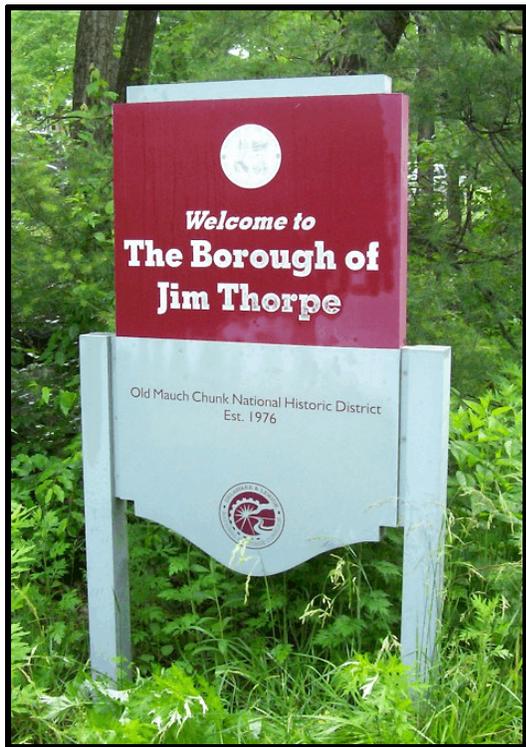


MIDDLE CARBON COUNTY COMPREHENSIVE PLAN

Borough of Jim Thorpe ♦♦♦ Borough of Lansford
Township of Penn Forest ♦♦♦ Borough of Summit Hill

2012



MIDDLE CARBON COUNTY COMPREHENSIVE PLAN

Borough of Jim Thorpe



Borough of Lansford



Township of Penn Forest



Borough of Summit Hill

**DRAFT
MAY 2012**

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INTRODUCTION AND OVERVIEW

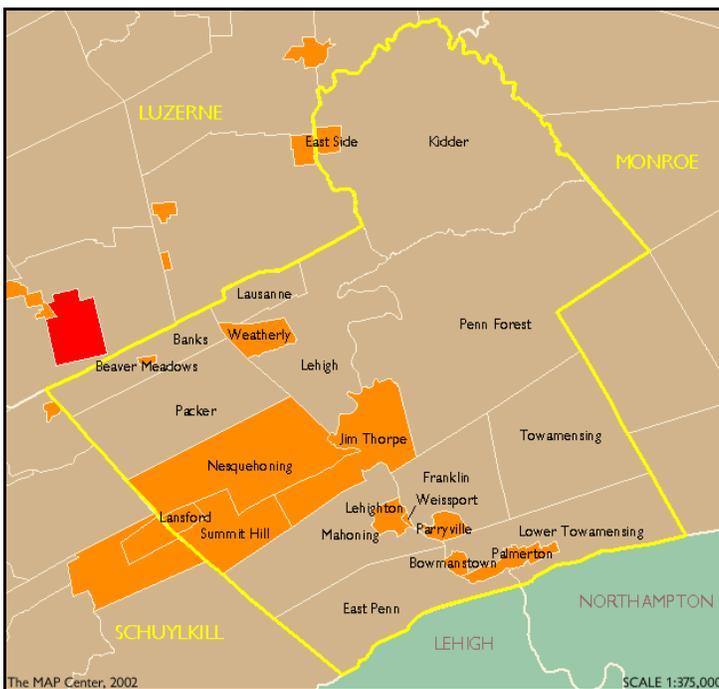
Planning Needs

This *Middle Carbon County Comprehensive Plan* was undertaken by the local officials of Jim Thorpe Borough, Lansford Borough, Penn Forest Township and Summit Hill Borough in recognition of a number of principal critical community needs:

EXISTING PLANS

In 1966 the three Boroughs completed a cooperative planning effort that resulted in the completion of a comprehensive plan for each community and Lansford updated its plan in 1999. This Plan is the first comprehensive plan for Penn Forest Township.

- to identify and inventory the changes which have taken place in the four municipalities in recent years.
- to establish a framework for the conservation of the historic character, residential neighborhoods, open land, and environment while concurrently providing for sustainable growth and development;
- to provide the foundation for updated land use management tools, principally the zoning ordinance and the subdivision and land development ordinance, to ensure well designed development and to minimize sprawl;
- to organize and cooperate for the most efficient administration of local government and the delivery of community facilities and services while maintaining individual municipal autonomy;
- to improve the quality of life for residents by maintaining and improving the built and natural environment and encouraging economic development; and,
- to address consistency with the Carbon County Comprehensive Plan.

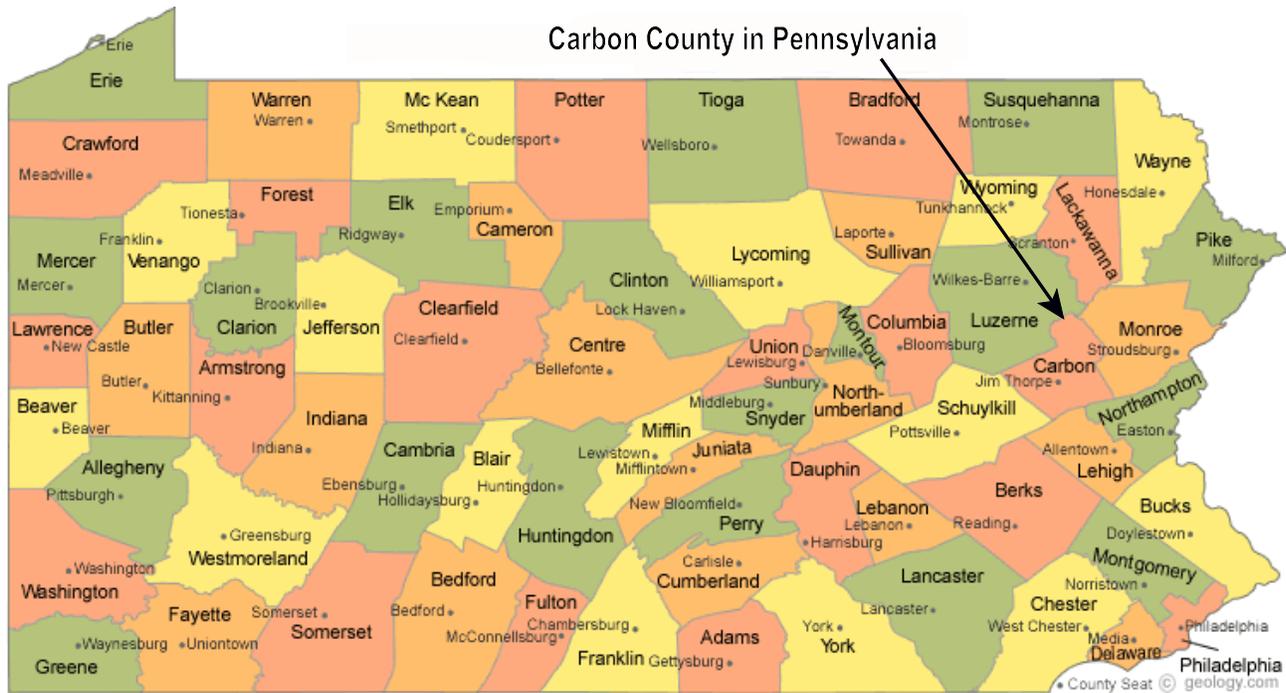


Jim Thorpe, Lansford, Penn Forest and Summit Hill in Carbon Co. (Source: The Map Center, King’s College.)

Middle Carbon County

Geographically, Jim Thorpe lies in the center of Carbon County serving as a bridge between Summit Hill Borough and Lansford Borough to the west adjoining Schuylkill County, and Penn Forest Township to the east adjoining Monroe County. Although each of the Middle Carbon County Planning Area communities is unique in terms of community character and development concerns, the four municipalities share concerns about growth and development over the next ten to twenty years.

Summit Hill Borough, Lansford Borough and Jim Thorpe Borough are relatively small municipalities in terms of population, but with significant land area. The population of the three Boroughs has been declining for more than 60 years. Lansford and Summit Hill are more mature communities linked to the decline in coal production and subsequent loss of businesses, and the U.S. Census 2008 population estimate reported a small loss of population for the two Boroughs. Jim Thorpe’s population was estimated to have increased somewhat by 2008, perhaps owing to it serving as the County Seat and

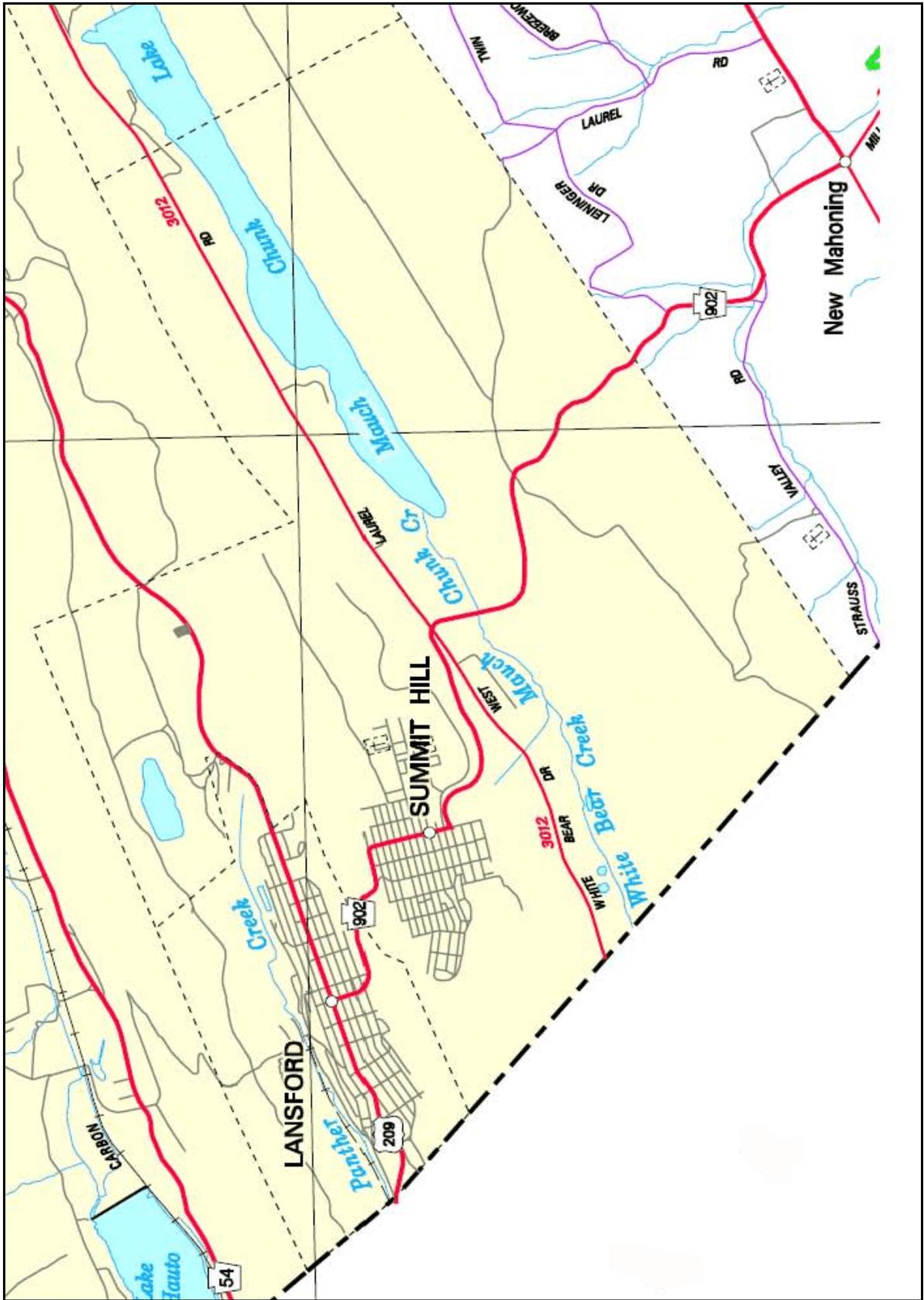


POPULATION	1990	2000	2010
Jim Thorpe	5,048	4,804	4,781
Lansford	4,583	4,230	3,941
Penn Forest	2,895	5,439	9,581
Summit Hill	3,332	2,974	3,034
Total	15,858	17,447	21,337
Carbon Co.	56,846	58,802	65,249

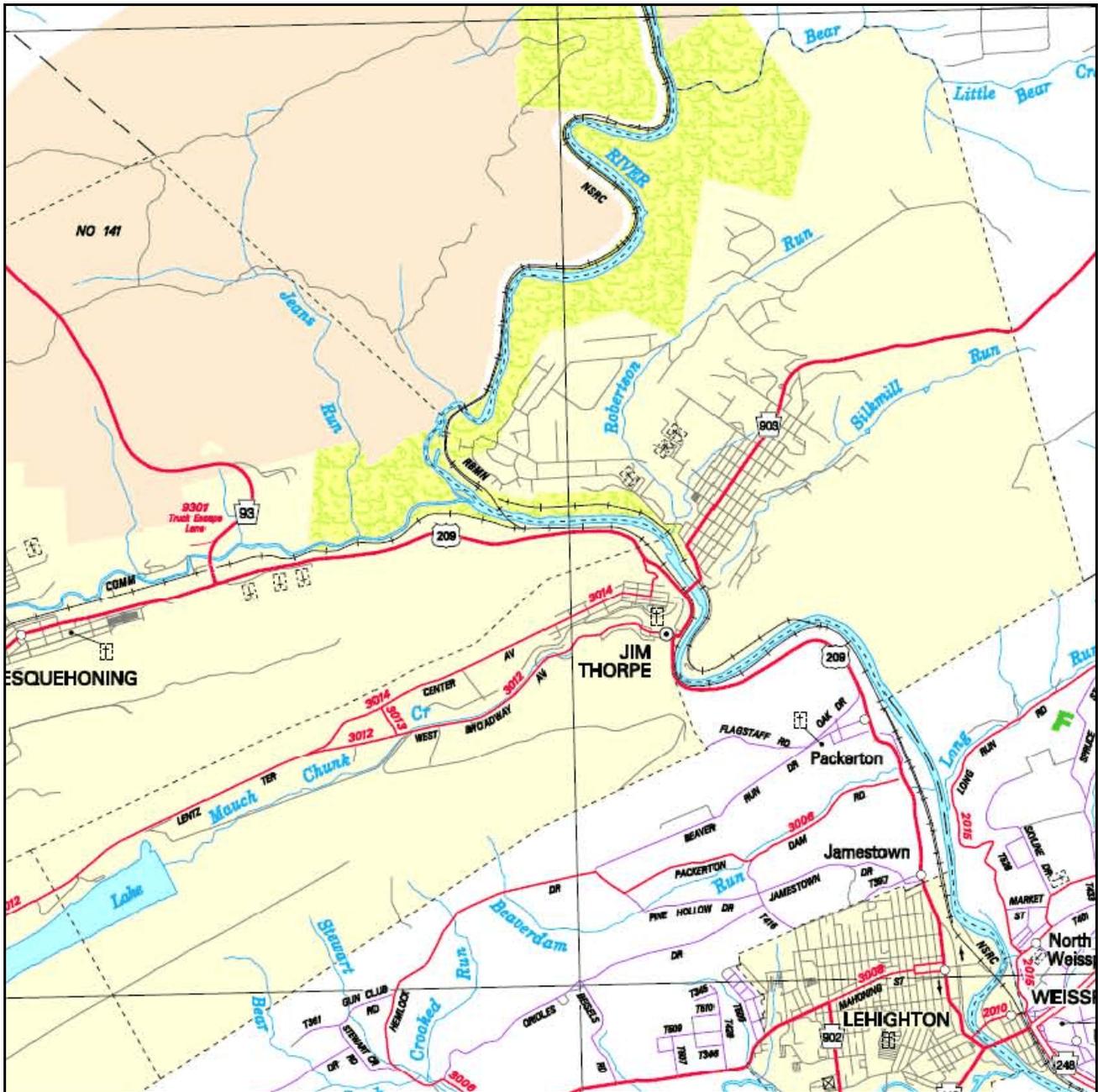
a major tourist destination with more retail and service businesses. In any case, the three Boroughs must deal with diminishing resources to maintain existing, and consider improved or new, facilities and services.

Penn Forest Township encompasses the largest land area in the County and has experienced significant second home development, and subsequent permanent population growth, similar to other municipalities associated with the Pocono Mountains. In short, Penn Forest Township's has been increasing dramatically, and with the completion of the planned Pennsylvania Turnpike/Route 903 interchange, the populations growth is expected to continue.

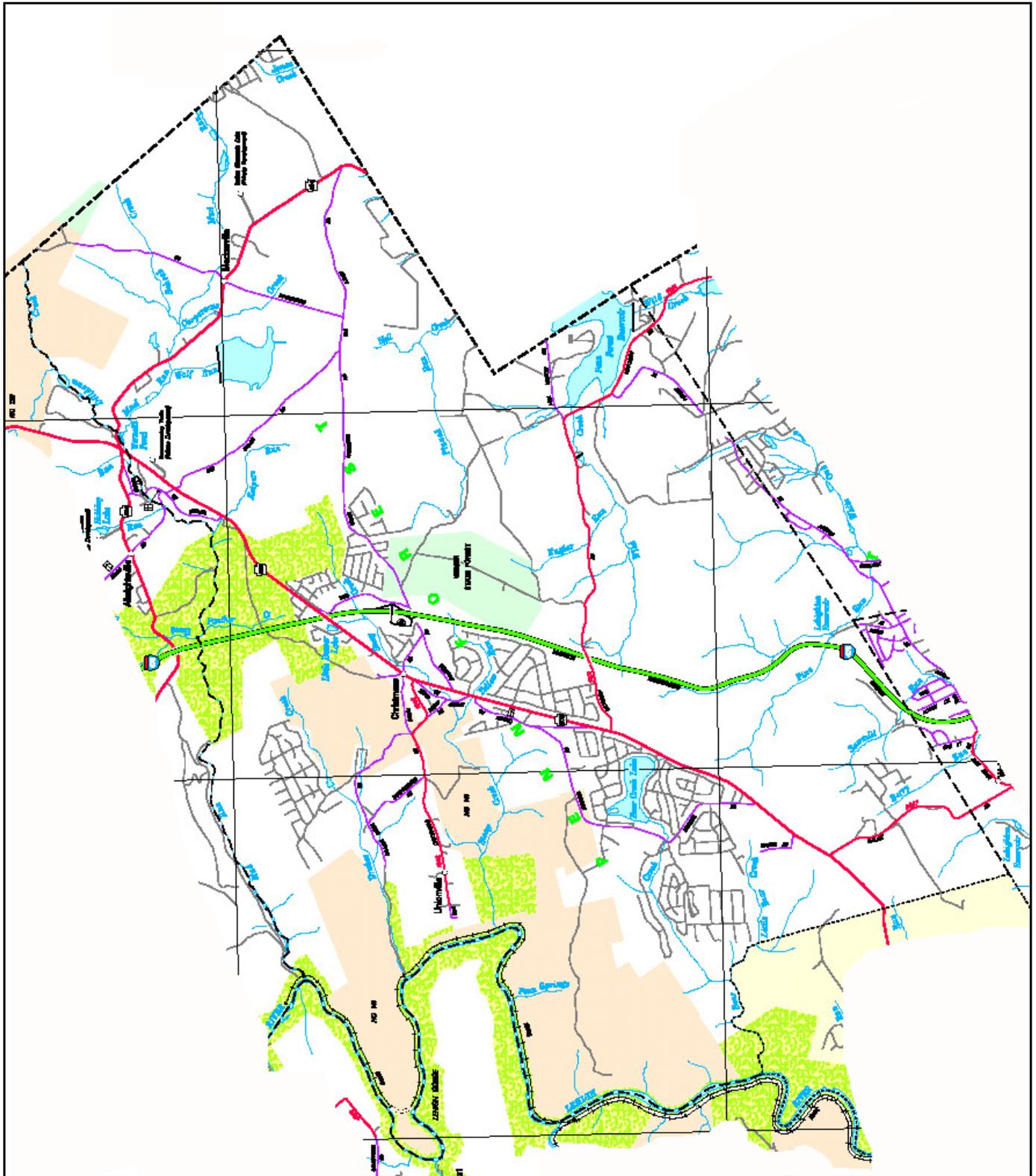
The Planning Area faces issues ranging from deteriorating and inadequate infrastructure, to a declining economic base and transition to almost purely bedroom communities, to traffic congestion from visiting tourists, to an expanding population and increasing demand for facilities and services. The four municipalities have come together to develop a plan for the future that will provide a means to achieve coordinated, quality growth that eliminates, or at least diminishes, perceived problems and enhances the community's positive assets, and which is sustainable.



Lansford Borough and Summit Hill Borough (PennDOT Type 10 Map)



Jim Thorpe Borough (PennDOT Type 10 Map)



Penn Forest Township (PennDOT Type 10 Map)

Planning Issues Overview Community leaders of Jim Thorpe Borough, Lansford Borough, Penn Forest Township and Summit Hill Borough realize the value of cooperative action to address community and land use management issues which, among others, include:

- Infrastructure needs -
 - Maintaining adequate public water supply and sewage disposal and how best to serve new development.
 - Parking in the central business districts related to commercial establishments and County offices in Jim Thorpe.
 - How best to provide recreation facilities.
 - Exploring intermunicipal cooperation as a means of improving delivery of facilities and services.
- Increasing traffic resulting from -
 - Regional growth - Lehigh Valley, Monroe County and Schuylkill County.
 - Increasing permanent and seasonal population in Penn Forest Township surrounding communities.
 - Expanding County government services.
 - More visitation to area tourist attractions.
 - Many commuters working out of the area.
- Economic development -
 - Identifying the type and scale of commercial development to fit local character.
 - Meeting the needs of existing businesses for employment retention and expansion.
 - Taking full advantage of tourism and the Jim Thorpe historic district.
 - Maintaining and invigorating the other Planning Area business districts.
 - Taking full advantage of the growth in government and social services employment.
- Land Use
 - Exploring land use controls aimed at protecting open space and natural resources.
 - Addressing residential density concerns related to sewer and water extensions.
 - Updating zoning and subdivision standards to meet anticipated growth and development including cooperative zoning among the four municipalities.
 - Evaluating the best means of preserving open space and establishing greenways.

**Multimunicipal Planning
Continued Cooperation**

The four communities believe a multimunicipal plan and cooperative implementation via zoning and subdivision and land development controls are the best means of preserving the quality of life in each municipality and providing for coordinated and orderly growth and development. Local officials organized under the terms of the Intergovernmental Cooperation Act and Article XI of the Pennsylvania Municipalities Planning Code (MPC) to develop and adopt a multimunicipal comprehensive plan in accord with MPC Article III. This multimunicipal plan will enable the Boroughs and Township to develop cooperative implementation agreements, including zoning ordinances, to encourage and manage growth and development from an area-wide perspective. Maintaining the quality of life while encouraging commercial development in appropriate areas is a key goal of municipal officials.

The need for long range planning and sensible land use controls is clear. The Planning Area municipalities must ensure that adequate area is designated for controlled commercial development, a variety of housing types are encouraged, and environmental issues are addressed. At the same time, the Comprehensive Plan must recognize the need to avoid unnecessary or burdensome controls on development, and land use controls must be reasonable in terms of effect on the viability of agriculture, residential density, housing types and costs of the development process. The multimunicipal plan will also provide the means of detailing existing conditions in each community and exploring cooperation in providing other community facilities and services such as joint purchasing, police protection and recreation.

Planning Process: Key Questions

Each governing body appointed members to a Planning Committee to conduct the planning process. Citizen participation included stakeholder forums, community meetings, key person interviews and the Borough and Township Planning Commission meetings and hearings required by the Pennsylvania Municipalities Planning Code prior to the adoption of the plan.

In short, the planning process involves finding the sometimes complex answers to four simple questions:

1. *Where are we?*
2. *Where do we want to be?*
3. *How do we get there?*
4. *How are we doing?*

Where are we? Background Studies

The initial step in the process is the collection and analysis of information on a wide range of community characteristics and concerns aimed at defining the existing condition of the community and identifying planning implications. Data is compiled for the following:

- *Community Character and Development History*
- *Growth and Development, and Existing Land Use*
- *Natural Features, Land Suitability for Development and Development Concerns*
- *Demographics and Economic Base*
- *Community Facilities and Services*
- *Highways and Transportation*
- *Planning and Development in Carbon County, the Region and Contiguous Municipalities*

Basic Planning Steps

Where are we? - inventory

Where do we want to be? - goals/plans

How do we get there? - implement

How are we doing? - evaluate



Where do we want to be? - Goals & Objectives/ Plans The *Plan Goals and Objectives* are a vision of how residents and local officials expect the community to develop and evolve into the future. Objectives are specific actions which are designed to achieve goals and satisfy community needs. The *Goals and Objectives* were formulated by the Planning Committee based on public input and the findings of the background studies. Based on this community vision and the needs identified in the planning process, the Planning Committee formulated the various plans to guide the future growth and development of the Planning Area including:

- *Land Use Plan*
- *Natural Resource Conservation Plan*
- *Community Facilities and Services Plan*
- *Transportation Plan*
- *Housing Plan*
- *Historic Resources Plan*

How do we get there?
**Implementation
 Strategies**

The specific means to effect the various plans are also included, and are detailed in the *Planning Process and Interrelationship of Plan Elements and Implementation Strategies* section and discussed at various points in the various specific plans. In addition, and to facilitate on-going use of the *Plan*, the actions and the responsible entities required to carry out the plan's expectations are summarized in a matrix titled *Findings and Summary of Actions*. Examples of *implementation strategies* include zoning ordinances, subdivision and land development ordinances, historic structures preservation, capital improvement budgeting and identifying funding sources.

While the ultimate responsibility for the three Boroughs and the Township lies with each Borough Council and the Board of Supervisors, respectively, much of the work of implementation, assessment of the accomplishment of goals and objectives, and periodic comprehensive plan review can be accomplished by the Planning Commissions and citizen volunteers who are appointed to special committees or task forces along with the elected officials. These groups can provide evaluations and recommendations to the appropriate governing body for action.

How are we doing?
**Need for
 Continued Planning**

It is important to emphasize that a comprehensive plan should not simply be considered a *document on a shelf*, but instead, one element of a community management process dependent upon the attitude and on-going foresight of the public officials charged with the responsibility of guiding the growth and development of the community. The *Plan* should be used by the community when important decisions are made and its goals and objectives and prioritized actions should be reviewed at least each year to assess the community's accomplishments or the need to shift priorities for action.

Simply stated, a comprehensive plan is a starting point - a blueprint to guide the future development of the Planning Area and should be revised and updated periodically to reflect changing conditions, attitudes, situations, and goals of the community. The success of the planning program will be measured only in the form of accomplishment. The effectuation of the plan will be the responsibility of the area's residents and local officials.

State Mandated Plan Review

The Pennsylvania Municipalities Planning Code (§301,c) requires local municipal comprehensive plans to be reviewed *at least every ten years*. The change suggests a greater Commonwealth emphasis on planning and the need for local municipalities to incorporate the planning process into normal functions. However, the ten-year review window is certainly far too long. Planning, that is, assessing how decisions and community changes fit into the plan, should be practiced continually.

COMMUNITY CONSERVATION AND DEVELOPMENT GOALS AND OBJECTIVES

Need for Goals and Objectives

Any community planning effort by its very nature must include goals. Without goals there would be little direction to the future of the community. In the case of planning for the Middle Carbon County Planning Area, goals establish the framework for change and growth management, and the foundation for maintaining key community characteristics. Goals pronounce the community's expectations and provide a vision of how the community plans to evolve into the future. Objectives are specific actions which are designed to achieve goals and satisfy community needs. Making decisions based on planning goals and attaining specific objectives improves the physical condition of the community and sustains and enhances the overall quality of life.

Shared Vision - Every successful business, organization, or individual has a plan for the future. Communities are no different. If nothing else, a community needs to agree on a shared vision of what it wants to become. This vision should address the full range of local concerns: schools, housing, economic development, neighborhoods, parks and open space. Creating a shared vision is important because it provides a blueprint for the future of the community. People may differ on how to achieve the community's vision, but without a blueprint nothing will happen.

Source: Balancing Nature and Commerce in Gateway Communities, Howe, J., McMahon, and Propst, L., Island press, Wash., D.C., 1997, p. 48.

Community Balance

Rural communities and residents of rural communities are characteristically unique from their more urban counterparts, and have the opportunity to directly mold their communities. The same can be said for the Planning Area which is clearly a rural community in transition. *The rural community is seen as the conservator of its own resources, habitat, and culture. Local citizens are directly involved in the control of community assets as they plan for the retention, enrichment, and equitable use of those assets for present and future generations.*

*Along with the community's goals, specific objectives must be identified; actions and methods for achieving the goals. Some objectives will be the direct responsibility of local elected and appointed officials. Others will require the cooperation and participation of other levels of government and the private sector.*¹



The goals of all residents of the community will not be the same. Some residents will demand community conservation and environmental protection while other residents will favor increased economic development. Some residents will demand more community facilities and services, while others prefer lower taxes. Some residents will strive for land use diversity while others would prefer to live in a residential community. One function of the community planning process is to strike a balance between these varied expectations and develop a shared vision to meet the overall goals of the community.

County Planning and Area Wide Planning

A key factor in formulating a set of local goals and objectives is the planning conducted at the county level. Typically, a county-wide comprehensive plan establishes a broad framework for the future growth and development of the county. Carbon County adopted its first comprehensive plan

¹ P. Lusk, J. A. Rivera, F. O. Sargent, M. Varela, (1991) *Rural Environmental Planning for Sustainable Communities*, Island press, Washington, D. C., p. 5

in 1967, long before the Pennsylvania Municipalities Planning Code (MPC) required counties in the Commonwealth to adopt comprehensive plans. The County is currently updating its plan which was last updated in 1998.

MPC §301.4, states *municipal comprehensive plans which are adopted shall be generally consistent with the adopted county comprehensive plan.* This *Middle Carbon County Comprehensive Plan* is intended to maintain consistency with the recommendations of the *Carbon County Comprehensive Plan* to the extent that the *County Plan* is not untenable in terms of the key provisions of the *Plan*. Another test of consistency for this plan will be addressed in terms of the plans of neighboring municipalities along with the plans of other public entities and community organizations providing community facilities and services and dealing with growth and development issues. The Panther Valley School District and the Jim Thorpe School District are good examples of such entities.

A Guide and Policy Statement

This *Comprehensive Plan* is intended to serve as a means of addressing the future growth and development of the Planning Area by identifying key issues and establishing goals and objectives. The community planning process is also aimed at fostering cooperation between Carbon County and the four municipalities as envisioned by §306 of the Pennsylvania Municipalities Planning Code which states, *both the county and the municipality shall each give the plan of the other consideration in order that the objectives of each plan can be protected to the greatest extent possible.*

The following goals and objectives were developed by local officials based on the planning process. The goals and objectives are intended to serve as a guide and policy statement for land use management and community facilities and services decision making. Any significant action taken by a local municipality, be it the adoption of a zoning ordinance amendment or the improvement of a municipal building, should be evaluated in terms of the community's goals and objectives. In addition, community planning and land conservation and development management is an on-going process, and residents and local officials must periodically evaluate and update the goals and objectives to accurately reflect current community conditions and expectations.

General Community Development Objectives

This statement of the General Community Development Objectives is intended to set the overall tone for the *Comprehensive Plan* and its implementation. More detailed goals and specific objectives for particular aspects of the Planning Area follow in a later section.

Cooperation - To use the comprehensive planning process to explore the potential for cooperation between the three Boroughs and the Township, other municipalities and the County on growth and development issues of area wide concern.

Internal Coordination - To strive for coordination between policies, plans, and programs in the Planning Area through cooperation among governing officials, appointed boards, community interest groups, and residents.

Public Information - Achieve greater awareness, understanding and participation of residents with the recommendations in the *Comprehensive Plan* via an active public information process with such methods as a web site, newsletter, and public meetings.

Use of Land - To achieve the best use of the land within the Planning Area while

encouraging quality residential and commercial development. The focus will be on the preservation of the environment and open space. This will ensure that the varying uses of land will complement one another and thus improve the economic, social, and aesthetic character of the overall community.

Range of Land Uses - To allow a range of residential and commercial uses at appropriate locations and establish performance standards through cooperative zoning to ensure that such uses do not unduly affect adjoining properties or the public health, safety and general welfare and are consistent with the historic and gateway character of the communities.

Population Density - To establish realistic population densities in order to ensure health standards, privacy and open space and in order to allow for the provision of community facilities and services in the most convenient and efficient manner.

Streets and Roads - To maintain and improve the street and road system for better internal circulation and safety and to protect residential neighborhoods from through traffic.

Facilities and Services - To provide the necessary community facilities and services to meet the needs of increased development and the increasing and changing population.

Environmental Protection - To guide the location of future development and establish performance standards to minimize negative impacts (*externalities*) on the natural environment and the community as a whole.

Housing - To provide the opportunity for a wide-range and variety of housing types at reasonable densities to meet the needs of all residents; newly-formed households, growing families and senior citizens, and to work with available agencies, programs and financing to address housing condition problems.

Economic Development - To provide, within the context of the larger community, the opportunity for local business and strengthen the area economy by encouraging well-planned commercial, industrial, residential, and recreational growth which will provide for local employment, shopping facilities, and recreational opportunities which in turn will strengthen the tax base.

Monitoring - To update and revise planning goals and objectives, and the operational tools necessary for implementation, in light of new data and changing conditions, and to meet a changing population, both current and new residents, in concert with maintaining small town character and quality environment.

GOAL 1 - LIFESTYLE AND COMMUNITY CHARACTER

Protect the Middle Carbon County Planning Area's quality lifestyle by maintaining and enhancing historical, small town and rural character; and, recognize the abundant forest land and other open land as important elements of the local economy, character, and scenic setting.

The Planning Area's physical environment, regional location and past development practices have shaped its character as three small town enclaves surrounded by thousands of acres of open land. Open land and access to Lehigh River transportation routes were the cornerstone of the foundation of the area when its earliest settlers arrived, and have played critical roles in the growth and development of the Planning Area. Without this open land and the natural resources it offered, particularly agricultural soils, timber and coal, the character of the Planning Area would be dramatically different.

