0	1,235	100.0	12,533	100.0
Occupied housing units	7,881	97.3	3,152	98.5	1,190	96.4	12,223	97.5
Owner-occupied	6,792	86.2	2,944	93.4	993	83.4	10,729	87.8
Renter-occupied	1,089	13.8	208	6.6	197	16.6	1,494	12.2
Vacant housing units	218	2.7	47	1.5	45	3.6	310	2.5
Homeowner vacancy rate	0.9	-	0.0	-	1.9	-	-	-
Rental vacancy rate	1.2	-	0.0	-	0.0	-	1.2	-

According to the most recent American Community Survey 5-year estimates, the median value of an owner-occupied housing unit in Newtown is around \$434,700, around \$722,900 in Upper Makefield, and around \$660,900 in Wrightstown. All three townships have a higher median house value than the county average. The median house value has increased in each municipality between 2010 and 2020. According to the estimates, the percentage of owner-occupied housing units valued over \$500,000 is 37 percent in Newtown, 83 percent in Upper Makefield, and 65 percent in Wrightstown.

Table 15. Value of Owner-Occupied Housing Units, Jointure Municipalities and Bucks County, 2010—2020. (Source: American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Value of Owner-Occupied Housing	Newtown		Upper Makefield		Wrightstown		Bucks County	
	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
2010								
Owner-occupied units	6,407	100.0	2,592	100.0	931	100.0	180,092	100.0
Less than \$50,000	33	0.5	9	0.3	6	0.6	4,547	2.5
\$50,000 to \$99,999	27	0.4	0	0.0	6	0.6	2,944	1.6
\$100,000 to \$149,999	13	0.2	0	0.0	7	0.8	5,082	2.8
\$150,000 to \$199,999	183	2.9	0	0.0	7	0.8	14,564	8.1
\$200,000 to \$299,999	1,494	23.3	103	4.0	81	8.7	53,678	29.8
\$300,000 to \$499,999	2,842	44.4	551	21.3	184	19.8	67,135	37.3
\$500,000 to \$999,999	1,718	26.8	1,122	43.3	498	53.5	28,364	15.8
\$1,000,000 or more	97	1.5	807	31.1	142	15.3	3,778	2.1
Median value	\$379,900	-	\$693,000	-	\$648,900	-	\$321,500	-
2020								
Owner-occupied units	6,792	100.0	2,944	100.0	993	100.0	187,963	100.0
Less than \$50,000	32	0.5	10	0.3	0	0.0	4,513	2.4
\$50,000 to \$99,999	7	0.1	32	1.1	0	0.0	2,384	1.3
\$100,000 to \$149,999	7	0.1	17	0.6	0	0.0	4,581	2.4
\$150,000 to \$199,999	170	2.5	0	0.0	0	0.0	14,007	7.5
\$200,000 to \$299,999	1,207	17.8	99	3.4	34	3.4	49,354	26.3
\$300,000 to \$499,999	2,836	41.8	326	11.1	310	31.2	76,125	40.5
\$500,000 to \$999,999	2,361	34.8	1,625	55.2	449	45.2	33,221	17.7
\$1,000,000 or more	172	2.5	835	28.4	200	20.1	3,778	2.0
Median value	\$434,700	-	\$722,900	-	\$660,900	-	\$340,500	-

The county average gross rent is around \$1,252. Newtown, Upper Makefield, and Wrightstown’s gross rent estimates are well above the county average, at \$1,772, \$1,905, and \$1,466, respectively. Monthly rent in Upper Makefield is much higher than in Newtown and Wrightstown. The percent of occupied units paying rent of more than \$2,500 a month is around 44 percent in Upper Makefield, 9 percent in Newtown, and 14 percent in Wrightstown.

Table 16. Gross Rent, Jointure Municipalities and Bucks County, 2010—2020. (Source: American Community Survey 5-year estimates, 2006—2010 and 2016—2020).

Gross Rent	Newtown		Upper Makefield		Wrightstown		Bucks County	
	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
2010								
Occupied units paying rent	751	100.0	139	100.0	71	100.0	47,450	100.0
Less than \$500	97	12.9	0	0.0	0	0.0	3,023	6.4
\$500 to \$999	74	9.9	27	19.4	29	40.8	20,921	44.1
\$1,000 to \$1,499	208	27.7	38	27.3	36	50.7	16,071	33.9
\$1,500 to \$1,999	162	21.6	0	0.0	6	8.5	4,832	10.2
\$2,000 or more	210	28.0	74	53.2	0	0.0	2,603	5.5
Median rent	\$1,494	-	\$2,001	-	\$1,295	-	\$997	-
No rent paid	22	-	68	-	0	-	2,010	-
2020								
Occupied units paying rent	1,021	100.0	197	100.0	197	100.0	50,622	100.0
Less than \$500	58	5.3	0	0.0	0	0.0	3,203	6.4
\$500 to \$999	46	4.2	0	0.0	34	17.3	9,104	18.0
\$1,000 to \$1,499	132	12.1	75	38.1	70	35.5	23,245	45.9
\$1,500 to \$1,999	505	46.4	29	14.7	0	0.0	9,825	19.4
\$2,000 to \$2,499	177	16.3	6	3.0	65	33.0	3,033	6.0
\$2,500 to \$2,999	56	5.1	39	19.8	28	14.2	1,277	2.5
\$3,000 or more	47	4.3	48	24.4	0	0.0	935	1.8
Median rent	\$1,772	-	\$1,905	-	\$1,466	-	\$1,252	-
No rent paid	68	-	11	-	0	-	2,178	-

Housing projections can help the Jointure plan for future community needs, such as park and recreation facilities and emergency services, and can be used as an indicator of whether or not the community has made adequate provision for various types of residential development. Housing projections to the year 2030 are provided below.

The following formula estimates the increase in residential units from 2010 to 2030 using the estimated change in population for the same period. The projected population totals for the Jointure municipalities to 2030, as supplied by the DVRPC, were subtracted from the Census 2010 population totals to determine the projected amount of population growth for each municipality from 2010 to 2030. That number was then divided by the average number of persons per dwelling unit in 2020, obtained by dividing the 2020 population by the 2020 total housing units. That calculation provided a projected number of new units for the period of 2010 to 2030 for each municipality. That figure, added to the 2010 housing unit total, provided a projected total of housing units in 2030.

From 2010 to 2030, the projected number of new housing units in the Jointure is 382 for a total of 12,686 units in the Jointure by 2030.

Table 17. Housing Unit Projections, Jointure Municipalities, 2010—2030. (Source: U.S. Census 2010, Delaware Valley Regional Planning Commission Population Forecasts, 2021 and American Community Survey 5-year estimates, 2016—2020).

Housing Unit Projection	2010 Housing Units	2010 Population	2030 Projected Population	Population Growth 2010-2030	Average Persons per Dwelling Unit	Projected New Dwelling Units	2030 Total Dwelling Units
Newtown	7,992	19,299	19,830	1531	2.42	202	8,194
Upper Makefield	3,147	8,190	8,643	453	2.66	102	3,249
Wrightstown	1,165	2,995	3,114	119	2.51	76	1,241
Jointure	12,304	30,484	31,587	1,103	2.49	382	12,686

Existing Land Use in the Jointure

Development of Land Use Inventory

During preparation of this comprehensive plan update an inventory of existing land uses was undertaken. Aerial photographs and Bucks County Board of Assessments (BOA) information served as primary sources in compiling an updated land use inventory of the Newtown Area Jointure. The acreages and percentages of various land use categories were obtained using computer calculations generated through the county's GIS (Geographic Information System). Land use classifications are defined below. Map 1 identifies existing land use in the Newtown Area Jointure.

Land Use Classification Definitions

Single-family Residential—Consists of properties with single-family detached or one- or two-unit attached dwellings on lots of less than 5 acres. This category also includes mobile home parks.

Multifamily Residential—Includes properties with 3 or more attached dwelling units. This category includes medium- to long-term housing accommodations, such as retirement complexes, residential care houses, sanatoriums, and nursing homes.

Rural Residential—The same as “Single-family Residential” except dwellings are on lots which are 5 acres or more (but do not qualify as “Agricultural”).

Agricultural—Land which is 20 acres or greater and exhibits agricultural or farm-related characteristics such as: stables, orchards, active or fallow fields. This category may also include residential dwelling units and farm related structures on the same lot.

Manufacturing—Includes heavy manufacturing industries, printing and advertising industries, as well as, building and landscaping material extraction.

Quarry—Includes land used or intended to be used for the extraction of rock or minerals.

Government and Institutional—Includes all federal, state, county, and municipal buildings and facilities, except those which are park and recreation related. All private, parochial, and public

schools are included as well as, parsonages, churches, cemeteries, emergency service facilities, and fraternal organizations.

Commercial—Primary uses include wholesale and retail trade establishments, finance, insurance, real estate, and hotels. Other ambiguous commercial uses include day camps, athletic clubs, health spas, swim clubs, skating rinks, racetracks, greenhouses, and nurseries.

Parks, Recreation, and Protected Open Space—Includes municipal, county and state parks, state game lands, golf courses, campgrounds, and deed-restricted or open space easements associated with residential developments.

Transportation and Utilities—Consists primarily of utility installations and rights-of-way, terminal facilities, landfills, reservoirs, detention basins, and parking lots. Calculations for roadway acreage is also included.

Vacant—Includes parcels without residential dwelling units but may include structures such as barns, stables, sheds, etc. Areas indicated as vacant do not automatically imply they are developable. For example, superfund sites, and abandoned quarries or landfills may have been indicated as vacant due to a lack of a more appropriate classification (or potential for adaptive reuse). Also, natural resource restrictions may be present, limiting development potential.

Regional Perspective

Within the Jointure, single-family and multifamily residential uses comprise one-quarter of the land area for a combined total of almost 6,700 acres. Of the two residential land use categories, single-family comprises almost 23 percent (6,300 acres), while multifamily comprises almost one and one-half percent of the land area (386 acres).

The percentage of land used for single-family residential dwellings in each township is fairly similar, ranging from 22 to 24 percent of the total land area for each of the three townships. Much of the land used for multifamily residential dwellings is concentrated in areas surrounding Newtown Borough, with other smaller concentrations in the northern part of Newtown Township, the southern portion of Upper Makefield, and in the vicinity of Taylorsville in Upper Makefield.

The single land use category accounting for the most acreage in the Jointure is rural residential with 6,315 acres. This represents 23 percent of land in the Jointure. Rural residential land includes parcels with a single-family detached dwelling and a lot size of 5 acres or greater. This category is used to identify large residential lots that may have potential for future subdivision and land development. Land in the agricultural category consists of 4,414 acres, accounting for 16 percent of land in the Jointure. The agricultural land use category is limited to parcels that are 20 acres or over. Parcels under 20 acres that contain agricultural related uses are classified as either vacant or rural residential, depending on whether or not the parcel contains a dwelling. Approximately 6 percent (1,643 acres) of land area in the Jointure is classified as vacant.

Of the three communities in the Jointure, Newtown Township has the lowest percentage of its land area classified as rural residential at slightly over 5 percent, with 30 percent of the land area in Upper Makefield and almost 29 percent in Wrightstown in this use. Newtown Township has 655 acres of land in agricultural use, equating to 9 percent of its land area, while agricultural land makes up almost 18 percent of

Wrightstown's land area and almost 20 percent of Upper Makefield's area. Newtown Township also has the smallest amount of vacant land at 136 acres, or almost 2 percent of its land area, while 7 percent of Upper Makefield (972 acres) and almost 9 percent of Wrightstown (535 acres) fall into this category.

Parks, Recreation and Protected Open Space land use covers 4,100 acres of the Jointure, accounting for 15 percent of the total land area. Approximately 29 percent of Newtown Township's area (2,194 acres) falls into this category, while 12 percent of Upper Makefield (1,624 acres) and almost 5 percent of Wrightstown (281 acres) fall into this category.

Transportation and Utility uses take up almost 7 percent (1,862 acres) of the land area in the Jointure. It should be noted that this includes road rights-of-way where dedicated to a governmental agency. Newtown Township has 11 percent (850 acres) of its area dedicated to that use, while Wrightstown has slightly more than 5 and a half percent (354 acres) and Upper Makefield has almost 5 percent (657 acres).

Land containing government and institutional uses comprise 4 percent (1,172 acres) of the Jointure's area, with almost 67 percent of the acreage in this category located in Newtown Township (785 acres). A few of the larger tracts in this category include the Newtown campuses of Bucks County Community College and Holy Family University, and All Saints Cemetery in Newtown Township, Washington Crossing National Cemetery in Upper Makefield, and public school campuses located in each of the three townships.

Commercial uses occupy 617 acres (2 percent) of the Jointure's territory; Newtown Township again leads this category with 383 acres, or 5 percent of its land area, dedicated to this use. Commercial land within the Jointure is located primarily within the retail areas along Sycamore Street and south of Route 413, and in and near the Newtown Business Commons in Newtown Township; at various locations along Route 413 and at the crossroads of Second Street Pike and Penns Park Road (Penns Park) and Route 413 and Route 232 (Anchor) in Wrightstown; and in the vicinity of Taylorsville and Washington Crossing in Upper Makefield.

Quarries occupy slightly greater than 1 and a half percent (450 acres) of land in the Jointure. Found only in Wrightstown Township, quarries are located primarily in the southwest quadrant of the township. Manufacturing takes up 1 percent of the total area within the Jointure. Much of the land area devoted to this use is found within the Newtown Business Commons in the southern portion of Newtown Township (160 acres).

Land Use Figures

Chart 1. Land Use Acreages – Newtown Township (2005 - 2020).

Newtown Township					
Land Use	2005		2020		Change 05-20
	(acres)	(percent)	(acres)	(percent)	
Transportation and Utility	884	11.6%	851	11.2%	-33
Single Family Residential	1,621	21.2%	1,702	22.4%	81
Multifamily Residential	294	3.8%	338	4.4%	44
Agriculture	695	9.1%	656	8.6%	-39
Manufacturing	146	1.9%	160	2.1%	14
Quarry	-	0.0%	-	0.0%	0
Government & Institutional	720	9.4%	785	10.3%	65

Parks, Rec., Open Space	2,082	27.2%	2,194	29.0%	112
Commercial	415	5.4%	383	5.0%	-32
Rural Residential	500	6.5%	403	5.3%	-97
Vacant	288	3.8%	136	1.8%	-152
TOTAL	7,645		7,608		

Note: Due to rounding, percentages may not add up to exactly 100 percent.

Chart 2. Land Use Acreages – Upper Makefield Township (2005 - 2020).

Upper Makefield Township					
	2005		2020		Change 05-20
Land Use	(acres)	(percent)	(acres)	(percent)	
Transportation and Utility	633	4.6%	657	4.8%	24
Single Family Residential	2,958	21.7%	3,234	23.8%	276
Multifamily Residential	34	0.2%	41	0.3%	7
Agriculture	3,483	25.6%	2,651	19.8%	-832
Manufacturing	-	0.0%	-	0.0%	0
Quarry	-	0.0%	-	0.0%	0
Government & Institutional	67	0.5%	289	2.1%	222
Parks, Rec., Open Space	1,343	9.9%	1,624	11.9%	281
Commercial	53	0.4%	54	0.4%	1
Rural Residential	3,664	26.9%	4,091	30.1%	427
Vacant	1,379	10.1%	972	7.1%	-407
TOTAL	13,614		13,613		

Note: Due to rounding, percentages may not add up to exactly 100 percent.

Chart 3. Land Use Acreages – Wrightstown Township (2005 -2020).

Wrightstown Township					
	2005		2020		Change 05-20
Land Use	(acres)	(percent)	(acres)	(percent)	
Transportation and Utility	365	5.8%	354	5.6%	-11
Single Family Residential	1,130	18.1%	1,365	22.0%	235
Multifamily Residential	14	0.2%	7	0.1%	-7
Agriculture	1,334	21.3%	1,108	17.8%	-226
Manufacturing	10	0.2%	11	0.9%	1
Quarry	455	7.3%	450	6.6%	-5
Government & Institutional	127	2.0%	98	1.0%	-29
Parks, Rec., Open Space	177	2.8%	281	5.1%	104
Commercial	126	2.0%	181	2.8%	55
Rural Residential	1,886	30.2%	1,821	29.5%	-65
Vacant	629	10.1%	535	8.6%	-94
TOTAL	6,253		6,211		

Note: Due to rounding, percentages may not add up to exactly 100 percent.

Chart 4. Land Use Acreages – Jointure Total (2005 -2020).

Jointure Total					
	2005		2020		Change 05-20
Land Use	(acres)	(percent)	(acres)	(percent)	
Transportation and Utility	1,882	6.8%	1,862	6.8%	-20
Single Family Residential	5,709	20.8%	6,300	23.0%	591
Multifamily Residential	342	1.2%	386	1.4%	44
Agriculture	5,512	20.0%	4,414	16.1%	-1,098
Manufacturing	156	0.6%	171	0.6%	15
Quarry	455	1.7%	450	1.6%	-5
Government & Institutional	914	3.3%	1,173	4.3%	259
Parks, Rec., Open Space	3,602	13.1%	4,100	14.9%	498
Commercial	594	2.2%	618	2.3%	24
Rural Residential	6,050	22.0%	6,315	23.0%	265
Vacant	2,296	8.3%	1,643	6.0%	-653
TOTAL	27,512		27,432		

Note: Due to rounding, percentages may not add up to exactly 100 percent.

Land Use Trends

There have been notable shifts in the land use characteristics of the individual municipalities of the Jointure as well as in the characteristics of the Jointure, as measured against comparable statistics from 2005. While absolute precision in identifying and determining exact changes is not possible, due to differences in the mapping techniques and technology between 2005 and 2020 and potential errors in mapping, especially in the earlier data, the information provides enough accuracy to identify important trends and changes.

The Jointure continued to lose land classified as agricultural in the period 2005 to 2020, and losses in this category constituted the greatest change in percentage (dropping from 20.0 percent to 16.1 percent of total land use) and in number of acres (1,098 acres lost). Each of the three municipalities saw decreases in percentage of agricultural land use. Newtown Township saw agricultural uses decline from 9.1 percent to 8.6 percent (39 acres lost), Upper Makefield (which had the largest percentage decrease) saw agriculture uses decline from 25.6 percent to 19.8 percent (832 acres lost), and Wrightstown saw agriculture uses decline from 21.3 percent to 17.8 percent (226 acres lost).

While additional research would be needed to draw a direct connection between decreases in land classified as agricultural and increases in single-family residential uses, it is not unreasonable to posit this link, especially since land used for single-family residential dwellings in the Jointure increased the most, both in percentage (2.2 percent increase) and in number of acres (591 acres) dedicated to that use. Newtown saw the percentage of land in the single-family residential category increase from 21.2 percent to 22.4 percent, Upper Makefield saw that percentage increase from 21.7 percent to 23.8 percent, while Wrightstown saw the largest percentage increase from 18.1 percent to 22.0 percent.

Another potential source of land now in single-family residential use is vacant land, which declined from 8.3 percent (2,296 acres) of the total area of the Jointure in 2005 to 6 percent (1,643 acres) of the total in

2020. The decline was greatest in Upper Makefield Township which saw a decline in the total amount of vacant land by 407 acres. Vacant land in Newtown decreased by 152 acres, a 2 percent decline, while Wrightstown's vacant land decreased by 94 acres, a decline of 1 and a half percent.

The percentage of land in rural residential use saw a modest increase in the Jointure, from 22.0 to 23.0 percent of the total area of the community. Rural residential areas in Upper Makefield actually increased by 3.2 percent (427 acres) with a 1.2 percent drop in Newtown and an even smaller dip in Wrightstown (0.7 percent). The steadiness of this percentage may not be a result of stagnating growth, but instead may indicate the breakup of agricultural lots (moving such land into the rural residential category) that matches the flow of rural residential areas into other land use categories at the same time. In particular this may be the case in Upper Makefield, which saw large declines in agricultural land and increases in rural residential territory.

Parks, recreation, and open space increased by 498 acres (from 13.1 to 14.9 percent of the total) throughout the Jointure from 2005 to 2020. Newtown added 112 acres, Upper Makefield added 281 acres and Wrightstown saw an increase of 104 in this category.

Commercial land use within the Jointure has remained at approximately the same percentage of total land area (up 0.1 percent from 2.2 percent to 2.3 percent and comprising 618 total acres).

Land dedicated to both quarry use and manufacturing has remained nearly the same over the fifteen-year horizon between 2005 and 2020, with land dedicated to quarries dipping 0.1 of a percent to 1.6 percent of the Jointure's total land area and land dedicated to manufacturing remaining at approximately 0.6 percent of total land use (increasing in acreage fifteen acres).

The land area devoted to government and institutional uses grew from 3.3 percent to 4.3 percent of the total. Much of this increase is attributable to the development of the Washington Crossing National Cemetery in Upper Makefield Township, which contributed to the increase in government and institutional land use in Upper Makefield Township increasing from 0.5 percent of total land area in 2005 to 2.1 percent of total land area in 2020.

Between 2005 and 2020 the amount of land devoted to multifamily housing rose only slightly on the Jointure-wide scale from 1.2 percent of total land use to 1.4 percent of total land use. Newtown saw the only meaningful shift in percentage of total land use, whereby it saw an increase from 3.8 percent of its total land use in 2005 to 4.4 percent in 2020. Upper Makefield's percentage of total land use rose by just 0.1 of a percent, while Wrightstown's percentage of total land use declined by just 0.1 of a percent.

In the period from 2005 to 2020, the Jointure continued to see losses in the amount of land devoted to agricultural production and in the amount of vacant land, coupled with an increase in the amount of territory devoted to single-family residential development. While the amount of rural residential territory in the Jointure rose slightly, this may not be a counter-indication of development but may be the result of the loss of agricultural land and vacant areas to large residential lots (where the potential for further development is still present). Efforts to preserve more areas for recreational use and open space have increased the amount of land dedicated to that purpose. Land uses that may be associated with increased development (transportation facilities, utilities, governmental facilities, institutional uses, and commercial activities) showed a slight increase in the amount of land devoted to them. While parts of the Jointure were not directly touched by growth, land use changes indicate that a strong level of development has

generally continued in each municipality and throughout the Jointure as a whole. Finally, to the extent that there were areas where stronger development trends were not seen, the trend toward decreasing vacant, readily developable land is likely a contributing factor.

Residential Development Areas Analysis

Section 301 of the MPC lists the following as one required element of a comprehensive plan:

(2.1) A plan to meet the housing needs of the 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.

This section of the comprehensive plan evaluates development potential considering the projected dwelling units between 2020 and 2030 and identifies existing zoning districts intended for higher density residential development. These higher density zoning districts, called Residential Development Areas, are intended to provide the opportunity for the construction of housing and are appropriate locations for a full range of services and complementary land uses that would support housing in such areas. Residential Development Areas are intended to provide sufficient areas for a full range of housing options in the most appropriate locations to establish healthy, attractive, convenient, safe, and well-served living environments, without causing environmental problems elsewhere in the region. As part of this comprehensive plan update, the Jointure needs to determine if it is providing a Residential Development Area sufficient to accommodate projected population and housing growth over the next decade.

The Newtown Area Joint Comprehensive Plan (2009) analyzed the zoning and land use patterns found in the Jointure and determined that the amount of land available in the Residential Development Area was sufficient to provide for projected growth in the Jointure. The 2009 plan also found that the number of multifamily units in the Jointure was sufficient to result in a percentage of multifamily units that would exceed the county average.

The steps in the process of determining reasonable housing projections for the Newtown Area are described below. The projections focus on the 2020 to 2030 time period.