Maintaining historic small town character and surrounding open land and the quality lifestyle associated with it is key to the future of the Planning Area. The decline in the number of commercial establishments in Lansford and Summit Hill and the importance of tourism in Jim Thorpe present challenges to maintaining the economic viability of the communities. In Penn Forest Township, which is associated with the Pocono Mountain region, second home development has resulted in the conversion of thousands of acres of open space, and the pending Route 903/Pennsylvania Turnpike interchange will certainly stimulate demand for additional residential development. Large privately and publically owned parcels of land with sensitive environmental areas such as steep slopes and wetlands, which contain the headwaters of high quality streams and protecting groundwater and municipal water supplies, are key to the future of the Planning Area.

Future development must be managed with an overriding concern to sustain this community character.

Note About Open Space

The preservation of open space is a common thread of this *Comprehensive Plan*. Open space is land which has not been developed for a constructive or productive use and is intended for environmental and natural resource protection, scenic, or recreational purposes. Open space may include, for example, woodland, wetlands, watercourses, reverting farmland, and floodplain. In the Middle Carbon County Planning Area, hundreds of acres of forest land are preserved as water authority watershed, municipal open space, County park land, and state park, game and forest land. In Lansford and Summit Hill reclaimed coal strip mines comprise many acres of open land. In the case of a development project, open space may include passive recreation areas such as ballfields, lawns and buffer areas. Agricultural land is certainly open land, but not truly open space because it is in fact highly developed for crop and livestock production.

LIFESTYLE AND COMMUNITY CHARACTER OBJECTIVES**Small Town Character**

Incorporate the maintenance and enhancement of historical and small town character into municipal decision making.

- Volunteer Organizations - Continue to support and cooperate with all of the volunteer organizations involved in the enhancement of the four municipalities.
- Historic Character - Integrate the protection of historic character into all public decisions and work with property owners and community organizations to preserve historical character.
- Pedestrians - Provide a safe environment for pedestrians by improving sidewalks, controlling traffic, and requiring new development to address pedestrian traffic.
- Parks - Maintain existing community parks and recreation areas and develop new

ones as finances permit.

- Streetscape - As a means of enhancing small town appeal maintain/improve the appearance of business districts with streetscape improvements.
- Street Trees - Recognize the importance of street trees to the communities and continue to preserve and replace street trees.
- Zoning - Develop zoning performance standards to control residential density and minimize conflicts between existing and future development, and update periodically to address changing conditions.
- Cooperative Zoning - Consider the use of cooperative zoning in the Middle Carbon Planning Area as a means of directing higher density residential and commercial/industrial development to areas best suited for such development.
- Commercial Uses -Ensure consistency of commercial uses with existing community character by apply zoning performance standards to address noise, lighting, outdoor storage, and other potential effects as well as ensuring appropriate landscaping and signage.
- Commercial Design - Develop guidelines for commercial building design, landscaping and parking that will ensure high aesthetic quality and while meeting basic development needs.
- Commercial Location and Scale - Carefully control the location and scale of commercial establishments while recognizing the importance of such development to the convenience of local residents and the tax base.
- Economic Development - Cooperate with local business development organizations to promote commercial development which builds on community assets and which will not compromise the quality of life.
- Water and Sewer - Carefully consider the expansion of the central water supply and central sewage collection and treatment facilities in terms of stimulating unwanted development in areas with important historical, cultural, natural, and scenic features.
- Tourism and Recreation - Provide for tourism and recreation related businesses in all areas where conflicts with existing residential uses will not occur.
- County Facilities - Recognizing that serving as the County Seat has played an important part of the Jim Thorpe's history and economy, work with the Carbon County Board of Commissioners to ensure the expansion of County facilities is consistent with the goals and objectives of this *Comprehensive Plan*.

Open Land

Preserve and conserve forest and agricultural land, open space, significant natural features and sensitive land areas to maintain rural-recreational character.

- Important Areas - Identify and prioritize areas important for preservation.

- Connections - Form a connected network of open space to facilitate natural resource and habitat protection and passive recreational opportunities (e.g., trail networks) with particular attention to connection with public lands.
- Conservation Design - Consider requiring the use of *conservation subdivision design* to cluster residential development away from important natural, historic, scenic and cultural features, and preserve the resulting open space.
- Innovative Conservation Methods - Evaluate more progressive means of open land preservation including purchase of conservation easements and transferable development rights, especially in cooperation with the Carbon County Office of Planning and Development, and conservancy and land trust organizations.
- Clean and Green - Encourage use of Act 319 *Clean and Green* as a means of forestalling development.
- Coal Company Lands - Work with the Lehigh Coal and Navigation Company and other local companies as they continue to mine and reclaim their lands to address long term open space needs.
- Forestry Enterprises - Do not overly restrict forestry enterprises with unnecessary zoning regulations provided best management practices are employed.
- Small Business - Encourage home occupations and small businesses as a means of allowing the owners of large parcels to realize economic gain thereby forestalling the development of open land.

GOAL 2 -LAND USE

Develop a land use plan for the Planning Area that integrates all aspects of growth and development including residential, commercial, industrial and open space.

Land use management is a complex process that depends on the interrelationship of a number of factors including the historic development pattern, regional location, demographics, the regional economy, the transportation network, and soils and land capability. Most of these factors are beyond the control of local municipalities. However, this *Comprehensive Plan* gives Jim Thorpe, Lansford, Penn Forest and Summit Hill the opportunity to work together provide the foundation to manage the growth and development of the Planning Area using innovative land use management ordinances, careful programming of public facilities, and active participation of residents.

Rampant land conversion is a first consequence of the way Pennsylvania is growing. Quite literally, development-as-usual is consuming the Commonwealth's traditional rural landscape of farmland, forests, wetlands, and open spaces. Overall, Pennsylvania developed some 1.14 million acres, or 1,800 square miles, of fields, open space, and natural land between 1982 and 1997 – the sixth-largest such conversion after Texas, Florida, Georgia, North Carolina, and California.

This also means that fully one-third of all the land that the Commonwealth has ever urbanized since its founding was developed in just 15 recent years. Put another way, over those 15 years the state consumed land at a rate equivalent to 209 acres a day, or 9 acres an hour, every hour.

Source: Back To Prosperity, A Competitive Agenda for Renewing Pennsylvania, p. 47.

A healthy economy fosters a healthy community by providing business development and employment opportunities. The historical development pattern of the Planning Area has evolved from the predominance of coal extraction and transport to the increasing importance of recreation and tourism. Concurrently, much of the retail and service sector has shifted from the central business districts of the three Boroughs to areas outside the Planning Area with big box retailers and industrial development. Smaller scale retail establishments and a number of service establishments have developed along Route 903 in Penn Forest Township, but the Township continues largely as a bedroom community. Planning Area residents now rely on the wider region, traveling to areas such as Tamaqua, Hometown and the Lehigh Valley for employment, shopping and personal services.

Local government may choose to not take a direct role in economic development, or can actively participate with economic development organizations. In any case, the four Planning Area municipalities can institute land use management and development policies that have a positive effect on the local economy and tax base, while addressing community conservation concerns. Recreation and tourism, coal extraction and forestry enterprises continue to be important to the local economy and steps should be taken to sustain these activities with provision for environmental protection.

LAND USE OBJECTIVES**Residential**

Preserve the livability of existing neighborhoods and encourage development of livable communities in areas which are physically and environmentally suited adjacent to existing development and, where appropriate, public facilities and services can be conveniently and economically provided.

- Outreach - Develop a community-wide outreach program to citizens, municipal departments, committees, and civic organizations on ways to preserve and enhance the small town residential character.
- Neighborhood Groups - Encourage the formation of resident organizations to promote neighborhood maintenance and restoration.

- Communication - Improve communication between town boards, private non-profit and other local civic organizations to recognize mutual interests for neighborhood enhancement efforts.
- Private Communities - Explore ways of working with homeowners associations in private communities to improve facilities and services.
- Resources - Identify financial resources and programs available for neighborhood and housing preservation.
- Property Maintenance - Consider the adoption and enforcement of property maintenance codes.
- Open Space Access - Create neighborhoods with direct visual access to open land, with amenities in the form of neighborhood open space, and with a strong neighborhood identity.
- Diversity - Provide for a diversity of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups and residential preferences, so that the community's population diversity may be maintained.
- Residential Development Options - Provide multiple development options such as conservation design and transferrable development rights to minimize impacts on environmental resources (sensitive lands such as stream corridors, wetlands, flood plain, and steep slopes) and disturbance of natural or cultural features (such as mature woodlands, hedgerows and tree lines, critical wildlife habitats, historic buildings, and fieldstone walls)..
- Design - Provide greater design flexibility and efficiency in the siting of services and infrastructure, including the opportunity to reduce length of roads, utility runs, and the amount of paving required for residential development.
- Residential Integrity - Eliminate incompatible uses in residential districts.

Commercial and Industrial

Promote innovative forms of commercial and industrial development that are in harmony with the rural-recreational character of the community.

- Standards - Adopt, monitor and update commercial and industrial development standards to protect the public health, welfare and safety, to preserve community character, and to minimize conflicts with the tourism-recreation trade by controlling such activities as noise; outdoor manufacturing, processing and storage; lighting; and other potential effects.
- Scale - Provide opportunities for innovative and community-scaled commercial use as opposed to strip commercial development.
- Services - Facilitate community service uses such as a pharmacy and medical center.
- Commercial Design Standards - Develop guidelines for commercial building design, landscaping and parking that will ensure high aesthetic quality and while meeting basic needs.

- Mixed Use - Encourage residential use of the upper levels of business district properties.

Economic Development

Expand the Planning Area's existing economic base by exploring economic development opportunities consistent with and building on the existing small town and rural-recreational character in order to strengthen the existing general and tourist economy, create employment opportunities and generate tax revenue.

- Economic Development - Recognize the importance of the regional economy and cooperate with local business development organizations and agencies to promote commercial development which builds on community assets and which will not compromise the quality of life.
- Tourism - Support the efforts of local organizations and the Pocono Mountains Visitors Bureau to maintain and promote tourism.
- Location - Welcome new commercial and industrial development to areas of existing similar development and where community facilities are adequate so that the development is compatible with existing land use and community character.
- Home Occupations - Encourage local economic viability by allowing home occupations consistent with residential districts and small businesses consistent with recreation and tourism and the overall community character.
- Government Efficiency - Maintain an efficient government and keep taxes low as an incentive for economic development.
- Existing Business - Support the continued development and possible expansion of existing businesses providing local employment and contributing to the tax base.

Incompatible Uses

Provide adequate separation between incompatible land uses.

- District Location - Evaluate the location of zoning districts relative to one another.
- Commercial - Evaluate the allowed uses in commercial zoning districts and encourage retail, office, and service uses.
- Industrial - Create a separate zoning district for industrial manufacturing, warehousing, and similar high impact uses.
- Setback/Buffers - Provide appropriate setbacks and buffers between land uses.
- Landscaping - Provide landscaping along road frontages in commercial and industrial areas.

GOAL 3 - NATURAL RESOURCES

Conserve streams, lakes and other natural resources and use the resources in a way to sustain the Middle Carbon Planning Area's economy.

Without careful planning and management, the use of natural resources and sensitive environmental areas in the Planning Area can lead to the decline of community character and the quality lifestyle it affords, with eventual direct threats to the environment and public health and safety. Of special concern are lakes, streams, ground water, forest and soil resources. If the quality of the area's natural resources are diminished, the quality of life and the local economy will suffer, and water supplies could be threatened.

The Lehigh River has long been a key ingredient of the Planning Area and County character and economy, serving as a transportation route and now a focus of recreation and tourism. Today, Mauch Chunk Lake and the surrounding Carbon County Park are also important recreation resources as are the lakes in private communities in Penn. Forest Township. Without the protection of headwaters, including such streams as White Bear Creek, Silkmill Run, Robertson Run, Slaughterhouse Creek, Little Bear Creek, Bear Creek, Wild Creek, Hell Creek and Cross Run, downstream water quality and water supply reservoirs cannot be preserved. Panther Creek in Lansford flows to the Little Schuylkill and also must be protected. Good surface water quality must be maintained to sustain its economic value to the Middle Carbon Planning Area and region. Watercourses also carry flood waters, and this capacity must also be considered.

The purpose of conservation: The greatest good to the greatest number of people for the longest time.
- Gifford Pinchot

I recognize the right and duty of this generation to develop and use our natural resources, but I do not recognize the right to waste them, or to rob by wasteful use, the generations that come after us.
- Theodore Roosevelt

If we learn, finally, that what we need to "manage" is not the land so much as ourselves in the land, we will have turned the history of American land-use on its head.
- Gaylord Nelson, Founder of Earth Day

NATURAL RESOURCES OBJECTIVES**Conservation and Sensitive Natural Areas**

Conserve open land, including those areas containing unique and sensitive natural features such as woodlands, steep slopes, streams, flood plains and wetlands, by setting them aside from development.

- Identification Identify sensitive natural areas such as wetlands, groundwater recharge areas, woodlands, steep slopes, poor soils and flood plains, and adopt regulations to protect such areas by requiring resource sensitive development.
- Critical Resource Areas - Promote the conservation of open space within the Planning Area and the County and actively promote the long-term preservation and maintenance of valuable natural resource areas through public negotiated acquisition, private dedication of easements, and other cooperative efforts.
- Land Use Ordinances - Evaluate and develop land use ordinances in terms of effects on natural resources with the goal of maintaining open space to the greatest extent possible while allowing a reasonable density of development.
- Development Standards - Maintain up-to-date standards in local ordinances for storm water control, soil erosion and sedimentation control, sewage disposal, solid waste disposal and other environmental concerns.

- Development Incentives - Implement adopted municipal policies to conserve a variety of irreplaceable and environmentally sensitive resource lands, including provisions for reasonable incentives to create a greenway and trail system for the benefit of present and future residents.
- Conservation Design - Use *conservation subdivision design* to cluster residential development away from important natural, historic, scenic and cultural features, and preserve the resulting open space.
- Transferrable Development Rights - Use transferrable development rights to direct development to locations with adequate infrastructure and enable conservation-minded landowners to preserve their properties.
- Area Wide Cooperation - Coordinate environmental preservation efforts with neighboring jurisdictions, and establish an action plan targeting environmental concerns that require a regional approach.
- Economic Development - Encourage local economic development groups to make natural resource protection an integral part of all promotion efforts.

Water Supply and Surface Water

Protect the supply and quality of drinking water and protect surface water quality.

- E & S Control - Reduce erosion and sedimentation by requiring compliance with DEP regulations
- Stormwater - Adopt up to date stormwater ordinances to control runoff through the use of best management practices.
- Water Quality - Consider the impacts of residential and nonresidential development on water quantity and quality and encourage the use of best management practices to preserve stream and River water quality for aquatic life and recreational use.
- Waterfronts - Consider adopting use regulations applicable to waterfront land recognizing that Article VI of the Pennsylvania Municipalities Planning Code enables local municipalities to adopt zoning ordinances which *may permit, prohibit, regulate, restrict and determine uses of land, watercourses and other bodies of water.*
- Sewage Disposal - Monitor the effectiveness of on-lot sewage disposal systems and evaluate central sewage disposal as a means of correcting any widespread problems.
- Well Ordinance - Apply well construction standards with a well ordinance in areas not served by community water supply.
- Floodplain - Use land use controls to direct new residential and commercial development away from floodplain to areas where land is adequate to provide facilities necessary to support development and flood damage is minimized.
- State Agencies - Work with the Pennsylvania Fish Commission, the Pennsylvania Department of Environmental Protection and other agencies to identify and address

water quality and public safety issues.

Wildlife Habitat**Protect critical wildlife habitat areas.**

- Natural Areas Inventory - Protect sites of rare, threatened, and endangered species.
- Forest - Conserve large forested areas that provide habitat.
- Corridors - Protect wildlife corridors, consisting of networked open space areas and stream corridors.

**Ridge Lines and
Scenic View Sheds****Conserve ridge lines and scenic view sheds.**

- Development Standards - Consider measures that will preserve the characteristics of important ridge lines and scenic view sheds by limiting the amount and type of clearing associated with development.

GOAL 4 - HOUSING**Provide for secure and sound housing in a variety of types and densities.**

Families and individuals of all income levels reside in the Planning Area and need continued access to decent and affordable housing with proper community facilities. The housing stock in the planning area ranges from high cost single-family and vacation homes, to working class housing, to low value dwellings and mobile homes in deteriorating condition. Housing value and condition are linked to the local and area wide economy and must be addressed as a regional issue.. The special needs of young families looking for their first home and senior citizens on fixed incomes must be addressed. Stable, affordable and accessible housing is critical to helping people live independently and improve life opportunities related to family, work, education, recreation or other pursuits.

The Pennsylvania Municipalities Planning Code requires *a plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels.*

Zoning must provide for housing of various dwelling types encompassing all basic forms of housing, including single-family and two-family dwellings, and a reasonable range of multifamily dwellings in various arrangements, mobile homes and mobile home parks.

HOUSING OBJECTIVES**Current Residents****Meet the housing needs of current Planning Area residents.**

- Sound Housing - Encourage preservation of presently sound housing.
- Rehabilitation/Reuse - Encourage the rehabilitation and adaptive reuse of existing older homes which typically are larger and more difficult to maintain, especially for individuals on fixed incomes.
- Housing Programs - Encourage participation in all county, state and federal housing rehabilitation and assistance programs to ensure residents receive full benefit from such programs.
- Condition - Consider the adoption of an ordinance to regulate nuisances and safety hazards associated with dilapidated and dangerous structures.

Housing Growth**Accommodate anticipated housing growth in appropriate locations, at appropriate densities, and with suitable amenities.**

- Density - Provide for varying densities based on available infrastructure and suited to the Planning Area's character and landscape.
- Multi-Family - Allow multi-family dwellings in conservation design in all zoning districts at the same density as single-family dwellings, but provide increased buffers and setbacks where multi-family adjoins single-family neighborhoods.
- Amenities - Provide for recreation and open space amenities within residential developments.

- Design Standards - Require all residential development to meet adequate design standards and provide proper community facilities via the Subdivision and Land Development Ordinance.
- Facility Maintenance - Require in the Subdivision and Land Development Ordinance the continued ownership and maintenance of all improvements and facilities associated with residential development.

Types and Affordability

Provide housing choice by encouraging housing of different types, size and tenure in suitable locations, at a range of prices within the reach of households of varying financial capacity.

- Senior Housing - Encourage the development of nursing homes, adult care centers, assisted living facilities and other housing types which provide amenities that are attractive to retirees.
- Type and Density - Allow residential development of various types in suitable areas at a density sufficiently high to moderate the land cost of the increasing cost of housing, while requiring adequate off street parking, water supply and sewage disposal.
- Fair Share - Ensure that the Planning Area provides its required *fair share* of housing
- Gated Alternatives - Promote alternatives to private, gated communities.
- Innovative Design - Advocate conservation design, village style or traditional neighborhood development.
- Incentives - Consider density and design incentives to encourage the development of age-restricted and affordable housing.

GOAL 5**COMMUNITY FACILITIES AND SERVICES**

Ensure that community facilities and services are provided to meet the needs of the Middle Carbon County Planning Area.

Residents rely on community and public facilities and services to meet their transportation, educational, water supply, sewage disposal, police protection, emergency response, recreation and other daily living needs. Municipalities do not, and cannot, provide all the facilities and services demanded by residents, many such services being provided by other levels of government or volunteer organizations. Nevertheless, without diligent and ongoing attention to the operation and maintenance of existing facilities and services, and planning for new facilities and services, a municipality can fall short in adequately serving its residents.

Community facilities and utilities should be considered resources with limited capacities that are to be provided in appropriate places to support and implement a multi-municipal comprehensive plan. The location of certain key facilities, including water, sewer, schools, and roads, are often essential to providing the necessary services to accommodate more intensive residential and nonresidential development. Conversely, these services will facilitate unintended development in areas, such as important farming areas or areas with limiting natural resources, where growth may not be appropriate. The location of other services, facilities, and utilities should be considered in relation to their ability to support or conflict with the land use planning for the multi-municipal area. The land use planning should facilitate the efficient and economic provision of public, quasi-public, and privately provided community services wherever possible.

Source: *Planning Beyond Boundaries*, p. 3-18.

COMMUNITY FACILITIES AND SERVICES**OBJECTIVES****Facilities and Services**

Maintain existing public facilities and services and plan carefully for new public facilities and services.

- Maintenance - Provide necessary maintenance of existing municipal buildings, equipment and other community facilities to extend the useful life and forestall unnecessary capital expenditures.
- Efficiency - Manage all municipal facilities and services efficiently and effectively.
- Capital Improvements Program - Systematically identify the need for local municipal community facilities and services, including useful life replacement of existing facilities, and develop a capital budget to meet the needs.
- Recreation - Focus resources on maintaining and improving existing recreation facilities and develop new facilities as resident needs dictate and financial resources permit.
- Recycling - Continue current recycling efforts and work with the Carbon County Department of Solid Waste to improve municipal programs.
- Infrastructure Needs - Encourage Carbon County to take the lead with area municipalities to coordinate planning for the infrastructure needs.
- Cooperation - Encourage and participate in any area intergovernmental cooperation efforts for community facilities planning and economies of scale for joint purchasing, recreation and other facilities and services.

Emergency Services**Protect the Planning Area with effective emergency services.**

- Expanded Service - Identify isolated and under served areas and assess the need for expanded or additional fire and ambulance stations.
- Volunteer Organizations - Acknowledging the critical importance of such groups to the community, encourage and continue to support volunteer fire, ambulance and other public service organizations.
- Police Protection - Continue to provide police protection at a level necessary to meet community needs.

Water Supply and Sewage Disposal**Ensure adequate water supplies and sewage disposal facilities.**

- Municipal Sewage Disposal - Maintain municipal sewage collection, conveyance and treatment systems in good operating condition and develop a capital improvements program to plan for necessary improvements and replacements.
- Municipal Water Supply - Maintain municipal water supply systems in good operating condition and develop a capital improvements program to plan for necessary improvements and replacements.
- Water Supply Protection - Apply well head protection standards to maintain good drinking water quality and manage water authority lands carefully to protect the watersheds.
- Well Ordinance - Apply well construction standards with a well ordinance in areas not served by community water supply.
- On-Site Sewage Systems
 - Monitor the effectiveness of on-lot sewage disposal systems and evaluate central sewage disposal as a means of correcting any widespread problems.
 - Ensure that on-site sewage systems are maintained, and that failing systems are repaired and new systems are installed in accord with DEP standards.
 - Consider the adoption of a sewage disposal ordinance to govern the installation, operation and maintenance of on-site sewage systems.

Storm Water**Improve Stormwater Management.**

- Existing Problems - Evaluate storm water management facilities and develop a plan to address existing problems.
- Improvements - Include require stormwater management improvements in the capital improvements program.
- Innovative Controls - Incorporate innovative stormwater management techniques into new development.
- Education - Address existing problems with stormwater runoff through outreach

and education of landowners

New Development

Ensure that an adequate and safe water supply system, a proper sewage disposal system, well designed and constructed roads, stormwater management and other facilities are provided by developers as part of any residential development.

- SALDO - Periodically update the Subdivision and Land Development Ordinance to include standards to ensure most current and sound development practices.

GOAL 6 - CIRCULATION**Establish and maintain an adequate circulation system to safely and efficiently move people and goods.**

Safe and well maintained roads are vital to all communities, serving not only as the means of travel within the community, but as the direct link to the region and beyond. Land use management tools must consider the capacity of roads, directing commercial and higher density development to areas served by roads capable of carrying increased traffic and the trucks necessary to serve resort and other commercial establishments. Concurrently, providing for pedestrians and bicyclists is also important, particularly in the three Boroughs.

Public roads and streets in the Planning Area total about 135 miles, with the three Boroughs and the Township having direct jurisdiction over a total of 77 miles of roads and streets, being entirely responsible for improvements and maintenance. Road maintenance accounts for significant proportions of the budgets of all four Planning Area municipalities, and local officials must plan carefully to ensure adequate funding for the improvement and maintenance of locally-owned roads. The more heavily traveled routes are owned and maintained by the State and total 49 miles, with an additional 18 miles or so (9 miles northbound + 9 miles southbound) of the Northeast Extension of the Pennsylvania Turnpike. In addition to the Turnpike, major state routes in the Planning Area include Route 209 running east from Schuylkill County through Lansford, Nesquehoning and Jim Thorpe to Lehigh, Route 902 connecting Route 209 in Lansford through Summit Hill and south to Mahoning Township and Lehigh, and Route 903 connecting Jim Thorpe north to Penn. Forest Township and Kidder Township.

Circulation - Planners typically talk about "circulation" rather than transportation because circulation (getting around) is the goal of the citizens they serve, whereas transportation is just a method of achieving that goal. A good circulation plan includes more than streets and roads – it includes means of pedestrian and bicycle circulation and, in many communities, some form of mass transportation.

Although good circulation plans involve more than roads, the starting point for an existing conditions analysis of circulation is a map of streets and highways in the community.

Source: *Community Planning, an Introduction to the Comprehensive Plan*, p. 80.

CIRCULATION OBJECTIVES**Circulation Network****Improve the current roadway system to provide efficient traffic flow while maintaining a safe environment for pedestrians.**

- Classification - Inventory and classify according to function all public roads and bridges.
- Public Transportation - Support the Carbon County Community Transit system to maintain existing services to agency clients, and expand public service when financially feasible.
- Commuting to Work - Provide for park and ride areas and bus depots in appropriate zoning districts to facilitate commuting to work outside the Planning Area.
- Road Linkages - Include the consideration of through road connections as part of the development review and approval process.
- Project Impacts - Ensure that transportation improvement projects are consistent with the town's policies for protection of natural, cultural and historic resources, and minimize the impact on residential neighborhoods, and consider pedestrian and bicyclist access..

- Development Location - Limit higher density and higher traffic impact development to areas with adequate highway capacity.

State Roads

Work cooperatively with adjoining municipalities, the County and PennDOT to address regional traffic impacts and highway improvement needs.

- Improvements - Identify key intersections and other problem areas, and required improvements.
- Planning - Actively participate in all County and PennDOT highway planning programs.
- Route 903/PA Turnpike - Anticipate the growth and development effects of the pending Route 903/PA Turnpike interchange and update zoning as necessary.

Local Actions

Develop a coordinated Planning Area program to maintain local municipal streets, roads and sidewalks.

- Improvements Program - Develop a local road and intersection maintenance and capital improvements program.
- Cooperation - Work cooperatively with other municipalities to achieve road maintenance and improvement efficiency by sharing equipment and coordinating contract bidding for services and materials.
- Highway Occupancy Permit
 - Require as part of zoning approval for new or expanded uses, the issuance of a highway occupancy permit by the Borough/Township or PA DOT, as appropriate.
 - Maintain an up-to-date road occupancy ordinance setting standards for driveway access to Borough/Township roads and storm water and utility improvements within the road right-of-way.
- Parking and Access - Require adequate, but not excessive, off-street parking and loading, limit curb cuts, and require well designed access points.
- New Development - Maintain up-to-date standards for construction of new subdivision roads.
- Road Dedication - Continue the policy of not accepting development roads for public dedication unless the road serves a clear benefit that accrues to the public as a whole and not only residents of the development.
- Official Map - Using an official map, establish and reserve public street alignments and adequate rights-of-way for planned street improvements.

Pedestrians and Bicyclists

Consider the needs of pedestrians and bicyclists in all transportation planning.

- Opportunity - Provide opportunities for a range of non-automotive transportation alternatives that are easily available to residents and visitors.

- New Development -Consider all new development proposals in terms of effects on existing and provision for new facilities for pedestrians and bicyclists.
- Pedestrians - Provide a safe environment for pedestrians by improving sidewalks, controlling traffic, and requiring new development to address pedestrian traffic.
- Sidewalks - Recognize the importance of sidewalks to the quality of life in the Boroughs and develop a sidewalk inventory, improvement, construction, and maintenance program to ensure long term viability of sidewalks.

GOAL 7 - HISTORIC RESOURCES**Protect historic resources as an important part of the character and economy of the Planning Area.**

The preservation of historic buildings, sites and other features, and encouraging new development to be consistent with existing historic character are critical to the future of the community. Many historic sites and structures are found in the Middle Carbon County Planning Area, ranging from the Summit Hill site of the discovery of anthracite coal in 1791 and later Switchback Railroad route, to the Lansford No. 9 Mine, the world's longest continuously operated hard coal mine, to the widely-known historic Jim Thorpe downtown, to the Old Albrightsville Cemetery in Penn Forest Township. The Planning Area has embraced history and historical sites as an important ingredient of the community and local economy. Local history and historic resources have been very well documented. Each of the three Boroughs is fortunate to have an active local Historical Society along with other history-oriented organizations. *The Delaware & Lehigh National Heritage Corridor is a joint effort of private groups and interested citizens, county and municipal governments, the Commonwealth of Pennsylvania and the federal government to conserve cultural and natural resources in the five-county region of Pennsylvania that traverses the historic Delaware and Lehigh Canals. Since the Delaware & Lehigh's designation by Congress in 1988, it has been our mission to restore historic places, conserve green space for public use and preserve and interpret our heritage to enhance life for generations to come.*²

Pennsylvania has more than 100,000 historic resources identified by the National Register of Historic Places. Thousands more could be identified across the state, in cities, towns and villages, and rural areas. This rich heritage is under threat from abandonment and demolition of decaying urban building stock, destruction of rural landscapes and prime farmland for housing and business, and highway construction to accommodate the tidal wave of trucking and passenger traffic. As with our natural resources, we must strengthen our values and develop strategies to maintain our historic resources. Historic resources are worth saving. Without these resources, communities would lose their integrity, identity, and their attractiveness to newcomers. The goal is to strike a balance between development and saving what's important to the community's past.

Source: *Better Models for Development in Pennsylvania*, p. 83.

HISTORIC RESOURCES OBJECTIVES

Identify and Evaluate	<p>Continue to identify historic resources and evaluate the resources for register status.</p> <ul style="list-style-type: none"> • <u>Historic Register</u> - Based on the historic resources inventory, create a local historic register and consider nomination of qualifying structures and places to the National Register of Historic Places.
Conservation	<p><u>Boroughs</u> - Continue to support local historical societies and other historic resources organizations.</p> <p><u>Township</u> - Encourage the creation of a Penn. Forest Historical Society.</p>
D & L Corridor	Coordinate local efforts to conserve cultural resources with Delaware & Lehigh National Heritage Corridor programs.
Tourism	Continue to support and participate in economic development efforts that highlight historic resources.

² www.delawareandlehigh.org.

Municipal Ordinances	Provide for conservation of cultural resources in Borough/Township ordinances. <ul style="list-style-type: none">• <u>Adaptive Use</u> - Allow the adaptive use of historic commercial buildings and large older homes to enable owners to adequately maintain the structures.• <u>New Development</u> - Adopt conservation subdivision design standards to ensure that an assessment for any structure older than 50 years and threatened by development. The regulations should promote the retention of those structures deemed significant, because of age, architectural style or relationship to an historic event. design techniques to encourage (or require) developers to incorporate conservation of historic resources in new development.• <u>Demolition</u> - Consider the adoption of demolition ordinances to prohibit demolition by neglect and require demolition review.
Design Guidelines	Encourage consistency with the <i>Design Guidelines for D&L Corridor Market Towns</i> for development and redevelopment projects.
Public Information	Inform property owners about the significance and economic value of historic resources, and of the opportunities for their conservation.

SUMMARY OF FINDINGS AND ACTIONS

INTRODUCTION

This chapter summarizes the findings and actions contained in each of the previous sections of this plan. Actions are summarized by topic in the tables below, which are designed as a quick reference for the Planning Area municipalities to facilitate implementation of the plan and monitor implementation progress. Within each topic, the tables categorize implementation strategies by zoning ordinance actions, SLDO actions, and additional actions. Each is given a general timeframe for implementation and the parties responsible for implementation are identified.

It is vital that Planning Area municipalities reach out to their citizens, stakeholders, Carbon County, and state and federal agencies to obtain support and assistance in implementing this *Comprehensive Plan*. Forming partnerships with such groups will expand the municipalities’ resources and aid in accomplishing their land use planning goals. Sources of funding, technical assistance, and potential partnerships are discussed in Section 13 of this *Comprehensive Plan*.

PLANNING IN CARBON COUNTY, CONTIGUOUS MUNICIPALITIES AND THE REGION

The Pennsylvania Municipalities Planning Code requires that municipal comprehensive plans are generally consistent with the County comprehensive plan, and requires an assessment of the extent to which land use planning among contiguous municipalities is compatible. In reference to these points, this Comprehensive Plan finds that:

- Carbon County is in the process of updating its comprehensive plan. The County plan is being designed to offer a broad perspective on planning issues and compliment local comprehensive planning efforts. Thus, consistency between the County plan and local plans will be achieved.
- The comprehensive plans of some adjoining municipalities are out of date, while others were adopted quite recently. In either case, there are no significant inconsistencies between those plans and the policies and recommendations advocated by the Middle Carbon County Comprehensive Plan.
- Existing and proposed future land uses along the borders of the Planning Area are compatible with land uses in adjoining municipalities. Performance standards for development will mitigate any potential incompatibility.

Actions – Regional Planning	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Review and update development performance standards in zoning ordinances to prevent incompatibilities	short term	Planning Commission, Council/Supervisors
⇒ Consider any zoning districts changes in terms of the zoning and existing land uses in any adjoining municipality to minimize land use conflicts.		

Actions – Regional Planning	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Review and update development performance standards in zoning ordinances to prevent incompatibilities	short term	Planning Commission, Council/Supervisors
⇒ Consider any zoning districts changes in terms of the zoning and existing land uses in any adjoining municipality to minimize land use conflicts.		
<i>Additional Measures</i>		
⇒ Participate in the update of the County Comprehensive Plan	short term	Planning Commission, Council/Supervisors
⇒ Monitor proposed comprehensive plan and zoning ordinance changes in adjoining municipalities	ongoing	
⇒ Appear at adjoining municipal meetings/hearings for projects with potential negative effects	ongoing	
⇒ Consider developing intermunicipal agreements for mutual notice of zoning ordinance changes and development project applications. (The Municipalities Planning Code already requires this for comprehensive plans and plan amendments.)	ongoing	

LAND USE PLAN

The Land Use Plan is presented in Section 6 of this *Comprehensive Plan*. It details a Future Land Use Plan that focuses growth and development in areas that contain existing infrastructure and economic activities, and promotes preservation of the natural features and rural landscapes that are so important to The Middle carbon County Planning Area’s economy and identity. The plan envisions high-density and mixed use development (residential, commercial, office, and civic uses) in the downtown areas of the three boroughs surrounded by an area of medium-density residential development. In Penn Forest Township, commercial and office development are located at various intersections along Route 903 and 534 in proximity to existing residential developments. The outlying, rural areas of the three Boroughs and Penn Forest Township will accommodate low-density residential development and large areas of open space. Contemporary planning tools, including Conservation Subdivision Design, Traditional Neighborhood Development, and Transferable Development Rights are strongly recommended.