Housing Demand within the Jointure

Step 1. Projected Residential Growth from 2020 to 2030

The following table estimates the increase in residential units from 2020 to 2030 using the estimated change in population for the same period. The 2020 ACS 5-Year Estimates for population totals were subtracted from the projected population totals for Jointure municipalities to 2030, as supplied by the Delaware Valley Regional Planning Commission (DVRPC), to determine the projected amount of population growth for each municipality from 2020 to 2030. That number was then divided by the average number of persons per dwelling unit. That calculation provided a projected number of new units for the period 2020 to 2030 for each municipality. That figure, added to the 2020 ACS 5-Year Estimates for housing unit totals, provided a projected total of housing units to 2030.

Table 1. Dwelling Unit Projections. (Source: 2020 ACS 5-Year Estimates, U.S. Census; Delaware Valley Regional Planning Commission, Regional, County, and Municipal Population and Employment Forecasts, 2021).

Dwelling Unit Projection	Housing Units (2020)	Population (2020)	Population Projection (2030)	Population Growth 2020-2030	Persons Per Dwelling Unit	Projected New Units 2020-2030	Projected Total Units 2030
Newtown	8,099	19,606	19,830	224	2.42	96	8,195
Upper Makefield	3,199	8,503	8,643	140	2.66	51	3,250
Wrightstown	1,235	3,094	3,114	20	2.51	6	1,241
Jointure	12,533	31,203	31,587	384	2.49	153	12,686

From 2020 to 2030, the projected number of new housing units in the Jointure is 153 for a total of 12,686 units in the Jointure by 2030.

Step 2. Projected Units Constructed Outside of the Residential Development Area

According to information supplied by the townships, the following amounts of residential dwellings have been built in the time frames indicated below:

Newtown Township	
Number of Units Built, 2006 to 2020	557
Upper Makefield Township	
Number of Units Built, 2006 to 2020	277
Wrightstown Township	
Number of Units Built, 2006 to 2020	130
<hr/>	
Total Units Built in Jointure, 2006 to 2020	964

Not all the residential development that occurs in a community takes place in the Residential Development Area that the municipality has designated to accommodate future growth. New units are constructed in zoning districts not part of this area. The municipalities in the Jointure are no exception to this situation, as is demonstrated by information supplied by the townships regarding the location of new residential units constructed in the last fifteen years. There is no reason to expect that this trend will not continue and that some percentage of new units will be constructed outside the Residential Development Area in the period 2020 to 2030. The projected amount of demand for space in the Residential Development Area can be reduced based on a projected amount of residential development that will occur in zoning districts not included in that area.

The following considerations were made in developing this portion of the projection:

1. The zoning districts listed below will be considered part of the Residential Development Area in this update (see demand analysis later in Part B of this section of the update) and any residential units constructed in the last fifteen years in these zoning districts will be counted as having been constructed within the Residential Development Area when calculating the percentage of units built inside that area. Including these districts increases the number of units considered to be in the

development area and decreases the percentage of units built outside the development area. This results in a more conservative projection because it reduces the expected amount of future growth outside the district and increases the number of new units that must be accommodated within the Residential Development Area.

The zoning districts are:

R-1 Residential 1

R-2 Residential 2

CR-1 Country Residential 1

CR-2 Country Residential 2

VR-1 Village Residential 1

VR-4 Village Residential 4

2. The remaining zoning districts will be considered to be outside of the Residential Development Area in this update, and any residential units constructed in the last fifteen years in these zoning districts will be counted as having been constructed outside the Residential Development Area when calculating the percentage of units built outside that area.
3. The Jointure-wide percentage of dwelling units built outside of the residential development area (as defined by this plan) in the last fifteen years will provide an approximation of the percentage of dwelling units that will be constructed outside the residential development area in the entire Jointure for the period 2020–2030.

Newtown Township (2006 – 2020)

Number of units built outside the Residential Development Area **261**

Percentage of units built outside the Residential Development Area *(of 557 total units)* **47%**

Upper Makefield Township (2006 – 2020)

Number of units built outside the Residential Development Area **164**

Percentage of units built outside the Residential Development Area *(of 277 total units)* **59%**

Wrightstown Township (2006 – 2020)

Number of units built outside the Residential Development Area **89**

Percentage of units built outside the Residential Development Area *(of 130 total units)* **68%**

Jointure (2006 – 2020)

Number of units built outside the Residential Development Area **514**

Percentage of units built outside the Residential Development Area *(of 964 total units)* **53%**

Projected total units to be built in the Jointure from 2020 – 2030 **153**

Projected percentage of units to be built outside of the Residential Development Area in the Jointure from 2020–2030 **x .53**

Projected total units to be built outside of the Residential Development Area in the Jointure from 2020 – 2030 **82**

The number of residential units that must be accommodated in the Residential Development Area is the difference between the projected total units to be built in the Jointure 2020–2030 and the projected number of units to be built outside of the Residential Development Area (RDA) 2020–2030.

Projected number of new units in Jointure, 2020–2030	153
Projected number of new units outside RDA, 2020–2030	- 82
Projected units to be accommodated in the RDA, 2020–2030	71

As a result of these calculations, the assumed number of new units that will need to be accommodated within the Residential Development Area of the Jointure from 2020 and 2030 will be 71 units.

Supply of Available Land within the Jointure

To determine the capacity of the Residential Development Area, the potentially developable land remaining in the zoning districts that compose this area was analyzed. Potentially developable lands consist of vacant, agricultural, or rural residential properties.⁵

Methodology Used to Determine Developable Land and Potential Units

1. From the land use maps prepared by the Bucks County Planning Commission and reviewed by township officials, parcels listed as vacant, rural residential, or agricultural in certain zoning districts were identified as developable parcels. Those parcels were then evaluated to identify any parcels restricted from further development. Parcels found with recorded restrictions were removed from land available for development.
2. Certain vacant parcels with single unit capacity that appear to have been part of a previous subdivision were removed from land available for development.
3. Since density is calculated in terms of gross, not net, site area, potential units were calculated using the highest permitted density in the zoning district when the minimum gross site area could be used. In cases where density was not provided in a district or where parcels did not meet a minimum gross site area, potential units were calculated on an adjusted site area with resource protection lands (floodplains, wetlands, steep slopes, and woodlands) netted out and the required minimum lot area for the district was used to determine the potential number of dwelling units.

Following the parameters set forth in the 2009 comprehensive plan, the R-1 Residential 1 District, the R-2 Residential 2 District, the VR-1 Village Residential 1 District, the VR-4 Village Residential 4 District, the CR-2 Country Residential 2 District, and the CR- 1 Country Residential 1 District were included as part of the Residential Development Area. Land within these six zoning districts, meeting the criteria outlined above, was analyzed to determine the amount of land available for residential development. Numerous parcels that could collectively accommodate 71 new units were identified in these districts. The results of this analysis indicate that the amount of land available for development in these districts not only would be sufficient to provide for projected growth in the Jointure, but also would provide a safety margin of approximately 921 units.

⁵ A rural residential property contains a dwelling unit and is 5 acres or over, which may result in future subdivision

Projected units to be accommodated in the RDA, 2020-2030	71
Projected new units to be accommodated in other districts, 2020-2030	+ 82
Projected new units to be accommodated, 2020-2030	153
Projected new units accommodated in the R-1 District	11
Projected new units accommodated in the R-2 District	681
Projected new units accommodated in the CR-1 District	236
Projected new units accommodated in the CR-2 District	27
Projected new units accommodated in the VR-1 District	25
Projected new units accommodated in the VR-4 District	+ 12
Projected new units accommodated	992
Projected units to be accommodated in the RDA, 2020-2030	71
Projected units that can be built in the Residential Development Area	992
Surplus projected new units accommodated in the development area, 2030	921

Within the Jointure, the margin of 921 units reflects a safety factor or surplus capacity of approximately 80 percent in the number of units that are projected to be constructed in the Residential Development Area by 2030 and the number that can be accommodated in that area. This safety factor is in addition to the conservative methodology described above that eliminated many parcels originally considered for inclusion within the totals of developable land in the Jointure because of their size or natural resource limitations.

Multifamily Accommodation

The purpose of this section is to determine if there is adequate land zoned for multifamily housing in the Jointure. The analysis employed involves a comparison of the actual and potential amount of such housing found in the Jointure compared to the percentage of multifamily housing found throughout the county. Recent court rulings in Bucks County and Commonwealth Court suggest that this is an acceptable type of analysis in Pennsylvania.⁶

The overall percentage of multifamily units for Bucks County, is 31.6 percent based upon the American Community Survey 5-Year Estimates, 2016-2020.⁷ Using the projection found in Part A above as the potential number of housing units that would be constructed by 2030, the following calculations summarize the potential number of multifamily units to determine if the Jointure can match the county's average of multifamily units.

⁶ This analysis is described in *Heritage Building Group v. Plumstead Township Board of Supervisors* 76 Bucks Co. L. Rep. 127 (2002). The ruling in that case was affirmed by Commonwealth Court (*Heritage Building Group v. Plumstead Township Board of Supervisors* (No. 3020 C.D. 2002, October 17, 2003).

⁷ Multifamily units include attached unit structures (e.g., townhouses) of 3 or more-unit structures (e.g., apartment buildings), but excludes 2-unit structures (e.g., twins).

2030 housing units (projected)	12,686
Multiply by the county average of MF units (31.6%)	x 0.316
<hr/>	
Required number of multifamily units for the Jointure to match the county percentage of multifamily units	4,009
Multifamily units already constructed (ACS 5-Yr Estimates, 2016-2020)	4,753
<hr/>	
Surplus units to meet county percentage, 2030	744
Potential capacity of existing R-2 District for multifamily units	+ 681
<hr/>	
Number of multifamily units above county average, 2030	1,425

Based upon this analysis, approximately 37.9 percent of the Jointure's housing stock is composed of multifamily dwelling units which exceeds the county average by 6 percent. Land exists in the R-2 District that could be further developed for multifamily use. If that land were developed in its entirety for multifamily use at the highest permissible density, an additional 681 multifamily units could be constructed. This would result in an amount of multifamily housing in 2030 that would exceed the amount needed to equal the county percentage by 1,425 units.

Conclusions

This analysis indicates that the assumed number of new units that will need to be accommodated within the Residential Development Area of the Jointure between 2020 and 2030 will be 71 units.

It also indicates that the amount of land available in the Residential Development Area, as defined by this update, is sufficient both to provide for projected growth in the Jointure and to provide a safety margin of approximately 921 units in 2030.

The number of multifamily units in the Jointure was already sufficient in 2020 to result in a percentage that exceeds the county average. Land exists in the R-2 District that could be developed for multifamily use to provide an additional 681 multifamily units, which could accommodate a percentage of multifamily units in 2030 that exceeds the county average.

Nonresidential Development Areas Inventory

Since the 2009 update, there has been substantial development in the nonresidential zoning districts in the Jointure, in addition to the development that has occurred in the residential districts. Along with redevelopment of some sites that contained existing uses, a number of the parcels considered as potentially developable in 2009 have either since been developed or preserved and are no longer included in the following inventory. One purpose of this element of the plan is to provide a general overview of potentially developable parcels within the commercial, office, and industrial districts. As with the preceding discussion on residential development areas, potentially developable lands consist of vacant, agricultural, and rural residential properties, based on the updated existing land use map.

This section does not include the same type of calculations of anticipated growth for comparison with the capacity of the nonresidential development areas as was found in the residential development areas analysis. Such a comparison is not relevant for several reasons. From the legal standpoint, the courts have not developed a regional fair share concept for nonresidential uses. From a practical standpoint,

employment, shopping, and service needs are not directly associated with a locality. Newtown Area residents regularly travel to surrounding and distant places for employment, shopping, and services. Instead, this section provides an inventory of the potentially developable land in the nonresidential zoning districts.

Inventory of Developable Land in Nonresidential Areas

Newtown Borough

While Newtown Borough is not currently a part of the Newtown planning program, it should be noted that its location at the geographic center of the Jointure has a significant impact on the nonresidential needs of the community. The Borough has often been referred to as the “hub” of the region, not unlike the hub of a wagon wheel, and draws many of its customers from the surrounding areas within the Jointure.

The nonresidential districts in the borough have been developed with a variety of uses. Although there may be room on some of these properties for the expansion or redevelopment of the existing uses, there are no open larger parcels that would provide for substantial nonresidential development. Additional nonresidential development would be of an in-fill or redevelopment character that complements the residential nature of the community.

Newtown Township

OR Office Research District

This area is intended for the special office, research, and industrially related uses on large tracts of land, which will provide a major employment center for the region while enhancing its open space characteristics and natural features. This district is located in the southeastern corner of the township along its border with Middletown Township and Lower Makefield Township. Under the standards of the zoning ordinance, the minimum lot area for most uses is 15 acres and the maximum impervious surface ratio is 50 percent. The recently created Motor Vehicle Fueling and Convenience Store use, permitted by special exception, requires a minimum lot area of 4 acres with a maximum impervious surface ratio of 50 percent in the OR District. One vacant parcel that meets the required 15-acre minimum lot size and that totals approximately 18 acres is located in this district. A Motor Vehicle Fueling and Convenience Store land development has been proposed on another vacant parcel that meets the required minimum lot size of 4 acres for that use. Additionally, four other noncontiguous vacant parcels with parcel sizes ranging from half an acre to slightly more than 4 and a half acres are found in this district.

PC - Planned Commercial District

This area is intended to provide for a cohesive unit of commercial stores with transportation facilities that are arranged and constructed according to a master plan that will provide for the major commercial needs of the region. This area is generally located west of Newtown Borough and south and east of the Newtown Bypass (PA Route 413). A minimum lot size of 20,000 square feet is required; a maximum impervious surface ratio of 50 percent is permitted. While this area has not had land considered as potentially developable for some time (classified as agricultural, vacant, and rural residential), there has been considerable nonresidential redevelopment on parcels occupied by existing shopping centers and other commercial uses.

LI - Light Industrial District

This area is intended to provide a wide range of industrially related uses which will provide a major employment center for the region while enhancing its open space characteristics and natural features. This area is located east of Newtown Borough and contains the Newtown Business Commons. The zoning ordinance requires a minimum lot area of 80,000 square feet and permits a maximum impervious surface ratio of 65 percent. Of the seven vacant parcels in this district, only two meet the minimum lot size requirement. Most of the remaining areas identified as vacant are existing small condominium-type spaces.

O-LI Office-Light Industrial District

This district is intended to provide a variety of office and industrial uses that complement the adjacent Light Industrial District. The standards provided for this district are meant to encourage high quality development which is compatible with adjacent residential and nonresidential areas. It is generally located north of the LI Light Industrial District along Newtown-Yardley Road. The zoning ordinance requires a minimum lot area of 80,000 square feet and permits a maximum impervious surface ratio of 65 percent. While some existing buildings may have vacancies, existing land use data indicates that there are no potentially developable parcels in this district.

CC, TC, and TC-2 - Convenience Commercial and Town Commercial Districts

The purpose of the CC District is to provide reasonable standards for the orderly development of highway-oriented businesses and commercial uses. The TC District is intended to provide a commercial area with easy pedestrian access and visual impact. Uses that generate large amounts of traffic and which are not in keeping with the architectural and historic character of the area are discouraged. The TC-2 District is meant to provide a mixed-use area at the entrance to the township allowing residential uses, nonresidential uses, and the conversion of residences to nonresidential use in a style compatible with the character of the Newtown Area.

The CC and TC districts form the commercial area of primarily small lots and small shops along Sycamore Street, German Avenue, and Newtown-Richboro Road. The TC-2 District is located south of Newtown Borough in the vicinity of South State Street (Newtown-Langhorne Road).

The CC District has a minimum lot size requirement of 20,000 square feet for lots served by public sewer facilities and 60,000 square feet for parcels with on-lots systems. The maximum impervious surface ratio is 50 percent. Four vacant lots have been identified in the vicinity of German Avenue, but none of these meets the minimum lot size requirements for the district.

The TC District requires a minimum lot area of 7,500 square feet for most permitted uses and a maximum impervious surface ratio of 80 percent. Of the vacant parcels in this district, five meet the minimum lot area requirement. Two of these parcels contain existing parking lots for a nearby business, one of the two lots is partially vacant. Three of the parcels total approximately 2 acres and also meet the minimum lot area requirement of the district. There are several other vacant parcels that do not meet the lot area requirement.

The TC-2 District mandates a minimum lot size of 20,000 square feet where lots are serviced by public sewer facilities, except for Specialty-Cultural Shopping Facilities (Use E-14) and Terminals (Use F-3) which

must have a minimum lot size of 3 acres. The maximum impervious surface ratio is 50 percent. Of the two vacant parcels indicated in this district, one parcel along South State Street has a lot area of approximately 1.5 acres and meets the 20,000-square-foot requirement. The second vacant parcel, bordering Newtown Borough and also along South State Street, does not meet the required minimum lot area.

PS and PS-2 – Professional Services Districts

The purpose of the PS District is to provide standards for the development of professional and governmental offices that are compatible with adjacent residential uses within villages. According to existing land use data, a single developed parcel along Washington Avenue, landlocked by Newtown Borough, is located in the PS District in the township. The PS-2 District is intended to promote the development of professional and business offices that are compatible with existing residential and nonresidential uses in and around the district. The district requires a minimum lot size of 40,000 square feet and a maximum impervious surface ratio of 30 percent for permitted nonresidential uses. The PS-2 District includes one rural residential parcel with an area of approximately 4.8 acres located along Durham Road (PA Route 413) across from Newtown Grant.

POS, EIR and MS – Park and Open Space District, Educational, Institutional and Recreational District, Municipal Services District

Parcels owned by the Council Rock School District, Bucks County Community College, and St. Andrews Roman Catholic Parish, are located in the EIR District. Parcels in EIR District are generally located along Swamp Road, Durham Road (PA Route 413), and Frost Lane. Municipal parks, as well as Tyler State Park, are in the POS District, along Swamp Road, Durham Road (PA Route 413), Frost Lane, and South Sycamore Street. The Newtown Township Municipal Complex on Durham Road is in the MS District.

Upper Makefield Township

VC-1 – Village Commercial 1 District

There is a VC-1 Village Commercial district that is located in the village of Taylorsville and also extends south along the Delaware Canal between Taylorsville Road and the canal. The purpose of this district is to provide for small neighborhood commercial areas. Three types of new development may take place: development of a tract for a single use, development of a tract for a variety of uses, and a conversion of a single structure into a new single use. The zoning ordinance requires a minimum lot size of 1 acre for all uses other than Motor Vehicle Fueling and Convenience Store use for which a minimum lot area of 1.2 acres is required. The maximum impervious surface ratio is 50 percent.

Two rural residential parcels (one of which is only partially located in the VC-1 District) that currently meet the minimum lot size requirement and that include a total area of approximately 11 acres are located in the district. Of the approximately 17 vacant parcels (one of which is only partially located in the VC-1 District) four meet the minimum lot size requirement and total about 6 acres. It should be noted that some of those parcels (with a total area of about six acres) are in the southern portion of the district located between Taylorsville Road and the Delaware Canal.

POS, EIR and MS – Park and Open Space District, Educational, Institutional and Recreational District, Municipal Services District

A parcel owned by the Council Rock School District is located in the EIR District along Eagle Road. Municipal parks as well as Washington Crossing State Park and the Delaware Canal State Park are in the POS District. The Upper Makefield Township Municipal Complex on Eagle Road and a township-owned property along Heritage Hills Drive are in the MS District.

Wrightstown Township

VC-1 and VC-2 – Village Commercial Districts

As noted above, the VC-1 District is intended to provide for small neighborhood commercial areas in villages. Three types of new development may take place: development of a tract for a single use, development of a tract for a variety of uses, and a conversion of a single structure into a new single use.

The purpose of the VC-2 District is to achieve the same type and scale of village development as identified by the VC-1.

The VC-1 District in Wrightstown Township is located in Penns Park in the vicinity of the intersection of Second Street Pike (PA Route 232) and Penns Park Road. The VC-2 District is located in Anchor, north and south of the intersection of Second Street Pike and Durham Road (PA Route 413).

In the VC-1 District, a minimum lot size of 1 acre is required for all uses other than Motor Vehicle Fueling and Convenience Store use for which a minimum lot area of 1.2 acres is required. A maximum impervious surface ratio of 50 percent is permitted in the VC-1 District. In the VC-2 District, a minimum lot area of 3,000 square feet for lots served by public sewer facilities and one acre for parcels with on-lot systems is required, with the exception of Motor Vehicle Fueling and Convenience Store use which requires a minimum area of 1 acre. A maximum impervious surface ratio of 75 percent is permitted in the VC-2 District.

Existing land use data indicate that no developable parcels are currently located in the VC-1 and VC-2 districts.

PS – Professional Services District

The PS District is intended to provide reasonable standards for the harmonious development of professional and governmental offices which are compatible with adjacent residential uses. This district is located in Anchor, east and west of the intersection of Second Street Pike and Durham Road (PA Route 413). Lots of 15,000 square feet or larger are permitted in the PS District with a maximum impervious surface ratio of 55 percent. A single lot about 1.7 acres in size is vacant in the district.

VR-4 – Village Residential/Mixed Development District

The VR-4 District provides standards and regulations for older villages and hamlets built prior to the development of municipal zoning and planning. Along with single-family detached dwellings, limited commercial and office uses are also permitted. This district can be found in the village of Wrightstown along Durham Road. The minimum lot size permitted in this district for nonresidential uses is 30,000 square feet with a maximum impervious surface ratio of 35 percent. A rural residential parcel with an area

of approximately 15 acres is located in this district. (It should be noted that this parcel was also listed as available for residential development in the Residential Development Areas Analysis.)

RI and RI-A—Rural Industrial Districts

The RI District is intended for less intensive industrial use in areas where public water and sewer facilities are not provided. The RI-A District serves the same purposes as the RI District and provides appropriate locations for recycling and refuse facility uses.

Two areas in RI District are found in Wrightstown Township. One is located southwest of Penns Park along both Second Street Pike and Penns Park Road. The other is located southwest of the intersection of Second Street Pike and Swamp Road. The RI-A District is located southwest of Penns Park along Penns Park Road.

A minimum lot size of 2 acres for lots served by public water and sewer facilities and 3 acres for parcels without such service is required in both districts. The maximum impervious surface ratio in both districts is 5 percent.

No developable parcels are currently located in the RI-A District. A rural residential parcel of 47.5 acres is located in the part of the RI District found near the intersection of Second Street Pike and Swamp Road. Two rural residential parcels and two vacant parcels which total approximately 29 acres are located in the area of the RI District closest to Penns Park. All of these parcels independently meet the minimum lot area requirements of the district. Several, including the one smaller than the required minimum, are adjacent to each other and could be combined to form larger lots.

QA – Quarry/Agricultural District

The QA District is intended to provide for safe and efficient quarrying operations. Several areas located in the QA District are found in the southwestern portion of the township.

QA-A – Quarry/Agricultural District-A

The QA-A District is intended to provide for safe and efficient quarrying operations and provide for a safe location for the sale of consumer fireworks. The district is limited to one parcel and a portion of another, both associated with existing extraction activities. The two areas are located off of Swamp Road, just west of Second Street Pike, in the southwestern portion of the township.

POS, EIR and MS – Park and Open Space District, Educational, Institutional and Recreational District, Municipal Services District

Parcels in the village of Penns Park owned by the Council Rock School District are in the EIR District. There are currently no parcels in the POS District in Wrightstown Township. The Wrightstown Township Municipal Complex is located in the MS District along Second Street Pike, and another MS-zoned parcel also owned by the township is located along Penns Park Road.

Natural Resource Protection

The natural features of the landscape contribute to the quality of life in the Newtown Area. Farmland, woodlands, steep slopes, stream valleys, and gently rolling open spaces are some of the resources that are both visually attractive and have important functions in the ecology of the region. If these features are to remain assets, protection of specific natural resources must be considered in land use decisions.

Environmental features are best protected by limiting development, encroachment, grading, or intrusion into areas containing these natural features. The joint municipal zoning ordinance has established maximum, quantifiable encroachment standards based on the capacity of the natural feature to withstand the effects of clearing and grading. The intensity and location of buildings and site alterations are limited by these standards, which are intended to accommodate disruption with minimal impacts on the site and areas beyond its boundaries. The zoning ordinance also requires a site capacity calculation, a procedure for site evaluation that limits the overall impacts of site development.

Development practices that include concern for natural limitations of the land often benefit both the builder and the community. For example, development that preserves floodplains and wetlands protects property and saves money. Proper grading in steep slope areas and the protection of natural forest cover helps avoid soil erosion and sedimentation in drainage systems, reducing the costs of treating stormwater runoff and maintaining stormwater facilities. Low-impact development techniques that minimize intrusions into sensitive resource areas reduce the need for extensive infrastructure and revegetation of the site. These and similar costs are minimized when development takes place within the natural limitations of the land.

Constitution and Statutory Precedent

The basis for the protection of natural features is found in the Commonwealth's Constitution, in judicial decisions, and in the Pennsylvania Municipalities Planning Code (MPC). In 1968, the Constitution was amended by a vote of the people of Pennsylvania to state in Article 1, Section 27:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and aesthetic values of the environment. Pennsylvania's public natural resources are common property of all people, including generations yet to come.

As would be expected, the courts have had to evaluate how this constitutional provision would be applied and who would assume the role of protector of these rights of the people. The Commonwealth Court has stated that, although various state departments have certain responsibilities, the local governments of the Commonwealth have been delegated authority for land use planning and preservation of open space and natural features under the MPC. The constitutional mandate must rely on various statutes of the Commonwealth for implementation. The state laws specify responsibility for different aspects of natural resource protection. The court has also stated that, in exercising this responsibility, municipalities must permit reasonable development of property while managing public natural resources. The court emphasized that controlled development, rather than no development, should be the focus and is the responsibility of local governments. The Pennsylvania legislature, through the MPC, has charged the local governing bodies with the responsibility for protecting the citizens' health, safety, and welfare through comprehensive planning and land use regulation. Over the years, increased emphasis has been given to the protection of natural resources. The MPC includes the following provisions:

Section 301(a)(6). The municipal comprehensive plan shall include a plan for the protection of natural and historic resources to the extent not preempted by federal or state law. This clause includes, but is not limited to, wetlands and aquifer recharge zones, woodlands, steep slopes, prime agricultural land, floodplains, unique natural areas and historic sites.

Section 503(2)(v). A subdivision and land development ordinance may include provisions for ensuring that land which is subject to flooding, subsidence, or underground fires either shall be safe for the proposed use or that these areas shall be set aside for uses that do not endanger life or property.

Section 603(b). Zoning ordinances may not exceed the regulations of the Surface Mining Conservation and Reclamation Act, the Noncoal Surface Mining Conservation and Reclamation Act, the Oil and Gas Act, the Bituminous Mine Subsidence and Land Conservation Act, the Nutrient Management Act, the Agricultural Area Security Law, or an Act Protecting Agricultural Operations from Nuisance Suits and Ordinances Under Certain Circumstances.

Section 603(c)(7). Zoning ordinances may contain provisions to promote and preserve prime agricultural land, environmentally sensitive areas, and areas of historic significance.

Section 603(f). Zoning ordinances may not unreasonably restrict forestry activities. To encourage maintenance and management of forested or wooded open space and promote the conduct of forestry as a sound and economically viable use of forested land throughout the Commonwealth, forestry activities, including, but not limited to, timber harvesting, shall be a permitted use by right in all zoning districts in every municipality.

Section 605(2)(ii), (iii), and (vii). Where zoning districts are created, all provisions shall be uniform for each class or uses or structures, within each district, except that additional classifications may be made within any district for the regulation, restriction, or prohibition of uses or structures at, along, or near natural or artificial bodies of water, places of relatively steep slope or grade, or other areas of hazardous geological or topographical features, floodplain areas, agricultural areas, sanitary landfills, and other places having a special character or use affecting or affected by their surroundings.

Section 606. The zoning ordinance shall include or reference a statement of community development objectives relating to the need for protecting natural resources.

Section 609.1(c)(3) and (4) and Section 916.1(c)(5)(iii) and (iv). In evaluating a substantive challenge to the validity of a zoning ordinance by a landowner, the governing body or the zoning hearing board shall determine the suitability of the site for the intensity of use proposed by the site's soils, slopes, woodlands, wetlands, floodplains, aquifers, natural resources, and other features. It shall also evaluate the impact of the proposed use on the site's soils, slopes, woodlands, wetlands, floodplains, natural resources, and natural features, the degree to which these are protected or destroyed, the tolerance of the resources to development, and any adverse environmental impacts.

Critical Natural Features

The following is an explanation of the basis for the protection of natural features and a description of the specific natural features that are given protection under the standards of the joint municipal zoning ordinance.

Floodplains and Floodplain Soils

Floodplains are relatively flat or low-lying areas adjacent to surface waters where flooding has occurred in the past and will likely occur in the future. During periods of heavy rains and high stream flow, floodplains provide temporary storage for floodwaters, reducing flooding threats to adjacent areas and providing a slower, more consistent flow of water. Floodplain soils or alluvial soils are eroded soils from previous floods that were deposited along the banks of streams or other watercourses. The natural vegetation supported by moist floodplains helps trap sediment from upland surface runoff, stabilizes stream banks for erosion control, and provides shelter for wildlife and proper stream conditions for aquatic life. Smaller streams and watercourses have not had floodplains identified by the Federal Emergency Management Agency (FEMA). In these areas floodplain soils are used as indicators of floodplains.

Floodplains and floodplain soils occur along the Neshaminy Creek on the southwest border of Wrightstown and Newtown townships, Mill Creek in Wrightstown Township, Newtown and Core creeks in Newtown Township, and the Delaware River, Jericho Creek, Houghs Creek, and tributaries to Pidcock Creek in Upper Makefield Township.

The Pennsylvania Floodplain Management Act (Act 166 of 1978) requires municipalities identified by the Flood Insurance Administration (FIA) as having flood prone areas to participate in the National Flood Insurance Program (NFIP). Under the administration of the Department of Community and Economic Development (DCED), flood prone municipalities are required to adopt ordinances that meet NFIP standards for regulating development in the floodplain. The joint municipal zoning ordinance prohibits any development, use, or activity which would cause any increase in the 100- year floodplain.

Floodplain limitations do not preclude all development. Agricultural uses, private and public recreation uses (e.g., golf courses, ball fields, golf driving ranges, picnic grounds, wildlife and nature preserves, swimming areas, passive open space, hunting and fishing areas, hiking trails) and uses incidental to residential structures (e.g., lawns, gardens, play areas) are permitted. Uses permitted by special exception include utilities, public facilities, and improvements such as bridges, streets, railroads, and pipelines; water dependent uses such as docks, piers, and marinas; temporary uses such as circuses and carnivals; and the storage of materials and equipment, provided they are not buoyant, flammable, explosive, or polluting. Any residential or nonresidential use granted a variance to permit construction within the 100-year floodplain must have its lowest floor elevated 1½ feet above the 100-year flood elevation. The structure must also be anchored to prevent collapse, flotation, and lateral movement.

Floodplain (alluvial) soils are important in areas where NFIP has not identified and calculated the floodway and flood fringe areas. In these unmapped areas, the floodplain soils indicate where flooding had occurred in the past. Unless a hydrological study is undertaken to prove that flooding has not occurred in recent times, these floodplain soils should be considered part of the floodplain. In 2002, the Natural Resource Conservation Service (NRCS) issued a comprehensive new soil survey with new soil classifications. The joint municipal zoning ordinance relies on soils identified by the *1975 Soil Survey of Bucks and Philadelphia Counties* to regulate unmapped floodplain areas.

Wetlands

Wetlands are undrained, saturated soils that support wetland vegetation where the water table is at or near the surface or where shallow water covers the area due to permanent or seasonal inundation of surface or groundwater. The protection of wetlands is important for several reasons. Wetlands play a key role in maintaining and improving water quality by filtering out chemical and organic wastes. Wetlands store water during storms and floods, thereby reducing hazards to life and property. Wetlands provide groundwater recharge. Finally, wetlands are important habitats for many threatened or endangered plants and animals.

In addition to local protection standards, wetlands are regulated by the U.S. Army Corps of Engineers and the Pennsylvania Department of Environmental Protection under the aegis of the Federal Clean Water Act and various state laws. Any impact to wetlands requires permitting from DEP and the Army Corps of Engineers. State and/or federal agencies that permit wetlands disturbance may require that the loss of wetlands be mitigated by the creation of wetland areas elsewhere. The Pennsylvania Department of Environmental Protection also regulates wetlands under Chapter 105 Rules and Regulations administered by the Bureau of Dams and Waterways Management.

Since the Newtown Area Joint Municipal Zoning Ordinance (and Commonwealth and federal law) largely prohibits the direct destruction of wetlands, most threats to wetlands come from the secondary impacts of development. Grading and development near wetlands cause these resources to suffer the loss of hydrologic function and critical wildlife species. The destruction of adjacent vegetation and the construction of impervious surfaces increase the amount of stormwater runoff and decrease the natural capacity of the wetland to handle water volumes, runoff speed, and pollutants.

Additionally, changing the topography of the site surrounding the wetland affects the direction of stormwater runoff and can lead to either increased or decreased amounts of water reaching the wetland. An increase in stormwater runoff may overburden the ability of the wetland to deal with floodwater and pollutants by continually inundating it. Conversely, reduced stormwater runoff may affect the hydrologic functions of a wetland and threaten its continued existence. Even if the topography of surrounding sites remains unaltered, a wetland may still have its hydrologic functions affected by the increased impervious surfaces and stormwater channeling.

Lakes and Ponds

Lakes and ponds function in a similar manner to wetlands. Whether natural or manmade, ponds moderate stream flows during storms and flood events and play an important role in oxygen and nitrogen cycles. These water bodies provide habitat for aquatic life as well as water sources for wildlife. These landscape features are scenic and recreational amenities.

Watercourses and Streams

Watercourses and streams are critical not only as important natural features of the environment but also for the role that they play in stormwater management, erosion control, and maintaining water quality. Wildlife are also highly dependent on them to provide a pure and reliable water source and the quality of streams and watercourses has an important impact on the overall health of local habitats.

Riparian woodlands, in particular, play a major role in maintaining the vitality of watercourses. They provide shade and organic matter to support aquatic organisms that are the base of the food web in many habitats. They help to stabilize stream banks, moderate flooding, and filter out pollutants from runoff. Such woodlands can also be an important component of the habitat of local animal populations.

Steep Slopes

Topography can have a profound influence on development capacity, stormwater runoff, and site erodibility. Nearly all of the steeply sloping areas in the Jointure are located either along stream corridors or on Jericho Mountain. The Delaware River, the Neshaminy Creek, and all other streams are defined by steep slopes along much of their length.

Development on steep slopes accelerates erosion by removing or disturbing the established groundcover and topsoil. Removal of the vegetation destroys the groundcover that absorbs rainwater, anchors soil, and buffers or dissipates the impact of rainfall on topsoil. Erosion produces sediment that pollutes surface water. Over time, accumulated sediments narrow stream channels and fill ponds. This process restricts the capacity of waterways to handle flood flows and increases the incidence and severity of flooding.

Woodlands

Over the course of the region's agricultural history, most tillable land was cleared of vegetation and plowed under. Where the land was not suitable for cultivation because it was excessively wet, rocky, or steep, the forests were harvested from time to time, but not cleared. Today, most of the woodland areas are still located in areas that were never suitable for farming. The largest contiguous forest is Jericho Mountain.

In other areas, forest cover extends in predominately linear patterns along fields, ridges, and stream beds. In all these areas, woodlands provide numerous important functions in natural cycles and processes. Woodlands provide shelter for wildlife, play an important role in the oxygen, carbon, and nitrogen cycles, and most significantly, reduce erosion and sedimentation in the area's streams. The vegetative cover softens the impact of falling rain, facilitates groundwater recharge, and reduces the volume and rate of runoff. Woodlands also play a role in filtering air pollutants and in moderating microclimates. Woodlands moderate environmental conditions, support wildlife, and provide recreational opportunities. Trees also provide an important scenic element in the landscape.

The loss of woodland areas is both a local and regional concern, as demonstrated by a 2003 study conducted by the United States Department of Agriculture Forest Service, American Forests, Inc., and the Pennsylvania Department of Conservation and Natural Resources. That study estimated that the five-county Philadelphia region lost 8 percent of heavy tree cover (approximately 34,000 acres) in a 15-year period. It also noted that lost woodland areas imposed costs on municipalities and homeowners due to increased stormwater runoff, lower air quality, higher energy costs, and a general decline in the quality of life in the region.

Woodlands are most clearly threatened by their removal for site development. But other site preparation and construction practices can have significant impacts on woodlands. Although a required area to be protected may be shown on a development plan, damage to roots from machinery, grade changes affecting root stability and aeration, soil compaction from temporary roads, and materials stockpiling can result in the loss of woodlands in a few years.

In addition to protection of existing woodlands, landscaping for future generations and the planting of trees in environmentally sensitive areas is also important to communities. The reforestation of riparian areas can provide numerous environmental benefits for watercourses and the land directly adjacent to them. A mix of native plants is preferred to planting a single type of vegetation or the use of berms as a buffering method.

Prime Agricultural Soils

The Natural Resources Conservation Service (NRCS) (formerly United States Soil Conservation Service) provides a classification system for the identification of prime agricultural soils. Bucks County soils were recently recertified by the NRCS and include soil Classes 1 through 4. These soils have been determined to be potentially the most productive for a wide range of field crops, with the least risk of damage when properly managed. Prime agricultural land is generally more productive than other land under the same management practices. The survey assesses farmland based upon soil quality, climate, and soil acidity. There are two major classifications as follows:

- **Prime Farmland** – Land best suited for producing food, feed, forage, and oilseed crops. The soil quality, growing season, and moisture supply present are able to sustain high yields for crops economically when managed with modern farming methods. There are limited types of soils that qualify as prime farmland, but they primarily consist of Capability Classes 1 and 2 soils.
- **Additional Farmland of Statewide Importance** – Land that is of statewide importance for the production of food, feed, forage, and oilseed crops. The appropriate state agency is authorized to define and delineate this farmland. Typically, in the Commonwealth, land that qualifies as Capability Class 2 and 3 soils that do not qualify as prime farmland is designated as additional farmland of statewide importance. In Bucks County, based upon the list of soils that qualify, the majority are soil Class 3.

The primary crops within the Newtown Area include corn, numerous hay crops, small grains, soybeans, and truck crops.

The number of farms and the amount of acreage devoted to agriculture has been declining. The most productive lands primarily are located in those areas of Upper Makefield and Newtown townships that are being developed most rapidly.

Natural Resource Protection Standards

The joint municipal zoning ordinance protects the area's natural resources and features using the following encroachment standards:

1. **Floodplains.** No development, use or activity, which would cause an increase in the 100-year flood shall be permitted. Permitted uses are limited to agricultural uses, recreational uses and activities, accessory residential uses, such as yards and gardens, and accessory commercial uses, such as yards and pervious parking areas.
2. **Floodplain (Alluvial) Soils.** In areas of any municipality where no detailed flood profiles or elevations have been provided by the Flood Insurance Study, the floodplain district shall include the approximate 100-year flood boundary as shown on the Flood Insurance Rate Map and land areas containing soil characteristics indicative of flooding conditions. In these undesignated areas the floodplain soils shall

be subject to the floodplain district regulations. Any property owner who is aggrieved by the determination of the floodplain based on the approximated floodplain and floodplain soils, may submit a floodplain study for a 100-year flood conducted in accordance with the standards of FEMA. The municipality for which the study is submitted may, at its sole discretion, reject or adopt the study.

3. Wetlands. Wetlands shall not be developed, filled, piped, or diverted. Protection standard: 100 percent.

The Jointure has no provisions for wetland buffers. The Jointure should consider the establishment of such a buffer zone around wetlands that allow only a minimum disturbance within this area. Wetland buffers help protect wetlands from the indirect and secondary impacts of grading, changes in hydrology, and loss of protective vegetation.

4. Lakes and Ponds. Lakes and ponds shall not be developed, filled, piped, or diverted. Protection standard: 100 percent.
5. Riparian Buffer Overlay Zone. A riparian buffer zone is the normally vegetated or wooded area occurring along a streamside. Generally, the larger the buffer, the more it is able to protect the watercourse and species that depend on it. The Jointure regulates riparian buffers using two zones. Zone One (which encompasses the first 25 feet from the top of the streambank) prohibits all structures, land disturbances, or uses, except for selective tree removal, unpaved trails, fishing areas, wildlife sanctuaries, creation of solar access, and customary agricultural practices. Crossings of utilities, railroads, and roads are permitted by conditional use approval. Zone Two (which begins at the outer edge of Zone One and encompasses the next 25 feet) permits all uses permitted in Zone One, the reconstruction of nonconforming buildings, residential accessory structures and recreational uses by special exception, and dams, culverts, bridges, roads, stormwater basins, and utility crossings by conditional use approval. Conditional and special exception uses are permitted in Zone Two on the condition that applicants demonstrate that there is insufficient room or no reasonable alternative outside the buffer to accommodate the use.
6. Steep Slopes. Standards for regrading or development in steep slope areas depend on the severity of the slope. In steep slope areas of 15 to 25 percent regrading or development is limited to 25 percent of such areas. In steep slope areas of 25 percent or greater, not more than 15 percent of such areas may be developed or regraded. Some municipalities also limit development in areas of 8 to 15 percent slopes, providing additional protection against the effects of erosion. The Jointure should consider adding this resource protection standard to the zoning ordinance. Protection standard: slopes 15 to 25 percent - 75 percent; slopes 25 percent or steeper – 85 percent.
7. Woodlands. Wooded areas greater than ¼ acre are subject to the following restrictions: Intrusion and development is limited to 15 percent in areas zoned Jericho Mountain (JM), Conservation Management (CM) and Country Residential-1 (CR-1). In other zoning districts, intrusion and development is limited to 50 percent.

Protection standard: JM, CM and CR-1 zoning districts - 85 percent; other zoning districts - 50 percent.

The zoning ordinance also requires the protection of individual trees on wooded lots. Trees that are to be saved are required to be shown on the site plan, as are the tree protection boundary and methods used to protect the trees during construction. In connection with any land development, permits are required to remove any live tree with a girth greater than 10 inches at 4 feet above grade. Tree protection zones, 15 feet from the base of the trunk or from the trunk to the dripline, whichever is greater, are required to be placed around trees that are to be preserved. However, the ordinance also contains a provision that allows 1/3 of the roots of such trees to be disturbed by the removal of topsoil and the effects of filling, which conflicts with the ordinance's tree protection requirement. This inconsistency in the ordinance should be resolved. In addition, the provision that tree protection measures be taken only on wooded lots should be deleted. Such protection measures should be required of all lots.

The zoning ordinance has no requirements for tree replacement. Upper Makefield Township's subdivision and land development ordinance states that trees of a diameter of 6 inches or more which are to be removed or destroyed during any stage of development shall be replaced with trees of a type specified by the ordinance. The larger the tree that is to be removed, the more replacement trees are required. The Jointure should consider adopting this or similar provisions as zoning or subdivision and land development ordinance requirements.

To prevent the cutting of trees to reduce the requirement to protect woodland resources in anticipation of a subdivision or land development, an agreement should be required to be signed and recorded that no cutting or clearing shall be considered to reduce the area of forest for any subdivision or land development. Further, the cutting of trees that is initiated two years or less before the submission of plans for subdivision or land development should be presumed to be in anticipation of development. Woodland protection standards would then be applied to the property as it existed before the removal of trees or grading. Forest removal beyond the limits set in the resource protection requirements of the zoning ordinance would require the replacement of trees based on the number and size of trees or forest removed.

8. Prime Agricultural Soils. Protection for prime agricultural soils applies to all residential uses in the Conservation Management District. Intrusion and development is limited to 25 percent of Class I, II, and III Prime Farmland and/or Additional Farmland of Statewide Importance. Protection standard: 75 percent

Significant Natural Areas

Bucks County contains a diversity of unique natural features. These natural features harbor a wide range of flora and fauna, some of which are not found anywhere else in the Commonwealth. In 1999, an inventory was performed to identify and rank the most significant natural areas remaining in the county, including the Newtown Area. This survey, titled *Natural Areas Inventory of Bucks County, Pennsylvania* (1999) was conducted by the Morris Arboretum of the University of Pennsylvania (Ann F. Rhoads and Timothy A. Block) for the Bucks County Commissioners, and is intended to provide guidance for implementation of natural areas protection component of the Bucks County Open Space Initiative.

Based upon detailed aerial and field surveys, the analysis and evaluation resulted in four levels of importance. In the entire county, there were 240 total sites considered in the survey, and 118 were included in the final list. Some sites are significant in size while others are small tracts. In general, small

isolated sites, which, for instance, may have contained remnant populations of rare species, were not included because they are not part of a sustainable natural community or system.

The following were identified as Priority 2, 3, and 4 sites in Wrightstown and Upper Makefield townships; no sites were identified in Newtown Township and no Priority 1 sites were found in the three townships. In Wrightstown Township the lone Priority 2 site consists of the Forks of the Neshaminy. In Upper Makefield Township Priority 3 sites include Bowman's Hill and Pidcock Creek, Delaware Canal State Park Ellisia Site, Jericho Mountain, Scudders Falls Islands, and Timber Knolls Wetlands. The Priority 4 site in Upper Makefield is Washington Crossing – Marazzo Tract. Of these sites, about 48 acres of the Timber Knolls Wetlands have been preserved. Several other sites are located within the boundaries of state parks and preserves. The Jointure should ensure that priority sites are shown on future subdivision and land development plans (where applicable) to help protect and mitigate impacts on these important local resources.

Bowmans Hill and Tyler State Park are featured areas in *Natural Bucks County: Guide to Public Natural Areas*, a guide to publicly accessible natural areas in Bucks County. The guide describes the location and amenities of these areas, highlighting rare plants and animals and unique geological features. The natural resources of Jericho Mountain were identified in the "Environmental Assessment of Jericho Mountain" by Roy F. Weston, Inc., Environmental Consultants. The mountain's numerous critical resources with severe limitations to development, as well as its unique aesthetic and historic significance, has warranted its designation as a special zoning district with development standards which will help ensure the preservation of the area's fragile ecology. The Jericho Mountain District contains standards which limit impervious surfaces to 5 percent of the site, prohibit development on slopes of more than 15 percent, and mandate open spaces for single-family cluster subdivisions.

Delaware River Wild and Scenic River Study

The Delaware River segment of Upper Makefield Township is part of the overall Lower Delaware Wild and Scenic River designation. The National Wild and Scenic Rivers Act was created by Congress in 1968 and the program is run by the National Park Service. The purpose and policy of the designation is "that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

The Wild and Scenic River designation does not add an additional regulatory burden to landowners or open private lands to public use. The designation does require a special review of federal actions or projects proposed within so many feet of the river or creek bank.

A management plan for the designated area, the *Lower Delaware River Management Plan*, has been developed with several goals in mind: maintain and improve water quality, preserve and protect natural resources, preserve and protect the character of historic resources, identify ways of minimizing the adverse development impacts, and preserve open space. Each of these goals has associated implementation strategies, many of which have already been carried out by the Jointure. For example, the joint municipal zoning ordinance regulates development within floodplains and riparian areas and requires that stormwater runoff be controlled to limit downstream flooding and water quality impacts.

Middle Delaware River Conservation Plan

The purpose of the *Middle Delaware River Conservation Plan* (March 2004) is to provide a comprehensive intermunicipal approach to improving, conserving, and making better use of the river's resources and surrounding land. The *Middle Delaware River Conservation Plan* is prepared under the Pennsylvania Rivers Conservation Program. It focuses on a smaller segment of the Lower Delaware Scenic and Recreational River and is limited to the Pennsylvania side of the Delaware River. This planning effort is not intended to be duplicative, but rather builds upon and incorporates information from the previous studies and focuses on the development of conservation goals and specific management options to further protect the study area's resources.