Actions required to implement the Land Use Plan are as follows:

Actions – Land Use Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Permit Conservation Subdivision Design in the <i>Low- Density / Rural Resource Areas and Medium-Density Growth Areas</i> with a minimum 50% open space requirement	mid-term	Planning Commission, Council/Supervisors
⇒ Permit residential development at a maximum of one unit per acre in the <i>Medium Density Growth Area</i>		

Actions – Land Use Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Permit Conservation Subdivision Design in the <i>Low- Density / Rural Resource Areas and Medium-Density Growth Areas</i> with a minimum 50% open space requirement	short term	Planning Commission, Council/Supervisors
⇒ Permit residential development at a maximum of one unit per acre in the <i>Medium Density Growth Area</i>		
⇒ Permit a mix of dwelling types and commercial and office uses in the <i>High Density Growth Area</i>		
⇒ Create a TND Overlay district for the <i>High-Density and Medium Density Growth Areas</i>		
⇒ Include provisions in the zoning ordinance for Transfer of Development Rights with the Low Density Development/Rural Resource Area designated as Sending Areas and the High and Medium Density Growth Areas designated as Receiving Areas (contingent upon the availability of sewer and water infrastructure)		
⇒ Provide more opportunity for small, neighborhood-scale commercial and office use in Lansford Borough in an effort to stimulate economic activity		
⇒ Include provisions to avoid strip commercial development and control access to commercial areas along Routes 903 and 534 in Penn Forest Township		
⇒ Regulate the location of mineral extraction uses as permitted by law		
⇒ Permit No Impact Home Based Businesses in all residential zoning districts throughout the Planning Area		
⇒ Define Lot Area to be consistent with the carrying capacity of the land considering natural constraints to development		
⇒ Require appropriate buffering, landscaping, and setbacks between differing land uses in order to minimize adverse impacts and conflicts		
⇒ Require appropriate environmental controls to minimize incompatibilities associated with lighting and noise		
<i>Subdivision & Land Development Ordinance</i>		
⇒ Create design standards to guide the architectural and exterior appearance of buildings	short term	Planning Commission, Council/Supervisors
⇒ Require tree protection and replacement in all new subdivision and land development projects		
⇒ Require at least two access points to developments for emergency access with associated roadway design standards		
⇒ Create landscaping standards to require screening and buffering		

Actions – Land Use Plan	Timing	Responsible Parties
<i>Additional Measures</i>		
⇒ Create an Open Space Committee to spearhead outreach and initiatives pertaining to open space preservation	mid-term	Planning Commission, Council/Supervisors, Open Space Committee
⇒ Prepare and adopt an Official Map and accompanying ordinance to identify future rights-of-way and easements for public use	mid-term	
⇒ Identify lands throughout the Planning Area that are priorities for open space preservation and encourage these landowners to preserve the land through voluntary sale or donation of conservation easements, use of TDR, or other preservation tools	mid-term & ongoing	
⇒ Conduct public outreach, perhaps through an appointed open space committee to inform land owners of the many land preservation programs and tools (e.g., Clean and Green, Transferable Development Rights, conservation easements) and their benefits	mid-term & ongoing	
⇒ Collaborate with land trust organizations and governmental agencies on efforts to preserve open space, recreational, and agricultural resources	ongoing	
⇒ Collaborate with local chambers of commerce, and county and state economic development and tourism agencies to attract and retain business in the Planning Area	ongoing	

HOUSING PLAN

The Housing Plan, presented in Section 7 of this *Comprehensive Plan*, finds that, although in generally good condition, the housing stock in the three Boroughs is old and maintenance is the key issue in the years to come. Housing affordability is also a concern, given that high percentages of owner and renter households are cost burdened with housing expenses exceed 30% of their income. These concerns are exacerbated by the trend toward an aging population in the Planning Area.

The Housing Plan, therefore, recommends participation in housing programs that promote homeownership and housing rehabilitation, and provide housing assistance for all age groups. In addition, the Housing Plan (in conjunction with the Land Use Plan) recommends zoning provisions that promote a mix of housing types, which will provide options for Planning Area residents of various income levels and at various life stages, from young adults, to families, to seniors and the elderly.

Actions required to implement the Housing Plan are as follows:

Actions – Housing Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Promote the use of conservation design and transferrable development rights and development incentives such as density bonuses as a means of providing more affordable housing	mid-term	Planning Commission, Council/Supervisors

Actions – Housing Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Promote the use of conservation design and transferrable development rights and development incentives such as density bonuses as a means of providing more affordable housing	mid-term	Planning Commission, Council/Supervisors
⇒ Consider providing some incentives (density or design) for developers who provide energy efficient, affordable, workforce, and/or age restricted housing		
⇒ Allow multi-family housing where compatible with surrounding land uses, with pedestrian access, access to transportation corridors, and in keeping with the logical extension of utilities and public services.		
⇒ Permit dwellings over businesses in commercial districts		
<i>Subdivision & Land Development Ordinance</i>		
⇒ Make road width and other construction standards in the reasonable in terms of meeting safety and durability requirements without adding unnecessary costs to housing.	mid-term	Planning Commission, Council/Supervisors
<i>Additional Measures</i>		
⇒ Review opportunities for land banking to promote improved housing opportunities and conditions.	short term	Planning Commission, Council/Supervisors
⇒ Adopt a property maintenance code with reasonable public health, safety and welfare standards to ensure the structural integrity of dwellings, prevent dilapidation and preclude negative effects on the community. Support this with an ordinance to regulate nuisances and safety hazards associated with dilapidated and dangerous structures.	short term	
⇒ Establish a mechanism to provide pre-development financing to nonprofit affordable housing developers. This could involve the establishment of a revolving loan fund to provide pre-development financing for non-profit developers to increase the capacity of these entities.	long term	
⇒ Encourage the formation of private/public partnerships (lenders, developers, real estate agencies, and nonprofits) to increase housing development opportunities.	ongoing	
⇒ Develop a method to track ownership of rental properties and vacant units, collecting data on the condition of rental properties, establishing criteria that identify the tipping point for healthy neighborhoods, and developing an action plan that addresses these issues.	ongoing	
⇒ Create and maintain a web site that provides an accurate, up-to-date clearinghouse for all affordable, accessible, and assisted housing information – a one-stop shop for data, GIS mapping, information, resources, best practices, financing, referrals, etc.	ongoing	

COMMUNITY FACILITIES AND SERVICES PLAN

The Community Facilities and Services Plan, presented in Section 8 of this *Comprehensive Plan*, includes discussion of municipal facilities, police and emergency services, solid waste disposal, water supply, and wastewater disposal, among others. The Plan recognizes the need to maintain existing essential services and facilities while carefully considering and prioritizing new facilities and services, not only in terms of the initial capital expenditure, but, just as importantly, the cost of long term operation and maintenance.

Specific concerns include:

- Upgrading the administrative offices in Lansford Borough in the face of a challenging fiscal environment and other more urgent matters, such as improving the sewer system.
- Continued financial support and renewed volunteer recruitment efforts for emergency service providers.
- Reducing solid waste cost and increasing recycling.
- Protecting water supply and water quality through various means.
- Critical need to upgrade the public sewer systems in Lansford and Summit Hill, both for environmental reasons and the land use ramifications (i.e., the moratorium on development hinders any large-scale redevelopment in the downtown areas and could push any such development into the rural areas of the Planning Area).

The growth areas envisioned in the Future Land Use Plan are intended to correspond with the locations of community facilities and services, so these facilities and services will be in close proximity and accessible to the major population centers in the Planning Area. This arrangement is intended to increase the efficiency with which facilities are services are provided and reduce their costs.

Actions required to implement the Community Facilities and Services Plan are as follows:

Actions – Community Facilities Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Create natural resource protection standards that enhance water supply and water quality	mid-term	Planning Commission, Council/Supervisors
⇒ Permit medium and high density development in areas served by public sewer		
⇒ Require larger lot sizes in rural areas to accommodate on-lot septic systems and replacement areas and provide isolation distance from wells		
⇒ Direct civic uses to population centers within the Planning Area		
<i>Subdivision & Land Development Ordinance</i>		
⇒ Promote alternative wastewater disposal systems to the extent possible	short term	Planning Commission, Council/Supervisors

Actions – Community Facilities Plan	Timing	Responsible Parties
<i>Additional Measures</i>		
⇒ Develop a Capital Improvements Program to plan financing of community facilities and services	short term	Council/Supervisors
⇒ Prepare Source Water Protection Plans to ensure safe and adequate water supply	short term	Planning Commission, Council/Supervisors, Engineer, SEO, Water & Sewer Authorities
⇒ Update and adopt the Act 537 Plan		
⇒ Create and enforce an on-lot septic management plan		
⇒ Investigate volunteer firefighter and EMS recruitment programs and assist with promoting volunteerism	short term	Council/Supervisors, Fire Chiefs & EMS
⇒ Explore the idea of a share manager for Lansford and Summit Hill Boroughs	short term	Council/Supervisors
⇒ Expand recycling programs to include <i>all</i> plastics (#1-7)	short term	Council/Supervisors
⇒ Explore the creation of a regional police force and monitor need for, and option for policing in Penn Forest Township	long term	Council/Supervisors, Police Chiefs
⇒ Consider consolidation/regionalization of fire departments	long term	Council/Supervisors, Fire Chiefs & EMS
⇒ Determine the feasibility of a regional wastewater treatment system	long term	Council/Supervisors, Engineer, SEO, Water & Sewer Authorities
⇒ Strengthen cooperative efforts and explore the formation of a Council of Governments for provision of facilities and services	long term	Council/Supervisors
⇒ Reactivate and create Shade Tree Commissions in the three Boroughs	long term	Council/Supervisors
⇒ Upgrade public sewer systems in Lansford and Summit Hill in order to lift DEP-imposed moratorium on development	ongoing	Council/Supervisors, Engineer, SEO, Water & Sewer Authorities
⇒ Upgrade water lines as needed	ongoing	Council/Supervisors, Engineer, SEO, Water Authorities
⇒ Strive to increase financial support of the fire departments	ongoing	Council/Supervisors
⇒ Pursue upgrades to fire department buildings and equipment as necessary	ongoing	Council/Supervisors, Fire Chiefs
⇒ Update Emergency Operations Plan every two years as required	ongoing	Council/Supervisors, Engineer, EOO
⇒ Establish ongoing communications with energy providers	ongoing	Council/Supervisors

NATURAL RESOURCES PROTECTION PLAN

Protection of natural resources is a key goal of this Comprehensive Plan due to the local recreation and tourism economy’s reliance on natural features, as well as the health and quality of life benefits derived from healthy environment. The Plan advocates ordinance provisions to protect specific natural features in combination with land development techniques such as conservation subdivision design, and open space preservation tools such as transferable development rights and conservation easements. Municipalities must begin efforts to capitalize on opportunities to preserve open space in order to protect natural areas, cultural landscapes, and recreational assets such as trail easements. Direct communication with landowners having potential interest in preserving their properties, or portions of their properties, is critical to achieving natural resource protection goals.

For further discussion, refer to the *Natural Resources Protection Plan* presented in Section 9 of this *Comprehensive Plan*.

Actions required to implement the Natural Resources Protection Plan are as follows:

Actions – Natural Resource Protection Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Create a natural resource protection ordinance to include: <ul style="list-style-type: none"> ○ Riparian and wetland buffers that prohibit earth disturbance ○ Prohibition of development in floodplain areas ○ Limits of disturbance and special design and performance standards for development on steep slopes ○ Limits on the types of uses permitted on very steep slopes (e.g. open space and passive recreation only) ○ Protection of rock outcrops and unique geologic features ○ Protection of hydric soils and groundwater recharge areas ○ Limits of disturbance to, and replacement of trees and vegetation ○ Protection of habitat areas and Natural Areas Inventory sites 	mid-term	Planning Commission, Council/Supervisors
⇒ Permit Conservation Subdivision Design with 50% open space requirement		
⇒ Create a Transferable Development Rights ordinance		
⇒ Minimize permitted impervious coverage		
⇒ Amend the Lot Area definition to exclude critical natural features		
⇒ Regulate mineral extraction activities to the extent provided by law to reduce environmental impacts		
⇒ Permit small-scale use of alternative energy such as solar and wind energy		
⇒ Control light pollution		

Actions – Natural Resource Protection Plan	Timing	Responsible Parties
<i>Subdivision & Land Development Ordinance</i>		
⇒ Require hydrogeologic/aquifer studies for uses with large groundwater consumption	short term	Planning Commission, Council/Supervisors
⇒ Require an Environmental Impact Assessment for large-scale developments		
⇒ Require tree/vegetation protection & replacement and prohibit non-native species		
⇒ Encourage use of pervious materials		
⇒ Require soil retention and stabilization		
⇒ Encourage energy efficient “green building” methods and materials		
⇒ Use Conservation Subdivision Design to locate buildings away from natural features		
<i>Additional Measures</i>		
⇒ Update Act 537 Sewage Management Plans and create and enforce an on-lot septic system management program	mid-term	Council/Supervisors, Engineer, SEO, Water & Sewer Authorities
⇒ Create/update the Stormwater Management Ordinance to include BMPs, recharge/infiltration, and control of non-point source pollution	mid-term	Council/Supervisors, Engineer
⇒ Create a well head protection ordinance to protect water supplies	mid-term	Council/Supervisors, Engineer, Water Authorities
⇒ Appoint an Open Space Committee to spearhead open space preservation and natural resource protection efforts	mid-term	Council/Supervisors
⇒ Communicate with landowners having a potential interest in preserving their properties	mid-term & ongoing	Open Space Committee
⇒ Investigate open space preservation and acquisition methods		
⇒ Investigate open space financing methods		

TRANSPORTATION PLAN

The *Transportation Plan* is presented in Section 10 of this *Comprehensive Plan*. It emphasizes the need to coordinate land development with existing transportation infrastructure so higher intensity residential and commercial development is directed to roadways that have sufficient capacity to accommodate resultant traffic. Office and commercial development are envisioned for the area surrounding the planned PA Turnpike Interchange in Penn Forest Township to take advantage of access that interchange will provide.

New development will also be configured to minimize traffic impacts and to eliminate hazards. For example, strip commercial development with numerous ingress/egress points is discouraged, while commercial areas centered on transportation nodes and access via service lanes is encouraged. Furthermore, large-scale developments will be required to install improvements to alleviate any traffic impacts. Improvements will be required to include pedestrian and/or bicycle access to enable non-motorized circulation.

Measures to alleviate existing peak-season traffic congestion problems, particularly in Jim Thorpe Borough, include timing of traffic signals, installation of “off-site” parking with shuttle service to downtown attractions, and pedestrian and bicycle access via the new Route 903 Bridge. Identified needs for specific traffic, roadway, and intersection improvements throughout the Planning Area are also addressed.

Actions required to implement the Transportation Plan are as follows:

Actions – Transportation Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Direct high-density development to the downtown areas of the three Planning Area boroughs	short term	Planning Commission, Council/Supervisorst
⇒ Direct high-traffic development to roads with capacity to serve such development		
⇒ Configure commercial development in nodes in order to avoids strip commercial areas		
⇒ Require permits for access to state and local roads contingent on completion of necessary improvements		
⇒ Regulate outdoor display and storage areas along roads and sidewalks		
⇒ Update parking and loading regulations to ensure safe and adequate facilities; permit shared parking where feasible		
<i>Subdivision & Land Development Ordinance</i>		
⇒ Strictly limit curb cuts and ingress/egress points along major roads	short term & mid-term	Planning Commission, Council/Supervisors
⇒ Provide for context sensitive road design standards		
⇒ Require “complete streets” that provide for pedestrian and bicycle access		

Actions – Transportation Plan	Timing	Responsible Parties
<i>Subdivision & Land Development Ordinance</i>		
⇒ Provide rights-of-way for emergency access	mid-term	Planning Commission, Council/Supervisors
⇒ Require a Traffic Impact Study for large-scale developments		
⇒ Include updated road construction standards		
⇒ Include procedures for road dedication		
⇒ Include standards for sight distance, intersection separation, spacing, grade, with, turning radii, and stormwater management for Borough and Township roads		
<i>Additional Measures</i>		
⇒ Work with PennDOT to optimize timing of traffic signals	short term	Council/Supervisors Road Foreman
⇒ Work with County and PennDOT to add needed intersection, bridge and roadway improvements to PennDOT’s 12-Year Plan	short term & ongoing	Council/Supervisors Road Foreman
⇒ Explore options for remote parking and transit via shuttle to tourist attractions in downtown Jim Thorpe	short term & ongoing	Planning Commission
⇒ Explore options for additional public parking lots/structures in Jim Thorpe	short term & ongoing	Planning Commission
⇒ Create an Official Map to identify future desired road alignments and parking locations	short term	Planning Commission, Council/Supervisors
⇒ Develop a Capital Improvement Program for road maintenance needs	short term	Council/Supervisors

HISTORIC PRESERVATION PLAN

The *Historic Preservation Plan*, presented in Section 11 of this *Comprehensive Plan*, recognizes the rich and important history of the Planning Area rooted in the development of the coal industry which fueled nation’s early industries. This history, still seen in the buildings, structures, and landscapes of the Planning Area, remains an integral part of local identity and culture. Although the local coal industry has declined over the years, the historic sites left behind now house businesses and draw visitors to the area. Its history, culture, and historical landscape have become the backbone of the Planning Area’s tourism economy making the preservation of these resources a key goal of this *Comprehensive Plan*.

Despite their importance, historic resources receive virtually no protection by Planning Area municipalities. Although numerous historic building and structures are locally recognized and several historic districts have been delineated, they receive no formal protection under the authority granted by Pennsylvania’s Local Historic District Act or the MPC. This *Comprehensive Plan* recommends that Planning Area municipalities provide at least a minimal degree of protection as enabled by the MPC. In addition to regulatory measures, the Plan advocates cooperation among the various historical societies and with the D&L National Heritage Corridor.

Actions required to implement the Historic Preservation Plan are as follows:

Actions – Historic Resource Protection Plan	Timing	Responsible Parties
<i>Zoning Ordinance</i>		
⇒ Adopt a historic resource protection ordinance to: <ul style="list-style-type: none"> ○ Apply property maintenance codes to limit demolition by neglect ○ Facilitate the adaptive re-use of historic resources (allow flexibility of contemporary standards, such as parking requirements, when a historic property is involved) ○ Provide incentives for rehabilitation of historic resources ○ Require a historic resources impact assessment for development in proximity to a historic resource ○ Require review of demolition, alteration, additions, reconstruction, and restoration of historic resources 	short term	Planning Commission, Council/Supervisors
⇒ Allow home occupations in all zoning districts as a means of encouraging productive use of historic structures which tend to be more difficult to maintain (e.g., bed and breakfast, government offices, multi-family)		
⇒ Incorporate the preservation of historic resources in conservation design for residential and commercial development		
⇒ Prepare and adopt design guidelines for residential, commercial, industrial, and institutional development to encourage the most efficient use of land and development consistent with community character		
<i>Subdivision & Land Development Ordinance</i>		
⇒ Revise design standards to promote historic resource protection	short term	Planning Commission, Council/Supervisors

Actions – Historic Resource Protection Plan	Timing	Responsible Parties
<i>Additional Measures</i>		
⇒ Improve the trail along the Switchback Gravity Railroad and extend it to the No. 9 Mine in Lansford Borough	short term	Park & Rec Dept
⇒ Create a historical, cultural and physical connection between Jim Thorpe, Summit Hill Lansford, and Penn Forest based on the area’s history and cultural landscape and linked by the Switchback Gravity Railroad trail and the Lehigh Gorge, and create a historic driving/hiking/biking tour that incorporates aspects of each municipality	short term	Park & Rec Dept
⇒ Create marketing materials that market Jim Thorpe, Summit Hill, Lansford, and Penn Forest as a connected historical area	short term	Council/Supervisors
⇒ Create a system for storage, mapping, and retrieval of historic resource data	long term	Historical Society, Planning Consultant
⇒ Continue to work with the local historical societies and the D&L National Heritage Corridor to identify historic resources	ongoing	Historical Commission,
⇒ Develop a local historic register program aimed at identifying properties eligible for local, state, and national recognition, and encourage and support efforts to list such properties on the National Register	ongoing	Historical Society
⇒ Support any efforts by landowners and chambers of commerce to create certified historic districts and adopt required historic district ordinances to support such efforts	ongoing	Planning Commission, Council/Supervisors, Historical Society
⇒ Seek technical assistance from historic preservation organizations as needed	ongoing	Historical Society
⇒ Seek funding from historic preservation organizations	ongoing	Council/Supervisors
⇒ Conduct a public outreach program	ongoing	Council/Supervisors
⇒ Incorporate historic resources into recreation and tourism planning	ongoing	Parks & Rec Dept, Historical Society

**PLANNING PROCESS,
INTERRELATIONSHIP AMONG PLAN ELEMENTS
AND IMPLEMENTATION STRATEGIES**

**Framework
for the Future**

This *Comprehensive Plan* provides a framework for the growth and development of Jim Thorpe Borough, Lansford Borough, Penn Forest Township and Summit Hill Borough . Although the *Plan* is comprised of a number of separate elements, each element, and, in fact, each planning and development action taken by a public body or private individual, is inextricably interrelated with other plan elements and planning and development actions. For example, the development of housing implementation strategies cannot be accomplished without taking into account land use controls and economic development trends. Economic development strategies cannot be formulated without considering land use controls and transportation needs. Community facilities and services planning requires an assessment of future development, transportation needs, and housing affordability. In most cases, these types of interrelationships and implementation strategies are discussed in the various comprehensive plan elements.

Planning Process

A theme consistent throughout all elements of this *Comprehensive Plan* is the concept of *process*. The published comprehensive plan document represents only the first step of what should evolve into an on-going planning process. If this *process* frame of mind is not firmly established, local officials, business owner, land developers, and citizens, all players in the community growth and development arena, will have little chance of achieving the sustainable growth vital to the social, economic and environmental future of the Planning Area. This process will also allow the recognition of the shifting interrelationships of community growth and development decisions vital to the success of long-term planning efforts.

**Conservation of
Community Character**

Another key theme of this *Plan* is the conservation of the Planning Area’s small town and rural landscape. All public and private actions must be assessed in terms of its effect on the community’s character. For example, residential development standards in the normal pattern of large lots will fragment remaining open land. The alternative, conservation design or planned residential development, provides the opportunity to conserve open land. The conundrum of central sewage disposal provides another good example of planning interrelationships. This community facility is often the only means of correcting sewage disposal problems yet can stimulate development of more land at higher population densities. Increases in population would trigger the need for improved or new community facilities and services such as schools and police protection. In short, without careful analysis, one *implementation action* taken by a municipality can have unexpected and often undesirable effects.

To achieve growth and development goals and to establish the community's planning process for the future, this *Plan* makes the following overall recommendations:

- Evaluate all public and private actions with the goal of preserving open land as a viable part of community character.
- Direct development away from environmentally sensitive areas and conserve large blocks of open land.
- Identify areas for growth within and adjacent to existing developed areas.

- Require adequate community facilities for new development.
- Carefully consider any sewer extensions to assess effects on stimulating development.
- Promote the idea of growth management - an effort to manage the location, type, and timing of future growth.
- Encourage increased local, intermunicipal, and regional cooperation for comprehensive planning and land use control implementation; and overall local municipal administration and management.
- Encourage a mix of business and commercial development in appropriate locations in the planning area.
- Encourage a variety of housing types.

Community Vision

This *Comprehensive Plan* outlines a vision for the future of the three Booughs and recommends a course of action to achieve growth and development goals. However, the effective implementation of the *Plan* is necessary to make the planning program a success. The implementation of the *Plan* and the creation of an on-going planning process, must be a community-wide effort fostered by local municipal officials. Many of the resources, programs and techniques available for implementing the comprehensive plan are not within the direct control of local government. For example, although zoning and subdivision ordinances, the chief tools for land use control and land use plan implementation, are the purview of local governments, the funding, construction and maintenance of major roads and improvements have historically been the responsibility of the state and federal governments. The effect of big box retailers located in the region on downtown businesses and the viability of *main streets* is another example.

Community Involvement

It is obvious that the implementation of the *Comprehensive Plan* will require broad-based community involvement and coordination and cooperation among various federal, state, and local agencies. Plan implementation will require both a commitment of financial resources and human resources. The human resources can include both volunteer and paid staff and professional assistance. Many of the recommendations identified in the *Plan* could require increased staff support and demand for volunteer services.

Implementation Strategies

A variety of implementation strategies have been recommended in this *Plan* and are oriented to developing long-term policies for growth management, strengthening land use management programs, anticipating capital improvement needs and facilitating inter-governmental cooperation to accomplish local and regional goals. The key implementation strategies in this *Plan* include:

- Plan Review - Annual review of this *Plan* to evaluate new development and regional issues which warrant plan changes.
- Public Information - Achieving greater awareness, understanding and participation of residents with the recommendations in the *Comprehensive Plan* via an active public information process with such methods as web sites, newsletters, and public meetings.

- Capital Improvements Program - Development of short-term and long-term capital improvements program to prioritize needed improvements and allocate funds to those improvements; with annual progress evaluations and adjustments in capital project timing and capital equipment purchases.
- Continuing Education - Continuing education for local officials via seminars and workshops.
- Land Use Management Ordinances - Diligent updating of land use management ordinances to effect the land use plan, provide environmental protection, preserve open land, maintain rural and historic character, and achieve community facilities and services and housing objectives.
- Setting Priorities - Focusing limited municipal resources on those community facilities and services which are most critical to meet resident needs.
- Fair Share of Facilities and Services - Monitor community facilities and services provided by the county, state, and federal government to ensure such services are adequate and the Planning Area is obtaining its *fair share*.
- Entitlements and Grants - Participate in all county, state and federal entitlement and grant funding programs, not solely for the sake of participation, but only if such programs can be sensibly used to achieve valid community development objectives.
- Development Plan Findings - Make a specific finding as to relationship to this *Plan* for all subdivisions and land development proposals and all zoning actions and changes.

By focusing the available resources on implementation of the this *Plan*, and the continuance of the *planning process* with an eye to preserving open land and rural character, the Planning Area can achieve sustainable growth and development into the future and maintain the quality of life in the community.

PLANNING IN THE COUNTY, CONTIGUOUS MUNICIPALITIES AND THE REGION

MIDDLE CARBON PLANNING AREA CONTIGUOUS MUNICIPALITIES

Carbon County

Franklin Township
Kidder Township
Lehigh Township
Mahoning Township
Nesquehoning Borough
Towamensing Township

Monroe County

Chestnuthill Township
Polk Township
Tunkhannock Township

Schuylkill County

Coaldale Borough
Tamaqua Borough
West Penn Township

Planning Code

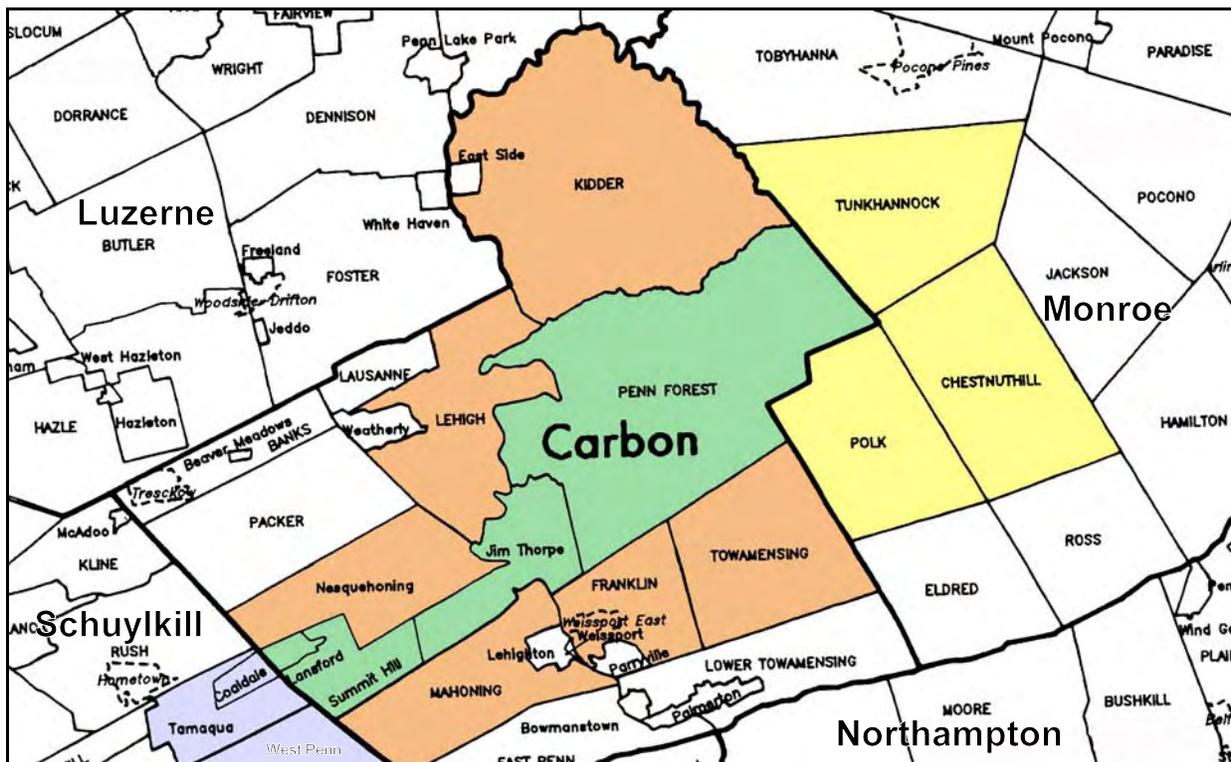
In 1988 the Pennsylvania (MPC) was amended to require all counties in the Commonwealth to prepare and adopt a comprehensive plan within three years. The MPC dictates, and common sense suggests, that planning and development in contiguous municipalities, the county and the region be considered when a local municipal or multi-municipal plan is adopted. MPC §301.4(a) goes on to state that *municipal comprehensive plans which are adopted shall be generally consistent with the adopted county comprehensive plan.*

Counties and Contiguous Municipalities

The Middle Carbon County Planning Area lies wholly in Carbon County, but is bordered by municipalities in Monroe County and Schuylkill County as well as those in Carbon County. A total of twelve local municipalities adjoin the Planning Area - six in Carbon County, three in Monroe County and three in Schuylkill County.

Carbon County

Carbon County is currently updating its 1998 Comprehensive Plan with completion of the Plan expected in 2012. The Plan will include all of the sections required by the Municipalities Planning Code and is aimed at addressing issues from the broad perspective and coordinating and complementing the efforts of the local municipalities. Given this approach, and the opportunity for local municipalities to participate in the County planning process, consistency among the local and County plans should not be an issue.



Local Municipal Plans

All of the municipalities adjoining the Middle Carbon Planning Area have adopted comprehensive plans, with a number of the plans completed some 20 years ago and clearly out of date, but with many adopted very recently.

Carbon County

- Franklin Township and Mahoning Township
Central Carbon Regional Comprehensive Plan, 2011
- Towemensing Township
Palmerton Area Regional Comprehensive Plan, 2009.
- *Kidder Township Comprehensive Plan, 2012*
- *Lehigh Township Comprehensive Plan, 1992*
- *Nesquehoning Borough Comprehensive Plan, 1991*

Monroe County

- Chestnuthill Township
Chestnuthill Township, Jackson Township, Eldred Township and Ross Township Regional Comprehensive Plan, 2006,
- Tunkhannock Township
Coolbaugh Township, Borough of Mount Pocono, Tobyhanna Township, and Tunkhannock Township Regional Comprehensive Plan, 2005
- *Polk Township Comprehensive Plan, 1979*

Schuylkill County

- Coaldale Borough (has adopted plan)
- Tamaqua Borough and West Penn Township
Eastern Schuylkill Planning Region Joint Municipal Comprehensive Plan, 2007
(also Rush, Schuylkill and Walker Townships)

County Plan and Local Plan Consistency

Municipalities Planning Code §301.4 requires general consistency between local municipal comprehensive plans and a county comprehensive plan. The 1998 Carbon County Plan is out of date in terms of relationships with local plans, and the current update, with its focus on local municipal coordination and cooperation, will certainly ensure the required general consistency. This approach will also support consistency among local plans, as will the requirement of Municipalities Planning Code §301.3 that all local and multimunicipal plans must be submitted to the County, contiguous municipalities and the school district for review.

Finally, the MPC provides a mechanism to reconcile any local-county planning inconsistencies by giving local municipalities the opportunity to request a change in the county plan to ensure consistency with local plans. The county must accept the requested change unless a refusal can be clearly justified. In any case, the MPC requires counties to update their plans every ten years. MPC §302(d) states: *Counties*

shall . . . consider amendments to their comprehensive plan proposed by municipalities which are considering adoption or revision of their municipal comprehensive plans so as to achieve general consistency between the respective plans. County comprehensive plans shall be updated at least every ten years. Where two or more contiguous municipalities request amendments to a county comprehensive plan for the purpose of achieving general consistency between the municipal plans or multimunicipal plan and the county comprehensive plan, the county must accept the amendments unless good cause for their refusal is established.

Although the contiguous municipal plans vary widely in date and to a degree in content, each concentrates on similar issues related to quality of life and conservation issues and no significant inconsistencies are anticipated between those municipal planning programs and ongoing planning in the Middle Carbon Planning Area. The public review and adoption process for this *Comprehensive Plan* enabled municipal officials of the contiguous municipalities to review and comment on the Plan and no potential inconsistencies were identified.

Zoning in Contiguous Municipalities

The real issue in terms of effects on adjoining municipalities is zoning. All of the municipalities adjoining the Middle Carbon Planning Area have adopted zoning.