Administered by the Bureau of Recreation and Conservation of the Pennsylvania Department of Conservation and Natural Resources (DCNR), the Pennsylvania Rivers Conservation Program has been developed to conserve and enhance river resources through preparation and accomplishment of locally initiated plans. The program provides technical and financial assistance to municipalities and river support groups to carry out planning, implementation, acquisition, and development activities.

The Pennsylvania Rivers Conservation Registry promotes river conservation and recognizes rivers or river segments in communities that have completed river conservation plans. The registry also is an avenue to endorse local initiatives by binding them together in a statewide recognition program. In order for a river to be placed on the registry, it must have an approved plan and local municipal support. Registry status must be achieved to qualify for implementation, development or acquisition grants.

Municipalities within the Middle Delaware River Study Area, including Upper Makefield Township, are now eligible for DCNR funding under the Community Conservation Partnership Program (C2P2), Rivers Conservation Program for certain acquisition and development projects on a 50-50 cost sharing basis.

Groundwater

The availability of future sources of groundwater may prove to be one of the most critical limiting factors in future land use planning. For example, in this and other comprehensive plans, portions of the Jointure designated Conservation Management Areas are reserved for low intensity uses in order to provide for groundwater recharge. Availability is determined by major aquifer formations which underlie the area. Each of these aquifers is characterized by unique geological characteristics that determine water yielding capabilities.

Within the entire Jointure, a full range of water yields can be expected, including some of the very highest in the entire county, as well as some of the very lowest. Where water yield is low, the total number and spacing of wells is crucial. Even in areas of adequate groundwater yield, the variability of the aquifer might mean that landowners may not be able to obtain sufficient on-site water supplies. The following geologic formations determine groundwater yields within the three-municipality region.

- **Unconsolidated Sands and Gravels**—This formation is limited to a narrow band along the Delaware River in Upper Makefield. This formation generally yields good to excellent supplies of groundwater. The highly porous nature of this aquifer also poses a high risk of contamination due to rapid percolation of septic systems and sources of pollution. This formation is principally located between Taylorsville Road and the Delaware River.

- Stockton Formation—Contained in a broad band that runs east and west through the southern half of Newtown Township, this formation is recognized for its generally good water yields. Here, groundwater is contained in intergranular openings within the rock where cementing material has been removed by weathering.

The Stockton formation is perhaps the best source of groundwater within the study area, and it is also the most developed. While groundwater yields can be expected to support continued moderate growth in this area, there may not be sufficient quantities to support development in other portions of the Newtown Area, underlain by poor yielding aquifers. The wells that supply water for the Newtown Artesian Water Company are located within this formation.

- Brunswick Formation—This moderate yielding aquifer extends throughout most of Upper Makefield and western Wrightstown Township. Water yield can vary widely within this formation as it is closely related to the fractured pattern of the shale rock. Due to its unpredictable permeability, groundwater recharge may be a critical limiting factor for development within this formation. A typical well may have a relatively high yield when drilled, but may decline as the water table in the immediate vicinity is diminished. This situation may be compounded when several wells in close proximity are tapping the same aquifer. This area may be expected to support additional development with careful planning.
- Lockatong Formation—This formation is contained in a band which extends through the northern portion of Newtown Township and the western half of Wrightstown Township. Composed of rather fine grained tightly cemented sediment, this formation is characterized by a gray to black shale, the object of quarry operations in Wrightstown Township. This nonporous rock formation is capable of transmitting water only where it has been faulted or jointed and exposed to weathering. Groundwater occurs under water table conditions in these secondary openings as far down as the base of the weather zone. The capacity of the Lockatong formation to store and transmit water is very low.
The location of this formation on the fringe of rapidly developing areas in Newtown Township suggests a natural constraint to continued intensive development in this area.
- Diabase Formation—Jericho Mountain is the only portion of the area where this very dense crystalline formation may be found. Relatively impervious to water, this rock structure is the poorest aquifer in Bucks County. All groundwater within Diabase structures is limited to the weathered zone near the land surface where faults and jointing have been enlarged by frost actions, and to a lesser extent, by the roots of vegetation. The extremely limited capacity of Diabase to store and transmit water suggests that future development in the vicinity of Jericho Mountain should be carefully limited.

Two hydrologic studies have been conducted within the Jointure. The first was commissioned by Upper Makefield Township to assess the availability and quality of the groundwater within the township. The second was a joint study of a consortium of townships including Wrightstown Township. No comprehensive study of the entire Jointure's groundwater has thus far been undertaken. This plan recommends that such a study be considered to understand the hydrology of the area. This is especially important for areas of the Jointure that rely on low-yield aquifers for the supply of water and for areas that may be susceptible to groundwater contamination. A recent water resources planning effort in the Pennridge region could serve as a model for a future planning effort in the Newtown Area. The Water Supply chapter of this plan will provide further details on water supply issues and planning.

Soils

There are four areas within the Jointure that have some distinctive soil characteristics.

1. Nearly level to gently sloping, well drained soils, such as Alton and Delaware, located along the Delaware River in Upper Makefield.
2. Nearly level to sloping, moderately well drained types of soil like Lansdale and Lawrenceville, which are generally located in the southern portion of Newtown Township, including all of Newtown Borough.
3. Nearly level to sloping, moderately deep and somewhat poorly drained soils, such as Abbotstown, Readington, and Reaville soils, extending in a wide band through the area covering northern Newtown Township and large areas of Upper Makefield and Wrightstown townships.
4. Moderately steep, poorly drained soils, such as Towhee, Neshaminy, and Mount Lucas, limited to the immediate vicinity of Jericho Mountain.

Each of these areas and their associated soil characteristics will affect a site's suitability for supporting both conventional septic systems and land application systems (e.g., spray irrigation).

Deer and Goose Populations

Many areas of Bucks County, including communities in the Jointure, experience problems stemming from the large numbers of deer and Canada geese which have found welcoming habitats in the suburbs. Deer overpopulation often causes overgrazing of natural vegetation and the destruction of cultivated plants. The destruction of young trees and understory plants can lead to forest degradation. A single goose can produce one to two pounds of droppings per day; whole flocks can have a detrimental effect on water quality and the nutrients found in the droppings can foster algae blooms and excessive plant growth that chokes the life of a lake or pond. Flocks also feed on farm crops and pasture areas, which can result in environmental damage or economic losses to the landowner.

Municipalities can develop policies and regulations that encourage the planting of vegetation that is less attractive to deer and that discourage purposeful feeding of the deer by residents. Discouraging feeding, encouraging the planting of shoreline vegetation that restricts access to the water bodies that the geese prefer, and allowing lakes and ponds to freeze over are among the techniques that can help discourage Canada geese from taking up year-round residence on a particular site.

Historic Resources

Historic preservation is the process of maintaining and enhancing historically significant parts of a community, from individual buildings to whole neighborhoods. It involves identifying and celebrating a community's history to provide a better understanding of its past and a context for future decision-making. The historic buildings, structures, and sites found throughout the Newtown Area are an integral component of the fabric of the community. They highlight the importance of this region, serve as a reminder of its past, and contribute to the character and charm of the area.

A variety of historic designations exist at the federal and state level. At the federal level, the National Park Service is responsible for the identification and preservation of historic resources. Such resources achieve

the status of National Historic Landmarks, are listed on the National Register of Historic Places or are certified as eligible for listing on the National Register. In Pennsylvania municipal governments, with the support and approval of the Pennsylvania Historical and Museum Commission, can establish historic districts in their communities.

National Register of Historic Places

The National Register of Historic Places is the official list of the nation's cultural resources, providing recognition that buildings or districts have historic, architectural, or archeological significance. The register was established by the National Historic Preservation Act of 1966 and is maintained by the National Park Service. The Pennsylvania State Historic Preservation Office (SHPO) manages the National Register program. The National Register is a nationwide program to coordinate and support public and private efforts to identify and recognize resources of significance in American history, architecture, engineering, and culture.

The Jointure contains 27 historic resources that are located on the National Register of Historic Places, including six historic districts that are located either in part, or in their entirety in the municipalities of the Jointure.

Newtown Township contains the following 7 historic resources that are located on the National Register:

- David Leedom Farm, added on January 1, 1976
- Newtown Historic District, added on December 17, 1979
- Twining Farm, added on July 1, 1982
- George F. Tyler Mansion, added on July 16, 1987
- Newtown Presbyterian Church, added on July 16, 1987
- Newtown Creek Bridge, added on June 22, 1988
- Peter Taylor Farmstead, added on May 5, 1989

Upper Makefield Township contains the following 10 sites that are located on the National Register:

- Makefield Meeting, added on January 18, 1974
- John Chapman House, added on January 24, 1974
- Hayhurst Farm, added on February 12, 1974
- Eagle Tavern, added on April 20, 1978
- Keith House-Washington's Headquarters, added on November 14, 1978
- Smith Family Farmstead, added on January 30, 1978
- John Burroughs Homestead, added on March 5, 1984
- Dolington Village Historic District, added on May 26, 1994
- Brownsburg Village Historic District, May 26, 1994
- Buckmanville Historic District, added on March 20, 2002

Wrightstown Township contains the following 10 sites that are located on the National Register:

- Wrightstown Friends Meeting Complex, added on October 29, 1975
- William Smith House, added on April 13, 1977
- Vansant Farmhouse, added on August 2, 1977

- Penns Park General Store Complex, added on January 8, 1985
- Wycombe Village Historic District, added on January 31, 1985
- Penns Park Historic District, added on March 13, 1986
- Waldenmark, added on August 30, 2001
- Isaiah Warner Farmstead, added on August 20, 2004
- Wrightstown Octagonal Schoolhouse, added on November 9, 2007
- John and Alice Fullam House, added on March 15, 2019

Archaeological Resources and Native American Settlement

The Native American Heritage of Bucks County traces its roots back 10,000 years. The last of the Native American culture to inhabit the Delaware Valley was the Lenape. During William Penn's lifetime, there were as many as 12,000 Lenape in the Delaware Valley in villages along the Delaware River and its tributaries. Almost all Native American archaeological sites from the Late Woodland Period (500-1500 A.D.) and the time of first contact with European settlers are found on river flats and slightly elevated areas of generally low ground. By the middle of the 18th century, the Lenape no longer inhabited the region. Evidence of Native American settlements is periodically uncovered during the development process. If artifacts are found, the PHMC will require developers to preserve found objects.

National Historic Landmarks

A National Historic Landmark (NHL) is a building, district, site, or structure that is officially recognized by the United States government for its historical significance. The National Park Service describes NHLs as resources that evoke the "common bond between all Americans." Nearly 2,600 sites nationwide have been given this designation by the National Park Service. Portions of two such sites are located within the Jointure.

- Washington Crossing State Park
- Delaware Canal and Delaware Canal State Park

Act 167 Historic Districts

In the Commonwealth of Pennsylvania, the Historic District Act of 1961 permits municipal governments to establish historic districts for the purposes of protecting historic resources and regulating the appearance of historic areas. There are three existing historic districts in the Jointure that have been approved by the PHMC and that have established HARBs. There are three other areas that have already been listed on the National Register, but which have not been designated by the PHMC as Pennsylvania Historic Districts. These are the Village of Wycombe in Wrightstown and Buckingham; the Core Creek Historic District in Newtown Township; and the Wrightstown Historic District in Wrightstown Township.

Other Historic Resources

These designated historic resources, along with other historic resources not yet recognized for their historic significance in the Newtown Jointure, have value for many reasons. Historic resources give the Jointure a unique physical and cultural character. Older buildings frequently are built better, with a high degree of craftsmanship and quality materials that are rarely duplicated today. Each historic site represents a past investment for future generations. Maintenance and rehabilitation of historic buildings

and neighborhoods also represent a savings in terms of energy and materials. Well-kept historic buildings contribute to the vitality of a community and tend to strengthen property values. Neglect or loss of historic buildings and structures would pose a significant threat to the identity of the Jointure. Historic preservation proves to foster civic pride and appreciation for historic value. Appropriate preservation and restoration projects can enhance and improve the surrounding non-historic property values.

Preservation Tools and Implementation

Historic Districts and Review Boards

A commonly used planning strategy for historic preservation is the adoption of ordinances that establish historic districts. The PHMC must approve historic districts before local regulations can be enforced. This planning strategy is most appropriate in those municipalities that have concentrations of historic structures or sites. A local historic district ordinance designates an area containing historic structures and protects it by (1) limiting the type of alterations that may be made to existing buildings, (2) reviewing proposed demolitions, and (3) ensuring compatible design of new construction. Act 167, the state Historic District Act of 1961, provides authorization for Pennsylvania municipalities to designate historic districts and regulate the alteration of buildings within them based on the historic context. Historic districts created under the authority of Act 167 are not zoning districts, but rather a review process separate from zoning concerns.

Historic Preservation Zoning

While historic districts are useful methods of protecting historic buildings, often a municipality's historic structures or sites are not necessarily located within an easily defined district. A historic preservation overlay zoning ordinance can contain provisions to encourage property owners of historically significant properties to use and maintain such properties in order to protect individual landmarks throughout the area, without being located within a designated historic district.

Demolition Regulations

A demolition delay ordinance requires a waiting period after the submission of a request for a demolition permit. Many ordinances require a delay for structures of more than 500 square feet and older than 50 years. A delay provides time for research about the architectural or historical significance of the property and time to develop alternatives for preservation, or to document the property if demolition cannot be averted.

Financial Incentives and Grant Programs

The Pennsylvania Historical and Museum Commission offers Keystone Historic Preservation grants that may fund cultural resource surveys, national register nominations, and planning and development assistance projects. The State Historic Preservation Officer at the Pennsylvania Historical and Museum Commission (phmc.pa.gov/), the regional office of the National Park Service (nps.gov/), and the National Trust for Historic Preservation (savingplaces.org/) can provide information regarding available funding to eligible parties.

A local government that fulfills historic preservation program standards for the National Park Service's Certified Local Government program, as administered by the SHPO, can become a designated CLG. After

becoming a CLG, local governments are eligible to apply for grants to help fund historic resource surveys, technical planning and assistance, educational and interpretive programs, and other preservation activities. Upper Makefield is a CLG.

Design Guidelines

Design guidelines consist of recommended design options for alteration or rehabilitation of existing buildings and construction of new buildings, encompassing features like material, architectural style, and signage. Such guidelines, especially when illustrated, can help maintain the character of the community. Design guidelines are also useful when coordinated with the requirements of a historic district. Residents recognize what is encouraged and what is discouraged when making design choices, avoiding conflict with the Historical and Architectural Review Board.

Conservation Districts

The creation of conservation districts has the ability to work with design guidelines. Conservation districts, which could be established to adjoin the historic district, combine components of historic preservation and zoning techniques that regulate structures and appearance, and could minimize threats to the historic districts. Such districts seek to preserve an area's main defining features, such as scale, setbacks, mass, and architecture.

Heritage Markers and Signage

Historic landscapes and other features can be noted by plaques, street markers, or storyboards. This signage may describe the features itself and the reason it is significant. Historic trees can be noted with tree plaques. Historic resources can be commemorated with a marker through the Pennsylvania Historical Marker Program of the PHMC. Any individual or group may nominate a structure or site for such a marker, subject to approval through the PHMC. Each marker within the Jointure is an opportunity to celebrate and understand the heritage of the community.

Village Planning and Preservation

Over one hundred identifiable villages remain in Bucks County, however many have been overshadowed by growth and development. Historic villages are unique resources, but once they are lost, they are irreplaceable. The villages within the Newtown Area represent an important part of the area's culture and heritage. The area's history is manifested through these small settlements in several ways. Villages such as Wycombe, Brownsburg, and Dolington contain prime examples of 18th and 19th century architecture. Villages along historic transportation routes, such as railroad lines, or at crossroads, remain as evidence of early settlement patterns in Bucks County. The character and quality of the Newtown Area would be permanently diminished if small settlements were to disappear from the landscape, becoming unidentifiable as new development engulfs the village image. While municipalities cannot prevent growth, the impacts that development can have on villages can be alleviated through land use policies and regulations.

Village Classification

A village is generally conceived of as a relatively small, clustered settlement which is often dominated by houses and structures of a certain historical period. Villages are often located in a rural setting, usually at

a crossroads. Lots are typically small or narrow and contain structure which pre-date the 20th century. The combination of historic structures with a distinctive development pattern creates village characteristics. Villages in Bucks County can be grouped into three basic categories:

Hamlet: the smallest type of village, consisting of a few houses located in close proximity to each other, and having no commercial uses or services.

Residential Village: the classic type of village, a settlement which is mainly residential but contains community related services, such as a post office or general store.

Commercial Village: the 20th century or motorized version of a previously residential village, it is a settlement that is largely and originally residential in use, but is characterized by commercial uses or services that draw on a broader region for support, such as a gas station, antique and furniture stores, inns and taverns.

Villages of the Newtown Area Jointure

The Newtown Area contains a variety of hamlets and villages. There are no longer any villages present in Newtown Township; however, the Bucks County Planning Commission Publication, *The Villages of Bucks County a Guidebook*, identifies 12 residential and commercial villages and hamlets within Upper Makefield Township and Wrightstown Township.

Villages of Upper Makefield Township

- Brownsburg
- Buckmanville
- Dolington
- Jericho
- Washington Crossing/Taylorsville
- Woodhill

Villages of Wrightstown Township

- Chain Bridge
- Penns Park
- Pineville
- Rushland
- Wrightstown
- Wycombe

The villages in the Newtown Area are each unique in their size, composition, and function. For planning purposes, they have been categorized based upon their composition and intended level of future growth. However, preservation and enhancement are an underlying principle for villages and hamlets in the Jointure, regardless of classification. The three primary categories are:

Growth Villages: These villages contain a village zoning district (VR1 Village Residential Low Density, VC1 Village Commercial, VR4 Village Residential Rural Community, and VC2 Village Commercial districts) and are intended to accommodate growth because they are located adjacent to areas zoned for higher

density/intensity development. Growth Villages include Rushland, Penns Park, Wrightstown, and Taylorsville. The planning policy for these villages is to explore ways to preserve and enhance historic village character while accommodating future growth within and adjacent to the village. Permitted uses as well as area and dimensional regulations and other planning techniques should be examined to determine if they are still appropriate.

Limited Growth Villages: These villages contain an associated village zoning district (VR1 Village Residential Low Density, VR4 Village Residential Rural Community, VC1 Village Commercial, VC2 Village Commercial districts) and are intended to accommodate modest infill development in the future. Limited Growth Villages include Brownsburg, Dolington, Wycombe, and Pineville. While these villages are not located adjacent to areas intended for higher density/intensity growth, there is still concern with incompatible development that may overshadow or undermine their historic character. The planning policy for these villages is to maintain the current village district boundaries and to examine any and all village planning techniques (e.g., scenic overlay district, design guidelines, sidewalks) deemed necessary to preserve and enhance the village's historic character.

Hamlets: Typically, these historic settlements are very limited in area and do not contain separate village zoning districts. Hamlets include Buckmanville, Jericho, Woodhill, and Chain Bridge. These small settlements are particularly vulnerable to the development of adjacent properties. The prescribed planning policy for a hamlet is to evaluate the feasibility of providing a village zoning district and/or overlay district to preserve or enhance the area in and around the hamlets. Development that is proposed adjacent to a hamlet should be encouraged to contain village-style form and architecture. To enhance the rural historic character, additional preservation measures may be appropriate.

Elements of Villages

Key factors necessary for successful village preservation and enhancement include: village viewsheds, village district boundaries, village interiors, and use and dimensional requirements.

Village Viewsheds

The area immediately surrounding the village, known as the viewshed, is another important element to consider in preserving village identity. A viewshed begins at the transitional point where the built environment meets the surrounding landscape. Generally, the viewshed is determined by identifying those areas that can be seen from sites of significance in the village. The size of the viewshed varies with the topography, vegetation, and other structures or features of the village's surroundings.

Village District Boundaries

The perception of what constitutes a village varies. Typically, a village is viewed as a small concentrated settlement that is dominated by older single-family homes, interspersed nonresidential buildings such as businesses, churches, and post offices. The structures are usually spaced closely together, at crossroads, evoking the image of the village as an identifiable place. However, since villages are not incorporated, they do not have fixed edges. Thus, the most commonly used mechanism for delineating the limits of a village is establishing a village district boundary.

Village Interior

The village interior is a major element in strengthening the visual identity of the village. The entrance is the perceived edge of the village, a transition point that indicates the presence of a place that is different from its surroundings. A change in land use character or in the existing character of the landscape may be a signal to motorists that they are entering a village and need to reduce speed.

Use and Dimensional Requirements

If the mass, scale, or nature of proposed buildings and/or uses are not compatible with those of the existing building and uses in a village, they may undermine the historic character and quality of a village. If this is the case, municipal officials may wish to eliminate those uses from the village zoning district. Conversely, adding new uses that encourage village-oriented development featuring compact, pedestrian-oriented, mixed-use communities should be examined and implemented where appropriate. An evaluation of the new and proposed development activity in and around the villages may prompt municipal officials to revise certain use and dimensional requirements.

Parks, Recreation, and Open Space

Park, recreation, and open space resources are important parts of a community's identity and contribute to the overall quality of life. Open space contributes to a municipality's character, preserves the natural ecosystems upon which we depend, and provides an attractive setting in which to live and work. Park and recreation facilities provide an avenue for residents to interact and recreate and help create a sense of community. Parks and open space ranked among the top three best characteristics of the Jointure as related by residents responding to the Newtown Area Comprehensive Plan survey. Respondents in Newtown and Upper Makefield ranked parks and open space as the single best characteristic in their townships.

Park and open space resources can be classified into three categories: permanently protected lands, temporarily protected lands, and unprotected lands⁸. Permanently protected lands include areas that are more likely to be preserved due to their ownership, such as publicly owned lands (e.g., parks), lands owned by nonprofit conservation organizations or homeowner's associations, and other similar lands (e.g., cemeteries). Temporarily protected lands are areas that are in open space use or partial open space use in conjunction with existing recreational facilities. However, the owner reserves the right to develop the land in the future (under the parameters of the underlying zoning). The most common temporary open space areas are lands that are enrolled in preferential tax assessment programs. Other types of temporary open space include private recreational lands (golf courses, camps and campgrounds, nature preserves) and school facilities. Unprotected lands include any vulnerable resources that do not have an inherent mechanism in place that would discourage or prevent the land from being developed or affected by development in the future. This includes a significant portion of the Jointure's existing natural, historical, cultural, and scenic resource lands.

⁸ This section attempts to identify and classify open space and park resources into several subcategories to provide an overview of what resources are protected and how well those resources are protected. The acreage totals provided by this chapter may not match Park, Recreation, and Open Space land use totals found in other sections. For example, cemeteries are classified as permanently protected land in this chapter but are classified as Government and Institutional land uses elsewhere. Transportation and utility lands are not inclusive of roads in this chapter but are included in the Transportation and Utilities category in other components of this Update.

Permanently Protected Lands

The following provides a brief description of all permanently protected open space lands.

State Parks

Three state parks are located in the Jointure: Tyler State Park, Washington Crossing Historic Park, and Delaware Canal State Park. Tyler State Park consists of 1,711 acres, 519 acres of which are in Newtown Township and 8 acres are in Wrightstown Township, bordering the eastern side of the Neshaminy Creek. The remaining park area, west of the creek, is located within Northampton Township. The park features numerous recreational opportunities, including boating, hiking, fishing, ice skating, disk golf, sledding, cross-country skiing, picnicking, biking, horseback riding, and nature study. The park is home to two cultural facilities, the Spring Garden Mill which is home to the Langhorne Players community theater company and the Tyler Park Center for the Arts. The Tyler Park Center for the Arts offers classes and workshops and hosts the annual Crafts in the Meadow Fall Invitational Craft Show. Links have already been established between Northampton and Newtown townships. The bridge across the Neshaminy Creek on Newtown–Richboro Road, which runs adjacent to the south side of the park, has a dedicated bike lane that provides a pedestrian/bicycle connection between both townships.

Washington Crossing Historic Park, operated by the Pennsylvania Department of Conservation and Natural Resources in partnership with the non-profit Friends of Washington Crossing Park, is located along the Delaware River in Upper Makefield Township in two sections: McConkey's Ferry and Thompson's Mill. The McConkey's Ferry section is located at the village of Taylorsville and contains about 152 acres. Amenities in this section include a visitor's center, historic buildings, and picnic pavilions. The Thompson's Mill section is located within Upper Makefield and Solebury townships. In Upper Makefield, the park contains Bowman's Tower and Wildflower Preserve on about 91 acres. The wildflower preserve features walking trails, birding opportunities, classes and guided tours, and an arboretum.

The Delaware Canal State Park is located along the Delaware River in Upper Makefield Township. The canal and towpath extend 5 miles through the township and encompass about 43 acres. A national historic landmark, the park provides opportunities for walking, biking, horseback riding, picnicking, fishing, and nature study.

County Park and Open Space

There are several county-owned properties in the Newtown Area. A small area of Core Creek Park, encompassing about 18 acres, is located in the southeast part of Newtown Township. The Shull Farm, located at the corner of Wrights and Linton Hill roads, is an active farm on 111 acres in Newtown Township. The historic house and barn are being restored, and the remainder of the property is rented to a farmer.

Bucks County has also acquired several properties (about 26 acres) along the Neshaminy Creek in Wrightstown Township. The Bucks County Parks and Recreation Department has been preserving property along the Neshaminy and Little Neshaminy creeks for the purpose of protecting the floodplain from future development as well as helping to implement the Heritage Conservancy's Lasting Landscapes: Forks of the Neshaminy program. This program focuses on preserving farms and natural lands near the confluence of these creeks in Warwick, Buckingham, Wrightstown, and Northampton townships. In

Wrightstown Township, several properties have been identified for preservation and this includes the Priority 2 Natural Areas Inventory site, Forks of the Neshaminy.⁹

Municipal Park and Open Space

Municipal park and open space encompasses lands owned entirely by Jointure municipalities. Newtown owns about 305 acres of park and open space land, including lands dedicated to the township from residential developments; Wrightstown Township owns about 303 acres of land, and Upper Makefield Township owns about 173 acres of land.

Open Space Within Residential Developments

The provision of open space for residential developments is regulated by the joint municipal zoning ordinance. Article IV of this ordinance provides performance standards for the provision of open space in residential developments. A minimum open space ratio is established for single-family, single-family cluster and performance subdivisions, which varies based upon the specific zoning district. Ratios vary from 10 percent for single-family detached dwellings in the R-1 Medium Density Residential District to 75 percent for single-family cluster subdivisions in the Jericho Mountain District.

Additionally, the subdivision and land development ordinance of each municipality in the Jointure requires a dedication of recreation land or a fee-in-lieu of such dedication that could be used for the purpose of purchasing, developing, and maintaining park and recreation land. In Wrightstown Township, applicants for single-family detached developments are required to dedicate 2,500 square feet per dwelling unit for park and recreation areas. Single-family cluster and multifamily developments must adhere to the open space and recreation requirements of the zoning ordinance. Nonresidential subdivisions or land developments are required to dedicate 2,000 square feet per 4,000 square feet of building area for park and recreation areas.

Upper Makefield and Newtown townships contain very similar regulations for the dedication of recreation land. In Upper Makefield, applicants for single-family detached, two-family, and multifamily developments are required to dedicate 4,000 square feet per dwelling unit for park and recreation areas. In Newtown Township, applicants must dedicate 3,000 square feet per dwelling for these development types. Nonresidential subdivisions and land developments in Upper Makefield Township are required to dedicate 1,300 square feet of land for every 4,000 square feet of building area. Nonresidential subdivisions and land developments in Newtown Township are required to dedicate 3,000 square feet of land per 4,000 square feet of building area. Suitable facilities required for nonresidential areas in Newtown and Upper Makefield include playing fields, tennis courts, tot lots, basketball courts, and jogging parks with exercise stations. Each Jointure municipality also has design requirements for locating and developing dedicated recreation areas so that such areas are usable and accessible to nearby residents.

Many residential subdivisions in the Jointure have some sort of open space associated with them. Some of this space has been dedicated to the townships; most of it remains in the hands of homeowners' associations. In Wrightstown Township, 43 acres of open space land are associated with residential subdivisions. In Upper Makefield Township, 840 acres of open space land are associated with residential

⁹ Areas identified for preservation by the Heritage Conservancy program, Lasting Landscapes: Forks of the Neshaminy, encompass a larger area than the Priority 2 site, Forks of the Neshaminy, identified by the Natural Areas Inventory.

subdivisions. In Newtown Township, 1,426 acres of open space land are associated with residential subdivisions. A total of 2,309 acres of land are associated with residential subdivisions in the Jointure.

Agricultural Conservation Easements

In May 1989, the Bucks County Commissioners appointed a nine-member board to develop and oversee a county farmland preservation program. The Bucks County Agricultural Land Preservation Program (BCALPP) seeks to acquire agricultural conservation easements on viable farmland within the county.

An agricultural conservation easement secured through acquisition is a legally binding document which is filed in the land records for the deed of a farm property, restricting its use substantially to agricultural and directly associated uses. As an easement in gross, restrictions are binding upon the owners and future owners, carrying with the land. A conservation easement allows a landowner to protect his farmland for agricultural uses while retaining private ownership of the farm.

The BCALPP compensates farmers for the difference between the fair market value (development value) and the agricultural value of their land. To be eligible for this program, the following criteria must be satisfied:

- size restriction: 50 acres (minimum)
- location: within an agricultural security area
- soil criteria: at least 50 percent Class 1-4 soils
- harvest criteria: at least 50 percent harvested cropland/pastureland
- plan approval: approved U.S.D.A. Soil Conservation Plan in effect

Once a farm is accepted into the program, the property owner may sell or convey a conservation easement and receive cash for the respective development rights. The easement permanently prohibits the development of the property. As of 2020, approximately 18,056 acres of agricultural land in Bucks County (consisting of 229 farms) had been preserved through the BCALPP.

Several farms in the Jointure have participated in the program. The eight farms preserved in Upper Makefield Township consist of the two Gunser properties (93.1 and 131.7 acres), the Siegel property (90.9 acres), the Thorpe property (133.5 acres), the Schleyer property (70.3 acres), the Rapuano Estate (172.8 acres), the Slack property (100.0 acres), and the David Library property (52.6 acres). The program preserved the Trivellini property (48.1 acres), the Webb/Hartman property (21.0 acres), and the Stott-Cohen property (127.4 acres) in Wrightstown Township.

Temporarily Protected Lands

The following provides a brief description of all temporarily protected open space lands.

Lands With Preferential Assessment

Numerous residents within the townships have registered their properties with the county under the Pennsylvania Farmland & Forest Land Assessment Act of 1974 (Act 319). Bucks County has entered into voluntary covenants with owners who have valuable open space resources in order to preserve open space. Under this program the property, except for the portion considered part of the home site (often approximately one acre), is assessed by the county at the fair market value (or at less than its highest and best use). As a result, the property owner is afforded a significant savings through a preferential property

tax assessment as an incentive to maintain the land as open space. Act 319, also known as the “Clean and Green Act,” is available to landowners for the following uses: agricultural use, agricultural preserve, and forest preserve. Enrollment in this program is continuous unless dissolved by the landowner or eligibility requirements are not met.

Lands covenanted under Act 319 are considered only temporarily protected because the property owners have the right to terminate the agreement at any time. However, as a result, the property owner must pay a penalty in the form of rollback taxes (i.e., the difference between the preferential assessment value and the fair market or development value) and accumulated interest (7 years for Act 319). Although covenanted lands are only temporarily protected, it shows the willingness of landowners to maintain their properties in open space. Commitment into Act 319 is an example of a local grassroots action that should be considered in the overall open space planning process. In total, there are about 6,877 acres of land covenanted under Act 319 within the Jointure (590 in Newtown Township, 4,514 in Upper Makefield Township, and 1,773 in Wrightstown Township).

Agricultural Security Areas

Similar to lands covenanted under the preferential assessment programs, enrollment into an Agricultural Security Area (ASA) suggests a significant commitment by property owners for ongoing farmland preservation. The ASA program was created by the Agricultural Security Area Law (Act 43 of 1981) to protect the agricultural industry from increasing development pressure. ASAs are intended to promote permanent and viable farming operations by strengthening the farmer’s sense of security in his right to farm.

For properties to be eligible for enrollment into an ASA, the aggregate total of the properties must be a minimum of 250 acres of viable farmland, and the zoning districts in which these properties are located must permit agricultural uses. Individual parcels comprising a designated ASA must be at least 10 acres in area of which at least 50 percent contains Class 1–4 soils. Respective property owners must petition the township supervisors in order to gain approval into the program. Consequently, once enrolled into an ASA, farmers gain the following benefits:

- Protection from municipal nuisance ordinances which restrict odors and noise in a community;
- Protection from governmental acquisitions of land through condemnation or eminent domain; lands proposed for such action within an ASA must first be approved by Agricultural Lands Condemnation Approval Board;
- Enrollment into the county’s easement purchase program requires previous establishment of properties in an ASA.

A total of 2,100 acres of farmland is enrolled into an ASA in the Newtown Area. Upper Makefield Township has 1,506 acres of farmland enrolled, Wrightstown Township has 372 acres of land enrolled, and Newtown Township has 222 acres of land enrolled.¹⁰

Public and Private Schools

The Jointure contains several private and public schools. Public schools in Newtown Township include Newtown Elementary (37 acres) on Wrights Road, Goodnoe Elementary (17.1 acres) on Frost Lane,

¹⁰ Agricultural Security Area farms in Newtown Township are enrolled in Lower Makefield Township’s Agricultural Security District.

Newtown Middle School (32.5 acres) on Newtown-Richboro Road, and Council Rock High School North (61.8 acres) on Swamp Road. Private schools include St. Andrew Catholic School (24.1 acres) on Wrights Road and lands associated with the George School (11.2 acres) at the intersection of Newtown Pike and the Newtown Bypass. Colleges include Bucks County Community College (200 acres) on Swamp Road, Holy Family University–Newtown Campus (79.2 acres) at the intersection of Lindenhurst Road and the Newtown Bypass, and the LaSalle University Bucks County Center (6.5 acres) on University Drive. In Wrightstown Township, the Wrightstown Elementary School (22.5 acres) is located along Penns Park Road. In Upper Makefield Township, the Sol Feinstone Elementary School (28.2 acres), a public school, is located on Eagle Road.

Private Recreational Areas

Other types of temporary protected lands include private recreational areas, such as golf courses, camps and campgrounds, and nature preserves. Jericho National Golf Club, a private golf course and country club on 171 acres, is located along Brownsburg Road in Upper Makefield Township. In Wrightstown Township, the Middletown Grange #684 (the local branch of the Pennsylvania State Grange) owns 49 acres of fairgrounds. The Grange hosts several events throughout the year, including the Middletown Grange Fair, dog shows, car shows, and festivals, and provides fields for the Tri-Township Baseball League. The Middletown Grange has no intention of selling this property.

Other Temporarily Protected Lands

Some parcels owned by government or quasi-government agencies also qualify as temporarily protected. The Newtown Artesian Water Company owns about 3 acres of land on Frost Lane. The main utility easement extending through Newtown and Wrightstown townships is the PECO right-of-way, which encompasses about 117 acres. SEPTA still owns railroad tracks extending through Newtown Township into Newtown Borough. The area of this right-of-way through Newtown Township is about 3.7 acres. Two other utility rights-of-way running through Newtown Township are the Sun Company Pipeline Corridor and the Transcontinental Gas Line Corridor. These utility corridors consist of easements across private lands. PECO owns the right-of-way of the New Hope and Ivyland Railroad, a portion of which runs through Wrightstown Township.

Planning for Open Space and Park and Recreation Development

Newtown Township Open Space Plan Update

The *Newtown Township Open Space Plan Update*, adopted in October of 2009, was an update to the *Municipal Wide Open Space Plan*, adopted in 1999 as part of the township's *Comprehensive Recreation Plan*. The open space plan update was prepared to provide direction and initiative on open space protection and preservation throughout the township, as well as to qualify for Bucks County's Municipal Open Space Program funding.

The Plan includes community background information, goals and objectives, inventories of protected lands and vulnerable resources, potential open space linkages, an evaluation of the potential acquisition of new open space parcels through a point-based evaluation process developed by the township's Environmental Advisory Council, and information on ways to preserve open space. An action plan that lists short- and long-term actions for the township to pursue to carry out plan objectives is also provided.

The Plan outlines seven goals, or desired conditions, as a basis upon which to analyze and evaluate open space resources. The listed goals are to promote and expand the following: wooded-area preservation; biological diversity; greenway corridors; watershed protection; recreational open space; farmland preservation; and protection of scenic resources.

Newtown Township Comprehensive Trail Plan

The *Newtown Township Comprehensive Trail Plan* was adopted in August of 2016, to provide a prioritized plan for the development of a township-wide network of pedestrian facilities. The Plan includes background information on the township's geographic location and character, natural and man-made features, a summary of opportunities and constraints, and summaries of related plans and studies as well as descriptions of surrounding parks, trails, and recreational areas, and fiscal feasibility and operation costs.

Through the process of developing the Plan, the following key recommendations were identified:

- Fill in existing gaps in sidewalk network
- Create multi-use trails to provide safe, off-road opportunities for bicycles
- Create and strengthen links to community destinations
- Create connections to nearby regional trail systems
- Provide comprehensive trail markers and maps

In order to provide opportunities to as many different types of users as possible and address some of the key findings, the Plan identifies a proposed network of sidewalk connections, multi-use trails, recreational trails, and on-road bikeways.

Wrightstown Township Open Space Plan

The *Wrightstown Township Open Space Plan* was updated and adopted in 2011, to meet the requirements of the Municipal Open Space Program component of the Bucks County Open Space Program. The plan used a similar process to Newtown's, providing chapters on community background, goals and objectives, background information on the township and its setting, an inventory of protected land and vulnerable resources, identification of potential linkages, an analysis of unprotected resources and priorities for preservation, and plan recommendations.

The township's plan states four primary goals for open space preservation: preserve the township's character; support agriculture; protect natural features areas; and continue the open space preservation program. Based on the township's goals and objectives, the Wrightstown Township Open Space Committee established the following guiding principles for open space preservation: protection of viewsheds; preservation of parcels of 20 acres or more; preservation of vulnerable properties; and sustainability. The goals and principles were considered to further identify preservation focus areas and target area properties.

Planning to Preserve Upper Makefield Township's Farmland and Open Space

Upper Makefield Township updated its open space plan in 2009, following a 2005 update to the original 1998 township plan. The 2009 update was prepared to meet the county's open space guidelines. Based upon the township's experiences in successfully preserving lands, the *Upper Makefield Township Open*

Space Plan 2009 Update reestablishes the 2005 (and 1998) open space preservation goals of watershed protection, establishment of greenway corridors, farmland preservation, enhancement of biological diversity, protection of significant viewsheds, and establishment of recreational open space. While not specifically outlined as a goal, the Plan notes that historical significance of properties and structures on properties is also a considering factor.

Following community input in the development of the 2009 update, the Plan includes a list of remaining undeveloped properties that were identified as most vulnerable to development. Stated action steps include contacting owners of identified properties to gauge their interest in the preservation process. The township's Environmental Advisory Council (EAC) will then prioritize properties of those interested in participating in the preservation process using the evaluation criteria that was developed in the 2005 update. Properties are evaluated in relation to the six major goals and points are assigned based on how much the property meets the characteristics of each goal category. Other criteria, such as site accessibility and barrier potential, are also considered. Based on the prioritization of properties, the EAC will make recommendations to the board of supervisors on which properties to target for acquisition.

Planning to preserve open space in the township began even prior to the 1998 open space plan with the passage of the \$5.9 million Upper Makefield Open Space Bond in 1996. Following the success of the original open space bond, a voter referendum for an additional \$15 million was approved in 2000, and a third bond referendum, for \$10 million, was approved in 2005.

Upper Makefield Township Park and Recreation Comprehensive Plan

Upper Makefield Township developed a park and recreation plan in 1992 to plan and coordinate the existing and future development of a park and recreation system. Updated in 2005, the plan consists of an inventory of existing conditions, including existing areawide recreational facilities, an analysis of park and recreation needs, and recommendations for new facilities, programs, administrative policy, and funding.

Among the facilities and programs discussed in the plan were bicycle, jogging, and nature trails, open park land, tennis courts, pools, baseball, softball, and soccer fields, playgrounds, and community centers.

Newtown Area Linked Open Space Plan

In 1988 the Jointure developed a plan for a regional linked open space system for pedestrians and bicyclists. The Plan designates potential open space corridors to serve as a guide for future municipal acquisitions. The Plan uses maps of natural features of the region, including floodplains, alluvial soils, wetlands, slopes, and woodlands, which were overlaid on a map of significant land uses and existing preserved open space to determine appropriate areas for linked open space. The land uses include schools, parks, and existing and proposed cluster or performance subdivisions and open space associated with them.

On the Plan, the open space system comprises two types of open space corridors: "greenspace links" and "roadway open space links." Greenspace links principally were identified along areas of floodplains and alluvial soils, where possible, since these areas are likely to remain undeveloped due to natural resource restrictions. The existing Philadelphia Electric Company right-of-way through Newtown and Wrightstown townships also is a key greenspace link. The plan indicates that the Newtown Township Park and Recreation Board is planning a bicycle path on this right-of-way.

Roadway open space links were identified to preserve scenic drives. Generally, the roadway links were located in areas that are not adjacent to floodplains or that would serve as connectors to greenspace corridors or significant land uses.

These corridors were then linked to the schools, parks, and other likely destination points in areas of development. The Plan also designates open space on its maps. These are large parcels located near a designated corridor and are appropriate locations for the preservation of wildlife and natural features.

The Plan was designed to be used as a tool to acquire land or easements during the development review process. When reviewing a development proposal, the municipality was to consult the linked open space plan to identify any portions of the site that fall within a proposed open space corridor. The municipality and developer then were encouraged to discuss incorporating these areas into the plan's required open space or establishing an easement if open space is not required for the proposed development.

Municipal-Based Open Space Link Planning

In 2016, Newtown adopted the *Newtown Township Comprehensive Trail Plan* which focuses on the development of a township-wide network of pedestrian and bicycle facilities. Key recommendations include creating multi-use trails that link to community destinations and nearby regional trail systems, completing gaps in sidewalks where they exist, and providing trail markers and maps. The Plan shows linkages planned along the Neshaminy Creek below Tyler State Park (a trail proposed by the county in the 1986 *Bucks County Parks and Recreation Plan*), between Chandler Field and the high school by way of Sycamore Street and Swamp Road, and along Newtown-Yardley Road between Roberts Ridge Park and Silver Lake Park. Other future linkages are also shown on the map.

The municipal open space plans for Upper Makefield and Wrightstown also address open space linkages and greenway corridors, noting that linked trails and greenways provide recreational, environmental, and scenic values. Linkages identified in the Wrightstown plan include the Mill Creek and Neshaminy Creek greenways, both of which extend to the municipal boundaries, and proposed township walking trails along a portion of Second Street Pike and Pheasant Lane. Also within Wrightstown, an existing bike route is shown along Pine Lane and Route 413, north of Pine Lane. The primary open space linkage in Upper Makefield is the Delaware Canal along the Delaware River. The canal and towpath connect the north and south sites of Washington's Crossing State Park and extend to New Hope Borough and bordering municipalities to the north and south.

Although not without debate, the use of utility corridors for potential linkages has been discussed. It should be noted that the Philadelphia Electric Company (PECO) has recently reevaluated the company's policy on trails within their utility corridors. While PECO may allow trails in some corridors, they are not allowed in all corridors.

The Bucks County Open Space and Greenways Plan

The *Bucks County Open Space and Greenways Plan* (2011) was adopted by the County Commissioners in June of 2011. The primary purpose of the Plan is to guide decision making and provide recommendations related to protecting and creating linkages between the county's natural resource area, open space and farmland, recreational facilities, and historical and cultural resources. The Plan identifies potential greenway corridors that could host trails for public recreation, wildlife viewing, lessons in history, and alternative transportation.

The Plan identifies six greenways that cross through the Newtown Area: the Delaware River Water Trail Greenway; Delaware & Lehigh National Heritage Corridor Greenway Middle Delaware (Morrisville to New Hope); the Neshaminy Main Stem-Wrightstown/Northampton/Newtown Greenway; Hough's-Newtown Creek; New Hope-Ivyland Railroad; and Paunacussing-Lahaska-Mill-Jericho-Pidcock Creeks.

The Delaware River Water Trail Greenway, categorized as a recreational greenway, extends along Upper Makefield's entire border with the Delaware River and includes the river's surrounding riparian zone. Coinciding with the Delaware River Water Trail Greenway within Upper Makefield is the Delaware & Lehigh National Heritage Corridor Greenway Middle Delaware, which extends from Morrisville to New Hope. These identified greenways are part of the Delaware River Conservation Landscape that has been identified in the *Bucks County, Pennsylvania Natural Areas Inventory Update* (2011).

The Neshaminy Main Stem-Wrightstown/Northampton/Newtown Greenway extends from the Forks of the Neshaminy, near the village of Rushland in Wrightstown, south to its confluence with Core Creek in Middletown Township. Within the Jointure, significant features and open space parcels along this stretch include Tyler State Park, and the Clark Nature Center and the Bucks County Community College's Main Campus, both in Newtown Township.

The Hough's-Newtown Creek Greenway follows the Newtown Creek from its confluence with the Neshaminy Creek in Middletown, into the Hidden Lake open space parcel owned by Newtown Township, and connects to Hough's Creek in Upper Makefield before reaching the Delaware River, just south of Washington Crossing State Park. This greenway is also identified in the *Newtown Area Linked Open Space Plan* of 1988 as part of a proposed regional link park system for Wrightstown, Newtown, and Upper Makefield Townships and Newtown Borough.

The New Hope-Ivyland Railroad Greenway is part of two Conservation Landscape areas as identified in the *Bucks County, Pennsylvania Natural Areas Inventory Update* (2011)—the Mid-County Ridges and Neshaminy Creek. The Mid-County Ridges Conservation Landscape includes Buckingham, Solebury, and Jericho mountains which contain heavily forested ridges that provide habitat for a variety of migrating songbirds. The Neshaminy Creek conservation area is characterized by wooded slopes where the Neshaminy and Little Neshaminy meet.

The Paunacussing-Lahaska-Mill-Jericho-Pidcock Creeks Greenway features three different segments, which in conjunction with the Delaware & Lehigh National Heritage Corridor Greenway, form a loop in the central portion of Bucks County. The three segments follow the Jericho, Pidcock, and the Lahaska/Mill creeks. The upper portion of the greenway also follows a section of the Paunacussing that runs along Aquetong Road and connects to the main stem of the Paunacussing that leads to the Delaware River. This greenway is part of the Mid-County Ridges and the Paunacussing Creek Conservation Landscapes identified in the *Bucks County, Pennsylvania Natural Areas Inventory Update* (2011), which contain wooded ridges and hillsides providing habitat for a variety of birds.

Near the Jointure townships, the county greenways plan identifies Newtown and New Hope boroughs as Nodes, which are places having natural, cultural, and historic interest. Nodes are places of destination and are significant elements that should be connected with greenway networks.

Bucks County Bicycle Master Plan

The *Bucks County Bicycle Master Plan*, was adopted by the County Commissioners in early 2012. The Plan identifies a network of major spines which provide connections between transit centers, activity centers, tourist destinations, central business districts, recreation destinations, and municipalities.