- In the area along the common borders, the adjoining municipalities are generally similar in existing land use character, that is, residential generally adjoins residential, commercial adjoins commercial, and open land adjoins open land.
- The various zoning districts and allowed uses generally reflect the existing land use character.
- The potential for conflicting land uses certainly does exist. However, this is the case where any two dissimilar districts adjoin.
- Changing the longstanding zoning districts in each municipality to address potential conflicts is unrealistic.
- The zoning ordinances of all zoned municipalities include development performance standards to minimize development impacts and such standards are expected to provide protection for adjoining uses.
- §502.1(b) of the Municipalities Planning Code provides that *the governing body of the municipality may appear and comment before the governing body of a contiguous municipality and the various boards and commissions of the contiguous municipality considering a proposed subdivision, change of land use or land development.*

Regional Planning

Regional planning in Northeastern Pennsylvania is not formalized in any municipally organized body. Each county planning agency is responsible for review and coordination of planning within its jurisdiction. The Northeastern Pennsylvania Alliance, located in Pittston, Luzerne County, serves as a community and economic planning and development information source and funnel for grants and special projects for Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill and Wayne Counties, but has no municipally authorized regional planning power. See the Transportation Section of this Plan for Northeastern Pennsylvania Alliance a discussion of state highway improvement project planning coordinated by the and the

Northeastern Pennsylvania Rural Transportation Planning Organization for the four Planning Area municipalities.

Actions

- Participate in the update of the Carbon County Comprehensive Plan.
- Review and update development performance standards in zoning ordinances.
- Consider any zoning districts changes in terms of the zoning and existing land uses in any adjoining municipality to minimize land use conflicts. For example, it would be inappropriate to designate an industrial or heavy commercial area adjacent to an existing residential development or residential zoning district in an adjoining municipality.
- Monitor proposed comprehensive plan and zoning ordinance changes in adjoining municipalities.
- Appear at adjoining municipal meetings/hearings for projects with potential negative effects.
- Consider developing intermunicipal agreements for mutual notice of zoning ordinance changes and development project applications. (The Municipalities Planning Code already requires this for comprehensive plans and plan amendments.)

LAND USE PLAN

INTRODUCTION

Overview

A community's growth and development is affected by a broad range of interrelated factors including such things as regional location, the transportation system, natural resources, land suitability for development, available community facilities such as sewage disposal, condition of the general economy, local land values and real estate taxes. A change in one factor will in all likelihood result in a change in another factor and the overall character of the community. In short, how a community's character has developed and how it will change into the future are the result of a complex interaction of sometimes opposing forces played out over the community's history.

While Penn Forest Township has experienced enormous growth in recent years, the three boroughs have seen little to no growth, brought on in part by the decline of local industry. The challenge for the Planning Area as it moves into the future is to provide for essential economic growth and development while concurrently managing that growth in order to preserve the natural and scenic features and rural character that attract people to the area. Without continued careful planning and growth management, the Planning Area's landscape and community character, upon which much of its local economy is now dependant, could be forever altered by sprawling and haphazard development.

The purpose of this Land Use Plan is to devise a strategy to effectively manage growth, balancing the need to accommodate development with the need to preserve natural and historic resources, and the need to provide infrastructure and services. To accomplish this objective the Land Use Plan is formulated with consideration of natural and historic resources, infrastructure, and community facilities and services in order to produce a coordinated and efficient development pattern that reflects the Planning Area's land use goals, preserves its character and identity, promotes economic viability, enhances the community's quality of life, and protects residents' health, safety, and welfare.

LAND USE GOALS AND OBJECTIVES

GOAL 1: **Protect the Middle Carbon County Planning Area's quality lifestyle by maintaining and enhancing the historical and small town character of the four municipalities; and, recognize the abundant forest land and other open land as important elements of the local economy, character, and scenic setting.**

OBJECTIVES:

Small Town Character

Incorporate the maintenance and enhancement of historical and small town character into municipal decision making.

- Volunteer Organizations - Continue to support and cooperate with all of the volunteer organizations involved in the enhancement of the Boroughs.
- Historic Character - Integrate the protection of historic character into all public decisions and work with property owners and community organizations to preserve

historical character.

- Pedestrians - Provide a safe environment for pedestrians by improving sidewalks, controlling traffic, and requiring new development to address pedestrian traffic.
- Parks - Maintain existing community parks and recreation areas and develop new ones as finances permit.
- Streetscape - As a means of enhancing small town appeal maintain/improve the appearance of business districts with streetscape improvements.
- Street Trees - Recognize the importance of street trees to the communities and continue to preserve and replace street trees.
- Zoning - Develop zoning performance standards to control residential density and minimize conflicts between existing and future development, and update periodically to address changing conditions.
- Cooperative Zoning - Consider the use of cooperative zoning in the Middle Carbon Planning Area as a means of directing higher density residential and commercial/industrial development to areas best suited for such development.
- Commercial Design - Develop guidelines for commercial building design, landscaping and parking that will ensure high aesthetic quality and while meeting basic development needs.
- Commercial Location and Scale - Carefully control the location and scale of commercial establishments while recognizing the importance of such development to the convenience of local residents and the tax base.
- Economic Development - Cooperate with local business development organizations to promote commercial development which builds on community assets and which will not compromise the quality of life.
- Water and Sewer - Carefully consider the expansion of the central water supply and central sewage collection and treatment facilities in terms of stimulating unwanted development in areas with important historical, cultural, natural, and scenic features.
- Tourism and Recreation - Provide for tourism and recreation related businesses in all areas where conflicts with existing residential uses will not occur.
- County Facilities - Recognizing that serving as the County Seat has played an important part of the Jim Thorpe's history and economy, work with the Carbon County Board of Commissioners to ensure the expansion of County facilities is consistent with the goals and objectives of this *Comprehensive Plan*.

Open Land

Preserve and conserve forest and agricultural land, open space, significant natural features and sensitive land areas to maintain rural-recreational character.

- Important Areas - Identify and prioritize areas important for preservation.

- Connections - Form a connected network of open space to facilitate natural resource and habitat protection and passive recreational opportunities (e.g., trail networks) with particular attention to connection with public lands.
- Conservation Design - Consider requiring the use of *conservation subdivision design* to cluster residential development away from important natural, historic, scenic and cultural features, and preserve the resulting open space.
- Innovative Conservation Methods - Evaluate more progressive means of open land preservation including purchase of conservation easements and transferable development rights, especially in cooperation with the Carbon County Office of Planning and Development, and conservancy and land trust organizations
- Clean and Green - Encourage use of Act 319 *Clean and Green* as a means of forestalling development.
- Coal Company Lands - Work with the Lehigh Coal and Navigation Company and other local companies as they continue to mine and reclaim their lands to address long term open space needs.
- Forestry Enterprises - Do not overly restrict forestry enterprises with unnecessary zoning regulations provided best management practices are employed.
- Small Business - Encourage home occupations and small businesses as a means of allowing the owners of large parcels to realize economic gain thereby forestalling the development of open land.

GOAL 2: Develop a land use plan for The Planning Area that integrates all aspects of growth and development including residential, commercial, industrial and open space.

OBJECTIVES:

Residential Preserve the livability of existing neighborhoods and encourage development of livable communities and encourage additional residential development in areas which are physically and environmentally suited in planned growth areas adjacent to existing development and, where appropriate, public facilities and services can be conveniently and economically provided.

- Outreach - Develop a community-wide outreach program to citizens, borough departments, committees, and civic organizations on ways to preserve and enhance the small town residential character.
- Neighborhood Groups - Encourage the formation of resident organizations to promote neighborhood maintenance and restoration.
- Communication - Improve communication between town boards, private non-profit and other local civic organizations to recognize mutual interests for neighborhood enhancement efforts.

- Resources - Identify financial resources and programs available for neighborhood and housing preservation.
- Property Maintenance - Consider the adoption and enforcement of property maintenance codes.
- Open Space Access - Create neighborhoods with direct visual access to open land, with amenities in the form of neighborhood open space, and with a strong neighborhood identity.
- Diversity - Provide for a diversity of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups and residential preferences, so that the community's population diversity may be maintained.
- Residential Development Options - Provide multiple development options such as conservation design and transferrable development rights to minimize impacts on environmental resources (sensitive lands such as stream corridors, wetlands, flood plain, and steep slopes) and disturbance of natural or cultural features (such as mature woodlands, hedgerows and tree lines, critical wildlife habitats, historic buildings, and fieldstone walls)..
- Design - Provide greater design flexibility and efficiency in the siting of services and infrastructure, including the opportunity to reduce length of roads, utility runs, and the amount of paving required for residential development.
- Residential - Eliminate incompatible uses in residential districts.

Commercial and Industrial

Promote innovative forms of commercial and industrial development that are in harmony with the rural-recreational character of the community.

- Standards - Adopt, monitor and update commercial and industrial development standards to protect the public health, welfare and safety, to preserve community character, and to minimize conflicts with the tourism-recreation trade by controlling such activities as noise; outdoor manufacturing, processing and storage; lighting; and other potential effects.
- Scale - Provide opportunities for innovative and community-scaled commercial use as opposed to strip commercial development.
- Services - Facilitate community service uses such as a pharmacy and medical center.
- Commercial Design Standards - Develop guidelines for commercial building design, landscaping and parking that will ensure high aesthetic quality and while meeting basic needs.
- Mixed Use - Encourage residential use of the upper levels of business district properties.

Economic Development

Expand the Planning Area's economic base by exploring economic development opportunities consistent with and building on the existing small town and rural-

recreational character in order to strengthen the existing general and tourist economy, create employment opportunities and generate tax revenue.

- Economic Development - Recognize the importance of the regional economy and cooperate with local business development organizations and agencies to promote commercial development which builds on community assets and which will not compromise the quality of life.
- Tourism - Support the efforts of local organizations and the Pocono Mountains Visitors Bureau to maintain and promote tourism.
- Location - Welcome new commercial and industrial development to areas of existing similar development and where community facilities are adequate so that the development is compatible with existing land use and community character.
- Home Occupations - Encourage local economic viability by allowing home occupations consistent with residential districts and small businesses consistent with recreation and tourism and the overall community character.
- Government Efficiency - Maintain an efficient government and keep taxes low as an incentive for economic development.
- Existing Business - Support the continued development and possible expansion of existing businesses providing local employment and contributing to the tax base.

Incompatible Uses

Provide adequate separation between incompatible land uses.

- District Location - Evaluate the location of zoning districts relative to one another.
- Commercial - Evaluate the allowed uses in commercial zoning districts and encourage retail, office, and service uses.
- Industrial - Create a separate zoning district for industrial manufacturing, warehousing, and similar high impact uses.
- Setback/Buffers - Provide appropriate setbacks and buffers between land uses.
- Landscaping - Provide landscaping along road frontages in commercial and industrial areas.

EXISTING LAND USE

Land Use Pattern

The Planning Area encompasses approximately 64,118 acres, or 100 square miles of land area. Its current land use pattern is marked by the developed downtown centers of the three boroughs surrounded by forests and recreational lands, and the large residential developments of Penn Forest Township along the Route 903 and Route 534 corridors (See



Downtown development surrounded by open space.

Map 6-1, Existing Land Use). Most residential lots in the Planning Area are relatively small, averaging approximately 0.75 acres, and most development is confined to the boroughs' downtown areas and the planned subdivisions of Penn Forest Township. Much of the surrounding open space is currently state-owned and county-owned recreational land and land owned by municipal water authorities. It is assumed that all of these lands will be preserved simply by virtue of their status as major recreational and water supply resources. However, a large portion (37.66%, classified as Forest/Woodland/Vacant) of the Planning Area's open space is privately owned and there are no guarantees that this land will remain undeveloped.



Bear Creek Lakes residential development in Penn Forest Township.

Existing Land Use

The *Existing Land Use* table and figure quantify the land uses shown on the Existing Land Use map and reflect the pattern described above. The Planning Area is dominated by Forest/Woodland/Vacant (37.66%), Park/Recreation (23.08%) and Municipal/Water Authority (19.71%) land uses. Together, these land uses comprise 80% of the Planning Area's total land area. Because of its dense development pattern, residential land use comprises only 13.62% of the

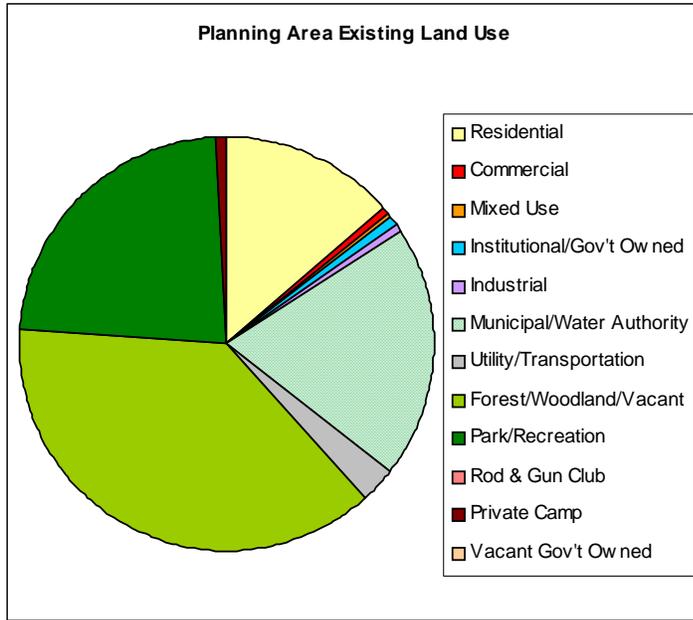
Planning Area. Commercial, industrial, and other miscellaneous land uses account for approximately 6% of the total land area. Specific findings are as follows:

- **Forest/Woodland/Vacant** - Properties classified as Forest/Woodland/Vacant are in private ownership and may be developed at anytime. Each of the four municipalities contains significant Forest/Woodland/Vacant acreage indicating a large potential for development over the long term (see Build-Out Analysis below).
- **Park/Recreation** - Park/Recreation land use is comprised of Mauch Chunk Lake County Park, portions of Lehigh Gorge State Park and Hickory Run State Park, Weiser State Forest, and portions of State Game Lands No. 141 and No. 129. It is assumed that these lands will remain in their current use well into the future, though the Weiser State Forest could potentially become the site of natural gas drilling operations if the state were to lease this land for such purpose.

Existing Land Use	Summit Hill		Lansford		Jim Thorpe		Penn Forest		Planning Area Total	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Residential	574.17	9.89%	138.13	14.23%	1,576.78	16.51%	6,446.60	13.49%	8,735.68	13.62%
Commercial	6.05	0.10%	24.65	2.54%	119.50	1.25%	286.43	0.60%	436.63	0.68%
Mixed Use	0.48	0.01%	0.26	0.03%	0.49	0.01%	0.00	0.00%	1.23	0.00%
Institutional/Gov't Owned	155.99	2.69%	66.83	6.89%	172.85	1.81%	273.55	0.57%	669.22	1.04%
Industrial	4.74	0.08%	178.11	18.35%	17.19	0.18%	43.40	0.09%	243.44	0.38%
Municipal/Water Authority	490.77	8.45%	0.90	0.09%	1,457.21	15.26%	10,689.91	22.37%	12,638.79	19.71%
Utility/Transportation	169.95	2.93%	106.74	11.00%	238.26	2.49%	1,398.32	2.93%	1,913.27	2.98%
Forest/Woodland/Vacant	3,296.52	56.79%	437.17	45.04%	3,897.17	40.80%	16,517.65	34.56%	24,148.51	37.66%
Park/Recreation	1,095.87	18.88%	16.25	1.67%	1,990.21	20.84%	11,696.89	24.48%	14,799.22	23.08%
Rod & Gun Club	0.00	0.00%	0.00	0.00%	23.27	0.24%	0.00	0.00%	23.27	0.04%
Private Camp	0.00	0.00%	0.00	0.00%	0.00	0.00%	437.17	0.91%	437.17	0.68%
Vacant Gov't Owned	10.69	0.18%	1.55	0.16%	58.26	0.61%	0.70	0.00%	71.20	0.11%
Total Acres	5,805.23	100%	970.59	100%	9,551.19	100%	47,790.62	100%	64,117.63	100%



- **Municipal/Water Authority** - Lands classified as Municipal/Water Authority are owned by the various municipal water authorities primarily for the purpose of water supply. Large tracts are located in Penn Forest, Jim Thorpe, and Summit Hill. It is expected that these lands will remain undeveloped, but this is not guaranteed.
- **Residential** - Most residential acreage is located in Penn Forest Township. That is, of the 8,736 total residential acres in the Planning Area, 6,467 acres (74%) are in Penn Forest Township. At an average of approximately 1 acre per unit, Penn forest Township has a more consumptive residential land use pattern than the three boroughs.



Commercial – Penn Forest Township has the largest amount of acreage in commercial use (286 acres); however, Summit Hill, Lansford, and Jim Thorpe have larger numbers of commercial establishments, demonstrating that their dense development patterns allow for more commercial establishments on fewer acres of land. Most commercial activity occur in the boroughs.

Industrial - The Borough of Lansford has the largest amount of acreage in industrial land use. This is due mainly to the presence of large land holdings of the Lehigh Coal and Navigation Company.

Mixed Use – Mixed Use refers a parcel that contains more than one use, such as an apartment over a business. This use is virtually non-existent in the Planning Area.

Institutional/Government Owned - Institutional land comprises 669 acres (1% of the Planning Area’s land area). It includes government, education, emergency service, and religious uses. As the county seat, Jim Thorpe Borough contains the largest number of institutional uses, though the acreage devoted to such uses is the second largest in the Planning Area.



Jim Thorpe downtown commercial area.

- **Utility/Transportation** – This category is comprised of land devoted to roads, rail roads, and utilities such as power and telecommunications.
- **Rod and Gun Club** – Rod and Gun Clubs total approximately 23 acres and include the Mauch Chunk Rod and Gun Club and Jim Thorpe Sportsmen Club.

- **Private Camp** - This land use designation refers to Camp Adams in Penn Forest Township, with approximately 437 acres.
- **Vacant/Government Owned** – These are government owned lands that are currently considered vacant.



Lansford commercial district.



Summit Hill commercial district.

BUILD-OUT ANALYSIS

Overview

A build-out analysis was conducted to examine the effect of existing municipal zoning provisions on land use. It estimates the potential residential and non-residential build-out of the Planning Area based on current zoning regulations and compares this to existing land use figures. It then estimates the impact of growth management policies on future build-out.

The build-out analysis calculates the estimated number of additional residential dwelling units and the additional square footage of non-residential space that could potentially be built in each zoning district. Natural constraints to development, including floodplains, wetlands, steep slopes, and hydric (wet) soils are considered unsuitable for development and are excluded from the calculations.

The *Planning Area Potential Build-Out* table reveals that if current zoning regulations remain in place, the Planning Area could see an additional 13,972 homes and approximately 40.5 million square feet of new non-residential development.

Planning Area Potential Build-Out	
Total Residential Build-Out	13,972
Total Non-Residential Build-Out	40,556,439

Potential build-out by municipality reveals that:

- The Borough of Lansford is the most built-out of the Planning Area municipalities with the capacity to accommodate an estimated 297 additional dwelling units and 479,442 square feet of non-residential development. (Note that this does not include potential conversion of exiting buildings to multi-family residential units).

Lansford Zoning District	Residential Build-Out (# Units)	Non-Residential Build-Out (Sq. Ft.)
B1	0	48,338
B2	0	3,577
I1	0	427,527
OS	61	-
PC	0	-
R1	30	-
R2	206	-
Total	297	479,442

- Summit Hill is the next most built-out community with the capacity to accommodate an estimated 1,636 additional dwelling units and 12.7 million square feet of non-residential development.

Summit Hill Zoning District	Residential Build-Out (# Units)	Non-Residential Build-Out (Sq. Ft.)
C1	0	9,028
C2	0	123,958
M1	0	12,524,831
OS	55	-
R1	953	-
R2	583	-
R3	45	-
Total	1,636	12,657,817

- Jim Thorpe has an estimated capacity to accommodate 2,685 additional dwelling units and 652,770 square feet of additional non-residential development.

Jim Thorpe Zoning District	Residential Build-Out (# Units)	Non-Residential Build-Out (Sq. Ft.)
C1	0	25,051
C2	0	624,313
I	0	3,406
R1	932	0
R2	578	0
R3	506	0
R4	90	0
Special	579	0
Total	2,685	652,770

- Penn Forest Township has the largest potential for growth with the capacity for an estimated 9,354 additional dwelling units and 26.8 million square feet of non-residential development.

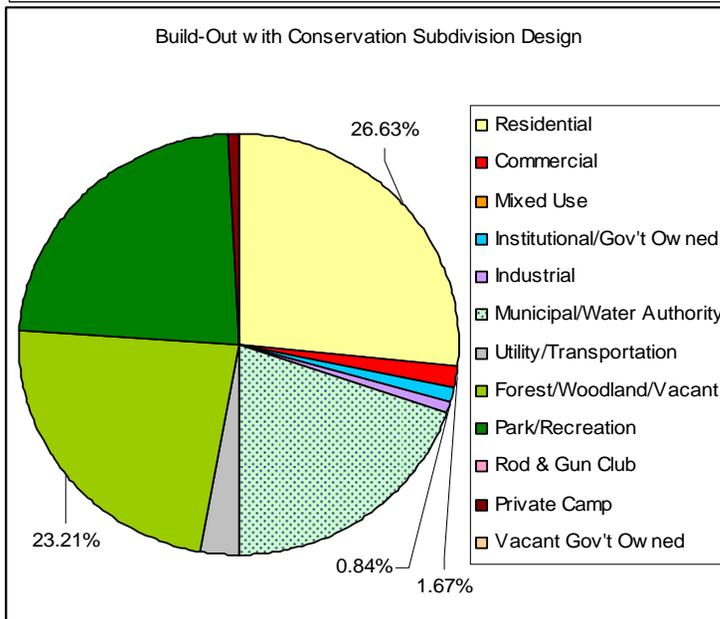
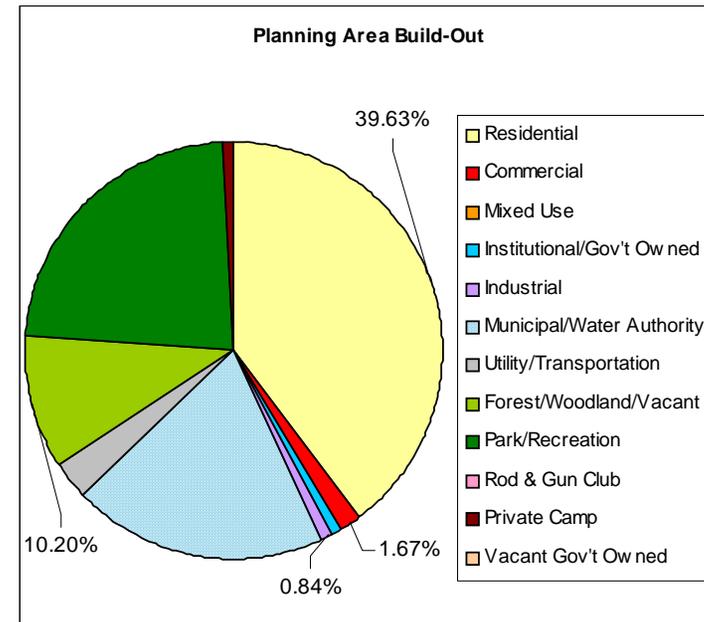
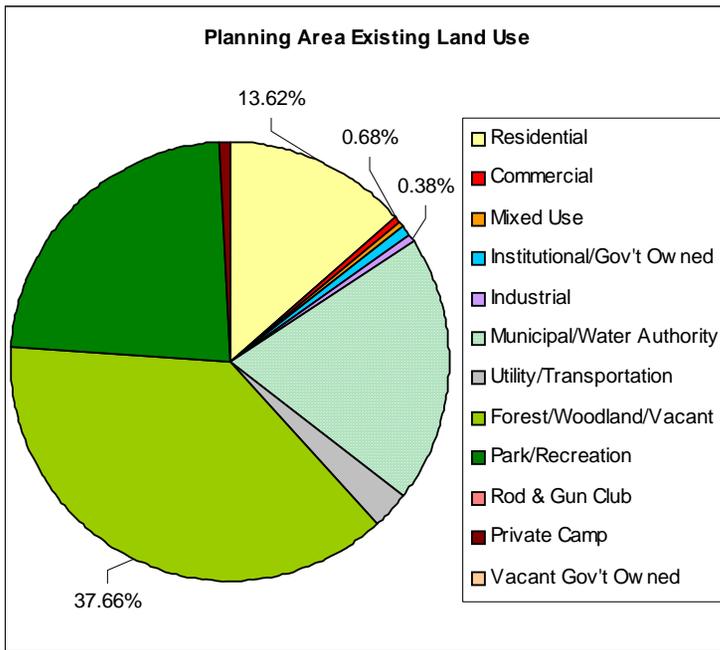
Penn Forest Zoning District	Residential Build-Out (# Units)	Non-Residential Build-Out (Sq. Ft.)
C1	0	17,026,272
C2	0	9,678,369
I1	0	61,769
R1	1,773	0
R2	7,293	0
R3	288	0
Total	9,354	26,766,410

The pie charts below illustrate the impact on land use should the Planning Area build-out according to current zoning. The pie chart on the left shows existing land use, while the pie chart on the right shows land use at build-out. Most notable is the large increase in residential land and the corresponding decrease in forest/woodland. At build-out, residential land will increase from 13.62% to 39.63% of the Planning Area’s total land area, while Forest/Woodland will decrease from 37.66% to 10.20% of the total land area – a decline of 17,607 acres.

The *Planning Area with Conservation Subdivision Development* pie chart shows that with the use of Conservation Subdivision Development the Planning Area could accommodate future residential growth and simultaneously preserve a large portion of its forest land. Typically, Conservation Subdivision Design requires 50% open space in residential developments but would permit at least the some number of dwelling units as the current zoning. With Conservation Subdivision Design, residential land would comprise 26.63% of the Planning Area and open space would comprise 23.21%, representing a good balance of development and open space preservation. In this way, the Planning Area can preserve open space, protect the development potential of parcels, and potentially increase property values. Even more open space can be protected through methods such as transferable development rights, and by encouraging landowners to voluntarily place conservation easements on their properties.



New home construction.



Build-Out Analysis

The build-out analysis compares the impact of the Planning Area's current zoning provisions with the effect that the use of Conservation Subdivision Development would have on the landscape.

- Currently, 37.66% of the Planning Area's land is forest and woodland (chart at top left).
- If built-out according to current zoning, approximately 17,607 acres of forest/woodland would be developed, greatly increasing the percentage of residential land and decreasing the percentage of forest/woodland. (chart at top right).
- Implementing Conservation Subdivision Design would allow the Planning Area to accommodate future build out estimates while simultaneously preserving much of its forests and woodland.

PLANNING IMPLICATIONS

Overview The Planning Area is faced with both challenges and opportunities in its current land use configuration and careful and continued planning is essential.

- The four Planning Area municipalities are challenged to balance the need for growth and development with conservation of their scenic, historic and natural resources, and remaining open land, which are economic assets.

- There are many large, privately owned tracts of land exist throughout the Planning Area. As is typical with most rural communities, new development will occur on new lots subdivided from these large forested parcels. As land values rise, the likelihood of development of these properties increases. Local officials can begin an outreach effort and partner with landowners and local conservation organizations to preserve properties that are deemed priorities for protection. Open space can also be preserved while simultaneously protecting property rights through innovative development techniques and land conservation tools.

Rampant land conversion is a first consequence of the way Pennsylvania is growing. Quite literally, development-as-usual is consuming the Commonwealth's traditional rural landscape of farmland, forests, wetlands, and open spaces. Overall, Pennsylvania developed some 1.14 million acres, or 1,800 square miles, of fields, open space, and natural land between 1982 and 1997 – the sixth-largest such conversion after Texas, Florida, Georgia, North Carolina, and California.

This also means that fully one-third of all the land that the Commonwealth has ever urbanized since its founding was developed in just 15 recent years. Put another way, over those 15 years the state consumed land at a rate equivalent to 209 acres a day, or 9 acres an hour, every hour.

Source: Back To Prosperity, A Competitive Agenda for Renewing Pennsylvania, p. 47.

- The build-out analysis estimates that under current zoning the Planning Area could reach a residential build-out of an additional 13,972 homes, increasing residential land consumption to 40% of the Planning Area's total land area. Non-residential development could increase by 40.5 million square feet. Residential and non-residential build-out would come at the expense of the Planning Area's forest lands, which would decline by an estimated 17,607 acres. Conservation Subdivision Design offers a means to accommodate future growth and protect property rights while preserving open space.
- Additional residential and non-residential development will result in increased demand for municipal facilities and services and increased traffic on the Planning Area's roads. Directing growth to appropriate areas and to roads that have the capacity to carry higher traffic volumes will not only preserve open space, but will also enable the Planning Area to manage its facilities, services and roads in a more cost effective and efficient manner.
- Increased development in forested areas will increase the risk of property damage and loss of life due to fire hazard. Flooding hazard is also likely to increase as natural drainage systems are altered by development. Effective stormwater management and natural resource protection standards are needed to mitigate flood hazard.

- The Planning Area's historic, recreational, and open space resources drive the local economy. Protection and enhancement of these resources is vital to the long-term viability of the community.

Current Land Use & Environmental Controls

As authorized by the Municipalities Planning Code, the subdivision and land development ordinance (SALDO) and the zoning ordinance are the principal land use management tools available to local municipalities in Pennsylvania. The SALDO provides standards for dividing land and for ensuring the provision of adequate community facilities such as roads, water supply, sewage disposal, utilities, highway access, and storm water control. The zoning ordinance regulates the use of land by dividing it into districts to separate land use activities (residential, commercial, industrial, etc.); sets standards for lot size, setbacks and building height; and includes specific standards for a broad range of land uses including parking, signs, junkyards, cell towers and multi-family dwellings.

Each of the four Planning Area municipalities has an adopted SALDO and a zoning ordinance. A review of each of the ordinances produced the following important findings:

- Each of the Planning Area municipalities attempts to manage development of their forested lands and hillsides through zoning; however, they fall short in some cases. Jim Thorpe, Summit Hill, and Lansford Borough each have a Low Density Residential zoning district and some form of Open Space district. However, the district standards are contrary to the goal of growth management and open space conservation and, in fact, promote a sprawling development pattern. Permitting the use of Conservation Subdivision Design in these districts would help to achieve the Planning Area's growth management and open space conservation goals.
- None of the municipal ordinances contain provisions for the use of Transferable Development Rights (see discussion of Transferable Development Rights, below), Use of TDR will further the goal of growth management and open space preservation.
- Commercial development is provided for in each municipality. The downtown commercial districts of Jim Thorpe and Summit Hill are healthy, while Lansford's is struggling. Most of downtown Lansford Borough is zoned for residential use, aside from two small business districts on the perimeter of the downtown. It may be advisable to permit limited commercial use in a more central downtown location to maximize accessibility to residents.

Commercial zoning in Penn Forest stretches along Route 903 and Route 534. New commercial development is likely once the new Route 903/Pennsylvania Turnpike Interchange is completed. Proper access management is imperative to avoid creating hazardous and congested driving conditions on these roads. Limiting access points and curb cuts by permitting front and/or rear access from service roads would help reduce safety concerns.

- Summit Hill, Lansford, and Jim Thorpe are lacking natural resource protection standards in their ordinances. Penn Forest Township provides for protection of floodplains, surface waters, and wetlands by requiring them to be set aside as permanent open space, and provides limits of disturbance to slopes and shorelines. None of the municipalities include riparian buffer protection.

Cooperative Planning & Zoning

The Pennsylvania Municipalities Planning Code provides specific authorization for cooperative municipal planning and goes on to authorize cooperative municipal zoning via intermunicipal agreements. This enables communities to locate particular land uses in the most appropriate locations in the area rather than providing for every type of use in each participating municipality.

Multi-municipal planning recognizes that growth and development issues extend beyond municipal boundaries and can best be addressed through the cooperation of the municipalities in the planning area. By joining together in this Middle Carbon County Regional Comprehensive Plan the four participating municipalities now have the opportunity to jointly manage land use within the Planning Area. This will enable them to share land uses, avoid the impact of uncoordinated land use control decisions made independently of each other, more effectively protect natural resources, more effectively link recreational resources, and share in the benefits of the local recreation and tourism economy.

CONTEMPORARY PLANNING TOOLS

Overview

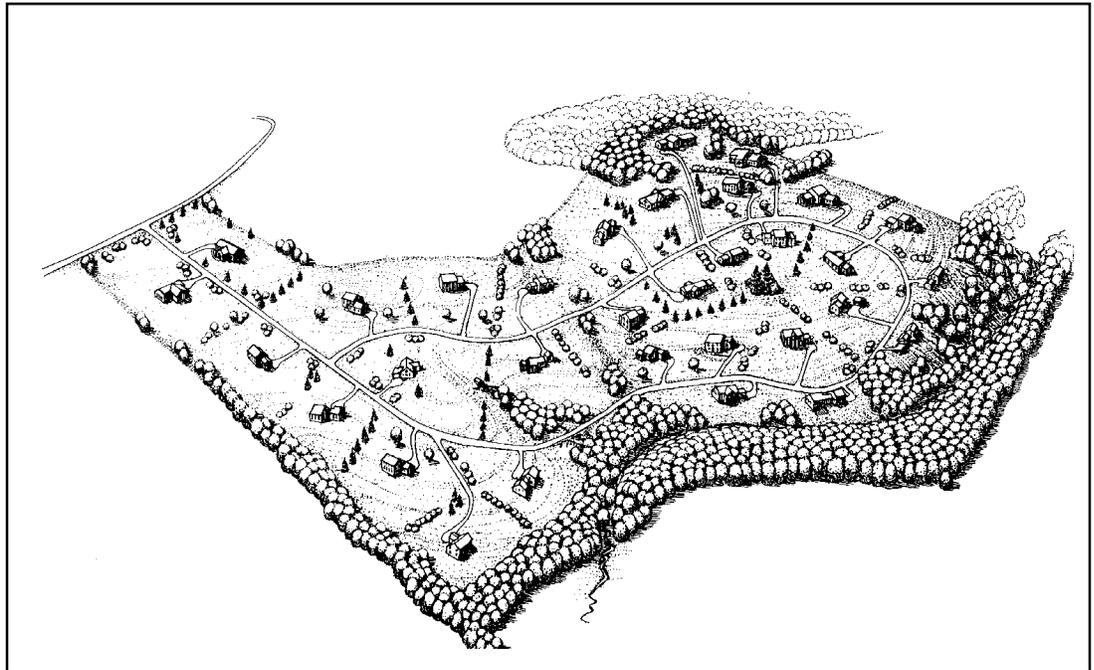
There is no one best method to manage growth and conserve open land. The intent of the following discussion is to point out innovative approaches that are currently used by many municipalities in Pennsylvania. In the end, a combination of approaches will be most effective.