The Plan maps three primary on-road connections within the Jointure townships. One primary on-road connection, identified as State Route 0532, is a cross county route that goes through Newtown and Upper Makefield townships, along Buck Road and Route 532. This route connects Washington Crossing and Newtown Borough and heads west to the Bucks County border with Montgomery County. State Route 0532 connects with another identified on-road connection in the Jointure, along Route 413. Identified as State Route 0413, this on-road connection crosses through Newtown and Wrightstown townships and connects with Route 202 to the north and Route 513/413 in Langhorne Borough, with eventual connection to Philadelphia County. The third primary on-road connection within the Jointure is the East/West Cross County Spine, which crosses through Upper Makefield and Wrightstown townships along Taylorsville, Stonybrook, Pineville, and Forest Grove roads. The East/West Cross County Spine connects the Route 202 on-road connection to the north with the Route 532 on-road connection in Washington Crossing.

The bicycle master plan also identifies the Neshaminy Creek Greenway as an off-road connection that borders the western edges of Newtown and Wrightstown townships, along the Neshaminy Creek. The Neshaminy Creek Greenway connects with the Little Neshaminy Creek greenway, which is a second off-road connection shown along the Little Neshaminy Creek in Wrightstown.

Transportation

The overall function of transportation is to provide for the movement of people and goods between particular places. In recent years, rapid population growth and, ironically, the strong economy, have challenged the ability of the transportation system to balance those goals. Funding levels for roads, the backbone of the transportation system, have not kept pace with the proliferation of motor vehicles, housing and businesses, which increase the demand for road miles. The backlog of needed road maintenance and construction projects has grown larger.

The transportation network connects people and places to one another. In the most general terms, the purpose of the transportation network is to move goods and people from one place to another. The general well-being of this system is directly influenced by the type and size of the growth which occurs along the network. Proper land use planning is critical to prevent adverse effects to the transportation network due to improper development. Conversely, when transportation improvements are designed, it is important to address the needs of the general public, individual property owners and neighborhoods. Most transportation improvements should be designed as multiple-use facilities that provide for pedestrians, bicycles, public transit, and automobile use.

While the Jointure has made significant strides in encouraging efficient land use patterns, people tend to use their automobiles more frequently than in the past. While this is typical of most communities, an automobile-dominated transportation system may destroy more opportunities than it creates. This combined with minimal public transportation in the Newtown Area creates safety problems and traffic congestion. Once seen as a symbol of freedom that gave the individual citizen command over time and space, the automobile is now increasingly seen as a major source of congestion and pollution.

Travel Characteristics

Information regarding how people work and travel in the Jointure provides a perspective on conditions in the community. Census data from 2010 includes information on the time it takes for individuals in the Jointure to commute to work. This information does not capture travel for other purposes by residents of the Jointure; it also does not record trips made through the community with both origins and destinations outside its boundaries. The figures indicate, nonetheless, that travel time to work for residents of the Jointure is about a half-hour in all three townships. Travel time in the Jointure exceeds the county average by between approximately 1.3 to 3.4 minutes and exceeds the state and national averages by between approximately 3.9 to almost 6.2 minutes. Travel time to work suggests the importance of transportation issues for the future of the community and future land use decisions should be taken with an eye towards what their effects will be on how people commute and how long it takes them to reach the employment centers where they work.

to Work (minutes)	2010
Newtown	30.4
Upper Makefield	30.9
Wrightstown	28.6
Bucks County	27.5
Pennsylvania	25.1
United States	24.7

Source: American Community Survey (Tables: B08006, B08135: 2010)

A look at the means that Jointure residents employ to commute to work reveals the unsurprising finding that the community is overwhelming dependent on the automobile to get to work. The vast majority of those using cars, trucks, or vans were also alone in their car as they headed to their jobs. The percentage of those using public transit showed a decrease between 2000 and 2010 in Newtown and slight increases in Wrightstown and Upper Makefield. The majority of those using public transit in the three townships used the train, possibly to head to the employment centers of Philadelphia, northern New Jersey and New York. Bicycle use and walking also declined in all three townships. Matching trends seen throughout the country include more individuals working from home. The number of residents working from home increased in all the Jointure's communities, with Newtown increasing by 5.4 percent and Upper Makefield increasing by 9.1 percent. The percentage of residents who worked from home in Wrightstown remained the same but the total number did increase. The means of travel employed in the Jointure differs little from trends found in the county.

Linked to how people commute and how long it takes to get to their jobs is the location of the jobs where they work. The overwhelming percentage of residents in the Jointure did not work in the township in which they lived. Newtown, with the highest percentage, had 18.2 percent of its residents working within the township. In Wrightstown, 16.2 percent of residents worked within the township. In Upper Makefield the figure was 14 percent, showing a decrease of 1.9 percent from 2000. However, the overall number of residents working within the township increased by 20, but this increase did not keep pace with population growth within the municipality, leading to the decline in overall percent. About half of those living in Newtown and Upper Makefield work in Bucks County (in Newtown these totals increased while in Upper Makefield they decreased between 2000 and 2010). Just over 70 percent of Wrightstown residents work in the county (this figure increased significantly between 2000 and 2010). Perhaps due to

its closer proximity to New Jersey, Upper Makefield has the lowest percentage of workers who are employed in Pennsylvania (67.4 percent). In Newtown, 74.8 percent, and in Wrightstown, 84.8 percent, of those who live in these townships are employed in Pennsylvania.¹¹

Means of Transportation to Work								
	Newtown				Upper Makefield			
	2000		2010		2000		2010	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Car truck or van	8,687	90.4%	9,305	90.6%	2,962	86.4%	3,436	85.7%
Public transportation	428	4.5%	247	2.4%	111	3.2%	148	3.7%
Motorcycle	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bicycle	9	0.1%	0	0.0%	0	0.0%	0	0.0%
Walked	51	0.5%	165	1.6%	63	1.8%	24	0.6%
Other	24	0.2%	0	0.0%	23	0.7%	36	0.9%
Worked at home	415	4.3%	557	5.4%	270	7.9%	365	9.1%
TOTAL	9,614	100.0%	10,274	100.0%	3,429	100.0%	4,009	100.0%
	Wrightstown							
	2000		2010					
	Number	Percent	Number	Percent				
Car truck or van	1,269	91.4%	1,460	92.2%				
Public transportation	24	1.7%	21	1.3%				
Motorcycle	0	0.0%	0	0.0%				
Bicycle	0	0.0%	0	0.0%				
Walked	18	1.3%	6	0.4%				
Other	3	0.2%	11	0.7%				
Worked at home	75	5.4%	85	5.4%				
TOTAL	1,389	100.0%	1,583	100.0%				

Source: U.S. Census QT-P23 Journey to Work: 2000, American Community Survey S0801 Commuting Characteristics by Sex, 2010, and B08301 Mean of Transportation to Work

Means of Transportation to Work	Jointure 2010		Bucks County 2010	
	Number	Percent	Number	Percent
Car truck or van	14,201	89.5%	283,808	90.6%
Public transportation	416	2.6%	9,084	2.9%
Motorcycle	0	0.0%	0	0.0%
Bicycle	0	0.0%	627	0.2%
Walked	195	1.2%	5,325	1.7%
Other	47	0.3%	1,566	0.5%
Worked at home	1,007	6.3%	12,843	4.1%
TOTAL	15,866	100.0%	313,253	100.0%

Source: U.S. Census QT-P23 Journey to Work: 2000, American Community Survey S0801 Commuting Characteristics by Sex, 2010 and B08301 Mean of Transportation to Work

¹¹ Given that the U.S. Census collected data by minor civil division and the Jointure is not recognized as such, it is not possible to know how many residents in each of the 3 townships who do not work in their own minor civil division do in fact work in another Jointure community (e.g. a Wrightstown resident who works in Newtown is not specifically captured by this data).

Place of Work	Newtown				Upper Makefield			
	2000		2010		2000		2010	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
TOTAL workers	9,614	100.0%	10,309	100.0%	3,429	100.0%	4,009	100.0%
<i>Worked in . . .</i>								
township of residence	1,394	14.5%	1,876	18.2%	546	15.9%	561	14.0%
county of residence	4,642	48.3%	5,433	52.7%	1,736	50.6%	1,896	47.3%
state of residence	6,888	71.6%	7,711	74.8%	2,225	64.9%	2,702	67.4%
Wrightstown								
	2000		2010					
	Number	Percent	Number	Percent				
TOTAL workers	1,389	100.0%	1,583	100.0%				
<i>Worked in . . .</i>								
township of residence	191	13.8%	256	16.2%				
county of residence	870	62.6%	1,121	70.8%				
state of residence	1,126	81.1%	1,342	84.8%				

Source: U.S. Census P26 Place of Work- State and County Level (2000), P29 Place of Work- Minor Civil Division Level (2000), American Community Survey S0801 Commuting Characteristics By Sex(2010).

Establishing the Transportation/Land Use Connection

The fundamental relationship between land use and transportation cannot be understated. Land use patterns and intensity influence the roadway network. Likewise, the roadway network can influence the land uses in a particular area. Just as new or expanded transportation systems create new access opportunities that attract new development, new development patterns create a need for additional transportation facilities. In fact, land use patterns and transportation patterns are linked in a continuing cycle, whereby transportation opportunities create an atmosphere for development which in turn generates additional transportation needs and so on.

This continuing cycle has been the traditional route by which most suburban areas have developed, including portions of the Newtown Area. For this trend to be broken, this primary relationship between land use and transportation must be recognized, understood, and explored in order to create conditions where new growth and new transportation systems and/or improvements can occur together in a logical and designed manner. Establishing the link between land use and transportation can provide numerous benefits for the community. Some of these benefits include:

- Incorporating land use considerations into transportation planning can influence future development patterns and ensure that transportation facilities have adequate capacity to meet demand;
- Land use patterns that are matched to the transportation system can help relieve congestion and traffic on existing roads. Land use patterns that require buildings to be located closer to the roadway and/or are interconnected via shared parking areas can reduce the requirements of constructing new transportation facilities;
- Improved site design and incorporation of public transportation services can attract tenants and/or buyers;
- The incorporation of transportation improvements and/or public transportation will ease employee commuting, which will decrease employee lateness and increase productivity; and

- Providing the link between land use and transportation will reduce congestion, improve mobility, improve air quality, and preserve additional open space, all of which will help to create a more attractive and livable community.

Improving the linkage between land use and transportation planning is essential for the future of the Newtown Area. Inappropriate land uses coupled with inadequate transportation services create congestion and traffic impacts on both highways and local roads. They also cause worsening air quality conditions, decreased highway safety, and reduced community access. Furthermore, inefficient transportation access and unplanned land use patterns are also a significant hindrance to economic growth and productivity. The promotion of compact, mixed-use development may be one way to encourage less automobile-intensive uses.

Context Sensitive Solutions

In the not-so-recent past, transportation engineers and designers ignored the questions and concerns of the community while designing new transportation systems. The only goal these professionals focused upon was providing for the most efficient flow of traffic through an area. This way of thinking has led to crumbling of unique areas around the country that are now gone forever. Realizing the mistakes of the past has led transportation professionals and PennDOT to develop a better way—*Context Sensitive Solutions*. Context sensitive solutions look beyond the pavement to the function streets and highways perform in enhancing communities and natural environments. The concept was developed to help transportation professionals build safe and efficient roads with the participation of residents and local officials who ultimately will be affected by the new infrastructure.

Context sensitive solutions is a proactive approach to transportation planning, design, and implementation that looks at the extensive context streets and roads play in enhancing communities and natural environments, be they urban, suburban, rural, scenic or historic. The concept involves asking questions first about the need and purpose of the transportation project and then equally addressing safety, mobility, and the preservation of scenic, aesthetic, historic, environmental, and other community values. Context sensitive solutions consists of a collaborative, interdisciplinary approach in which citizens are part of the design team. Support from stakeholders is received at the beginning of a project, rather than negotiating support as the project nears completion. Context sensitivity emphasizes the broad nature of solutions to transportation needs by focusing on enhancing the quality of life for transportation users, communities, and the surrounding environment.

Transportation planners must realize that every highway design project is unique. The setting and character of the area, the values of the community, the needs of the highway users, and the challenges and opportunities are unique factors that designers must consider with each highway project. Whether the design to be developed is for a fairly small safety improvement or five miles of new highway, there are no boilerplate solutions. For each potential project, designers are faced with the task of balancing the need for the highway improvement with the need to safely integrate the design into the surrounding natural and human environments. Important areas that warrant protection should be identified as transportation improvements are being planned.

Access Management

The Newtown Area has several arterial roadways designed for large volumes and high-speed traffic with access to abutting properties restricted. Controlling access to these roadways will allow them to perform their intended function. When access is not controlled, the number of conflict points with roadway traffic increases. This places serious demands on the roadway capacity, as well as making conditions unsafe for vehicles entering or exiting the highway. The conflict between safe and efficient movement of traffic and access to abutting properties has long been recognized as a constraint in traffic operations and transportation systems management.

Access management includes such techniques as shared driveways, providing access to secondary roadways, driveway spacing, planted median strips, protected left turn lanes, and any other appropriate access control measures. It should be noted that access management is both a land use and traffic issue. It calls for land use controls and incentives that are keyed to the development policies of the community, and the capabilities of the transportation system. The planning challenge is not merely how to provide driveways, or how to design roadways, storage areas, or parking, but how to accommodate new development while improving traffic flow. The access requirements of businesses that may relocate into an area must be taken into account, as well as those vehicles traveling through the area.

An access management plan should include an analysis of current and projected land uses and their associated traffic conditions. The plan should include an implementation plan that establishes priorities and the responsible agencies for completing the roadway improvements or municipal ordinance amendments.

Traffic Calming

Traffic calming measures are mainly used to address speeding and high cut-through traffic volumes on neighborhood streets. These issues can create an atmosphere in which nonmotorists are intimidated, or even endangered by motorized traffic. By addressing high speeds and cut-through volumes, traffic calming can increase both the real and perceived safety of pedestrians and bicyclists, and improve the quality of life within the neighborhood. The role of physical measures in traffic calming is usually emphasized because these measures are self-policing. In other words, by utilizing speed humps and/or traffic roundabouts, motorized vehicles will slow down in absence of a police presence. Some potential traffic calming measures include: speed humps, speed tables, chicanes, planted medians, roundabouts, and curb extensions.

To initiate traffic calming, the municipalities should develop a specific complete streets policy. This type of policy utilizes traffic calming features, such as the ones named above, to achieve a built environment that is accessible to all users. A complete streets policy not only identifies built environment features but includes the participation of any neighborhood that could be impacted by the addition of traffic calming measures. The goals of a complete streets policy should include the following:

- Achieving safe, slow speeds for all vehicles;
- Improving the safety and the perception of safety for nonmotorized users of local roads;
- Increasing roadway safety by reducing crash frequency and severity;
- Increasing the compatibility of all modes of transportation, specifically with pedestrians and bicyclists;

- Reducing cut-through vehicle traffic on local roads; and
- Reducing the need for violation enforcement on local roads.

In addition to public participation and design guidelines, a complete streets policy is backed by performance measures. The purpose of this is monitor the efficiency of complete streets design and/or traffic calming measures to continually improve transportation network facilities to meet the needs of their community. Typical performance measures include:

- a decrease in traffic on neighborhood streets;
- reduction in speeding on major roadways within the township;
- increase in the number of people bicycling and walking;
- reduction in crash frequency and severity;
- increases in on-street parking;
- increases in pedestrian satisfaction amongst residents and merchants;
- increases in parking satisfaction amongst residents and visitors;

Traffic calming techniques and subsequent complete streets policy should affect driver behavior and improve the safety of the street for all roadway users, including pedestrians and bicyclists. However, traffic calming techniques must be designed so they do not impede emergency access by police, fire, ambulance, or rescue personnel. Public participation during the designing of traffic calming facilities will help to ensure acceptance of these facilities. Finally, performance measures would allow municipalities to monitor the efficiency of traffic calming measures.

Pedestrians, Bicyclists, and Trails

Walkability is the key to efficient ground transportation. Every trip begins and ends with walking. Walking remains the cheapest form of transportation for all people, and the construction of a walkable community provides the most affordable transportation system any community can plan, design, construct, and maintain. Walkable communities put urban environments back on a scale for sustainability of resources (both natural and economic) and lead to more social interaction, physical fitness, and diminished crime and other social problems. Walkable communities are more liveable communities and lead to whole, happy, healthy lives for the people who live in them.

Through the provisions of the Jointure's municipal subdivision and land development ordinances, the Jointure is able to ensure that new developments, both residential and nonresidential, are provided with sidewalks. Sidewalks will provide alternative methods to make certain needed trips, in addition to their use for exercise and recreation.

It is important that sidewalks be provided in the higher density residential zoning districts, in the more rural areas where pedestrian use is anticipated, and in nonresidential areas where walking should be encouraged as an alternative to the use of the automobile. Sidewalks should be provided on both sides of existing and proposed streets. There should be compelling reasons for the waiver of the sidewalk standards.

To see the benefits of promoting walkability within the Newtown Area, one need look no further than the Sycamore Street project. This project involved repaving of the road surface from end-to-end, and the installation of new curbs and driveway aprons, concrete sidewalks in a decorative slate pattern, brick-

patterned crosswalks, antique style streetlights, and pedestrian amenities including benches and trash receptacles. This project is a good example of how changes in land uses in the area dictated the need for an improved transportation system that not only improved traffic flow but also provided for safe and effective pedestrian travel.

In many communities, bicycle systems are important and much appreciated facilities. The subdivision and land development ordinances could be revised to include requirements for bicycle improvements in place of sidewalks in appropriate areas. A bicycle plan should be prepared to determine the best routes to connect existing and anticipated developments with schools, shopping areas, parks and playgrounds, employment centers, and other key community locations. The bicycle system would be used and enjoyed by all the residents of the area, as well as people who work, shop, or visit in the area. In recent years the county has conducted multiple studies regarding trail and trail facilities development at the county-wide level. The County Bike Plan, Upper Neshaminy Trail Study, Middle Neshaminy Trail Study, and Newtown Township's own Trails Master Plan identify multiple trail connections within the Jointure and to neighboring communities. Also, ongoing development of the Newtown Rail Trail and Lower Dolington Road Trail will provide a direct link to the region's larger trail network, commonly referred to as the circuit.

Public Transportation

The Newtown Area is currently served by one bus route of the Southeast Pennsylvania Transportation Authority (SEPTA). Route 130 runs from Bucks County Community College and Newtown Grant in Newtown Township to the intersection of Frankford and Knights roads at the Philadelphia-Bucks County border. The service connects the college, the Newtown Business Commons, and other areas of the township to the West Trenton Regional Rail Line (Langhorne Station) and to employment and commercial centers in the southern part of Bucks County. It also provides connections to the communities of Langhorne, Langhorne Manor, Penndel, Hulmeville and Bensalem.

The Jointure should monitor public interest in public transit and work with the Bucks County TMA to address public transit service needs as they arise. Furthermore, the Jointure should actively promote and market the bus route as a feasible alternative to automobile use since the availability of public transportation is a benefit to all residents in the area.

Functional Classification

The region's road system should be viewed as an integrated network of roadways with types of roads serving different functions and having different design criteria. Higher-order roads serve to move traffic through the community and lower-order streets provide access to abutting properties. Other intermediate-order roads provide links between the higher-order roads while providing some access to properties.

Design standards for existing and new roads are included in the municipal subdivision and land development ordinances. It is important that street standards result in roads which complement the desired character for various parts of the community. The classifications are described as follows:

1. Thoroughfares

- a. Expressway—a highway designed for large volumes and high-speed traffic and with access limited to grade-separated intersections. The Newtown Bypass is the only expressway in the area.
- b. Principal Arterial—a continuous route which has trip length and travel density characteristics indicative of substantial statewide or interstate travel and has a right-of-way width of 120 feet. Route 413 and portions of Route 532 and Swamp Road are examples of principal arterial roadways in the area.
- c. Minor Arterial—a route that provides interstate and intercounty service and has a right-of-way of 120 feet. Some examples of minor arterial roadways include portions of Route 532, Swamp Road, and Taylorsville Road.
- d. Scenic Route—a roadway with limited access that maintains a narrow cartway for scenic travel and not intended to provide a level of service for intercounty or interstate transportation and has a right-of-way of 100 feet. River Road (Route 32) is the only Scenic Route within the Newtown Area.
- e. Major Collector—a route which should link places of traffic generation with nearby larger towns or with more important intra-county corridors and which has a right-of-way of 100 feet. Major collector roads include the portion of Route 232 between Route 413 and the Solebury Township line, and the portion of Taylorsville Road from its intersection with Route 532 to its intersection with Route 32.
- f. Minor Collector—a route which is provided at intervals consistent with population density, to collect traffic from local streets, and which has a right-of-way of 80 feet. There are multiple minor collectors in the Newtown Area including Park Avenue, Pine Lane, Pineville Road, Eagle Road, Woodhill Road, Stoopville Road, and Wrightstown Road.

2. Local Streets

- a. Feeder Streets—a street designed to function as an intersector and intra-county facility, serving as a feeder route to the arterial system and also serving inter-township travel with a right-of-way of 70 feet. Feeder streets within the area include Wrights Road, Penns Park Road, Cherry Lane, Brownsburg Road, Street Road, Lurgan Road, and Highland Road.
- b. Local Street—a street designed to serve the properties fronting thereon, generally to discourage through traffic, and which has a right-of-way of 50 feet. Local streets are typically roads found within subdivisions and all roads which do not meet the definitions as described above.

Under a functional classification system, new roads will be built to standards which their function requires. Where possible, existing roads should be improved so that they can function as intended. For some roads, it is unlikely that they will be redesigned to carry large amounts of traffic without interruptions by frequent curb cuts. In these areas, access management improvements should be investigated to minimize delay and conflict points. The intended road function should be kept in mind when land uses are proposed.

Transportation Improvement Program

The Bucks County Planning Commission works with the Delaware Valley Regional Planning Commission (DVRPC) to include Bucks County based transportation and infrastructure projects as candidate projects for the regional TIP. The regional TIP is updated every two years, in coordination with PennDOT's Twelve Year Plan (TYP). The regional TIP lists all projects that intend to use federal and/or state funds for their engineering, right-of-way costs and/or construction costs.

The TIP update includes re-evaluating existing project schedules and costs. Once the schedules and costs have been updated for each existing project, some new projects (candidate projects) may be added to the TIP. Since this list must be financially constrained per the requirements of the *Safe, Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), the addition of candidate projects is dependent upon federal allocations of transportation funding. DVRPC, in conjunction with the member governments of the region, then rank and select these potential projects from candidate projects lists (i.e., county TIP's) submitted by the member governments. The TIP is then submitted to the DVRPC Board for their approval. Once approved, the TIP is then submitted to PennDOT to be included in the state TIP.

As of the 2023 DVRPC TIP, the projects in the Newtown Area include the following:

MPMS#	Location	Description	Construction Year
88083	Stoopville Road	Pedestrian/Roadway Improvements	2027
64781	Swamp Road Bridge	Bridge Rehabilitation	2026

Transportation Enhancements Program

The Transportation Enhancements Program, sponsored by PennDOT and managed through the Delaware Valley Regional Planning Commission (DVRPC), is designed to fund projects to enhance the transportation experience, to mitigate the impacts of transportation facilities on communities and the environment, and to improve community character through transportation-related improvements. Upper Makefield Township received a grant through this program to fund ADA ramps, sidewalks, crosswalks, and streetscape improvements to link several detached state-owned recreation and historic sites in Washington Crossing.

Land Use Plan

One of the most important purposes of this update is to provide a land use plan that prescribes an appropriate land use mix that adequately balances meeting community needs, protecting the natural environment, and designating suitable areas for potential growth. Providing a well-balanced mixture of agricultural, residential, commercial, recreational, institutional, and industrial uses in appropriate locations also enhances the vitality of the community. This plan should help to ensure that the Jointure's land use regulatory system is based on sound planning and growth management principles.

In the resident survey conducted as part of the comprehensive planning process, proper growth management was far and away identified as the most important problem facing the Jointure when planning for its future. This section provides a community vision for future growth and development in the Jointure that attempts to address this concern; it serves as a collective statement by the Jointure

communities concerning how they wish to accommodate and direct future development. Specific planning tools are discussed that promote the concentration of future development within appropriate areas of the community while enhancing the preservation of its valuable natural, agricultural, open space, and historic resources.

Three major influences have played important roles in shaping the Jointure's future land use plan: the development district concept, the provisions of the Municipalities Planning Code regarding intergovernmental cooperative planning, and past planning in the Jointure as presented in previous plans and updates.

Important Influences on this Update

Development District Concept

A planning tool used widely in Bucks County to guide growth is the development district concept. The fundamental objective of this concept is to concentrate future development in areas best equipped to handle growth while minimizing land use conflicts and costs to residents. To accomplish this objective, the concept calls for concentration of growth into development areas designated by municipal officials for this purpose. While the development district concept allows municipal officials to plan for the timely expansion of development, infrastructure, and municipal services, it also enables them to preserve significant vacant, agricultural, and natural resource lands as open space.

Article XI of the Municipalities Planning Code

Enacted as part of Act 67 in 2000, Article XI of the Municipalities Planning Code permits the use of intergovernmental cooperative agreements by local governments to develop and implement multimunicipal plans. Although the provisions of Article XI replaced earlier regulations governing joint municipal planning, Section 1107 of Article XI specifically states that earlier regional planning agreements are not invalidated and can continue to function under the new regulations. Section 1103(a)(1) allows comprehensive plans to designate growth areas where projected development can be accommodated, where commercial, industrial, and institutional uses can be located, and where services for such development can be planned for or provided. Section 1103(a)(2) states that such plans may designate future growth areas. Section 1103(a)(3) permits plans to designate rural resource areas where rural resource uses are planned, where the permitted density of development is compatible with rural resource uses, and where infrastructure extensions and improvements will not be publicly financed unless the participating municipalities agree that such services are necessary or appropriate.

Prior Planning in the Jointure

The 1983 joint municipal comprehensive plan's provisions for higher density housing were based on the Development District Concept, and high-density housing was directed to areas called Residential Development Areas in that plan. The 2009 Plan identified and described 11 categories of planning areas. The delineation of these areas indicated both the pattern and relative intensity of various residential and nonresidential uses. It attempted to balance projected growth with existing land use patterns, community goals, and environmental determinants. It was also intended to provide a comparative planning tool for use in the establishment and review of zoning districts included in the joint municipal zoning ordinance and included high density residential areas in all three communities.

The Land Use Plan

This land use plan retains the planning areas delineated in 2009, including the locations of the planning areas found in the Jointure and designating them as being a part of either designated growth areas or rural resource areas in a manner consistent with the development area concept and the provisions of the MPC.

Designated Growth Areas—These areas are intended to accommodate the bulk of future development and infrastructure expansion. They are designed and sized to contain projected future growth, including infill and adaptive reuse opportunities. Thus, development areas also include areas that have been previously developed.

Rural Resource Areas—These areas include lands that require special resource protection. They contain critical natural resources including large expanses of woodlands, wetlands, hydric soils, and prime agricultural farmland. Rural resource uses are intended to predominate in these areas at appropriate densities with only limited publicly financed infrastructure to be provided.

Planning Areas in the Rural Resource Areas include the following:

1. Jericho Mountain Conservation Area
2. Conservation Management Areas

Planning Areas in the Designated Growth Areas include the following:

1. Low Density Residential Areas
2. Medium Density Residential Areas
3. High Density Residential Areas
4. Neighborhood Conservation Areas
5. Commercial Areas
6. Office and Research Areas
7. Industrial Areas
8. Quarry Areas
9. Public Purposes Planning Areas

Permitted uses, allowable densities and all other pertinent standards for each planning area are specified in the respective zoning districts contained with the Newtown Area Joint Municipal Zoning Ordinance.

Jericho Mountain Resource Protection Area

The fragile ecological characteristics of this planning area and its numerous critical resources, combined with its unique scenic and historical value, require that this area be protected. The limited groundwater resources of this area's Diabase geology are recognized as a significant constraint to development. These conditions have warranted the area's designation as a special zoning district with development standards

which will help ensure the preservation of its ecology. Protection is also provided through the environmental performance standards of the zoning ordinance. As environmental science improves our understanding of nature and provides improved techniques for its protection, conditions in this area could be monitored and additional regulatory measures could be applied as determined necessary or appropriate.

At the present time the zoning district governing these areas permits single-family detached cluster housing as a permitted use at a density of 0.2 dwelling units/acre (du/ac). Although this permitted density does not appear to provide any significantly greater incentive for development when compared to the regulations governing single-family detached dwellings (minimum lot size of 5 acres), the use may not be appropriate in this area. Detached cluster developments might encourage the proliferation of community sewage disposal systems with stream discharge since steep slopes found throughout this area may preclude systems utilizing land application. Large lot developments may also be less visually obtrusive, especially if low impact development techniques (e.g. site fingerprinting, minimum disturbance¹²) are required. In addition, the current minimum lot area for the single-family detached dwelling use (5 acres) may not be adequate to protect the natural resources characteristic of this area. An increase in the minimum lot size for such development may be warranted if justifiable.

Nonresidential uses permitted as conditional uses in these areas include recreational facilities, childcare facilities and schools. The use regulations for recreational facilities, which appear to permit both active and passive recreational activities, allow facilities (such as athletic fields) that may disturb the aesthetic and environmental resources (such as woodlands and steep slopes) of the area. Certain types of childcare facilities, such as “employer day care,” may also not be appropriate for an area where nonresidential uses are generally not permitted. Schools, which require intensive land use and generate increased traffic, may not be suitable in this resource-laden part of the Jointure.

Horticulture and Agriculture is also a permitted use in the zoning district for these areas. Regulations for this use could be revised to include accessory uses to agriculture that are both appropriate to this district and that would permit activities which would promote the continuation of whatever agricultural activities are found in these areas.

Conservation Management Areas

This area, much of which is at a distance from development areas, generally lacks sufficient highway capacity and adequate municipal facilities to support intensive development. It also includes a variety of important natural resources, including aquifer recharge areas. This area shall be reserved for low intensity uses in order to encourage the continuation of farming, to provide for groundwater recharge and to provide a balance in land uses throughout the Jointure between these areas and the more extensively

¹² Site fingerprinting reduces the total amount of disturbance of a site by limiting grading and clearing for a subdivision to areas where structures, roads, and rights-of-ways are required. Grading and clearing can be further reduced by using shared driveways, designing roads to follow open paths in vegetation, and avoiding additional disturbance for material storage areas. Minimum disturbance techniques further reduce impacts by using alternative construction techniques. Heavy equipment will typically compact soil (increasing imperviousness) and damage root systems. Minimum disturbance techniques use a carefully delineated disturbance area and through low impact construction practices attempt to preserve unstable soils and maintain a site’s hydrologic function. Minimum disturbance techniques have the added benefit of reducing construction costs due to the decreased need for site grading.

developed portions of the community located near the Borough of Newtown and in the other development areas of the three townships.

The Residential Development Area Analysis discussed in an earlier section of this update indicates that 59 percent of residential development in Upper Makefield, 68 percent of residential development in Wrightstown Township, and 47 percent of such development in Newtown Township occurred outside of the residential development area, as defined in that section, between 2006 and 2020. Much of that residential development occurred in conservation management areas. Future development should be channeled away from conservation management areas.

Efforts to channel growth away from conservation management areas would include an examination of the residential development options permitted in the CM District, which governs this area. Removing the performance subdivision use from the list of uses permitted by conditional use may assist in directing higher density development into designated growth areas. The detached cluster option may need to be constructed in a manner that ensures there is parity among development options in terms of density in the CM District. Any changes in use regulations must be coordinated with sewage facilities planning to ensure that package treatment facilities that may be needed are required to explore land application options and rule out their feasibility before any type of stream discharge option is permitted, especially since this area is intended to provide water recharge opportunities (as noted in the Community Facilities section of this plan). The potential yields of units for proposed developments should be dependent on the amount of land required to provide land application sewage disposal for any proposals located in this area.

As described above for the Jericho Mountain Resource Protection Area, certain nonresidential uses such as schools and certain childcare facilities may not be appropriate for conservation management area.

Additional mechanisms may provide for the preservation of agricultural resources and the promotion of the continuing viability of farming in this area. Certain communities with agricultural preservation zoning not only require that a certain percentage of farm soils be preserved (as is currently required in the Jointure), but also mandate specific subdivision options for parcels where a certain amount of such soils are found. Along with allowing the subdivision of a large agricultural lot into smaller farms, these options include the subdivision of a site into large estate lots, smaller residential lots or nonresidential lots provided that a farmland preservation tract is also provided. Agricultural soils intended for preservation must be located on that tract whose size, dimensions, and access to roadways (as regulated in the ordinance) make it an attractive parcel to farm. As indicated above for the Jericho Mountain Resource Protection Area, permitting and regulating suitable accessory uses to agriculture may enhance its viability and presence as an important characteristic of the Newtown Area.

Low Density Residential Areas

A range of low density residential uses shall be accommodated in this planning area in the more rural portions of the region adjacent to several of the Jointure's villages. It is intended to maintain the existing low density neighborhoods while providing the opportunity for future development, at similar intensities, as part of the designated growth area. Allowable density varies depending upon the type of residential development and the amount of open space proposed, from a density of 0.82 du/ac for single-family clusters to 1.22 du/ac for performance subdivisions. Single-family detached dwellings are permitted on a minimum lot size of one acre.

Medium Density Residential Areas

A range of medium density residential uses shall be permitted within the portions of the region designated as medium density residential areas. Allowable density varies from 3.22 du/ac for performance subdivisions in the CR-2 District portion of the Medium Density Residential Area to 1.22 du/ac for single-family clusters in the R-1 District portion. Single-family detached dwellings are permitted on minimum lot sizes ranging from 30,000 square feet to 60,000 square feet. Decisions regarding what types of sewage disposal systems may be appropriate in this area, including alternative systems and community systems, will be based on the recommendations and requirements of the Act 537 plans and any other studies or analyses carried out or required by the Jointure municipalities.

High Density Residential Areas

High density residential areas are designated in several parts of the Jointure. Several of these areas adjoin neighborhood or community commercial areas and have proximity to adequate highways, existing municipal infrastructure, and other related services. They are located in Newtown Township surrounding the traditional regional center, Newtown Borough, and in Upper Makefield Township in the Taylorsville-Washington Crossing area. The Newtown Grant development is designated as a high density residential area, as is a portion of Upper Makefield on Creamery Road and several parts of Wrightstown Township on Swamp Road near Rushland.

Higher density residential development is permitted on parcels available for development in these areas. Allowable density varies from 3.90 du/ac for mixed residential developments, mobile home parks and elderly housing to 1.85 du/ac for single-family clusters. Single-family detached dwellings are permitted on a minimum lot size of between 30,000 and 50,000 square feet. Provisions for higher density housing have been adapted to incorporate village planning and traditional neighborhood design as forms of development that can establish communities (rather than suburban subdivisions without the amenities of neighborhoods) as found in the region's villages and in Newtown Borough. While it is not anticipated that the historic architecture would be replicated in new developments, the character and scale of traditional neighborhoods should be achieved. A variety of residential development types are permitted, but the layout typical of conventional subdivision should be avoided. New development in these areas should be sensitive to the historic resources described in this update; they should also incorporate the village planning guidelines.

Decisions regarding what types of sewage disposal systems may be appropriate in this area, including alternative systems and community systems, will be based on the recommendations and requirements of the Act 537 plans and any other studies or analyses carried out or required by the Jointure municipalities. Sewage planning for villages should return treated wastewater to the groundwater resources of the region.

Neighborhood Conservation Areas

Neighborhood conservation areas consist of concentrations of residential and mixed-use development which were developed prior to the advent of municipal comprehensive planning and zoning. These areas include historic villages located in both Upper Makefield and Wrightstown townships. These planning areas shall provide for predominantly residential development which is consistent with present day design standards and use requirements, yet compatible with the existing neighborhood character. Mixed-use

development shall be permitted in these areas, where appropriate, in a manner that preserves the form and function of village areas and contributes to the preservation of historic structures. Historic resources in these areas should be preserved and documented, and development in or near villages should be consistent with the village planning techniques.

Commercial Areas

Commercial areas in the Jointure are located in Newtown Township in the vicinity of Newtown Borough, near the Taylorsville-Washington Crossing area in Upper Makefield, and in the vicinity of Anchor and Penns Park in Wrightstown Township. The various commercial areas indicated on the plan permit development consistent with the function (i.e., neighborhood or community commercial areas) for which they are intended in a manner consistent with the land use policies discussed in this plan. Commercial areas in the Jointure are not intended to function as regional commercial centers featuring sprawl or strip-mall forms of development, but as sub-regional community commercial areas where development is concentrated in town-center fashion to serve local customers and residents.

Office and Research Areas

The typical large lot area requirements associated with corporate headquarters, administrative offices, and research facilities are provided for within this planning area of Newtown Township near the I-295 Interchange. Interim low intensity uses, such as various agricultural activities, are also permitted in this area by the zoning ordinance. Residential uses permitted by the zoning ordinance may also be appropriate in the portion of these areas north of the Newtown Bypass; such uses should generally not be permitted in the office and research areas south of the Bypass. Other, smaller office and research areas near the Newtown Township Municipal Building and in Anchor in Wrightstown Township provide areas to accommodate office and professional uses intended to meet the needs of the region's residents and businesses.

Industrial Areas

Since the enactment of the 1983 joint municipal comprehensive plan, the portion of the Jointure judged most suitable for industrial and related development has been located in the Newtown Business Commons. A wide range of industrial-related uses are provided for within this planning area due to proximity to supporting services and facilities.

Industrial areas have also been designated in Wrightstown Township to accommodate comparable forms of industrial development. It is envisioned that any needed services and facility improvements required for industrial uses will be provided by the developers of those sites. Sewage facilities in these areas must be consistent with Wrightstown Township's official sewage facilities plan and any other studies conducted by the township or the Jointure.

Quarry Areas

Areas delineated in this plan for quarry activity recognize existing uses. Appropriate safety and setback requirements are intended to ensure these intensive uses are compatible with the residential and agricultural uses permitted in surrounding areas. Upon termination of quarry activities within each area, reclamation shall be undertaken and completed in a timely and appropriate manner in accordance with the Pennsylvania Surface Mining and Reclamation Act.

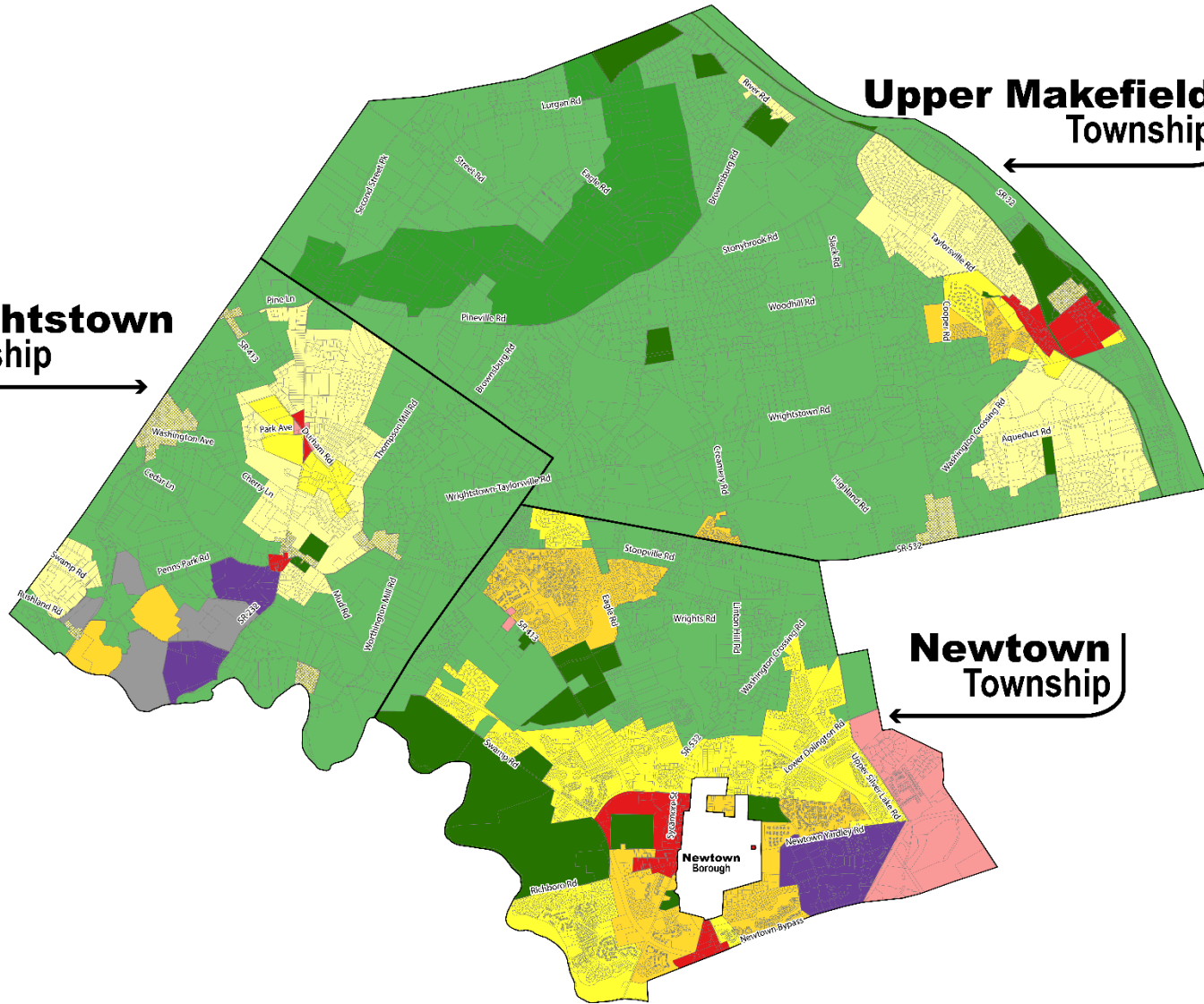
Public Purpose Areas

These areas are intended to accommodate the significant uses of land devoted to public and institutional purpose. These include the parks and open space areas owned and managed by the Commonwealth of Pennsylvania, the County of Bucks, and the municipalities of the Jointure. Various educational facilities, including the Bucks County Community College, the schools of the Council Rock School District and St. Andrew's Elementary School, are incorporated into these planning areas. Various facilities and properties of the participating municipalities are also included.

Wrightstown Township

Upper Makefield Township

Newtown Township



Designated Growth Areas

- Low Density Residential Area (R-L)
- Medium Density Residential Area (R-M)
- High Density Residential Area (R-H)
- Neighborhood Conservation Area (NC)
- Commercial Area (C)
- Office and Research Area (OR)

- Industrial Area (I)
- Quarry Area (Q)
- Public Purpose Area (PP)

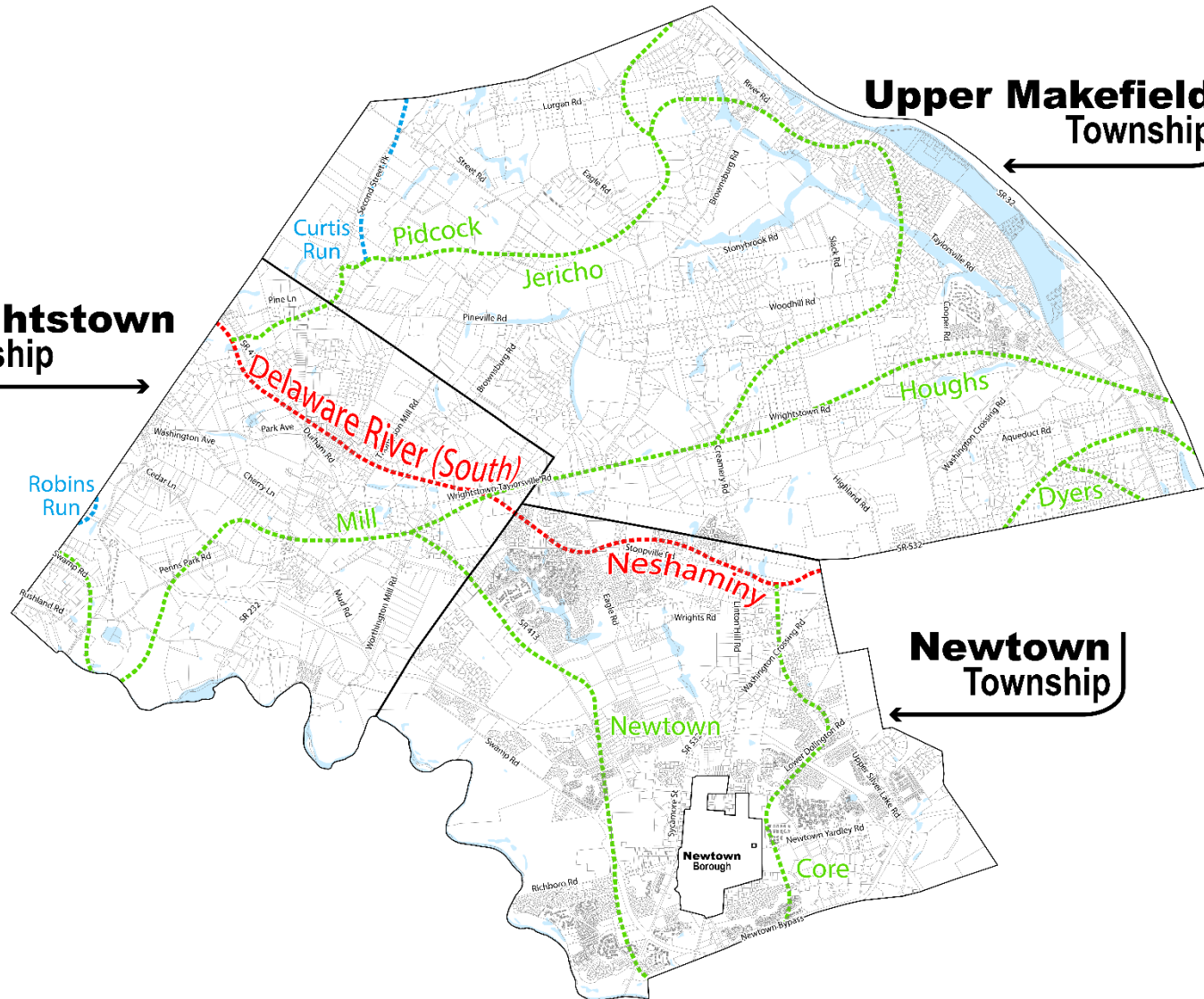
Rural Resource Areas

- Jericho Mountain Resource Protection Area (JM)
- Conservation Management Area (CM)

Wrightstown Township

Upper Makefield Township

Newtown Township



Wrightstown Township

Upper Makefield Township

Newtown Township

Newtown Borough

Steep Slope Percentage

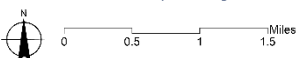
8 - 15

15 - 25

25 +

Newtown Area Joint
Comprehensive Plan (2024)