Conservation Subdivision Design

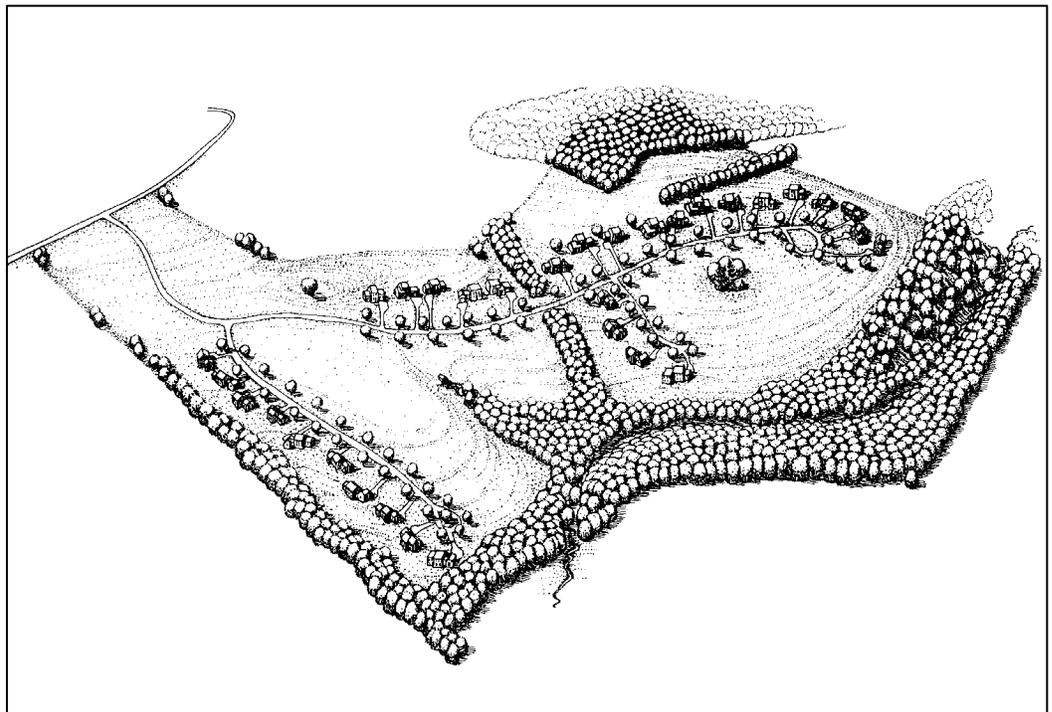
Conservation Subdivision Design is a land use tool that enables municipalities to accommodate growth while simultaneously protecting the open space and natural features that often define community character. It does not decrease the development potential of properties, and therefore does not adversely impact property values. As demonstrated by the build-out analysis above, the use of Conservation Subdivision Design could go a long way toward achieving the Planning Area's growth management and open space preservation goals. CSD also comes with financial benefits, as such developments are less expensive to build, sell more quickly, demand higher prices, reduce maintenance costs, and reduce the demand for publicly funded open space. Despite these benefits, none of the Planning Area's municipal zoning ordinances contain Conservation Subdivision Design provisions.

Based on the density set in a municipal zoning ordinance, CSD permits the same number of units on a parcel as a typical subdivision, but with a requirement to set aside a portion of the tract as protected open space. In order to achieve this, the minimum lot size (not the number of dwelling units) is reduced. For example, a tract of 100 net acres with a two acre density would yield 50 dwelling units. Given a 50% open space requirement, 50 acres would be protected as open space and 50 acres would be developed. Thus, to accommodate 50 dwelling units on 50 acres would require lot sizes of one acre or less. Open land and natural areas are protected within the reserved open space, while building lots are located in more appropriate "buildable" areas of the tract. In short, the development is designed around the natural features on the tract, whereas conventional subdivisions tend to spread the building lots across the entire tract (see illustrations on next page).

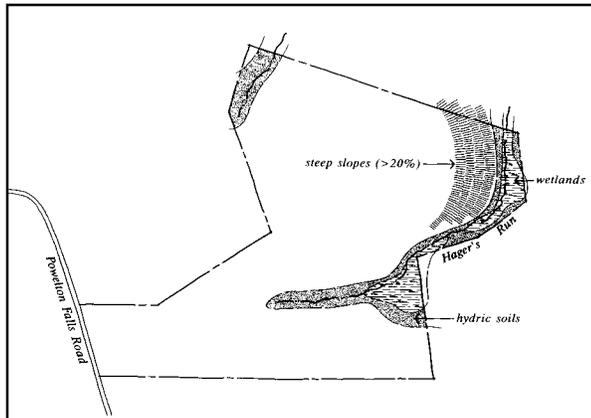
In addition to maintaining open land, conservation design maintains property values (by maintaining the development yield), reduces development costs and commitment of resources given shortened road, water line and sewer line length, minimizes long term maintenance costs of such improvements, and limits environmental affects such as soil disturbance and storm water. The same design process can be applied to multi-family and commercial development.



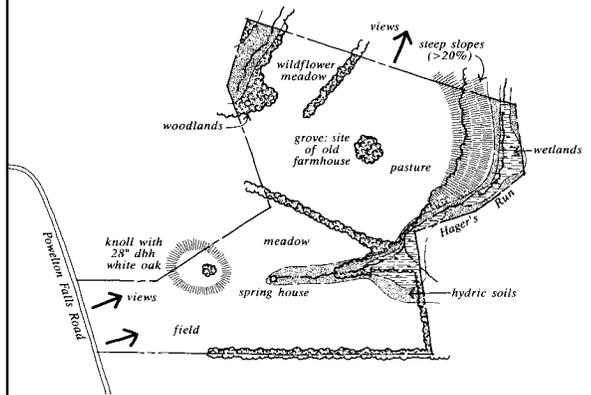
Conventional Development does not include protected open space



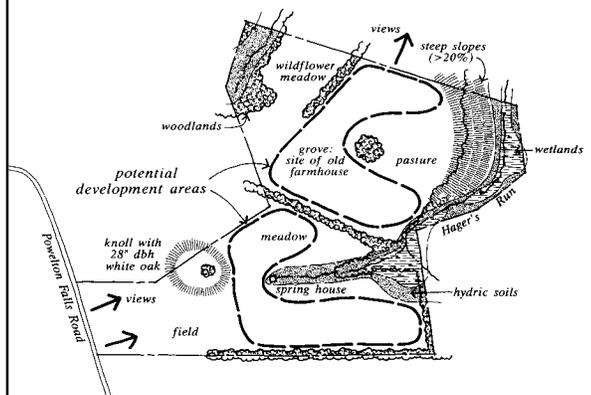
Conservation Subdivision Design includes protected open space and achieves full yield.



Identify Primary Conservation Areas



Identify Secondary Conservation Areas



Identify Potential Development Areas

A key concept associated with conservation design is to focus on residential density instead of minimum lot size. In a standard subdivision the land is simply cut into as many lots as possible while meeting the minimum lot size requirement. Under conservation design, which is based on unit density instead of minimum lot size, the size of individual building lots is reduced, while the total number of lots does not exceed the density which is based on the underlying minimum lot size. In addition, constrained land areas (e.g., wetlands, floodplain and steep slopes) are deducted prior to calculating the number of units permitted. The important question is - *Does minimum lot size matter, provided the number of units does not exceed the established density?* In conservation design, the maximum lot size is the critical element, as it really defines the minimum open space that must be conserved. Individual building lots can be quite small if community water and sewage disposal are provided.

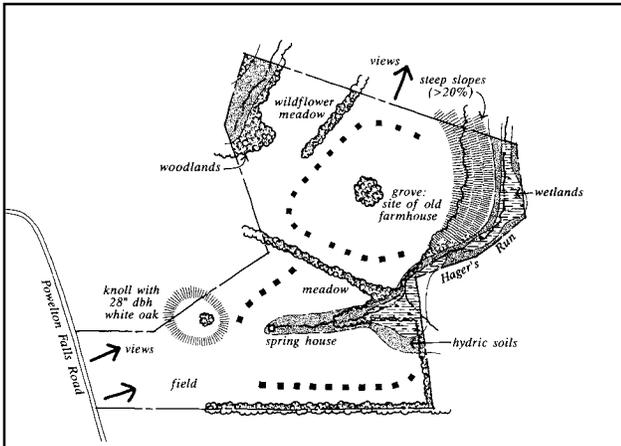
The Natural Lands Trust, a nationally known land conservation organization located in Media, Pennsylvania (Delaware County), suggests that the conservation design concept can be implemented by providing incentives (or disincentives) to encourage its use. Incentives could include allowing higher density for open space design; a disincentive would be the reduction in density for conventional subdivision.

Conservation Subdivision Design is practiced throughout southeastern Pennsylvania and is also being embraced by many municipalities in the northeast where the influx of new residents from nearby metropolitan areas is driving the demand for new housing and subdivisions. In fact, some communities have mandated the use of this technique for all development or in certain zoning districts.

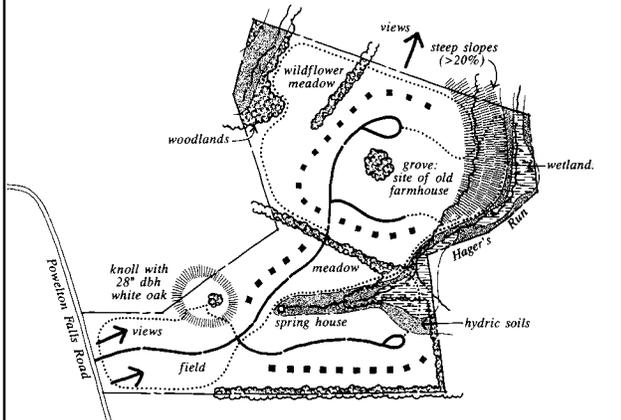
Conservation Design Process

The design process involves the following steps: (See the Figures from the Natural land Trust's *Designing Open Space Subdivisions, A Practical Step-by-Step Approach.*)

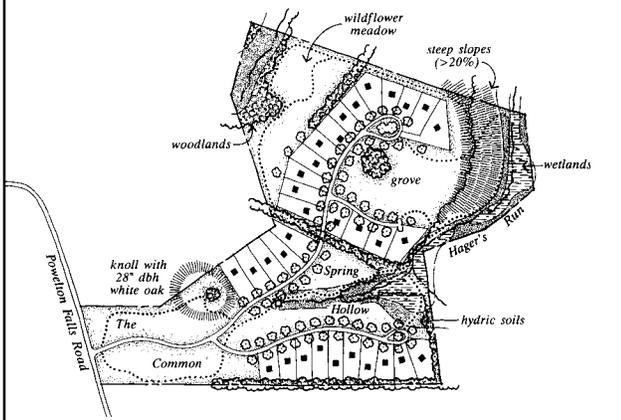
1. Yield Plan - the number of units which could be developed on the site using the traditional subdivision approach.
2. Identification of all potential open space areas



Locate Potential House Sites



Design Roads and Trail Links



Draw the Lot Lines

including primary conservation areas such as...

- Soils suitable for on site sewage systems,
- Waterbodies,
- Floodplain,
- Wetlands
- Steep slopes

...and secondary conservation areas such as ...

- Mature woodlands
- Prime farmland
- Significant wildlife habitats
- Historic, archeological, and cultural feature
- Views into and out from the site
- Aquifers and recharge areas

3. Identification of potential development areas:

- Where should the houses be logically located on the site?

4. Location of potential house sites:

- Where should individual units be located within the development area?

5. Design of road alignments and trails:

- How is access best provided with the least impact on conservation areas?

6. Drawing in the lot lines at the reduced lot size results in the conservation of the designated open land.

The open land set aside in the conservation design subdivision would be coordinated with the *Natural Resources Map* which is included as part of this *Plan*. This is intended to create an interconnected network of preserved open land.

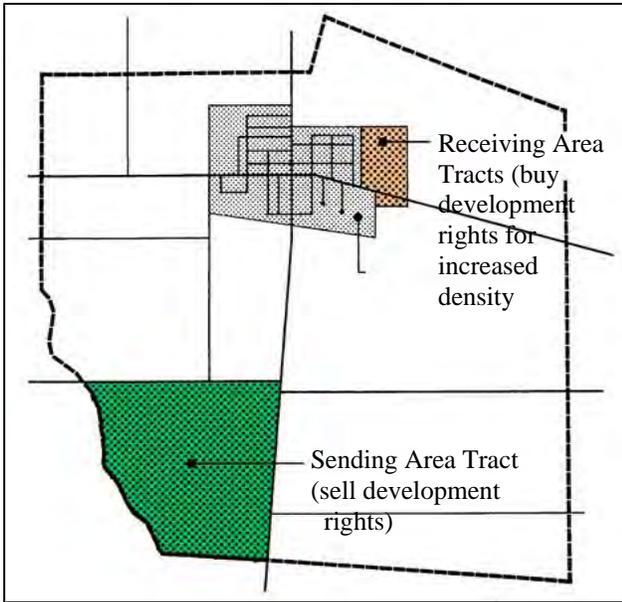
Conservation Subdivision Design gives The Planning Area the opportunity to accommodate future development and preserve the community's character.

Purposes for Conservation Design:

- To conserve open land, including those areas containing unique and sensitive natural features such as woodlands, steep slopes, streams, flood plains and wetlands, by setting them aside from development.
- To provide greater design flexibility and efficiency in the siting of services and infrastructure, including the opportunity to reduce length of roads, utility runs, and the amount of paving required for residential development.
- To reduce erosion and sedimentation by the retention of existing vegetation, and the minimization of development on steep slopes.
- To provide for a diversity of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups, and residential preferences, so that the community's population diversity may be maintained.
- To implement adopted municipal policies to conserve a variety of irreplaceable and environmentally sensitive resource lands.
- To implement adopted land use, transportation, and community policies.
- To protect areas with productive agricultural soils for continued or future agricultural use, by conserving blocks of land large enough to allow for efficient farm operations.
- To create neighborhoods with direct visual access to open land, with amenities in the form of neighborhood open space, and with a strong neighborhood identity.
- To provide for the conservation and maintenance of open land to achieve the above-mentioned goals and for active or passive recreational use by residents.
- To provide an option for landowners in order to minimize impacts on environmental resources (sensitive lands such as wetlands, flood plain, and steep slopes) and disturbance of natural or cultural features (such as mature woodlands, hedgerows and tree lines, critical wildlife habitats, historic buildings, and fieldstone walls).
- To provide standards reflecting the varying circumstances and interests of individual landowners, and the individual characteristics of their properties.
- To conserve scenic views and elements of the rural working landscape, and to minimize perceived density, by minimizing views of new development from existing roads.

Transfer of Development Rights

Transfer of Development Rights (TDR) is a free market tool authorized via zoning for preserving forest land, open space, and natural resources. The traditional approach to preservation has been twofold: 1) public purchase of threatened property, either in fee or by purchase of conservation easements, and 2) placement of zoning restrictions on development. TDR programs offer a third option by allowing the owner of open land to sell the development rights to another property owner through the private real estate market. (See the *TDR – Sending Property / Receiving Property Figure*.)



TDR Sending & Receiving Areas
 Source: Chester County Planning Commission, 1997

To utilize TDR, provisions must be included in a zoning ordinance. Development rights are voluntarily severed from a sending property (the property containing land to be preserved) and are sold on the open market to a developer who uses the rights to increase density on a receiving property. The zoning ordinance establishes the parameters for the TDR program. A density bonus can be provided to the sending area properties as an incentive to preserve that land. The number of development rights on the sending area tract is typically determined after deducting the area of constrained land. Once the development rights are severed, the sending property is protected from development by a conservation easement; however the property owner may still use that land.

The conservation design approach, combined with the optional transfer of development rights, gives a municipality a very progressive tool to conserve large areas of open land by shifting development to locations with adequate infrastructure and enabling conservation-minded landowners to preserve their properties. In fact, an entire sending property could be preserved with the density transferred to the receiving property where, through CSD, individual lot sizes could be reduced and important conservation areas would also be conserved.

TDR Potential Benefits:

- TDR redirects development from areas where development is not appropriate to areas where development makes the most sense.
- TDR preserves open space at little or no public expense.
- TDR ensures that landowners suffer no serious property value reductions that may accompany other zoning approaches (such as down-zoning used to protect open space).
- TDR allows large groups of parcels (e.g., entire agricultural areas, sensitive watersheds, scenic vistas, historic districts) to be conserved in contrast to parcel-by-parcel clustering techniques.

Source: Transfer of Development Rights, Brandywine Conservancy, 2003, p. 5

Municipalities that participate in a multi-municipal comprehensive plan and that have entered into an implementation agreement to carry out the comprehensive plan have the ability to transfer development right across municipal boundaries. In order to take advantage of this, the participating municipalities must adopt a transfer of development rights ordinance that is applicable to the area covered by the comprehensive plan.

Traditional Neighborhood Development

In years before interstate highways and urban sprawl, small villages and towns served as the centers for community activities and commerce. The Village of Orange is a good example. Traditional neighborhood development (TND) is another tool authorized by the Pennsylvania Municipalities Planning Code for inclusion in a zoning ordinance. TND enables the development of compact communities with a variety of housing types, community facilities and services, and neighborhood commercial establishments.

A key element of the TND is a pedestrian friendly design that allows residents to walk to centrally located

community facilities, parks and stores. The residential density would be based on a maximum density set by the zoning ordinance, yet individual lots could be very small to allow a substantial proportion of the development to be preserved as open space. The open space, accessible to residents, adds to the appeal of the TND and conserves important natural resources. Similar to Conservation Subdivision Design and Transferable Development Rights, TND should be considered for inclusion in any zoning ordinance where larger parcels are available for development.

Considerations for Conservation Design, TDR & TND Based on the *Natural Resources* map included in this *Plan* and the overall community goals and objectives, The Planning Area officials should consider the following when evaluating the use and location of any Conservation Subdivision Design, Transferrable Development Rights or Traditional Neighborhood Development provisions proposed for inclusion in Township ordinances:

- Ability of the Planning Area to work cooperatively on zoning to enable intermunicipal transfer of development rights.
- Availability of, or potential to provide, adequate infrastructure - roads, water supply, sewage disposal.
- Identification of areas of open space critical to preserving community character.
- Landowners interested in preserving open space.
- Need to preserve, and/or the effect on environmentally sensitive areas.
- Effect on neighboring properties.

Conservation Easements A conservation easement is a legal agreement that is voluntarily entered into between a landowner and a land trust or government agency. The easement may be sold or donated by the property owner and places permanent restrictions on the use or development of land in order to protect its conservation values. In addition to protecting the land, conservation easements offer numerous tax benefits to landowners (*See sidebar on next page*). Community based non-profit organizations are also acting to preserve land and rural character by accepting donations or acquiring conservation easements. Such organizations range in size from the Nature Conservancy, a nationwide organization, to small organizations with Board members from the local community.

Farmland Preservation Program In 1989, the Commonwealth of Pennsylvania established a farm preservation program in an effort to reduce the number of farmland acres being taken out of production. According to the Bureau for Farmland Preservation, agriculture is the leading industry in Pennsylvania which contributes approximately \$6 billion to the economy every year. One in every seven jobs (14%) in the Commonwealth is related to agriculture. In Carbon County, the farmland preservation program is administered by the Carbon County Agricultural Land Preservation Board.

Agricultural Security Areas Agricultural security areas, authorized by the Agricultural Area Security Law, PA Act 1981-43 (Act 43), are another means of preserving agriculture and are initiated by landowners whose combined parcels total at least 250 acres. The parcels must be viable agricultural land or woodland and the agricultural security area (ASA) may be comprised of non-contiguous tracts at least ten acres in size.

ASA's provide protection from nuisance ordinances and local ordinances that restrict farming practices and farm structures, unless the local municipality can clearly demonstrate a direct public purpose for the protection of the public health and safety. The ASA also restricts land condemnation procedures by state, county and local governments without approval by the State Agricultural Lands Condemnation Approval Board. The ASA program is voluntary and not permanent, with each ASA reviewed every seven years. Individual landowners are free to sell their property and it can be developed at any time. In other words, the ASA Program affords protection to agriculture and woodlands, but is no real guarantee that the land will be preserved. Nevertheless, landowner participation in the ASA Program demonstrates an interest in continuing agricultural use of the land, and the Planning Area will promote ASA's.

Advantages Offered by Conservation Easements:

Private Ownership: The property remains in private ownership and continues to contribute to the local tax base. The landowner may choose to live on the land, sell it, or pass it on to heirs.

Owners Satisfaction: Gives the landowner the satisfaction that the land will remain unchanged.

Flexibility: Easements are flexible and can be written to meet a particular land-owner's needs while protecting the property's resources.

Permanency: Most easements are permanent, remaining in force when the land changes hands. The easement holder ensures that the restrictions are maintained.

Tax Reduction: There are significant tax advantages if easements are donated rather than sold.

Charitable Taxes: The donation of a conservation easement to a land trust is treated as a charitable gift of the development rights. The donation creates a charitable tax deduction, equal to the value of the conservation easement, on the landowner's Federal and State income tax returns.

Estate Taxes: Estate taxes are significantly lower, sometimes making the difference between heirs holding onto the family land or selling it to pay inheritance taxes.

Property Taxes: Conservation easements will sometimes lower property taxes, a result of reduced valuation on property subject to the conservation easement.

Minimizes Effect of Development: Minimizes other impacts of residential development such as increased population, traffic, and demand for community facilities and services.

Tax Incentives Clean & Green

Differential assessment laws enable counties to assess agricultural land and forest land at its agricultural and forest use value instead of its fair market value. The Act 319 *Clean and Green* Program (*The Farmland and Forest Land Assessment Act of 1974*) is the most widely used in the Commonwealth with hundreds of thousands of acres enrolled statewide. The legislative intent of Act 319 is to protect open land from development and insulate landowners from tax increases from rising property values. The amount of tax revenues lost from the land enrolled in the program must be shifted to the other taxpayers in the municipality to place the tax burden on those developed properties which generate the greatest demand for services.

Clean and Green is most effective and finds more participation in areas that have been recently reassessed, whereby the fair market value greatly exceeds the agricultural use value of the land. The program is voluntary and generally requires a minimum of ten acres that will remain in the designated use (agricultural use, agricultural reserve, forest reserve), or \$2,000 in annual agricultural product sales. Land taken out of the designated use becomes subject to a roll-back

tax, imposed for up to seven years plus six percent simple interest. Act 319 is administered by the County Assessment Office.

Act 319 Clean and Green Program

- A ten-acre minimum parcel size or \$2,000 annual agricultural product sales is required.
- Development is precluded without penalty.
- If the landowner develops the property, the tax savings over the prior seven years must be paid in addition to a penalty of six percent.
- Three categories of land are eligible -
Agricultural Use - actively used for producing an agricultural commodity.
Agricultural Reserve - noncommercial open space land open to the public free of charge for recreational opportunities.
Forest Reserve - must contain trees capable of producing timber or wood products.
- Act 156 of 1998 amended Act 319 to allow a base acre, which may include a residence, farm building or other accessory building, to also qualify for the preferential assessment.

Official Map

Article IV of the Pennsylvania Municipalities Planning Code grants the authority to municipalities to adopt an official map. The official map shows the location of areas which the municipality has identified as necessary for future public streets, recreation areas, and other public grounds, or for open space. The municipality has up to one year to purchase the property, or an easement in the case of open space, upon notice by the owner of intended development.

This land use management tool can be invaluable for minimizing the cost of public facilities and open space preservation. The Planning Area should consider the adoption of an official map as part of its long term planning for community facilities and open space preservation. By setting aside funds for the eventual fee purchase or easement acquisition of priority land areas, municipal resources can be used to the best long term advantage, ensuring that development of public facilities is a coordinated effort rather than uncoordinated reactions to unanticipated needs.

Benefits of an official map include:

- *Provides for the coordination of public and private goals* - Property owners are informed, up front, of long range municipal goals for roads, parks, other public facilities and conservation easements. This allows development plans to be adjusted before detailed and costly plans are prepared.
- *Provides an effective method for implementing the Comprehensive Plan, the Open Space Plan and other planning goals* - Most municipalities rely primarily on their zoning and subdivision ordinances to advance their future land use goals. The official map provides an additional and highly effective tool to ensure that a municipality is developed in accord with its land use policies. It is particularly effective for achieving transportation and community facility goals. The implementation of an open space or park and recreation plan can benefit from the designation of existing and proposed parks, related facilities and conservation easements on the official map.

- *The municipality can plan ahead to provide community facilities, parks and open space important to the community* - By setting aside funds for the eventual purchase or easement of the identified areas the municipality can use limited resources to the best long term advantage. Priorities can be established instead of reacting to unanticipated needs and undertaking uncoordinated acquisitions.
- *Provides support for grant applications* - When the municipality applies for grants or other funding, the official map can provide an advantage. Including specific features on the official map indicates a commitment to purchase the land or easement and/or make improvements. For example, mapping future parks or recreation facilities demonstrates that the municipality has planned ahead for these improvements, and could be considered when grant applications are reviewed.

PLANNING POLICIES AND ACTIONS: THE FUTURE LAND USE PLAN

Future Land Use Plan Overview

Planning policies and recommendations are embodied in the Future Land Use Plan (see Future Land Use map). The Future Land Use Plan is intended to accommodate anticipated growth and provide for needed community facilities and services while preserving the Planning Area's rural character, open space and natural resources. It addresses land conservation, sustainable residential development, and opportunities for commercial and industrial development.

The Future Land Use Plan is coordinated with the Natural Resources Protection Plan, Transportation Plan, and Community Facilities & Utilities Plan. That is, it provides for protection measures in critical natural resource areas and directs development to areas that have the sewer, water, and road infrastructure capable of accommodating development. High density development is directed to the downtown areas of the three boroughs. These areas are more suitable for such development based on natural conditions, infrastructure, and road access. (Although development in Lansford and Summit Hill is very limited at this time due to a sewer moratorium, this Comprehensive Plan expects that development will be possible in the future when improvements to the sewer systems are complete). Medium density development is located in the areas immediately surrounding the downtowns, and in the existing subdivisions of Penn Forest Township. Low density development and open space are directed to land on the perimeters of the four municipalities, which contain sensitive natural features and generally lack sewer and water infrastructure and road capacity.

Road improvements and traffic mitigation would have to accompany any new development in the Planning Area and especially in Jim Thorpe Borough where tourism related traffic congestion is a chronic problem.

Growth Areas and Rural Resource Area

The High Density Growth Area: is centered in the downtown areas of Summit Hill, Lansford, and Jim Thorpe Boroughs where sewer and water infrastructure are in place. It would function much as it does now, accommodating single family detached, single family attached, two-family, and multi-family residential development, as well as mixed-use, commercial, and office development. The High Density Growth Area could also serve as a TDR Receiving Area, providing a density bonus for the use of TDR. Any new development or redevelopment would also be strongly encouraged to emulate the design and character of the existing historic downtowns.

Through cooperative zoning, Penn Forest Township would not be required to accommodate high density residential development as long as such development is provided for in the downtown

areas of the three boroughs.

The Medium Density Growth Area: occupies the lands immediately adjacent to the downtown areas of the three boroughs and in the existing residential subdivisions of Penn Forest Township. It would primarily accommodate single family detached development. Single family attached residential development and small, neighborhood-scale commercial development could also be permitted at appropriate densities with the purchase of TDRs and with the provision of adequate sewer and water infrastructure. Development can be in the form of Conservation Subdivision Design with a minimum open space requirement.

The Low Density Development/Rural Resource Area: encompasses the open spaces and forested lands on the perimeters of the Planning Area municipalities. It would accommodate single family detached development and would include Conservation Subdivision Design as a permitted use with a 50% open space requirement. Strong incentives for the use of Conservation Subdivision Design would also be included.

The Low Density Development/Rural Resource Area would be designated as a TDR Sending Area. This provides current property owners with a financial incentive to protect their land.

The use of Conservation Subdivision Design and TDR will protect property values, provide landowners with more options for use of their land, and provide land owners with financial incentives while simultaneously achieving the Planning Area's open space, natural resource, and historic resource protection goals.

Non-Residential Development

Recreation and tourism are critical to the long-term sustainability of the Planning Area's retail and service economy. Protecting and enhancing recreation and tourism assets and linking them together so that all Planning Area municipalities can capitalize on the economic benefits are key goals of the Middle Carbon County Park and Recreation Plan, as well as the Delaware and Lehigh Heritage Corridor Market Towns Initiative.

In addition to the recreation and tourism economy, this *Comprehensive Plan* recognizes that other commercial and industrial uses are important to enhancing the economic and social well being of the Planning Area. The Planning Area will continue to provide for such land uses with opportunities for retail, service, and office uses in the downtown areas of the three boroughs and in the vicinity of the Route 903/Pennsylvania Turnpike Interchange in Penn Forest Township. Growth along the Route 903 corridor in Penn Forest Township should be carefully managed to avoid the creation of strip commercial development and associated adverse traffic impacts. Industrial development should be directed to the existing industrial zoning districts of Lansford and Jim Thorpe, where railroad access is present, and to the vicinity of the planned Route 903/Pennsylvania Turnpike Interchange. Income generating opportunities for Township residents will also be promoted by permitting *no impact home based businesses* in all residential zoning districts, and by permitting home occupations as appropriate.



Landscaping, setbacks, screening, and buffers standards should also be applied to non-residential uses to increase curb appeal and to avoid potential conflicts with adjacent properties.

Furthermore, any future expansion of areas devoted to non-residential development should consider road capacity, access, and availability of utilities.

Open Space Why is the preservation of open space important for a community? Preservation of open space provides long-term financial benefits to the community and enhances the quality of life of area residents. Open Space, whether agriculture, forest land, hillside, ridge line or park, positively impacts community livelihood, property values, and recreational opportunities. Protected open space lands:

Note About Open Space:

Open space is land which has not been developed for a constructive or productive use and is intended for environmental protection, natural resource conservation, scenic, or recreational purposes. Open space may include, for example, woodland, wetlands, watercourses, reverting farmland, and floodplain. In the case of a development project, open space may include passive recreation areas such as ball fields, lawns and buffer areas. Agricultural land, although sometimes highly developed for crop and livestock production, is often important open land for retaining a community's rural character.

- *Boost property values of surrounding developed areas.*
- *Offer a scenic backdrop for the tourist economy.*
- *Provide agricultural (and forestry) jobs and sales.*
- *Offer recreation opportunities.*
- *Form a link to a historic past.*
- *Provide habitat for native plants and wild animals.*
- *Replenish groundwater and act as a filter to improve water quality.*
- *Enhance the quality of life of area residents.*¹

The Penn State College of Agricultural Sciences Cooperative Extension, in *Extension Circular 410 - Fiscal Impacts of Different Land Uses, The Pennsylvania Experience*, reports on a study conducted in three rural townships in Adams County, Lebanon County, and Perry County. (See the following *Cost of Community Services by Land Use Table*.) The study found that open space has a positive fiscal impact on communities and more than pays for itself in the long-run. Specifically, the study found that:

- *Land uses affect the size of the local government, the types of services it offers, the types of equipment it must purchase, and the taxes it must levy.*
- *Land use also affects the number of students in the local school district, the sizes and number of school buildings, the number of teachers, and the taxes and tax rates the school levies.*
- *The overall fiscal impact of a land use depends on both its (tax) revenue and its (municipal) expenditure impacts.*
- *Residential land, on average contributed less to the local municipality and school district than it required back in expenditures.*

¹ Santa Barbara County 2030: The Open Lands, p.2,
http://www.countyofsb.org/plandev/pdf/comp/programs/Newsletters/open_lands_newltr/value_all.pdf

Cost of Community Services by Land Use				
Township In:	\$ revenue collected : \$ spent on services			
	Resid	Comm	Indus	Open
South Central Townships				
Bethel Lebanon Co.	1 : 1.08	1 : 0.07	1 : 0.27	1 : 0.06
Carroll Perry Co.	1 : 1.03	1 : 0.06	—	1 : 0.02
Maiden Creek Berks Co.	1 : 1.28	1 : 0.11	1 : 0.06	1 : 0.04
Richmond Berks Co.	1 : 1.24	1 : 0.11	1 : 0.06	1 : 0.04
Straban Adams Co.	1 : 1.10	1 : 0.17	1 : 0.05	1 : 0.06
Philadelphia Area Townships				
Bedminster Bucks Co.	1 : 1.12	1 : 0.006	1 : 0.04	1 : 0.04
Buckingham Berks Co.	1 : 1.04	1 : 0.16	1 : 0.12	1 : 0.08
North Central Townships				
Bingham Potter Co.	1 : 1.56	1 : 0.26	1 : 0.15	1 : 0.15
Stewardson Potter Co.	1 : 2.11	1 : 0.37	--	1 : 0.15
Sweden Potter Co.	1 : 1.38	1 : 0.07	--	1 : 0.08
Western Township				
Allegheny Westmoreland Co.	1 : 1.06	1 : 0.15	1 : 0.14	1 : 0.13

Source: *Calculating a Cost of Community Services Ratio for Your Pennsylvania Community*, Pennsylvania State University, 1998

- *Commercial, industrial, and farm- and open land contributed more to the local municipality and school district than they took, thus helping to subsidize the (service) needs of residential land.*
- *If growth must occur, commercial and industrial development has a potentially beneficial impact on the tax base as long as it does not dramatically raise the demand for services.*

Open space and natural areas are key ingredients of the Planning Area’s rural landscape and its recreation-based economy. Thus, the fiscal impacts of open space are magnified in the Planning Area, not only by decreasing demand for services and the associated tax burden, but by sustaining the local economy as well. Municipal and county officials must encourage the conservation of open space in order to protect the Planning Area’s character and economy. However, fragmented pieces of open space are not as valuable from an ecological and recreational standpoint as are large connected networks of open space. That is to say, large connected networks of open space provide better water, air, and habitat protection and enable the establishment of a regional trail and greenway system that provides for a more rewarding recreational experience. This *Comprehensive Plan*, therefore, recommends that Planning Area municipalities pursue open space preservation as a high priority.

This *Comprehensive Plan* recognizes the historical and continuing importance of forestry enterprises in the region. Landowners manage their forests for a variety of reasons including income from timber sales, wildlife habitat, recreation, water quality protection, bio-diversity, and timber for long-term investment. Improper harvesting and

management practices often raise concerns among local residents and officials of adverse environmental impacts. It is critical for public acceptance of forestry, for environmental quality, and for the long-term viability of the industry and forest resources that logging professionals and individual landowners use best management practices when harvesting.

Forestry

The Pennsylvania Municipalities Planning Code (MPC), at §603(c)(7), states that *zoning ordinances may not unreasonably restrict forestry activities* and goes on to require that in the Commonwealth, *forestry activities . . . shall be a permitted use by right in all zoning districts in every municipality*. Therefore, forestry activities will be permitted throughout the Planning Area provided such operations are conducted in accordance with sound forest management practices and environmental regulations.

Mineral Extraction

The Pennsylvania Municipalities Planning Code defines minerals as: *Any aggregate or mass of mineral matter, whether or not coherent. The term includes, but is not limited to, limestone and dolomite, sand and gravel, rock and stone, earth, fill, slag, iron ore, zinc ore, vermiculite and clay, anthracite and bituminous coal, coal refuse, peat and crude oil and natural gas.* The MPC clearly recognizes mineral extraction as a lawful use, but severely limits the range of development and operational standards which can be applied to mineral extraction by local municipalities, with location standards the primary tool available to the Planning Area. MPC §603(I) states that *zoning ordinances shall provide for the reasonable development of minerals in each municipality*, while MPC §603(b)



allows zoning ordinances to regulate mineral extraction, but only to the extent that such uses are not regulated by the state Surface Mining Conservation and Reclamation Act, the Noncoal Surface Mining Conservation and Reclamation Act, and the Oil and Gas Act. These Acts regulate such things as setbacks, dust, noise, blasting, water supply effects, and reclamation. In other words, municipal regulations are pre-empted by these state regulations.

This *Comprehensive Plan* recognizes the need to provide for *the reasonable development of minerals* and encourages such operations in appropriate locations in accordance with the MPC and state laws. Given the industrial nature and potential for adverse environmental impacts arising from mineral extracting operations, and consistent with its duty to protect the health, safety and welfare of its residents, the Planning Area discourages the placement of mineral extraction operations in residential areas and in populated areas. Any mineral extraction activities that occur in the Planning Area will be regulated by the Planning Area to the extent possible as determined by state law and case law.

IMPLEMENTATION STRATEGIES

Overview

A plan is successful only if the policies it posits are put into action. This Land Use Plan can only be implemented by the combined effort of residents, landowners, and local officials. The following initiatives are key to the success of this effort:

Cooperative Zoning

Zoning as applied to a single municipality cannot be used to exclude particular land uses from that municipality, a dogma long held firm by the courts. In other words, a local municipal zoning ordinance must provide reasonable opportunity for the development of all legitimate land uses. Cooperative zoning, however, enables two or more municipalities working together to spread the range of legitimate uses around the entire area, each not having to provide for every use within its own municipal boundaries. This allows participating municipalities to manage land use from a regional perspective, and is a very powerful tool for directing development and to the most appropriate locations and reducing the costs associated with building new infrastructure or extending existing infrastructure. Other benefits derived from cooperative zoning include less duplication of effort, shared manpower and decreased staff costs, and the option of using one zoning hearing board.

MPC Provisions for Joint Municipal Planning

- Article III and Article XI authorize multi-municipal comprehensive plans.
- Article VIII-A provides the authority for joint municipal zoning.
- Article XI enables municipalities to enter into intergovernmental agreements for cooperative planning and zoning.

The MPC provides two options to municipalities wishing to implement their multi-municipal comprehensive plan through cooperative zoning. The participating municipalities can adopt a joint municipal zoning ordinance, which serves as the zoning ordinance for the entire multi-municipal planning area. Individual municipal zoning ordinances are superseded by the joint municipal ordinance. Under an “implementation agreement,” individual municipal ordinances remain in affect, but participating municipalities must adopt ordinances that conform to the multi-municipal comprehensive plan within two years.

Cooperative Zoning Actions

Following the adoption of the *Comprehensive Plan*, appoint an ad hoc committee, comprised of representatives of the Planning Area municipalities, to consider whether to pursue a joint municipal zoning ordinance or whether to retain individual municipal ordinances, and make a recommendation to the Borough Councils and Township Board of Supervisors.

Prepare a joint municipal zoning ordinance or amend individual municipal ordinances within two years to make them consistent with this *Comprehensive Plan*, as is required by the MPC.

Specific Ordinance Actions

The following specific ordinance actions can be included in a joint municipal zoning ordinance or in the individual ordinances of the Planning Area municipalities. In the case of individual ordinances, ordinance provisions should be consistent across all municipalities in order to accomplish regional planning goals and meet MPC requirements:

- Permit Conservation Subdivision Design in areas designated on the Future Land Use Plan as *Low Density Development/Rural Resource Area*. This should include a minimum 50% open space requirement with density based on the net tract area exclusive of critical natural features.
- Permit residential development at a density of approximately one unit per acre in the area designated on the Future Land Use Plan as *Medium Density Growth Area*.
- Permit a mix of residential dwelling types and commercial and office uses in the in the area designated on the Future Land Use Plan as *High Density Growth Area*.
- Include provisions in the zoning ordinance(s) for Transfer of Development Rights with the Low Density Development/Rural Resource Area designated as Sending Areas and the High and Medium Density Growth Areas designated as Receiving Areas (contingent upon the availability of sewer and water infrastructure).
- Provide more opportunity for small, neighborhood-scale commercial and office use in Lansford Borough in an effort to stimulate economic activity.
- Include provisions to avoid strip commercial development and control access to commercial areas along Routes 903 and 534 in Penn Forest Township.

- Continue to permit industrial and mineral extraction uses in existing industrial zoning districts.
- Permit No Impact Home Based Businesses in all residential zoning districts throughout the Planning Area.
- Permit Forestry in all zoning districts throughout the Planning Area.
- Define Lot Area to be consistent with the carrying capacity of the land considering natural constraints to development.
- Strictly limit or prohibit earth disturbance in areas of steep slopes, riparian and wetland buffers, and woodlands.
- Strictly limit or prohibit development in floodplain areas.
- Require tree protection and replacement in all new subdivision and land development projects.
- Require appropriate buffering, landscaping, and setbacks between differing land uses in order to minimize adverse impacts and conflicts.
- Require appropriate environmental controls to minimize adverse impacts associated with lighting and noise.
- Require at least two access points to developments for emergency access with associated roadway design standards.
- Prepare and adopt an Official Map and accompanying ordinance to identify future rights-of-way and easements for public use.

**Non-Regulatory
Actions**

The following implementation strategies are non-regulatory in nature, meaning that they do not involve the use of an ordinance or other legal instrument. These strategies involve partnerships and voluntary action by landowners to accomplish planning goals.

- Conduct public outreach, perhaps through an appointed open space committee to inform land owners of the many land preservation programs and tools (e.g., Clean and Green, Transferable Development Rights, conservation easements) and their benefits.
- Identify lands throughout the Planning Area that are priorities for open space preservation and encourage these landowners to preserve the land through voluntary sale or donation of conservation easements, use of TDR, or other preservation tools.
- Collaborate with land trust organizations and governmental agencies on efforts to preserve open space, recreational, and agricultural resources.
- Collaborate with local chambers of commerce, and county and state economic development and tourism agencies to attract and retain business in the Planning Area.

HOUSING PLAN

INTRODUCTION

The Housing Plan examines the characteristics of the Western Carbon County Planning Area’s existing housing stock and provides strategies to address future housing issues. It is intended to address the housing needs of current residents and to accommodate anticipated growth while maintaining community character. In addition, the Housing Plan seeks to ensure that the three Boroughs continue to provide for housing of various types and in various arrangements under the terms of each zoning ordinance.

Families and individuals of all income levels reside in Jim Thorpe, Lansford and Summit Hill and need continued access to decent and affordable housing with proper community facilities. The special needs of young families looking for their first home and senior citizens on fixed incomes must be addressed. Similar to commercial development, the Boroughs can employ zoning to direct housing types and densities to the most appropriate locations.

The Pennsylvania Municipalities Planning Code requires *a plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels.*

Zoning must provide for housing of various dwelling types encompassing all basic forms of housing, including single-family and two-family dwellings, and a reasonable range of multifamily dwellings in various arrangements, mobile homes and mobile home parks.

HOUSING GOAL AND OBJECTIVES

Housing Goal: Provide for secure and sound housing in a variety of types and densities.

OBJECTIVES:

- | | |
|--------------------------|---|
| Current Residents | <p>Meet the housing needs of current Planning Area residents.</p> <ul style="list-style-type: none"> • <u>Sound Housing</u> - Encourage preservation of presently sound housing. • <u>Rehabilitation/Reuse</u> - Encourage the rehabilitation and adaptive reuse in appropriate areas of existing older homes which typically are larger and more difficult to maintain, especially for individuals on fixed incomes. • <u>Housing Programs</u> - Encourage participation in all county, state and federal housing rehabilitation and assistance programs to ensure residents receive full benefit from such programs. • <u>Condition</u> - Consider the adoption of an ordinance to regulate nuisances and safety hazards associated with dilapidated and dangerous structures. |
| Housing Growth | <p>Accommodate anticipated housing growth in appropriate locations, at appropriate densities, and with suitable amenities.</p> <ul style="list-style-type: none"> • <u>Density</u> - Provide for varying densities based on available infrastructure and suited to the Planning Area’s character and landscape. |

- Multi-Family - Allow multi-family dwellings in conservation design in all zoning districts at the same density as single-family dwellings, but provide increased buffers and setbacks where multi-family adjoins single-family neighborhoods.
- Amenities - Provide for recreation and open space amenities within residential developments.
- Design Standards - Require all residential development to meet adequate design standards and provide proper community facilities via the Subdivision and Land Development Ordinance.
- Facility Maintenance - Require in the Subdivision and Land Development Ordinance the continued ownership and maintenance of all improvements and facilities associated with residential development.

Types and Affordability

Provide housing choice by encouraging housing of different types, size and tenure in suitable locations, at a range of prices within the reach of households of varying financial capacity.



Multi-Family Conversion, Summit Hill

- Senior Housing - Encourage the development of nursing homes, adult care centers, assisted living facilities and other housing types which provide amenities that are attractive to retirees.
- Type and Density - Allow residential development of various types in suitable areas at a density sufficiently high to moderate the land cost of the increasing cost of housing, while requiring adequate off street parking, water supply and sewage disposal.
- Fair Share - Ensure that the Planning Area provides its required *fair share* of housing
- Gated Alternatives - Promote alternatives to private, gated communities.
- Innovative Design - Advocate conservation design, village style or traditional neighborhood development.
- Incentives - Consider density and design incentives to encourage the development of age-restricted and affordable housing.

HOUSING CONSIDERATIONS

Municipalities Planning Code Requirements

The Pennsylvania Municipalities Planning Code (MPC) addresses housing from the perspective of ensuring affordable housing for families of all income levels. In terms of planning, MPC §301 requires comprehensive plans to include an element *to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels.*

In terms of land use management as effected by zoning, MPC §604 requires zoning ordinances to *provide for the use of land within the municipality for residential housing of various dwelling types encompassing all basic forms of housing, including single-family and two-family dwellings, and a reasonable range of multifamily dwellings in various arrangements, mobile homes and mobile home parks, provided, however, that no zoning ordinance shall be deemed invalid for the failure to provide for any other specific dwelling type.*

Court decisions have upheld this zoning provision of the MPC establishing a *fair share* rule which considers the percentages of land available for a given type of housing, current population growth and pressures within the municipality and surrounding region, and the amount of undeveloped land in a community. The Pennsylvania Department of Economic Development publication titled, *Reducing Land Use Barriers to Affordable Housing, Fourth Edition, August 2001*, lists a number of barriers to affordable housing associated with land use regulations, including among others:

- insufficient amount of land zoned for medium and high density residential development
- excessive lot frontage and setback requirements which dictate greater lot sizes
- excessive street widths and construction standards unrelated to expected traffic volumes
- lack of provisions for cluster design and planned residential development
- limitations on the use of mobile homes and manufactured homes
- plan review and administrative delays

Planning Area Zoning

The Planning Area municipalities, particularly taken as a whole, certainly do not restrict the development of affordable housing. Substantial areas are zoned for two-family and multi-family dwellings and mobile home parks. Housing unit densities in Jim Thorpe, Lansford and Summit Hill are quite high when compared to outlying townships, and Penn Forest multi-family density is consistent with other rural townships in the region. In addition, the ordinances do not attempt to restrict the use of mobile homes and manufactured homes on individual lots. Cluster development and planned residential development are permitted in the Jim Thorpe R-1 District and in Penn Forest R-1, R-2 and R-2 Districts, which encompasses much of the Planning Area. Zoning district details follow

Jim Thorpe

- R-1: single family dwellings at 12,000 sq. ft./dwelling unit, cluster development and planned residential development.
- R-2 District: single-family, multi-family dwellings, and mobile home parks all at 10,000 sq. ft./dwelling unit
- R-3 and R-4 District: single-family and two-family at 7,200 sq. ft./dwelling unit and multi-family dwellings at 2,000 sq. ft./dwelling unit.

- C-1 and C-2: single-family and two-family at 4,800 sq. ft./dwelling unit and multi-family dwellings at 2,000 sq. ft./dwelling unit.

Lansford

- R-1: single family dwellings at 6,000 sq. ft./dwelling unit.
- R-2 District: single-family, two-family, three-family dwellings; multi-family dwellings, and mobile home parks all at 3,000 sq. ft./dwelling unit
- B-2 District: dwellings over businesses; no minimum lot size

Penn Forest

- R-1: single-family dwellings at 2 acres/dwelling unit, mobile home parks at 7,500 sq. ft./dwelling unit, planned residential development, and performance standard subdivisions (cluster development) and planned residential development at increased density.
- R-2: single-family dwellings at 2 acres/dwelling unit, mobile home parks, two-family and multi-family dwellings at 15,000 sq. ft./dwelling unit, and performance standard subdivisions and planned residential development at increased density.
- R-3: single-family dwellings at 1 acre/dwelling unit, mobile home parks, two-family and multi-family dwellings at 15,000 sq. ft./dwelling unit, and performance standard subdivisions and planned residential development at increased density.
- C-1: single-family, two-family and multi-family dwellings.
- C-2: two-family and multi-family dwellings.

Summit Hill

- R-1: single family dwellings
- R-2 District: single-family, two-family and three-family dwellings; multi-family dwellings, and mobile home parks
- R-3 District: single-family, two-family and three-family dwellings
- C-2 District: multi-family dwellings

Housing Affordability

Municipalities throughout the country have been addressing housing issues for many years. *Pennsylvania Housing*, a 1988 study conducted by the Pennsylvania Housing Financing Agency, defined *affordable* as requiring less than thirty percent of gross monthly income for rent or less than twenty-eight percent for a mortgage and other related housing costs. U.S. Department of Housing and Urban Development (HUD) guidelines continue to define *affordable housing* as costing no more than thirty percent of a household's gross monthly income. (See also the *Affordable Housing Study Sidebar*.)

Affordable Housing Study

The Summer 2000 *Affordable Housing Study* for Jacksonville, Florida provides a good description of how affordable housing is assessed. *The American Dream has long been associated with the possibility of owning one's home. National housing-market surveys report that the home ownership rate reached a peak in the late 1990s—almost sixty-seven percent in 1999—due mainly to a robust economy with record levels of low unemployment and low interest rates. However, while this unprecedented economic expansion enabled many Americans to purchase their own homes, it has pushed housing prices and rental rates higher, preventing many other households, with insufficient incomes, from either becoming homeowners or finding affordable, safe, and decent rental housing. Housing affordability is a relative concept—both rich and poor can experience difficulty in affording housing, depending on how much they spend toward housing costs. Housing in one community with a relatively high median income can be quite expensive but affordable compared to housing in another community with a relatively low median income.*

Federal governmental guidelines, primarily those established by the U.S. Department of Housing and Urban Development (HUD), define affordable housing as costing no more than thirty percent of a household's gross monthly income—referred to here as the 30 percent rule. The income counted is derived from all wages earned by people fifteen and older in the household. For homeowners, affordability is generally defined as owning a house with a value equal to slightly more than twice the household's annual income. The homeowner costs counted typically include a mortgage payment (principal, interest, taxes, and insurance) and utilities. For renters, the costs usually include contract rent and utilities. The 30 percent rule leaves seventy percent for food, clothing, health care, child care, transportation to work, and other basic expenses. Because of increasing housing costs, many lower income Americans are forced to make tradeoffs and go without necessities. Tenants experiencing unexpected emergencies typically fall behind in their rent and face eviction. If not assisted, they may become homeless.

EXISTING HOUSING CONDITIONS

Overview

The Planning Area's history with coal mining and transport and later development related to recreation and tourism has had an interesting effect on its housing situation. Prior to 1970, most of the dwellings in the Planning Area were constructed for families whose breadwinner was employed by coal mining, related businesses and industries, and other local activities. Housing unit construction in Jim Thorpe, Lansford and Summit Hill has slowed over the past 30 years as the population has decreased. Beginning in the 1960's in Penn Forest Township, vacation home development was the primary type of housing construction with the trend of conversions to full-time residences in recent years. With less than 100 vacation homes, the Boroughs are not directly affected by this type of housing when compared to Penn Forest Township and the other municipalities in the County which are part of the Pocono region.

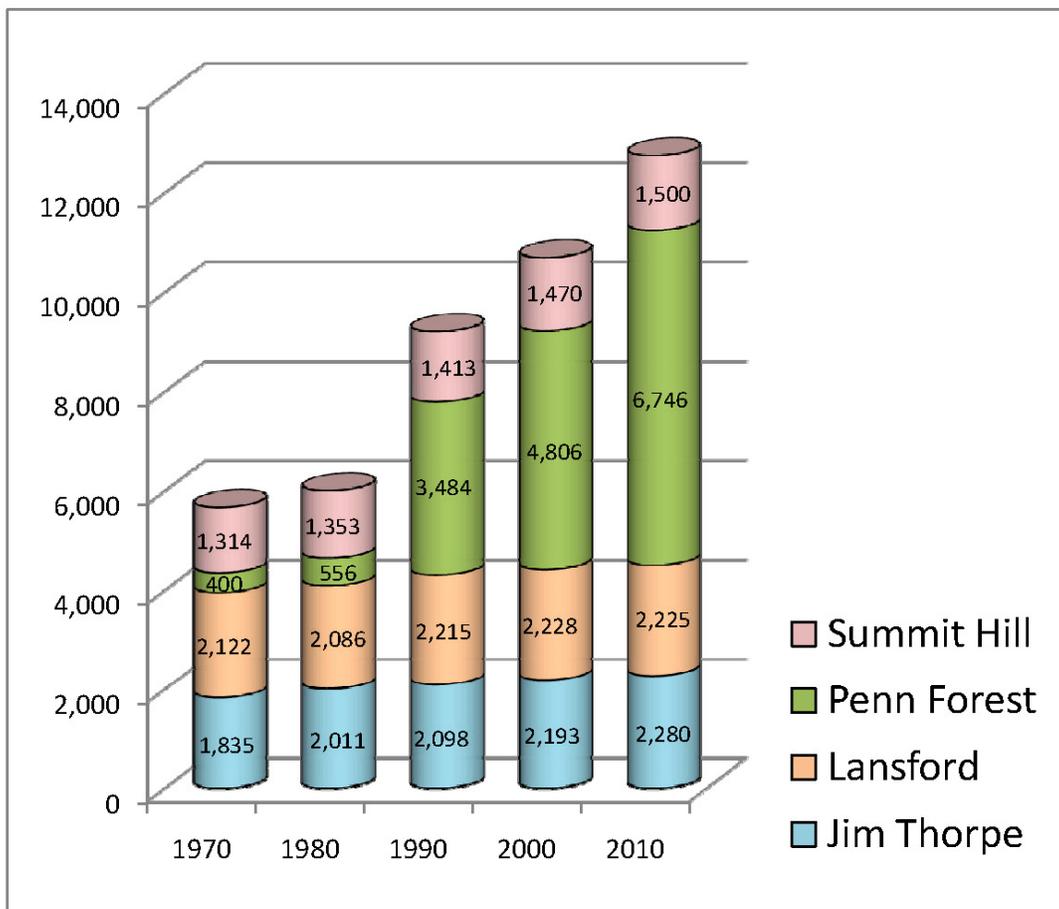
Housing Trends

The *Housing Units Table* shows the changes in the number of housing units in the Planning Area and other comparative jurisdictions between 1970 and 2000 and the *Housing Units and Estimates Table* includes a housing unit estimate for the four Planning Area municipalities based on the number of permits issued for new dwelling units and for demolitions. Key considerations and changes in the Planning Area include:

- The number of dwelling units in the Planning Area increased from 5,686 in 1970 to almost 12,760 in 2010 - and increase of some 7,070 units.

HOUSING UNITS U.S. CENSUS										
	1970 Total Units	# 70-80	% 70-80	1980 Total Units	# 80-90	% 80-90	1990 Total Units	# 90-00	% 90-00	2000 Total Units
Jim Thorpe	1,839	176	9.6%	2,015	83	4.1%	2,098	95	4.5%	2,193
Lansford	2,133	-34	-1.6%	2,099	116	5.5%	2,215	13	0.6%	2,228
Penn Forest	400*	156	39.0%	556	2,928	526.6%	3,484	1,322	37.9%	4,806
Summit Hill	1,314	44	3.3%	1,358	73	5.4%	1,431	39	2.7%	1,470
Total	5,686	342	6.0%	6,028	3,200	53.1%	9,228	1,469	15.9%	10,697
Carbon Co.	19,199	3,991	20.8%	23,190	4,190	18.1%	27,380	3,112	11.4%	30,492
PA (1,000s)	3,927	670	17.1%	4,597	341	7.4%	4,938	312	6.3%	5,250

* 1970 Penn Forest total housing units based on 2000 Census *Year Structure Built* data.



Housing Unit Trends

HOUSING UNITS AND ESTIMATES					
Year	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Total
1970	1,839	2,133	400	1,314	5,686
1980	2,015	2,099	556	1,358	6,028
1990	2,098	2,215	3,484	1,431	9,228
2000	2,193	2,228	4,806	1,470	10,697
2010*	2,280	2,228	6,746	1,500	12,754
2010**	2,433	2,361***	6,334	1,542	12,670
2015**	2,542	2,424***	7,055	1,583	13,604

* Estimate. Jim Thorpe, Penn Forest and Summit Hill based on number of permits and demolitions. Lansford is under a PA DEP building moratorium pending an upgrade of the sewage treatment plant.
 ** Estimate - ESRI Business Analyst Online..
 *** Dependent on sewer service.



New Construction, Jim Thorpe

- Since 1970, most of the new housing have been constructed in Penn Forest Township, almost 6,350 units.
- In Lansford 92 units were constructed since 1970, 186 were constructed in Summit Hill and 440 in Jim Thorpe.
- Lansford and Summit Hill are currently under a building moratorium imposed by the PA Department of Environmental Protection until sewage treatment system improvements are completed.
- Recent housing construction in Summit Hill is in areas served by on-site sewage disposal systems.
- If market conditions change, the non-public open land in the Planning Area holds great potential for development.

Age/Condition of Housing

The data in the *Rate of Housing Development Table* provides a good measure of the age and potential condition of housing in the Western Carbon County Planning Area.



Older Homes, Summit Hill

- The greatest number of units in the Planning Area Boroughs, more than 70%, were constructed prior to 1940, with Lansford registering the highest number and proportion.
- In Penn Forest, most units were constructed since 1970, with the 1980 to 1989 period registering the greatest at 2,206 units, and most were vacation homes.
- Generally, the age of the housing stock does not appear to be the sole factor in housing condition with many of the older homes in good condition.

RATE OF HOUSING DEVELOPMENT										
U.S. CENSUS										
YEAR BUILT	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Total	
	#	%	#	%	#	%	#	%	#	%
2000-2010 est.	90	3.9%	0	0.0%	1,883	28.1%	30	2.0%	2,003	15.8%
1999-03/2000	14	0.6%	0	0.0%	12	0.2%	0	0.0%	26	0.2%
1990-1998	124	5.4%	41	1.8%	1,283	19.2%	65	4.3%	1,513	11.9%
1980-1989	189	8.3%	122	5.5%	2,206	33.0%	96	6.4%	2,613	20.6%
1970-1979	123	5.4%	23	1.0%	905	13.5%	39	2.6%	1,090	8.6%
1960-1969	51	2.2%	93	4.2%	237	3.5%	21	1.4%	402	3.2%
1940-1959	238	10.4%	152	6.8%	103	1.5%	171	11.4%	664	5.2%
1939 or earlier	1,454	63.8%	1,797	80.8%	60	0.9%	1,078	71.9%	4,389	34.6%
Total	2,283	100.0%	2,228	100.0%	6,689	100.0%	1,500	100.0%	12,700	100.0%

- In Jim Thorpe, Penn Forest and Summit Hill a number of dwellings, including mobile homes, single-family, two-family and multi-family dwellings are dilapidated or in less than optimum condition and current economic conditions may add to the problem.
- The 1999 Lansford Comprehensive Plan Update identified a number of areas with high proportions of dwellings in need of repair. (See the accompanying *Lansford 1999 Comprehensive Plan Sidebar* and the following *Lansford 1999 Housing Conditions Map*.) While many of these structures have been improved many remain in need of repair.



Repairs Needed, Lansford

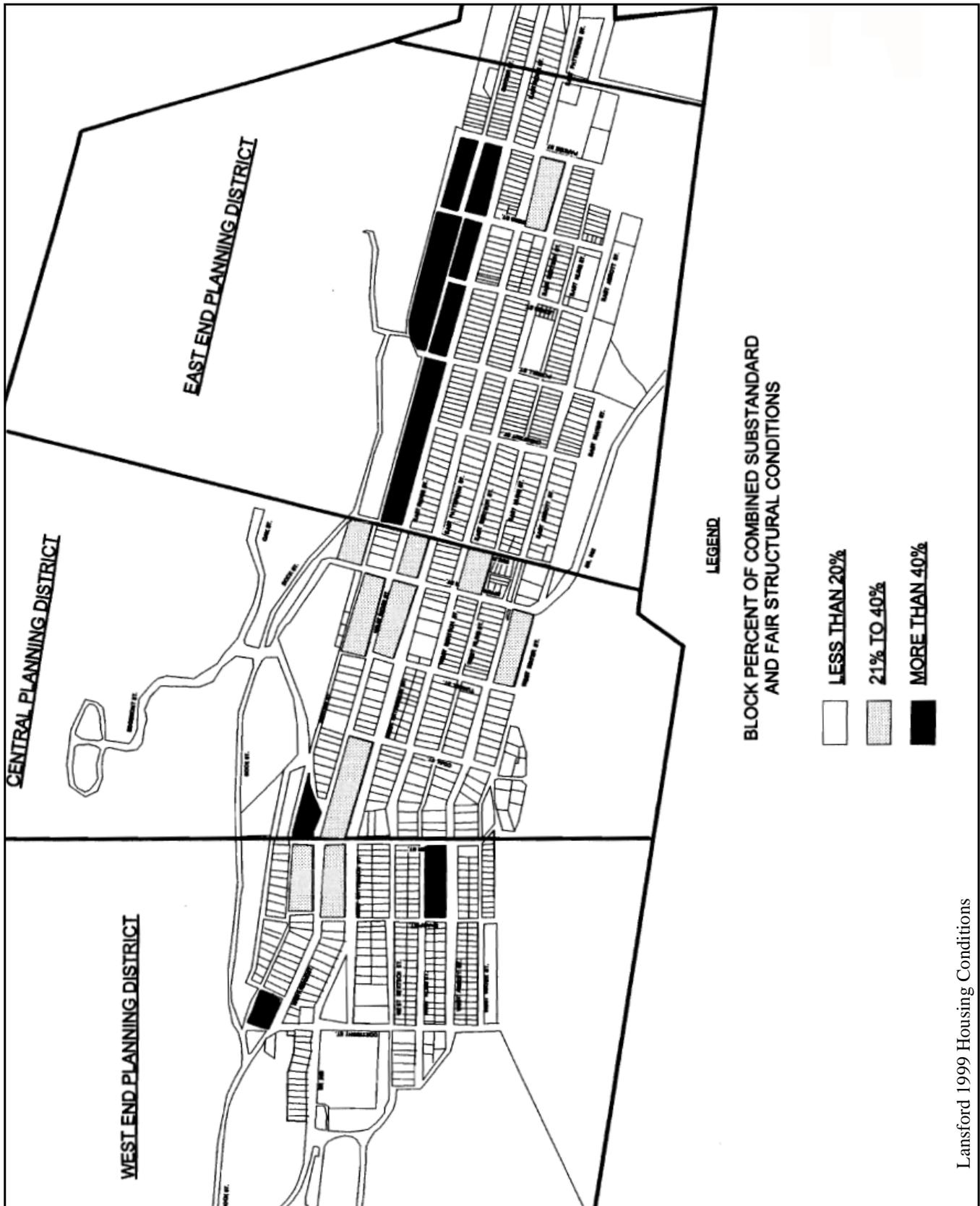
1999 Lansford Comprehensive Plan

An exterior survey of all the buildings in the Borough was conducted in the Spring of 1997. The criteria established for this survey was, as follows:

Good. A new residential structure, or one which has been maintained in good condition with few, if any repairs needed. Any needed repairs would only be of minor nature.

Fair. Structures which are in need of several minor repair, but no major repairs. Minor repairs reflect such needs as painting, siding repairs, sagging or broken porches/steps, etc.

Substandard. Structures in need of major repairs and/or extensive minor repairs. Major repairs include the replacement of siding, broken window replacement, roof replacement, major foundation repairs (e.g. exterior walls are out of plumb) sagging indicators of structural deterioration.



Housing Starts

Future demand for housing in Penn Forest Township is expected to remain strong based on the pending Route 903/Turnpike interchange and some continued demand for vacation homes as the economy rebounds. In the Boroughs, demand appears to be more positive in Jim Thorpe given past housing starts, sewer capacity and land availability. New housing starts in Lansford and Summit Hill will be limited by the building moratorium, although less so in Summit Hill which has considerable land area not accessible to the sewer system where on-site sewage disposal is an option.

Home Ownership

The *Occupied Housing Units Table*, shows 1990 and 2000 Census and 2010 and 2015 estimated home ownership and rental rates for the four Planning Area municipalities, the County and the Commonwealth. The data does not include vacation homes which are classified as *vacant* by the U.S. Census.

OCCUPIED HOUSING UNITS (U.S. Census classifies vacation homes as <i>vacant</i> .)						
Year	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Carbon County	PA
Home Ownership Rate (Owner-Occupied) % of Total Housing Units						
1990*	71.9%	64.4%	28.9%	78.0%	62.6%	64.3%
2000*	70.7%	58.6%	38.2%	73.4%	60.8%	64.9%
2010**	67.1%	54.5%	40.7%	70.0%	58.5%	--
2015**	66.4%	52.8%	40.8%	68.9%	57.6%	--
Renters (Renter-Occupied Units) % of Total Housing Units						
1990*	19.4%	26.7%	3.0%	16.6%	17.8%	26.7%
2000*	19.0%	25.7%	4.4%	15.6%	17.0%	26.1%
2010**	19.6%	25.8%	5.5%	16.2%	16.9%	--
2015**	19.4%	25.5%	5.6%	16.2%	16.6%	--
*U.S. Census						
**Estimate - ESRI Business Analyst Online						

- In 2000, the home ownership rate in Jim Thorpe and Summit Hill continued to be higher than Carbon County, and the Commonwealth, as it was in 1990.
- In Lansford the home ownership rate was substantially lower than in the other two Boroughs.
- The very low home ownership rates in Penn Forest are reflection of the high proportion of vacation homes which are considered *vacant* by the Census Bureau and not included in the *occupied* count.
- The home ownership rate in the three Boroughs declined between 1990 and 2000, with the largest declines in Lansford and Summit Hill, while the rental rate increased to a lesser extent, a reflection of an increase in vacant housing units.
- Observations by local officials, particularly in Lansford, suggest that the proportion of renters has been increasing since 2000.

- The ownership rate in Penn Forest increased between 1990 and 2000, perhaps a reflection of the construction of more full-time homes and conversions from vacation homes.

Housing Value

Housing values are dependent on demand, lot size and the type, age and condition of the unit. Comparing housing value to household income provides a measure of housing affordability. While high values are positive in terms of housing condition and real estate tax revenue, it may indicate the need to evaluate the affordability of housing for younger couples and older residents. (See the *Owner Occupied Housing Table* and the *Median Housing Value Table*.)

- According to the 2000 Census, home values in the Boroughs varied widely with Jim Thorpe having a greater number of higher valued homes.



Lansford, Older Row Home

- Lansford has the highest proportion of two-family dwellings on smaller lots which results in the lower values, with the less than optimal condition of some units contributing to the overall lower housing values.
- Median housing value in all three Boroughs lagged behind the County and Commonwealth while in Penn Forest Township .
- Equally important is the change in median value between 1990 and 2000 which provides a measure of demand for housing compared to the regional market. (See the *Median Housing Values Table*.)
- The proportionate increase in housing value was greatest in Summit Hill between 1990 and 2000, with a similar proportionate increase projected for all three boroughs by 2009, with a more moderate increase projected for Summit Hill by 2014.
- Housing values are expected to increase at a rate consistent with the County through 2015.