Map 5 - Steep Slopes

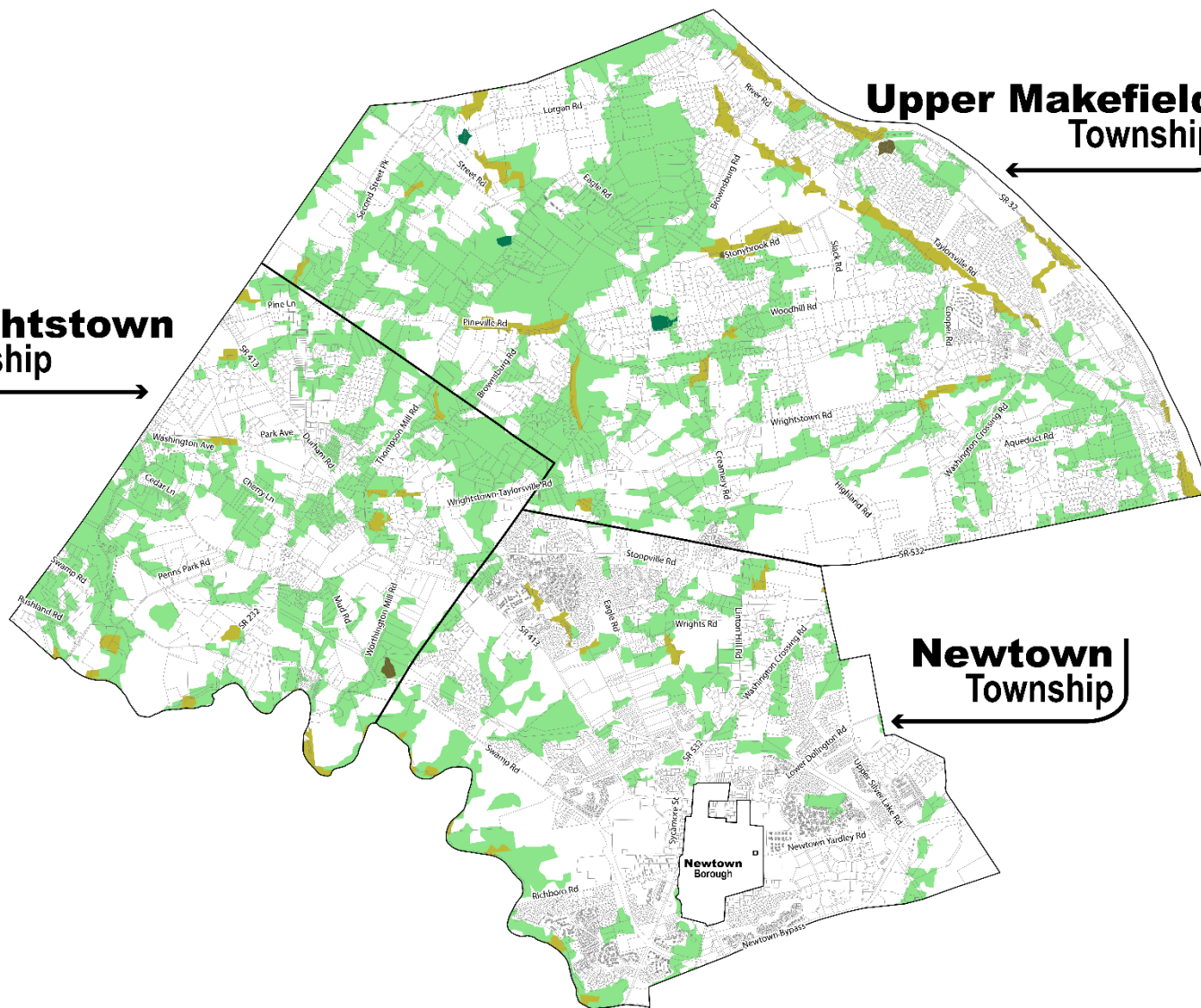


Wrightstown Township

Upper Makefield Township

Newtown Township

Newtown Borough



Woodland Type

- Deciduous Forest
- Evergreen Forest
- Woody Wetlands
- Mixed Forest

Wrightstown Township

Upper Makefield Township

Newtown Township

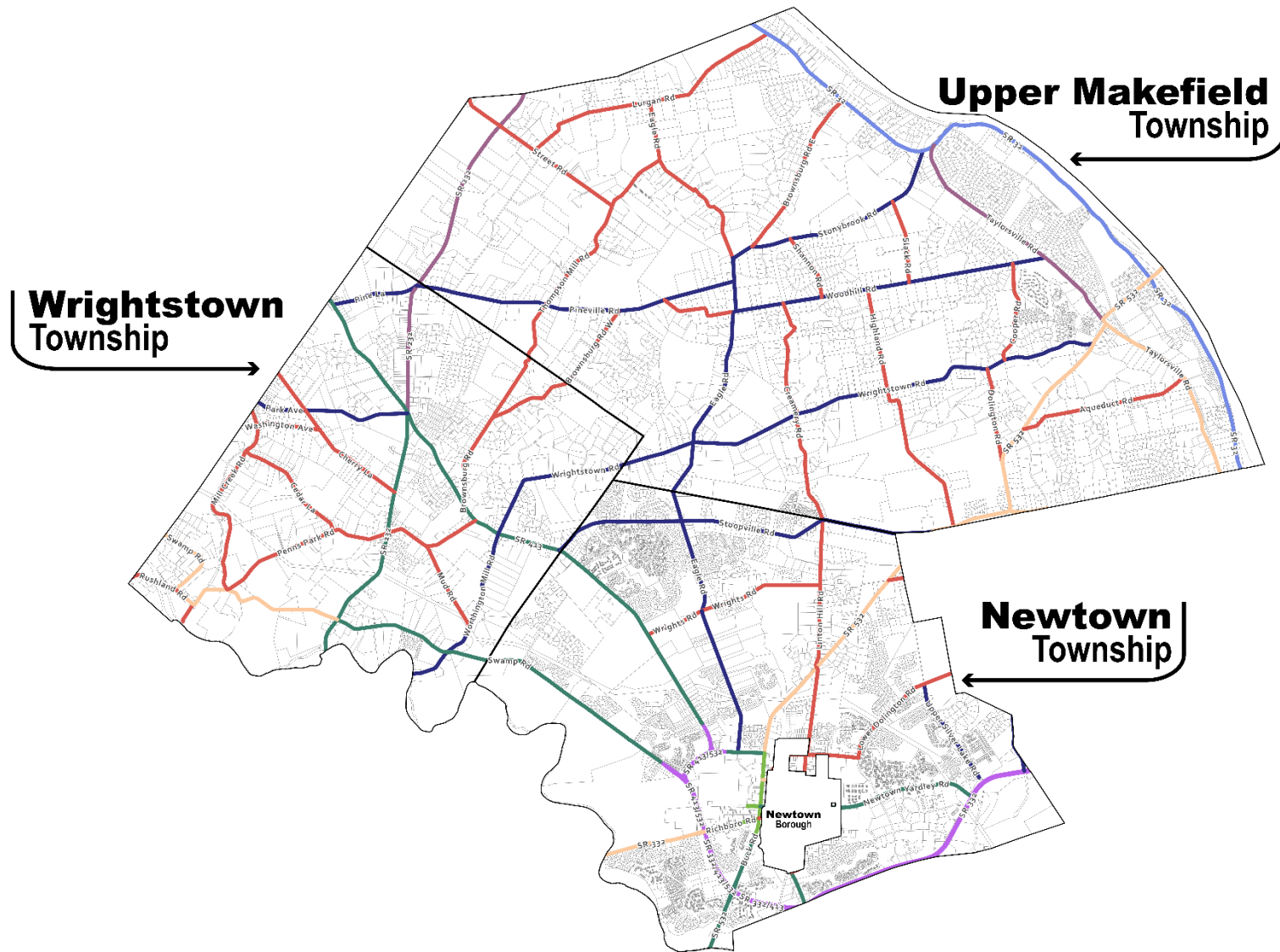
Newtown Borough

Agricultural Soil Type

- Prime Agricultural Soil
- Farmland of Statewide Importance

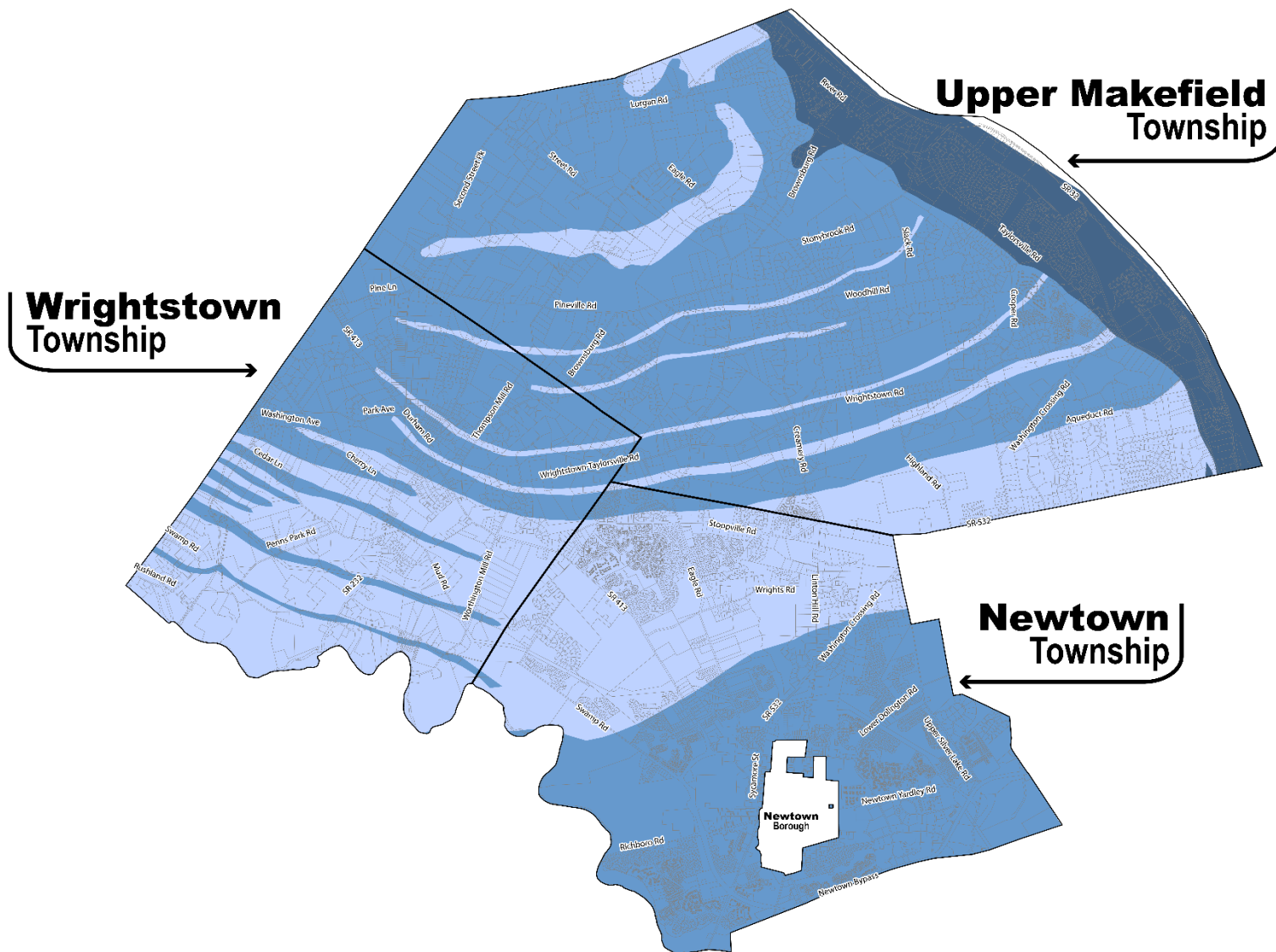
Newtown Area Joint
Comprehensive Plan (2024)

Map 7 - Agricultural Soils



Road Classification

- | | |
|--------------------|-------------------|
| Expressway | Minor Collector |
| Principal Arterial | Feeder Street |
| Minor Arterial | Commercial Street |
| Major Collector | Scenic Street |



Newtown Area Joint
Comprehensive Plan (2024)



















Map 9 - Groundwater Limitation

Wrightstown Township











Upper Makefield Township

Newtown Township

COMMUNITY FACILITIES








- | | | |
|--|--|--|
|  Upper Makefield Township Municipal Building |  Newtown Township Fire Department |  Village Library of Wrightstown |
|  Wrightstown Township Public Works (Penns Park Rd) |  Lingohocken Fire Company |  Bucks County Community College Library |
|  Newtown Township Municipal Building |  Lingohocken Fire Company Substation | |
|  Wrightstown Township Municipal Building (Second Street Pike) |  Upper Makefield Township Fire Department | |
|  Newtown Post Office |  Upper Makefield Fire Department | |
|  Washington Crossing Post Office |  Newtown Township Rescue Squad | |
|  Penns Park Post Office |  Central Bucks Emergency Medial Services | |
|  Pineville Post Office |  Upper Makefield Township Police Station | |
|  Rushland Post Office |  Newtown Township Police Station | |

SCHOOLS




-  Newtown Junior High School
-  Saint Andrews
-  Bucks County Community College
-  La Salle University - Newtown
-  Wrightstown Elementary School
-  Sol Feinstein Elementary School
-  Newtown Elementary School
-  Council Rock High North
-  Goodnoe Elementary School
-  Holy Family University



Community Facility Type

- | | |
|--|--|
|  Municipal Building |  Police Station |
|  Post Office |  Library |
|  Fire Department |  School |
|  Rescue Squad | |

Public Water and Sewer

- | |
|--|
|  Both Public Water and Public Sewer |
|  Public Water Only |
|  Public Sewer Only |

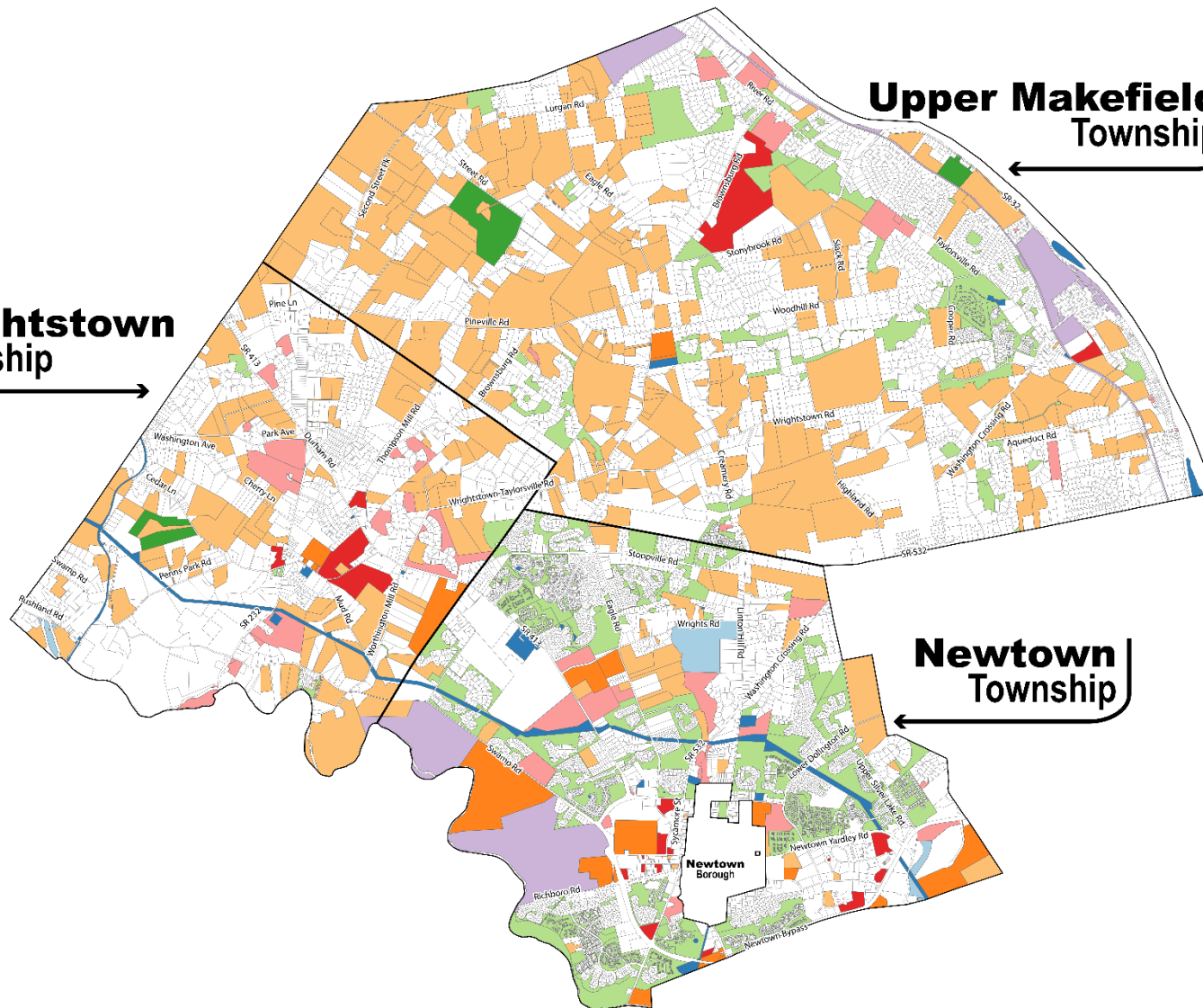
**Newtown Area Joint
Comprehensive Plan (2024)**

Map 10 - Community Facilities

Wrightstown Township

Upper Makefield Township

Newtown Township



Open Space Type

State Land	Land Trust Properties	Government/Utility Land
County Land	HOA Open Space	Private Recreation Land
Municipal Land (Parks/Open Space)	School Land	Privately Preserved Open Space

Map 12 – Historic and Cultural Resources Index

Map ID	Legend Category	Historic/Cultural Resource Description
1	Act 167 Historic Districts	Dolington
2	Act 167 Historic Districts	Newtown
3	Act 167 Historic Districts	Brownsburg
4	National Register Eligible District	Wrightstown Historic District
5	National Register Eligible Properties	John Pitner House
6	National Register Eligible Properties	Temora Farm
7	National Register Eligible Properties	Willow Hill
8	National Register Eligible Properties	Isaac Chapman Farmstead
9	National Register Eligible Properties	Richard Mitchell House
10	National Register Eligible Properties	Moister Property
11	National Register Eligible Properties	Penns Park Octagonal School House
12	National Register Listed Districts	Brownsburg Village Historic District
13	National Register Listed Districts	Buckmanville Historic District
14	National Register Listed Districts	Dolington Village Historic District
15	National Register Listed Districts	Penns Park Historic District
16	National Register Listed Districts	Wycombe Village Historic District
17	National Register Listed Districts	Newtown Historic District
18	National Register Listed Properties	Newtown Presbyterian Church
19	National Register Listed Properties	Peter Taylor Farmstead
20	National Register Listed Properties	Twining Farm
21	National Register Listed Properties	John Burroughs Homestead
22	National Register Listed Properties	John Chapman House
23	National Register Listed Properties	Eagle Tavern
24	National Register Listed Properties	Hayhurst Farm
25	National Register Listed Properties	Keith House
26	National Register Listed Properties	Makefield Meeting
27	National Register Listed Properties	Smith Family Farmstead
28	National Register Listed Properties	Penns Park General Store Complex
29	National Register Listed Properties	William Smith House
30	National Register Listed Properties	Vansant Farmhouse
31	National Register Listed Properties	Waldenmark
32	National Register Listed Properties	Isaiah Warner Farmstead
33	National Register Listed Properties	Wrightstown Friends Meeting Complex
34	National Register Listed Properties	George Tyler Mansion
35	National Register Listed Properties	David Leedom Farm
36	Heritage Conservancy Register	Tyler Hall

37	Heritage Conservancy Register	Zenas Buckman
38	Heritage Conservancy Register	Temora Farm
39	Heritage Conservancy Register	David Leedom Farm
40	Heritage Conservancy Register	Newtown Historic Presbyterian Church and Burial Gr
41	Heritage Conservancy Register	Beck Residence
42	Heritage Conservancy Register	Twining Farm
43	Heritage Conservancy Register	Clark Nature Reserve
44	Heritage Conservancy Register	Washington Crossing State Park
45	Heritage Conservancy Register	Windy Bush/Thomas Smith Property
46	Heritage Conservancy Register	Goose Hollow (Ezekial Atkinson House)
47	Heritage Conservancy Register	Wiggins Double Barn
48	Heritage Conservancy Register	General Greene Headquarters/Samuel Merrick House
49	Heritage Conservancy Register	Keith House/Washington's Headquarters
50	Heritage Conservancy Register	Benjamin Wiggins House
51	Heritage Conservancy Register	Hayhurst Farm/General Sullivan Headquarters
52	Heritage Conservancy Register	Eagle Tavern (Woodhill Store)
53	Heritage Conservancy Register	David Merrick House
54	Heritage Conservancy Register	James McNair House
55	Heritage Conservancy Register	John Chapman House/London Purchase Farm/Knox-Hamil
56	Heritage Conservancy Register	Smith Family Homestead
57	Heritage Conservancy Register	John Reeder House
58	Heritage Conservancy Register	Taylor-Cadwallader Farm
59	Heritage Conservancy Register	James McMaster House
60	Heritage Conservancy Register	Shady Hill/John Burroughs Homestead
61	Heritage Conservancy Register	David Library
62	Heritage Conservancy Register	David Barton Taylor House/Long Meadow Farm
63	Heritage Conservancy Register	William VanHorn House
64	Heritage Conservancy Register	Old McCarns Place/Village Antiques '73
65	Heritage Conservancy Register	Julia Cozen's House/Leland's
66	Heritage Conservancy Register	Fieldstone Farm/George Slack Farm
67	Heritage Conservancy Register	Highland Manor
68	Heritage Conservancy Register	Makefield Meeting
69	Heritage Conservancy Register	Taylor-Samuel Gwinner Home
70	Heritage Conservancy Register	Charles B. Knowles House
71	Heritage Conservancy Register	Taylorsville School
72	Heritage Conservancy Register	Charles Taylor Home/Canal House
73	Heritage Conservancy Register	Samuel Yardley House
74	Heritage Conservancy Register	Mitchell's Mill & Miller's Cottage/Rush Valley Mil
75	Heritage Conservancy Register	Creamery Hill/Rush Valley Creamery

76	Heritage Conservancy Register	Richard Mitchell House/Mill Creek Farm
77	Heritage Conservancy Register	Clark/Bennet House
78	Heritage Conservancy Register	Overlook Valley Farm
79	Heritage Conservancy Register	John Smith House
80	Heritage Conservancy Register	Trivellini Residence
81	Heritage Conservancy Register	Thomas Atkinson House
82	Heritage Conservancy Register	Octagonal School House
83	Heritage Conservancy Register	Frog Hollow
84	Heritage Conservancy Register	Around the Bend
85	Heritage Conservancy Register	Fire Creek Farm
86	Heritage Conservancy Register	William Smith House
87	Heritage Conservancy Register	Wrightstown Friends Meeting Complex
88	Heritage Conservancy Register	Indian Walk Symbol (Walking Purchase of 1737)
89	Heritage Conservancy Register	Trowbridge Residence
90	Heritage Conservancy Register	Penn Oak Farm
91	Heritage Conservancy Register	Hickory Hollow
92	Heritage Conservancy Register	Merrick Family Home
93	Heritage Conservancy Register	Fechter Residence
94	Heritage Conservancy Register	Home & Office of Howard A Hellyer, M.D.
95	Heritage Conservancy Register	White Gate
96	Heritage Conservancy Register	Bethlehem on the Neshaminy
97	National Historic Landmark	Delaware Canal
98	National Historic Landmark	General Greene Headquarters/Samuel Merrick House
99	National Historic Landmark	Hayhurst House/General Sullivan Headquarters
100	National Historic Landmark	Washington Crossing State Park - Bowman's Tower
101	National Historic Landmark	Dr. Chapman House/Colonel Knox Headquarters
102	National Historic Landmark	Washington Crossing State Park