OWNER OCCUPIED HOUSING VALUE										
U.S. CENSUS 2000										
	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Carbon	PA
	#	%	#	%	#	%	#	%	%	%
total	1,481	100.0%	1,240	100.0%		0.0%	1,028	100.0%	100.0%	100.0%
less than \$50,000	179	12.1%	952	76.8%	29	1.8%	364	35.4%	18.2%	15.1%
\$50,000 to \$99,999	880	59.4%	265	21.4%	839	51.5%	494	48.1%	49.1%	37.4%
\$100,000 to \$149,999	349	23.6%	18	1.5%	513	31.5%	133	12.9%	24.0%	24.3%
\$150,000 to \$199,999	22	1.5%	5	0.4%	178	10.9%	30	2.9%	6.0%	11.9%
\$200,000 to \$299,999	30	2.0%	0	0.0%	61	3.7%	7	0.7%	2.3%	7.4%
\$300,000 to \$499,999	21	1.4%	0	0.0%	10	0.6%	0	0.0%	0.4%	2.9%
\$500,000 to \$999,999	0	0.0%	0	0.0%	0	0.0%	0	0.0%	<0.1%	0.8%
\$1,000,000 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0%	0.2%
median value		\$79,500	\$34,100	--	\$97,200	--	\$61,600	--	\$82,100	\$97,000

MEDIAN HOUSING VALUES (OWNER OCCUPIED)						
Year	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Carbon County	PA
1990*	\$62,400	\$20,100	\$98,300	\$27,700	\$62,900	\$69,700
% 1990-00	27%	70%	-1%	122%	31%	39%
2000*	\$79,500	\$34,100	\$97,200	\$61,600	\$82,100	\$97,000
% 2000-10	69%	67%	71%	68%	68%	--
2010**	\$134,200	\$57,000	\$166,300	\$103,300	\$137,900	--
% 2010-15	28%	30%	28%	27%	29%	--
2015**	\$171,600	\$74,300	\$212,100	\$131,400	\$177,900	--

*U.S. Census; **Estimate - ESRI Business Analyst Online

Housing Structural and Vacancy Characteristics

The *Housing Structural and Vacancy Characteristics Table* provides 1990 and 2000 data on the types of housing units in the Middle carbon County Planning Area and the occupancy of the units.

- In Penn Forest Township, single-family detached dwellings represent almost 98 % of all dwelling units, most in planned vacation home subdivisions.
- Single-unit attached (two-family) dwellings are the predominate dwelling type in Lansford while single-family detached dwellings predominate in Jim Thorpe.
- In Summit Hill single-unit attached and single unit detached dwellings are about equal in number.
- Multi-family housing units account for significant numbers of the housing units in each Borough which was proportionately lower than in the Commonwealth where urban units comprise much of the total, but higher than the County.
- Multi-family dwellings are typically rentals and often provide a more affordable type of housing.
- Mobile homes, often more affordable, accounted for only a small proportion of dwelling units in the Planning Area.



Mobile Homes, Summit Hill



Manufactured Home, Jim Thorpe

HOUSING STRUCTURAL AND VACANCY CHARACTERISTICS
U. S. CENSUS

	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Carbon County		PA (1,000s)	
	#	%	#	%	#	%	#	%	#	%	#	%
1990 total housing units	2,098		2,215		3,484		1,413		27,380		4,938	
1990 occupied housing units	1,917		2,017		1,112		1,354		21,989		4,496	
2000 total housing units	2,193		2,228		4,806		1,470		30,492		5,250	
2000 occupied housing units	1,967		1,878		2,046		1,291		23,701		4,777	
2000 Units in Structure	#	%	#	%	#	%	#	%	#	%	#	%
1 unit detached	1,234	56.3%	438	19.7%	4,685	97.5%	607	41.3%	19,140	62.8%	2,935	55.9%
1 unit attached	564	25.7%	1,355	60.8%	15	0.3%	633	43.1%	6,328	20.8%	940	17.9%
2 units	146	6.7%	74	3.3%	9	0.2%	113	7.7%	1,163	3.8%	274	5.2%
3 or 4 units	138	6.3%	119	5.3%	0	0.0%	47	3.2%	1,001	3.3%	242	4.6%
5 to 9 units	22	1.0%	67	3.0%	0	0.0%	35	2.4%	428	1.4%	180	3.4%
10 to 19 units	11	0.5%	20	0.9%	0	0.0%	13	0.9%	297	1.0%	132	2.5%
20 or more units	43	2.0%	129	5.8%	0	0.0%	15	1.0%	532	1.7%	284	5.4%
TOTAL MULTI-FAMILY	360	16.4%	409	18.4%	9	0.2%	223	15.2%	3,421	11.2%	1,112	21.2%
mobile homes	35	1.6%	26	1.2%	97	2.0%	7	0.5%	1,594	5.2%	259	4.9%
boat, RV, van, etc.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9	<0.1%	5	0.1%
Average Household Size (persons)												
1990	2.60		2.25		2.59		2.46		2.55		2.57	
2000	2.42		2.23		2.65		2.30		2.44		2.48	
Average Family Size (persons)												
1990	3.13		2.93		2.91		3.01		3.03		3.10	
2000	2.93		2.92		3.02		2.86		2.93		3.04	
2000 Housing Tenure	#	%	#	%	#	%	#	%	#	%	#	%
total housing units	2,193	100.0%	2,228	100.0%	4,806	100.0%	1,451	100.0%	30,492	100.0%	5,250	100.0%
occupied housing units	1,967	89.7%	1,878	84.3%	2,046	42.6%	1,291	89.0%	23,701	77.7%	4,777	91.0%
total vacant units	226	10.3%	350	15.7%	2,760	57.4%	160	11.0%	6,791	22.3%	473	9.0%
seasonal/recreation use	50	2.3%	14	0.6%	2,602	54.1%	13	0.9%	4,757	15.6%	148	2.8%
other vacant units	176	8.0%	336	15.1%	2,204	45.9%	147	10.1%	2,034	6.7%	325	6.2%
2000 Occupied Units	#	%	#	%	#	%	#	%	#	%	#	%
total occupied units	1,967	100.0%	1,878	100.0%	2,046	100.0%	1,291	100.0%	23,701	100.0%	4,777	100.0%
owner occupied units	551	78.9%	1,305	69.5%	1,835	89.7%	1,065	82.5%	18,529	78.2%	3,406	71.3%
renter occupied units	416	21.1%	573	30.5%	211	10.3%	226	17.5%	5,172	21.8%	1,371	28.7%

VACANT HOUSING UNITS					
Year	Jim	Penn	Summit	Carbon	
	Thorpe	Lansford	Forest	Hill	County
1990*	181	198	2,372	77	5,391
2000*	226	350	2,760	160	6,791
2010**	322	465	3,410	212	8,595
2015**	362	525	3,781	237	9,509
% of total 1990*	8.6%	8.9%	68.1%	5.4%	19.7%
% of total 2000*	10.3%	15.7%	57.4%	11.0%	22.3%
% of total 2010**	13.2%	19.7%	53.8%	13.7%	24.6%
% of total 2015**	14.2%	21.7%	53.6%	15.0%	25.8%
*U.S. Census					
**Estimate - ESRI Business Analyst Online					

- The number of vacant units in the four Planning Area municipalities increased substantially since 2000. (See the *Vacant Housing Units Table*.)
- In Penn Forest Township the increase is more a result of additional vacation home construction while in the Boroughs, particularly Lansford and Summit Hill, it is more a reflection of homes which are truly vacant -- not owner occupied or rented.

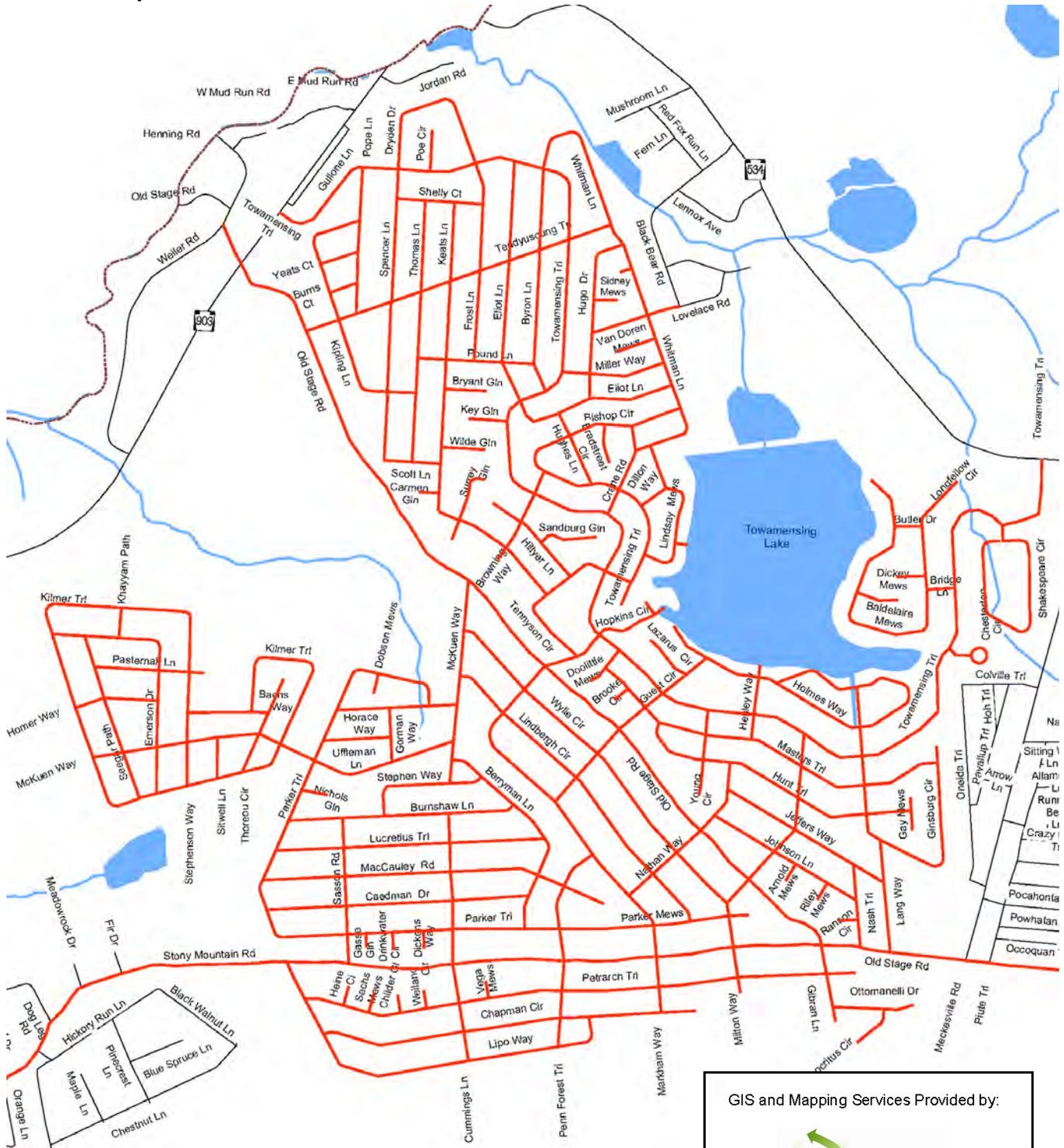


One of Many Residential Subdivisions in Penn Forest
(www.bclca.org/index.htm)

- As shown in the *Vacation Homes Table*, the number of dwellings for seasonal or recreation use, that is, vacation homes, in Penn Forest Township increased between 1990 and 2000, but the proportion decreased; perhaps a reflection of increased numbers of commuters working outside the area and retirees.
- Penn Forest Township includes many residential subdivisions developed to meet the demand for vacation homes. (See sample map on the following page.)
- The number of vacation homes in the Boroughs is very low when compared to Penn Forest and other Carbon County municipalities located in the Pocono Mountain region.

VACATION HOMES					
U.S. CENSUS					
	1990	2000	1990	2000	% change
			% of	% of	('90 - '00)
			Total Units	Total Units	
Jim Thorpe	51	50	2.4%	2.3%	-2.0%
Lansford	15	14	0.7%	0.6%	-6.7%
Penn Forest	2,130	2,602	61.1%	54.1%	22.2%
Summit Hill	7	13	0.1%	0.9%	85.7%
Total	2,203	2,679	23.9%	25.0%	21.6%
Carbon County	4,042	4,757	14.8%	15.6%	17.7%
PA	144,360	148,443	2.9%	2.8%	2.8%

Towamensing Trails One of Many Residential Subdivisions in Penn Forest



GIS and Mapping Services Provided by:



August 2006

**Housing Affordability
in the Planning Area**

Housing affordability is a complex issue related to the unique mix of the housing types, real estate demand, housing values, and household incomes in the community. In the three Boroughs the number of residents commuting to work in nearby metropolitan areas also adds to the housing affordability issue by creating a gap between locally generated income and higher paying jobs in the larger region. The *Housing Affordability Data Table* includes 2000 Census information to provide an indication of the affordability of housing in the four Planning Area municipalities.

- A substantial proportion of home owning households and renting households in the Middle Carbon Planning Area had Year 2000 housing costs which exceed the *thirty percent rule* for household income and housing expense indicating a housing affordability problem. (See the preceding *Affordable Housing Study Sidebar*.)
- The higher proportion of homeowner households with home expenses above the *thirty percent rule* in Jim Thorpe and Penn Forest is likely a reflection of higher housing values.
- The proportion of renting households in Lansford with rent above the *thirty percent rule* is considerably higher than the other jurisdictions, probably due to lower incomes.
- The proportions of home owning households above the *thirty percent rule* in Lansford and Summit Hill are much lower than the other jurisdictions.
- Summit Hill appears to have less of an issue with affordable housing based on higher income and somewhat lower housing values.

HOUSING AFFORDABILITY DATA									
U. S. CENSUS 2000									
	% Single- family	% Duplex	% Multi- family	% Mobile Homes RVs	Median Housing Value	Median Gross Rent	Median Hsehold Income	% Owner Hsehlds home exp >30% of Income	% Hsehlds with rent >30% of Income
Jim Thorpe	56.3%	25.7%	16.4%	1.6%	\$79,500	\$445	\$35,976	25.8%	27.5%
Lansford	19.7%	60.8%	18.4%	1.2%	\$34,100	\$385	\$27,478	16.8%	43.1%
Penn Forest	97.5%	0.3%	0.2%	2.0%	\$97,200	\$691	\$36,601	28.1%	38.3%
Summit Hill	41.3%	43.1%	15.2%	0.5%	\$61,600	\$439	\$37,287	14.8%	17.5%
Carbon	62.8%	20.8%	11.2%	5.2%	\$82,100	\$458	\$35,113	23.1%	34.8%
PA	55.9%	17.9%	21.2%	5.0%	\$97,000	\$531	\$40,106	22.8%	35.5%

- Although median household income in the Planning Area has been increasing, so has median housing value, with housing value increases estimated to exceed income increases, suggesting no real improvement in the affordability issue. (See the preceding *Median Housing Values Table* and the following *Median Household Income Table*.)
- The recent enactment of the State Uniform Construction Code has, while aimed at ensuring the safety and durability of construction, added to the overall cost of home construction and improvement.

MEDIAN HOUSEHOLD INCOME					
Year	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Carbon County
1990*	\$24,739	\$18,258	\$30,750	\$21,476	\$25,501
% 1990-00	46%	46%	19%	74%	38%
2000*	\$36,027	\$26,641	\$36,542	\$37,362	\$35,112
% 2000-10	41%	34%	17%	37%	28%
2010**	\$50,975	\$35,752	\$42,838	\$51,320	\$44,833
% 2010-15	10%	21%	20%	10%	17%
2015**	\$56,082	\$43,231	\$51,555	\$56,310	\$52,557

*U.S. Census
 **Estimate - ESRI Business Analyst Online

PLANNING IMPLICATIONS

Affordability - A Regional Issue

The percentage of cost burdened homeowners and renters in the Planning Area is high. However, the type and price of housing available in any municipality is largely market driven and beyond a municipality’s direct control. Local municipalities must recognize that housing needs cannot be addressed entirely at the local level. In fact, with the exception of ensuring that land use and building regulations are reasonable in terms of affecting costs, small municipalities can do little to manage housing affordability which is so dependent on regional economic and real estate market factors. In addition, municipalities can take steps to encourage innovative forms of housing that meet the community’s needs and satisfy the market; age restricted housing is a good example.

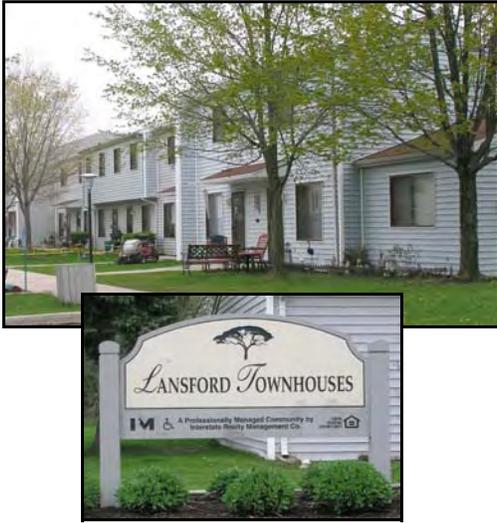
Housing Condition

The occupied housing stock in the Planning Area appears to be generally healthy in terms of condition, nevertheless, many are in need of repair. Lansford Borough is of particular concern given the higher proportion of vacant units, lower housing values, lower median household income, and higher proportion of renter-occupied units. In addition, the increasing number of nonresident landlords may add to the problem of delayed maintenance and deterioration of the housing stock.

As the population ages and home owners move to other living arrangements or die, more absentee landowners can be expected to purchase homes for rental units. This, combined with the relatively high age of the housing stock could easily lead to deterioration in condition.

Housing Programs

The Boroughs and Township must look to the Carbon County Housing Authority and their contacts with private affordable housing providers to meet the specific housing needs of lower income residents. Housing Authority assistance is necessary to ensure resident access to publically funded housing development, rent assistance and housing rehabilitation programs. Assisted housing is available in buildings owned by the Carbon County Housing Authority, in privately-owned buildings the construction of which was subsidized with federal funds, and with Section 8 tenant based voucher which are accepted by participating landlords.



Carbon County Housing Authority Buildings

- Jim Thorpe - 3 buildings, 8 total dwelling units
- Lansford - Lansford Mid-Rise Apartments, 100 dwelling units
- Penn forest - none
- Summit Hill - none

Federally Subsidized Private Buildings

- Jim Thorpe -Lehigh Coal & Navigation Building, 27 dwelling units
- Lansford - Lansford Townhouses, 51 dwelling units
- Penn Forest - none
- Summit Hill - Summit Hill School Apartments, 24 dwelling units

What is Public Housing?

Public housing was established to provide decent and safe rental housing for eligible low-income families, the elderly, and persons with disabilities. Public housing comes in all sizes and types, from scattered single family houses to high rise apartments for elderly families. There are approximately 1.2 million households living in public housing units, managed by some 3,300 Housing Authorities. The U.S. Department of Housing and Urban Development (HUD) administers Federal aid to local housing agencies (HAs) that manage the housing for low-income residents at rents they can afford. HUD furnishes technical and professional assistance in planning, developing and managing these developments.

Who Is Eligible?

Public housing is limited to low-income families and individuals. A Housing Authority determines your eligibility based on: 1) annual gross income; 2) whether you qualify as elderly, a person with a disability, or as a family; and 3) U.S. citizenship or eligible immigration status. If you are eligible, the Housing Authority will check your references to make sure you and your family will be good tenants. using Authorities will deny admission to any applicant whose habits and practices may be expected to have a detrimental effect on other tenants or on the project's environment.

Source: U.S. Department of Housing and Urban Development, Office of Public and Indian Housing web site: <http://www.nls.gov/offices/pih/programs/ph/index.cfm>



FUTURE PLANNING POLICIES

Overview Future planning and policy recommendations pertaining to housing are intended to ensure that the Boroughs accommodate projected housing unit growth while maintaining adequate open land, provide for a diverse and affordable mix of housing types, and maintain a sound housing stock.

Policies Policies:

- Promote housing opportunities for a range of income groups, including those able to pay market rent or sales prices, *workforce* income families (80% median family income), very low- and low-income families (less than 50% median family income), as well as special needs residents.

What is workforce housing?

Workforce housing does not have a nationally accepted definition or income level, but is defined by a municipality. The Montgomery County (PA) Planning Commission, in *Promoting Workforce Housing, The Workforce Housing Dilemma*, discusses it as follows:

Workforce housing is simply homes for working households. It is housing provided by the private sector that is aimed at middle- and moderate- income residents making between 80 percent and 100 percent of the area's median income. Some workforce housing initiatives consider households that make as much as 115 percent of the area's median income as eligible for assistance.

Regardless, these are residents who make too much money to qualify for traditional housing subsidies but not enough to afford local market-rate homes. It is these residents, ranging from highly educated young professionals to workers that provide essential daily services, who may increasingly find that much of the existing and newly constructed housing in this county is priced beyond their reach. These are our teachers, police officers, health care workers, municipal employees, retail clerks, and fire fighters — for starters. They, and others, are essential to the economic vitality and success of the county. The county's employers add jobs like these every year, and there will always be a need for more reasonably priced homes to house our growing workforce.

Workforce housing is meant to fit with the character of the county's existing neighborhoods. It is a method of building quality homes that would add stability and a sense of character to any community. Workforce housing can be ownership or rental, a duplex, accessory apartments, townhomes, a single-family home, or typical market-rate apartment units.

Source: www.nls.gov/offices/pih/programs/ph/index.cfm

- Promote mixed-use development that would accommodate various dwelling types in proximity to commercial and civic services.
- Provide for a variety of housing types, including single-family attached and multi-family dwellings and mobile home parks, in order to accommodate individuals and families of various income levels.
- Review land use controls in terms of standards not directly linked to public health and safety which increase housing costs.
- Provide for age-restricted housing in proximity to services to accommodate seniors.
- Investigate ways to bring relief to cost burdened households (owner and renters).

- Permit a mix of lot sizes within residential developments to encourage diversity of housing structures and styles.
- Encourage rehabilitation of substandard housing.
- Cooperate with area municipalities and the County to plan for housing needs regionally and as housing needs are identified consider the development of joint housing plans with neighboring municipalities.

IMPLEMENTATION STRATEGIES

Overview

Implementation of the housing plan proposes actions aimed at supporting existing residents, accommodating future housing needs, and providing a variety of housing types and affordability levels. Housing goals can be accomplished through the following initiatives:

**Zoning Ordinance
SALDO**

Zoning Ordinance and Subdivision and Land Development Ordinance provisions intended to implement the policies and recommendations:

- Promote the use of conservation design and transferrable development rights and development incentives such as density bonuses as a means of providing more affordable housing.
- Consider providing some incentives (density or design) for developers who provide affordable, workforce, and/or age restricted housing.



Dwellings Above Businesses, Lansford

- Allow multi-family housing where compatible with surrounding land uses, with access to transportation corridors, and in keeping with the logical extension of utilities and public services.
- Encourage dwellings over businesses in commercial districts
- Make road width and other construction standards in the SALDO reasonable in terms of meeting safety and durability requirements without adding unnecessary costs to housing.

Housing Programs

Support the housing recommendations of the County Housing Authority relative to subsidized housing programs for low and moderate income families and ensure area residents receive fair consideration for available programs. In addition, encourage the County Housing Authority to take the lead to develop innovative housing actions such as:

- Promoting well-designed, low impact affordable housing to foster public acceptance.
- With the assistance of established nonprofit housing organizations, create a nonprofit housing trust, authority, or other entity to focus on reinvestment in select neighborhoods and other housing issues. (See the following *resources* section.)

- Encouraging the formation of private/public partnerships (lenders, developers, real estate agencies, and nonprofits) to increase housing development opportunities.
- Establishing a mechanism to provide pre-development financing to nonprofit affordable housing developers. This could involve the establishment of a revolving loan fund to provide pre-development financing for non-profit developers to increase the capacity of these entities.
- Developing a method to track ownership of rental properties and vacant units, collecting data on the condition of rental properties, establishing criteria that identifies the tipping point for healthy neighborhoods, and developing an action plan that addresses these issues.
- Reviewing opportunities for land banking to promote improved housing opportunities and conditions. (Land banks are governmental or quasi-governmental entities dedicated to assembling properties, particularly vacant, abandoned, and tax-delinquent properties, and putting them to productive use.)
- Creating a web site that provides an accurate, up-to-date clearinghouse for all affordable, accessible, assisted housing and foreclosure information – a one-stop shop for data, GIS mapping, information, resources, best practices, financing, referrals, etc.

Property Maintenance

Consider the adoption of a property maintenance code with reasonable public health, safety and welfare standards to ensure the structural integrity of dwellings, prevent dilapidation and preclude negative effects on the community. Support this with an ordinance to regulate nuisances and safety hazards associated with dilapidated and dangerous structures.

HOUSING RESOURCES In addition to the Carbon County Housing Authority a sampling of resources includes:

Alliance for Building Communities (ABC)

830 Hamilton Street
 Allentown, PA 18101
 Phone: (610) 439-7007
 E-mail: info@housingabc.org E-mail
 Website: <http://www.housingabc.org/> External Link

Mission:

To create community partnerships dedicated to revitalizing neighborhoods by developing safe and affordable housing that fosters independent living and enhances the quality of life for seniors and families.

Core Programs:

- Develops and rehabilitates affordable housing for low- and moderate income individuals and families
- Owns and manages rental housing properties
- Offers the Doorway to Homeownership Program, which assists families as they improve credit while saving to purchase their own homes and provides individualized training in budgeting, maintenance, and upkeep of properties
- Collaborates with partners on community initiatives, such as a mural arts project

Service Area

Lehigh, Northampton, Berks, Carbon, Monroe, and Schuylkill counties

Housing Development Corporation of Northeastern Pennsylvania (HDC)

163 Amber Lane
 Wilkes-Barre, PA 18702
 Phone: (570) 824-4803
 Website: <http://hdcnepa.org/index.asp> External Link

Mission:

To assist low- to moderate-income individuals and families to achieve the dream of owning a home.

Core Programs:

- Develops affordable housing for home ownership or rent and manages rental properties.
- Provides rental assistance and supportive housing services to formerly homeless persons/families.
- Provides pre- and post-purchase counseling to low- and moderate-income home buyers, reverse equity counseling, mortgage assistance counseling (including through Pennsylvania's Homeowners' Emergency Mortgage Assistance Program), and counseling to renters who are under the threat of eviction or in need of adequate and affordable housing. Also offers fair housing outreach and education.
- Offers technical assistance to communities and organizations seeking solutions to local housing problems.

Service Area:

Carbon, Columbia, Luzerne, Monroe, Pike, Schuylkill, Susquehanna, Wyoming, and Wayne counties

Pennsylvania Department of Community and Economic Development (PA DCED)

(<http://www.newpa.com/find-and-apply-for-funding/funding-and-program-finder/index.aspx>)

PA DCED - Neighborhood Assistance Program (NAP)

Tax credit program to encourage businesses to invest in projects which improve distressed areas.

Uses: A project must serve distressed areas or support neighborhood conservation. Projects must fall under one of the following categories: affordable housing programs, community services, crime prevention, education, job training or neighborhood assistance.

Funding: Tax credits equal 55 percent of project.

Eligibility: Non-profits; For profit businesses

PA DCED - Neighborhood Assistance, Neighborhood Partnership Program (NAP/NPP)

Corporate tax liability credit for businesses that sponsor a neighborhood organization to develop and implement a neighborhood revitalization plan by contributing a substantial amount of cash per year over an extended period of time

Uses: Fosters the development of collaborations among business firms, neighborhood organizations, local government entities and residents to encourage high impact long term investments in distressed areas. Projects must fall under one of the following categories: Affordable housing; education; health and social services; community economic development; job training; crime prevention; and neighborhood assistance.

Funding: Tax credit equals 75 percent of approved project. Total tax credit is limited to \$500,000 annually. Refer to guidelines.

Eligibility: Non-profits, for profit businesses

Terms: Sponsorship consists of contributing a substantial amount of cash (minimum \$50,000) per year for a minimum period of five years.

PA DCED - Neighborhood Assistance, Enterprise Zone Tax Credit (NAP-EZP)

An incentive program that provides tax credits to private companies investing in rehabilitating, expanding, or improving buildings or land located within designated enterprise zones.

Guidelines:

Uses: Real property improvements such as rehab, expansion or physical improvements to buildings or land resulting in jobs created or retained.

Funding: Tax credits equal 25% of amount invested; Up to \$500,000 total tax credits per project.

Eligibility: Any private company with an investment located in an enterprise zone.

Terms: Credits received and not used may be carried forward for up to five years. Credits may be sold or transferred.

PA DCED - Neighborhood Stabilization Program (NSP)

Grants to communities to address the housing foreclosure crisis created by subprime and other problematic mortgage lending. This program is authorized under the federal Community Development Block Grant (CDBG) Program. DCED is also soliciting proposals for a Consortium application under the American Recovery and Reinvestment Act. This second opportunity for funding is known as NSP2.

Uses: Acquisition, rehabilitation, land banks, demolition, redevelopment (new construction), financing mechanisms,

and housing counseling.

Funding: Competitive Program – average sized grant determined based upon population and need factors.

Eligibility: Communities with a HUD risk score of six and above or significant subprime lending.

Estimated Scores: Jim Thorpe - 9
 (DCED web site) Lansford - 7
 Penn Forest - 6
 Summit Hill - 8

Terms: All grant funds must be used for activities that benefit low and moderate-income, and middle-income persons (up to 120 percent of area median income). Twenty-five percent of the funds must benefit low-income persons (up to 50 percent of area median income).

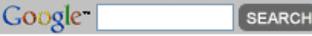
The screenshot shows the 'Neighborhood Stabilization Program Resource Exchange' website. The header includes the HUD logo and navigation links. The main content area is titled 'About the NSP Resource Exchange' and contains a section titled 'What is the Neighborhood Stabilization Program (NSP)?'. The text in this section explains that Congress created the NSP to help deal with mortgage foreclosure crisis, providing money to local governments for buying, fixing up, and reselling foreclosed homes. It also provides instructions on how to participate and where to find more information.

<http://hudnsphelp.info/index.cfm?do=viewAbout>

NeighborWorks America

(http://www.nw.org/network/aboutUs/aboutUs.asp)





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NeighborWorks America

NeighborWorks America is a national nonprofit organization created by Congress to provide financial support, technical assistance, and training for community-based revitalization efforts.



Together, with national and local partners, NeighborWorks creates new opportunities for residents while improving communities.

Mission, Vision, Values & Goals	Annual Reports
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Gulf Coast Recovery	Careers

NeighborWorks Network

A national network of more than 230 community-based organizations in 50 states creating healthy communities through the work of thousands of residents, business people, government officials and other partners.

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[NeighborWorks Data](#)

[NeighborWorks Lookup](#)

[National NeighborWorks Programs](#)

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National Partnerships

National partners, such as banks, insurance companies, retailers and foundations, play an important role in helping NeighborWorks America and NeighborWorks network organizations revitalize hundreds of communities.

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[Community Housing Capital](#) provides interim development and permanent multifamily loans to NeighborWorks organizations. [NeighborWorks Capital](#) provides critical risk capital to NeighborWorks members by financing pre-development costs, acquisition of land and buildings, construction, rehabilitation, and interim operating costs.



Remembering
George Knight
1943-2008

NATIONAL PROGRAMS

- National Homeownership Programs
- Community Building & Organizing
- National Real Estate Programs
- NCHEC/Homeownership Training
- NeighborWorks Center for Foreclosure Solutions
- NeighborWorks Training Institute
- NeighborWorks Week
- Rural Initiative



NeighborWorks America's
Healthy, Sustainable
Communities Agenda

NeighborWorks HomeOwnership Centers



NeighborWorks HomeOwnership Centers offer a comprehensive range of user-friendly services that are attracting new customers and significantly boosting homeownership among the nation's most underserved buyers — women, minorities and families of modest means.

Search our database of more than [90 HomeOwnership Centers](#). View the [NeighborWorks HomeOwnership Centers Diagram](#).



Housing Alliance of Pennsylvania

The Housing Alliance of Pennsylvania

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About the Housing Alliance

The mission of The Housing Alliance of Pennsylvania is to ensure that all



Pennsylvanians, especially those with low incomes, have access to safe, decent and affordable homes.

Formed in 1985, (originally as the Pennsylvania Low Income Housing Coalition), the Housing Alliance is a growing and influential membership organization, with over 500 organizational and individual affiliates statewide. Most of our members are housing consumers, advocates, producers, providers or policy makers, or local government officials.

These members are the foundation of our organization. Members help set the agenda, elect our leadership, and shape action, all the while representing the needs of their communities.

Through the Housing Alliance, the individual views of our members are forged into a single, effective, persistent voice for the affordable housing needs and interests of rural, urban and suburban communities across the state.

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<http://housingalliancepa.org/about/>

USDA United States Department of Agriculture
Rural Development Committed to the future of rural communities

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Single Family Housing Loans and Grants

Single Family Housing Programs provide homeownership opportunities to low- and moderate-income rural Americans through several loan, grant, and loan guarantee programs. The programs also make funding available to individuals to finance vital improvements necessary to make their homes decent, safe, and sanitary. Visit the following sites for information and/or assistance...

- [Rural Housing Guaranteed Loan](#)

Applicants for loans may have an income of up to 115% of the median income for the area. Area income limits for this program are here. Families must be without adequate housing, but be able to afford the mortgage payments, including taxes and insurance. In addition, applicants must have reasonable credit histories.

- [Rural Housing Direct Loan](#)

Section 502 loans are primarily used to help low-income individuals or households purchase homes in rural areas. Funds can be used to acquire, build (including funds to purchase and prepare sites and to provide water and sewage facilities), repair, renovate or relocate a home.

- [Rural Repair and Rehabilitation Loan and Grant](#)

The Very Low-Income Housing Repair program provides loans and grants to very low-income homeowners to repair, improve, or modernize their dwellings or to remove health and safety hazards. Rural Housing Repair and Rehabilitation Grants are funded directly by the Government. A grant is available to dwelling owner/occupant who is 62 years of age or older. Funds may only be used for repairs or improvements to remove health and safety hazards, or to complete repairs to make the dwelling accessible for household members with disabilities.

- [Mutual Self-Help Loans](#)

The Section 502 Mutual Self-Help Housing Loan program is used primarily to help very low- and low-income households construct their own homes.

- [Rural Housing Site Loans](#)

Rural Housing Site Loans are made to provide financing for the purchase and development of housing sites for low- and moderate-income families.

- [Housing Application Packaging Grants](#)

Housing Application Packaging Grants provide government funds to tax-exempt public agencies and private non-profit organizations to package applications for submission to Housing and Community Facilities Programs.

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http://www.rurdev.usda.gov/HSF_SFH.html

COMMUNITY FACILITIES, SERVICES AND UTILITIES PLAN

INTRODUCTION

Overview

Community facilities and services are those facilities and services that are provided by local, county and state government, and by quasi-public institutions such as volunteer fire departments, hospitals and libraries. They are most often considered in terms of government or institutional response to meet the needs and demands of the community's residents.

Community facilities and services can serve as a tool, or as an unexpected trigger, to guide or stimulate community growth and development. Provision of a public water supply or sewage disposal system can be used to remedy an existing problem or foster business development, but unexpected (and perhaps undesired) development can result. The construction or improvement of highways, often to solve traffic congestion, can have similar effect resulting in even more traffic and a change in community character.

Local Providers

This section of the *Comprehensive Plan* focuses on those facilities services and utilities provided by the four municipalities, the County, and quasi-public institutions such as fire and ambulance companies serving the area. It addresses existing issues related to these services and seeks to coordinate the provision of community facilities, services and utilities with the development pattern advocated by the *Future Land Use Plan*.

Cooperation

This *Comprehensive Plan* also supports inter-municipal cooperation for the provisions of community facilities, services and utilities. Local officials should fully explore and take advantage of any opportunities to improve facilities and services offered by the intermunicipal cooperation initiated by this *Comprehensive Plan*.

In recent years, more and more municipalities in the Commonwealth have begun working together on a number of issues and programs. The provision of community facilities and services offers myriad opportunities for continued cooperation. Cooperation can result in efficiency of program operation and service delivery, and economies of scale in purchasing of supplies and materials. For example, Lansford and Summit Hill work together (and with Coaldale) by sharing manpower and equipment on an informal basis

A council of governments (COG) is the most common type of local municipal organization in the Commonwealth and can, by formal municipal agreement, be used to provide virtually any service or facility normally provided by an individual municipality. Examples of COGs in the region are the Pike County COG, the Lackawanna County COG and the Susquehanna COG. The Lackawanna County COG has been effective in terms of realizing savings on purchases of materials such as road salt. The Susquehanna County COG, with some fourteen member municipalities, administers the sewage enforcement program and the statewide building code for member municipalities.

COMMUNITY FACILITIES, SERVICES AND UTILITIES GOAL AND OBJECTIVES

Ensure that community facilities and services are provided to meet the needs of the Middle Carbon County Planning Area.

Residents rely on community and public facilities and services to meet their transportation, educational, water supply, sewage disposal, police protection, emergency response, recreation and other daily living needs. Municipalities do not, and cannot, provide all the facilities and services demanded by residents, many such services being provided by other levels of government or volunteer organizations. Nevertheless, without diligent and ongoing attention to the operation and maintenance of existing facilities and services, and planning for new facilities and services, a municipality can fall short in adequately serving its residents.

Community facilities and utilities should be considered resources with limited capacities that are to be provided in appropriate places to support and implement a multi-municipal comprehensive plan. The location of certain key facilities, including water, sewer, schools, and roads, are often essential to providing the necessary services to accommodate more intensive residential and nonresidential development. Conversely, these services will facilitate unintended development in areas, such as important farming areas or areas with limiting natural resources, where growth may not be appropriate. The location of other services, facilities, and utilities should be considered in relation to their ability to support or conflict with the land use planning for the multi-municipal area. The land use planning should facilitate the efficient and economic provision of public, quasi-public, and privately provided community services wherever possible.

Source: *Planning Beyond Boundaries*, p. 3-18.

OBJECTIVES

Facilities and Services

Maintain existing public facilities and services and plan carefully for new public facilities and services.

- Maintenance - Provide necessary maintenance of existing municipal buildings, equipment and other community facilities to extend the useful life and forestall unnecessary capital expenditures.
- Efficiency - Manage all municipal facilities and services efficiently and effectively.
- Capital Improvements Program - Systematically identify the need for local municipal community facilities and services, including useful life replacement of existing facilities, and develop a capital budget to meet the needs.
- Recreation - Focus resources on maintaining and improving existing recreation facilities and develop new facilities as resident needs dictate and financial resources permit.
- Recycling - Continue current recycling efforts and work with the Carbon County Department of Solid Waste to improve municipal programs.
- Infrastructure Needs - Encourage Carbon County to take the lead with area municipalities to coordinate planning for the infrastructure needs.
- Cooperation - Encourage and participate in any area intergovernmental cooperation efforts for community facilities planning and economies of scale for joint purchasing, recreation and other facilities and services.

Emergency Services**Protect the Planning Area with effective emergency services.**

- Expanded Service - Identify isolated and under served areas and assess the need for expanded or additional fire and ambulance stations.
- Volunteer Organizations - Acknowledging the critical importance of such groups to the community, encourage and continue to support volunteer fire, ambulance and other public service organizations.
- Police Protection - Continue to provide police protection at a level necessary to meet community needs.

Water Supply and Sewage Disposal**Ensure adequate water supplies and sewage disposal facilities.**

- Municipal Sewage Disposal - Maintain municipal sewage collection, conveyance and treatment systems in good operating condition and develop a capital improvements program to plan for necessary improvements and replacements.
- Municipal Water Supply - Maintain municipal water supply systems in good operating condition and develop a capital improvements program to plan for necessary improvements and replacements.
- Water Supply Protection - Apply well head protection standards to maintain good drinking water quality and manage water authority lands carefully to protect the watersheds.
- Well Ordinance - Apply well construction standards with a well ordinance in areas not served by community water supply.
- On-Site Sewage Systems
 - Monitor the effectiveness of on-lot sewage disposal systems and evaluate central sewage disposal as a means of correcting any widespread problems.
 - Ensure that on-site sewage systems are maintained, and that failing systems are repaired and new systems are installed in accord with DEP standards.
 - Consider the adoption of a sewage disposal ordinance to govern the installation, operation and maintenance of on-site sewage systems.

Storm Water**Improve Stormwater Management.**

- Existing Problems - Evaluate storm water management facilities and develop a plan to address existing problems.
- Improvements - Include require stormwater management improvements in the capital improvements program.
- Innovative Controls - Incorporate innovative stormwater management techniques into new development.
- Education - Address existing problems with stormwater runoff through outreach

and education of landowners

New Development

Ensure that an adequate and safe water supply system, a proper sewage disposal system, well designed and constructed roads, stormwater management and other facilities are provided by developers as part of any residential development.

- SALDO - Periodically update the Subdivision and Land Development Ordinance to include standards to ensure most current and sound development practices.

EXISTING CONDITIONS

Overview

Public community facilities and services in the Planning Area are provided on several levels, and the provision of these facilities and services is dependent on tax dollars, whether in the form of federal and state aid, county supported programs, or locally funded facilities and services. Both public and private funds support institutional facilities and services.

Certainly, the facilities and services provided by the Commonwealth of Pennsylvania and Carbon County are vital to Borough and Township residents, but are somewhat beyond the scope of this *Plan*. Nevertheless, County-owned and operated facilities in the Planning Area are discussed in terms of the effect on the community. Should community residents find that state or County facilities or services are inadequate, local municipal officials can serve as a conduit for communication with responsible state and county officials to effect facility and service improvements.

The discussion of existing community facilities and utilities focuses on municipal facilities, schools, emergency services, water supply, wastewater disposal, stormwater management, and energy supply.

Municipal Facilities

Each of the municipalities in the Middle Carbon Planning Area maintain administrative offices and public works maintenance facilities, vehicles and equipment. All of the municipalities are providing staff, facilities and services within their means based on current economic conditions, rising costs and limited tax revenues.



Jim Thorpe Borough Building (<http://www.jtborough.org>)



Jim Thorpe Streets Department

Jim Thorpe Borough

The Jim Thorpe Municipal Building, located at 110 East 10th Street adjacent to memorial park and the Jim Thorpe Area High School, houses the Borough's administrative offices and the Police Department. Opened in 2010, the building includes a small meeting room used for conferences and committee meetings, with Council meetings conducted in the adjoining Jim Thorpe Memorial Hall. The Jim Thorpe Streets Department is located adjacent to the Borough Hall. There are no plans

or immediate need for additional administrative facilities, maintenance facilities or staff.

Lansford Borough

Lansford’s administrative offices and meeting room are located in the Lansford Community Center at 1 West Ridge Street, also the location of the Borough’s Code Enforcement and Tax Collection offices, the Lansford Police Department and the Water Authority. Administrative space is very limited and improved facilities should be considered for the long term. The Lansford Borough maintenance building is functional, but improvements should be planned in the long term. However, given the current fiscal limitations of the Borough there are no specific plans for additional administrative facilities or staff. In any case, longer term plans are to consolidate its offices in a new location.



Lansford Community Center and Police Department



Lansford Street Department

Penn Forest Township

Located at 2010 State Route 903, the Penn Forest Township Municipal Building houses the Township’s administrative offices and all Township boards meet at the site. The building is in excellent condition with adequate space with two meeting rooms where all meetings of Township boards are conducted. The Township has no plans for adding additional space or staff. The Township maintenance facilities are located with the Township Recycling Depot at the end of Transfer Station Road in Christmans. No additional facilities are planned at this time; however, the site provides ample room as need dictates.



Penn Forest Township Building



Penn Forest Maintenance Building

Summit Hill Borough

Summit Hill relocated its Borough offices in 2009 from the former Summit Hill Middle School to its new building at 40 East Amidon Street. The new facility houses the Borough administration office and meeting room, the Police Department and the Water Authority. The former Borough Hall parcel is now the site of the new fire station and community center. Given the recent construction of the facilities, there is no plan for any additional facilities, as well as no plans for additional staff. The

Borough maintenance facility is in good condition with no plans for expanded or new facilities.



Summit Hill Borough Building



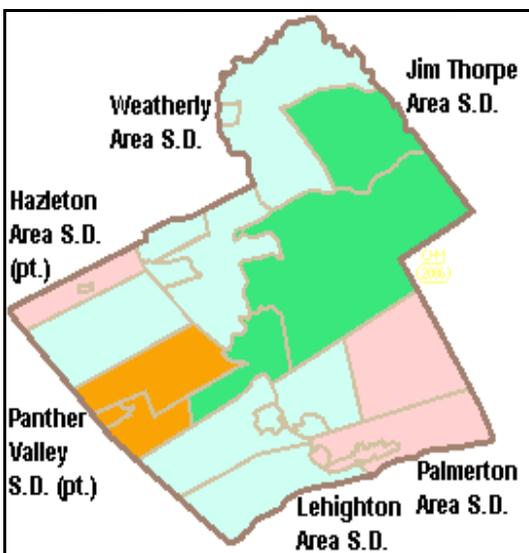
Summit Hill Streets Department

School Districts and the Municipalities Planning Code

Section 305. The Legal Status of Comprehensive Plans Within School Districts. Following the adoption of a comprehensive plan . . . , any proposed action of the governing body of any public school district located within the municipality or county relating to the location, demolition, removal, sale or lease of any school district structure or land shall be submitted to the municipal and county planning agencies for their recommendations at least 45 days prior to the execution of such proposed action by the governing body of the school district.

Public Schools

Although local municipalities have no direct control over school district facilities and activities, the Pennsylvania Municipalities Planning Code recognizes the importance of school buildings and land to the community. Public schools account for the largest expenditure of local tax dollars. The public school system not only provides education for a community’s children, but also provides adult and community education, library facilities, cultural and social activities, and recreational and sport facilities for the surrounding communities. The Planning Code requires school districts to submit certain proposed actions related to land and buildings to the municipality for review if a comprehensive plan has been adopted. (See the *School Districts and the Municipalities Planning Code* Sidebar.) Most school districts are not aware of this provision and local municipalities must monitor school district activities and notify school administrators about the requirement.



Carbon County School Districts
 (<http://en.wikipedia.org>)

Summit Hill and Lansford Boroughs, along with Coaldale and Nesquehoning, are served by the Panther Valley School District. The student population is approximately 1,750 and is projected to increase steadily to 1,890 by the 2016-2017 academic year and to 1,960 by 2020-2021¹. The district consists of the Panther Valley Elementary School in Nesquehoning and the Panther Valley Middle School and Panther Valley High School, both located just off Route 209 in Summit Hill. The district’s administrative offices are also located in the Summit Hill. All of the schools in the Panther Valley School District are designated by the U.S. Department of Education as having a high concentration of students from low-income families.

Jim Thorpe Borough, Penn Forest Township, and Kidder Township are served by the Jim Thorpe Area School District. The student population is approximately 2,200 and is projected to reach 2,320 by

¹ Pennsylvania Department of Education, 07/2011.

the 2016-2017 academic year and to 2,380 by 2020-2021.² The district currently has three schools: Jim Thorpe Area High School next to the Jim Thorpe Borough Hall, the Lawrence B. Morris Elementary School (Grades K-8) on Tenth Street in Jim Thorpe, and the Penn/Kidder Campus (Grades K-8) in Kidder Township just north of Albrightsville. The District's administrative building is located in the Old Mauch Chunk School/Jim Thorpe Area Junior High School building on Center Avenue in the Jim Thorpe. The Jim Thorpe Area High School and the Penn/ Kidder Campus are designated by the U.S. Department of Education as having a high concentration of students from low-income families.

The Carbon Career Technical Institute is also located in Jim Thorpe Borough on West 13th Street. Students enrolled in trade or technical courses attend this school from grades 10 through 12.

The projected growth of the Panther Valley School District is somewhat surprising given the limited population growth in the municipalities comprising the District. In the case of the Jim Thorpe Area School District, the population growth rates in Kidder Township and Penn Forest Township certainly are key factors.³ In any case, the land use policies and zoning regulations of these communities directly impact the school districts by placing greater demands on them for facilities and staff, which results in higher taxes to support the districts. At the same time, the schools can represent a source of educational and recreational facilities for the community. The Boroughs and Township should communicate with the school boards to arrange agreements for public use of school facilities, school programs oriented to the public, and shared maintenance of facilities used by the public.

Police Protection

Police services are provided by each of the three Boroughs in the Planning Area and Penn Forest Township relies on the Pennsylvania State Police, Troop T in White Haven and Troop N in Lehigh. Along with increasing numbers of calls, the nature of the calls in the Planning Area has been changing to include more serious crimes along with the typical vehicle-related, domestic, public disturbance and agency assistance calls.



Summit Hill Police SUV

The Summit Hill Police Department is located in the Borough Building and provides 24-hour coverage with a full-time chief and three full-time and six part-time officers responding to some 400 calls per month. The Department maintains three police vehicles, two sedans and one SUV, replacing each as needed based on mileage and condition. The need for a designated criminal investigator and a part-time secretary to improve Department efficiency has been identified, as well as the importance of computers in all vehicles. The garage serves as a sally port with two holding cells.

Located in the Borough Building, the Jim Thorpe Police Department provides 24-hour service with a full-time chief, sergeant and detective and three full-time and five part-time officers, along with a full-time secretary/meter attendant. The Department responds to some 4,000 calls annually and maintains four sedans and two SUVs which

²Ibid.

³Kidder increased by 750 persons or 63.3% between 2000 and 2010 and Penn Forest increased by 4,142 or 76.2%.

are replaced on a 3-year cycle, and each vehicle contains a laptop computer. The goal is to provide each officer with a laptop and use the e-ticket system.

With a chief, a sergeant and four full-time and four part-time officers, the Lansford Police Department responds to some 300 to 500 calls each month. Located in the Community Center, the Department patrols with three vehicles which are equipped with laptops. Manpower and funding are the most important issues for the Department.

Police radios and pagers in Carbon County will be switching to the narrow band by 2013 for the 9-1-1 emergency response system. This poses a funding issue for each police department.

Regional Police Study

In 2007, the Pennsylvania Governor's Center for Local Government Services completed the Regional Police Study for Coaldale, Lansford and Summit Hill which concluded that *the consolidation of the police agencies will result in the following major improvements in the delivery of police services:*

- 1. The ability to establish a uniform and consistent police enforcement program throughout the three municipalities.*
- 2. The ability to provide more efficient and effective police service by eliminating the duplication of services.*
- 3. The ability to provide 24-hours 365-days a year police service (with full-time personnel) to the three municipalities.*

The Study also reports that the President's Commission Law Enforcement Administration of Justice Task Force Report on police states that *the political and social pressures linked to the desire for local self-government offers the most significant barrier to the coordination and consolidation of police services.* It goes on to note: *Internal opposition has occurred with nearly every major change in policing since the turn of the century. Today, police academy training, civil service merit systems for hiring and promotions, and telecommunications systems that dispatch police for whole counties are taken for granted as indispensable to a modern police force, but each of these innovations was accepted only after a hard fought battle.*

Police Protection Actions

No action has been taken on the idea of a regional police force. Nevertheless, the three Planning Area police departments provide mutual support via formal cooperation agreements. Absent any action for the creation of a regional force, Jim Thorpe, Lansford and Summit Hill, and any other interested municipalities, should explore the possibility of sharing additional resources and personnel, such as a criminal investigator.

In Penn Forest Township, the Board of Supervisors will monitor the need for police protection, the cost involved, and any changes to the State Police system including proposed charges to local municipalities; and assess its feasibility in terms of the financial resources available and other necessary facilities and services. If local service is provided by the Township, regionalization and contracting with an existing police department will be considered.



Diligence Fire Company No. 1 - Summit Hill



American Fire Company No. 1 - Lansford



Diligent Fire Company No. 3 - Jim Thorpe



Penn Forest Township Volunteer Fire Company No. 1

Fire Protection and Emergency Medical Service

Adequate emergency service will continue to be an important element of maintaining the existing quality of life in the Middle Carbon Planning Area. All firefighting personnel are volunteers, while emergency medical services are provided by a mix of paid staff and volunteers. As noted earlier, emergency response is typically one of the most important services to residents of small communities. Emergency services must be addressed as a long term goal of the Planning Area and area wide municipalities.

The Summit Hill Diligence Fire Company No. 1 has served the Borough of Summit Hill since 1897. The Fire Company recently moved into its newly constructed station on West Ludlow Street. In terms of the condition of its fire station and apparatus, the Diligence Fire Company does not have any needs at this time.

The American Fire Company No.1 provides fire protection to Lansford Borough and is located on East Patterson Street on the bottom floor of Lansford Borough Hall. The fire station is need of an upgrade or possible relocation. The Fire Company expects its current apparatus to be adequate for at least the next ten years, but needs to add a rescue vehicle to its fleet.

There are three fire stations in Jim Thorpe. The Phoenix Hose Company No. 2 is located on West Broadway on the West Side of town, Diligent Fire Company No. 3 is located on Center Avenue on the west side of town, and Fairview Hose Company No. 2 is located on West Ninth Street and School Street on the east side of town. Apparatus is expected to be adequate in the next twelve to fifteen years, so maintaining current vehicles and equipment is the major concern.

Penn Forest Township is served by the Penn Forest Township Volunteer Fire Company #1 as well as its sister station, Penn Forest Township Volunteer Fire Company #2, which is located on State Route 534 in the northeastern section of the Township. The Company has an active group of volunteers and up-to-date fleet of vehicles.

Mutual Aid

The fire companies serving the Planning area and adjoining municipalities have had a mutual aid agreement in effect since 1989, providing support to each other on call response. The mutual aid agreements between the four municipalities have worked effectively for years, providing additional

manpower and equipment when needed. This enables each community to provide service while reducing costs for apparatus. This Comprehensive Plan recommends that the mutual aid agreements be continued and in the long term the costs and benefits of consolidating fire stations should be considered .

Volunteers

Rural emergency service providers are finding it more and more difficult to find volunteers given the increased demands for training and qualifications. Unfortunately, this is affecting Planning Area companies along with other local volunteer companies in the area, and this situation must be monitored along with the need for paid staff.

- The volunteer organizations are finding it more and more difficult to recruit and retain volunteers.

Municipal Assistance for Emergency Service Providers

A recent *Pennsylvania Township News* article suggested the following ways in which EMS (and other emergency service providers) can be assisted by municipalities:

- **Find out what they need** - Meet with your EMS provider on a regular basis to find out what the group needs and how the township can help.
- **Put out the call for volunteers** - Advertise for EMS volunteers in your newsletter and on your Web site. Find out if the EMS provider needs administrative volunteers, in addition to medical ones, and try to connect the group with local business people, a CPA, or a bank manager.
- **Offer volunteer incentives** - If the township sponsors recreation programs, special events, or even has a township pool, offer free tickets or a free membership to anyone who volunteers for EMS duty.
- **Help EMS providers with grant searches and grant writing** - Use your own experience securing grants for the township to show EMS providers where to look, such as the state Department of Community and Economic Development and other state and federal agencies. If they're new at grant writing, offer some pointers.
- **Check out purchasing options using state contracts** - Emergency medical equipment is available for purchase through statewide contract. Tell the EMS provider how the system works and also alert them to the availability of state and federal government surplus programs.
- **Consider funding options** - Townships can use the new emergency and municipal services tax to help fund emergency medical services. They can also dedicate up to half a mill of township taxes to such services. Some townships make annual donations to their EMS provider a regular part of the budget, and others participate in special fund raising campaigns.

- Large time commitment required not only for answering calls but for training.
- Individual liability does not appear to be an issue; the *Good Samaritan Law* applies.
- Husband and wife both work in most families which limits volunteer time.
- More and more residents work at jobs out of the area which limits availability for day time response.
- Many young recruits go away to college and do not return.
- Fewer and fewer residents have a direct feeling of connection to the community.
- Generally changing attitudes about volunteering -- more people expect to be paid.
- What to do about volunteers and staffing?
 - Work with the State Office of Fire Prevention and Control to set standards for volunteer firefighter and ambulance personnel which are reasonable for rural areas and which do not discourage volunteer participation.
 - Consider paid staff for emergency services.
 - Regionalize services with a number of paid staff supplemented by volunteers.
 - An adequate pay scale would be critical.
 - Volunteer marketing plan linked to service organizations, schools, Boy Scouts, Girl Scouts, 4-H, etc.
 - Offering EMT and paramedic training in high school.

THE FIREWISE COMMUNITIES PROGRAM

Brush, grass or forest fires don't have to be disasters. The National Fire Protection Association's (NFPA) Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from wildfire risks.



The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

To save lives and property from wildfire, NFPA's Firewise Communities program teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action now to prevent losses. We all have a role to play in protecting ourselves and each other from the risk of wildfire.



About NFPA

NFPA has been a worldwide leader in providing fire, electrical, building, and life safety to the public since 1896. The mission of the international nonprofit organization is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. (Source: <http://www.firewise.org>)

In Penn Forest Township, Bear Creek Lakes, Hickory Run Land and Homeowners Association, Penn Forest Streams, and Towemensing Trails are participating in the Firewise Communities Program which has been spearheaded by the local office of the PA Bureau of Forestry. Although the funding for the program has been reduced, other communities in the Planning Area should participate.

Local Emergency Service Issues

The Comprehensive Plan Committee conducted an emergency services discussion forum with emergency services providers who identified the following challenges specific to the Planning Area:

- Fund raising has been very difficult and financial support is especially limited in the current economic climate. Creative means of controlling costs, such as sharing resources or consolidating stations, are needed to offset declining financial support.
- There is a critical shortage of staff and volunteers, especially during daytime hours. This is due to a lack of interest in volunteering, a lack of volunteer availability during work hours, and the time and cost required to keep up with training standards. A combination of tactics is needed to remedy this situation, including increasing fire company visibility and involvement in the community, speaking at and recruiting from local schools and businesses, assistance with training costs, and seeking support from volunteer firefighter organizations (e.g. the National Volunteer Firefighter Council).
- Search and rescue operations at Lehigh Gorge State Park for lost and injured hikers, bikers, and boaters are a drain on financial and manpower resources. To alleviate this, the boroughs can lobby the Pennsylvania Department of Conservation and Natural Resources to more clearly mark trails, and coordinate with the Department's Search and Rescue Program. The boroughs might also consider an ordinance to enable the recovery of costs resulting from search and rescue operations.

- Fire hydrants and water supply for firefighting are problematic in several areas:
 - Water supply is inadequate for firefighting in the vicinity of White Bear Drive and East and West Mountain Top Road in Summit Hill Borough.
 - Lansford Borough has 93 hydrants, but only 20 are suitable for firefighting. Further, the sizes of many Borough water lines are insufficient—they do not produce enough water pressure for firefighting. Fire hydrants are also needed in the Edgmont area on the north side of town, which is the site of a nursing home.
 - Fire hydrants and water supply are sufficient in downtown Jim Thorpe, but they are not sufficient in areas surrounding the downtown.
 - Water supply in private communities without central water (all of the private communities in Penn Forest Township) or lakes can hamper firefighting when large volumes must be hauled to the site.
- Road access is a problem for all emergency service providers (police, fire, ambulance) in Jim Thorpe Borough during peak travel times and on weekends due to traffic congestion. During heavy rains and floods, a number of low lying roads become impassable leaving residents beyond the reach of aid.



www.pennforesttownship.org

Ambulance Service

The Lehigh Valley Ambulance Association provides basic life support, advanced life support, quick response service, emergency and non-emergency transportation to most of Carbon County, including Summit Hill, Lansford and Jim Thorpe. It has 60 career staff and 30 volunteers, a fleet of ten ambulances, and has stations located in Summit Hill, Jim Thorpe, Lehigh Valley and Penn Forest Township. Lehigh Valley Ambulance is in need of two more ambulances. It is also currently renting the space in Summit Hill and needs to find a permanent location.



www.lehighvalleyambulance.org

The major problem that Lehigh Valley Ambulance faces in its day-to-day operation is road access in Jim Thorpe. Ambulances have to cross the Route 903 bridge and navigate traffic congestion in downtown Jim Thorpe. Flooding of roads also hinders access. To avoid access problems, Lehigh Valley Ambulance has to manage the placement of its vehicles from station to station. Recommendations contained in the Transportation section of this Comprehensive Plan are intended to alleviate traffic congestion and flooding problems and improve emergency access for all emergency service providers.

Emergency Management

Emergency management planning involves plans for emergency prevention, preparedness, response, and recovery. The Federal Emergency Management Agency (FEMA) oversees emergency management at the federal level. Each state also has its own emergency management agency. The Pennsylvania Emergency Management Agency (PEMA) coordinates state agency response to support county and local governments in the areas of civil defense; disaster mitigation; and preparedness, planning, and response to and recovery from man-made, technological or natural disasters.

Pennsylvania law requires each political subdivision (county, city, borough, incorporated town, or township) within the Commonwealth, either individually or via



Carbon Emergency Management Building
(www.carboncounty.com/emergency)

an intergovernmental cooperation agreement, to prepare, maintain, and keep current an emergency management plan consistent with the state emergency management plan and establish an emergency operations center. In addition, each political subdivision must establish an emergency management organization with an emergency management coordinator. County and local emergency management coordinators are appointed by the Governor upon recommendation by local elected officials, and are responsible for implementing the plan. PEMA reviews county and local emergency management plans for currency every two years.

The Carbon County Emergency Management Agency is responsible for maintaining an ongoing program of emergency mitigation, preparedness, response and recovery and coordinates available resources to deal with emergencies effectively, thereby saving lives, avoiding injury, and minimizing economic loss. Entities involved in emergency response include local governments and public works departments, police departments, fire companies EMS providers, and volunteers. The County EMA also operates the hazardous materials decontamination team and is involved in a number of community outreach and education programs.

FEMA has approved the recently updated Carbon County Hazard Mitigation Plan which is in the process of being ratified by the local municipalities in the County. The Emergency Operations Plans in Jim Thorpe and Lansford need updating and the Penn Forest and Summit Hill are current within the past two years.

Solid Waste Disposal

Planning for solid waste disposal is a county responsibility as mandated by state statute, and local municipalities are authorized to regulate solid waste disposal by ordinance. The Carbon County Department of Solid Waste, in accord with the requirements of the PA Recycling and Waste Reduction Act of 1988 and the County Solid Waste Plan, licenses trash haulers, enters into capacity agreements with landfills and is responsible for recycling, waste reduction and educational programs. Additionally, the Department operates a county-wide rural recycling program consisting of 12 semi-permanent *blue bin* recycling drop-off sites located at various municipal and commercial properties in the county.

The three Boroughs in the Planning Area contract with private haulers for curbside garbage and recyclable collection. Penn Forest Township operates a transfer station for garbage disposal and Township residents have the option of using the facility or contracting with a county-licensed hauler for at-home collection. The County provides a *blue bin* recycling drop-off containers at the Penn Forest transfer station.



Penn Forest Township Transfer Station and Recycling Center



Water Supply and Wastewater Disposal

Public water supplies and wastewater disposal facilities must be planned to correspond to the growth areas illustrated in the Future Land Use Plan. Where a higher intensity of uses is proposed, as in the high and moderate density growth areas, public water supply and wastewater treatment systems are most appropriate. In the Rural Resource/Low Density areas, on-lot systems may be more appropriate. The aim is to direct future development to areas that currently have the capacity to provide sewer and water service, to avoid the need for widespread extension of such services, and to avoid the encroachment of development into the rural sections of the Planning Area.



Summit Hill Water Tank

Summit Hill Borough Water Supply

The Summit Hill Water Authority supplies water to approximately 1,150 customers in Summit Hill Borough. Water is drawn from four wells located in White Bear, averaging depths of 250 to 300 feet, with three of the four wells currently used. The Borough owns some 470 acres of the watershed where the wells are located and the land is largely forested, with a Forest Management Plan which will aid in protecting water quality.

Water is pumped from White Bear to a 500,000 gallon storage tank located off South Market Street on the south end of town. Average daily demand is approximately 200,000 gallons per day. Aside from a need to increase water pressure on the east end of town, there are currently no water supply or water quality issues and the Water Authority does not anticipate any problems meeting future demand. However, the infrastructure is old, with water lines built in the 1920s. To address this issue, the Water Authority conducts annual leak detection and repair, gradually replacing lines as problems arise. Residences located outside of the Summit Hill Water Authority service area are supplied by individual wells (with the exception of approximately five homes in White Bear).

Lansford Borough Water Supply

Water service is provided by the Lansford-Coaldale Joint Water Authority. It operates ten wells in the Lake Hauto area just north of Lansford Borough, of which seven are currently in use. Well depths range from 350 feet to 650 feet and well capacities range from 40 to 360 gallons per minute. Water is pumped from the wells to five water towers located throughout the service area, and is then distributed from the towers via gravity. Two towers are located atop the mountain at the north end of Lansford, a 715,000-gallon tank and a 1,500,000-gallon tank, which was recently refurbished. A 1,000,000-gallon tank is located on Broad Mountain, a 125,000-gallon tank is located in Coaldale, and another 125,000-gallon tank is located on Route 902 between Lansford and Summit Hill. Water is pumped up the hill to this tank, which then feeds the east end of Lansford via gravity. Aging and inadequate water lines are being upgraded on a continual basis.

The 2003 Pennsylvania Department of Environmental Protection Source Water Assessment Summary for the Lansford-Coaldale Joint Water Authority reports on a circular area with a radius of 1.25 miles centered on Tippetts Pond east of Lake Hauto Dam. The assessment recommends that *the water supplier, because of all the potential pollution threats identified near the water supply, adopt a source water protection plan. The highest risk or threat of potential pollution to the water system by activity quantity is the following:*

Individual Point Source Activities: Industrial park, large quantity hazardous waste generator, machine metal working shop, power plant and railroad track or yard.

Non-Point Source Activities: Fuel oil storage tanks, household cleaning supplies, highway spills, highway salt applications, lawn care supplies, on-lot sewage disposal, sewer pipelines, swimming pools, wells (abandoned or active) and boreholes (abandoned or active).



Jim Thorpe Water Purification Plant

Jim Thorpe Borough Water Supply

The Jim Thorpe Water Department provides potable water to its 1,700 customers from two sources - groundwater and surface water. The average customer uses about 4,000 gallons per month, translating to a total daily demand of some 230,000 gallons. The Borough has been upgrading the treatment plant and distribution system over the past several years, spending millions of dollars, so there are no critical needs. The more remote areas of the Borough are served by individual wells.

The East Side of the Borough is supplied by two wells, each some 270 feet deep, accessed from Germantown Road and situated on 400 acres of forest land owned by the Borough. Similar to Summit Hill, the Jim Thorpe Borough land also has a Forest Management Plan. One of the wells is used as the primary source with the second serving as a backup, and water is pumped to the 500,000-gallon storage tank near the L. B. Morris Elementary School and then to customers by gravity. Potable water for the West Side is drawn from Mauch Chunk Creek, filtered and disinfected with chlorine prior to distribution to customers. The Mauch Chunk Creek Watershed encompasses about 7.5 square miles with almost 95 percent of the area forested. The 2002 DEP Source Water Assessment Summary for the Watershed notes:

It has been determined that existing state and federal regulations should provide adequate protection of Jim Thorpe's water source. Overall, the watershed contributing raw water to the Jim Thorpe purification plant has little risk of significant contamination. No impaired waters exist within the watershed boundaries, and the entire basin is protected for Cold Water Fishes. However, should a group (watershed organization, water supplier, municipalities) implement a watershed protection plan, the focus should be placed on controlling stormwater runoff along transportation corridors near the lake and streams that carry the source water to the intake. The same runoff management should be applied to the dirt road near the intake. Also, regular testing for contamination from the numerous on-lot septic systems and best management practices should be enforced.

Penn Forest Township Water Supply

There is no public water system in Penn Forest Township. All residences, including those in private communities, are served by individual wells drawing potable water from groundwater sources. The typical household's average daily demand is approximately 250 gpd. Water supply is not a concern at this point, and the only issue with water quality involved salt contamination from the PA Turnpike, but that issue has been resolved. The lack of a public water system can, however, inhibit commercial and industrial development in the Township.

Wastewater Disposal

The Planning Area municipalities are located along a stretch of the Delaware River that is classified by the Delaware River Basin Commission (DRBC) as Special Protection Waters (SPW). This classification is intended to maintain the exceptional value and high quality waters within the basin. SPW regulations discourage direct discharges of wastewater to the designated waterways, stipulating that no new or expanded wastewater discharges shall be permitted in waters classified as SPW until

all non-discharge/load reduction alternatives and natural treatment alternatives have been fully evaluated and rejected because of technical and/or financial infeasibility. Non-discharge and natural treatment alternatives include land applications, such as spray irrigation, where treated wastewater is applied to the ground where soils are suitable.

SPW regulations also require that the minimal level of wastewater treatment for all new and expanding wastewater treatment projects discharging directly to Special Protection Waters will be *Best Demonstrable Technology*, including ultraviolet light disinfection or an equivalent disinfection process that results in no harm to aquatic life, does not produce toxic chemical residuals, and results in effective bacterial and viral destruction.

DRBC approval is required for new or expanding municipal and industrial wastewater treatment plants within the drainage area to Special Protection Waters that are designed to discharge a daily average rate of 10,000 gpd or more. To obtain DRBC approval, discharges must demonstrate no measurable change to existing water quality.

In addition, projects located in the drainage area of Special Protection Waters that are subject to DRBC review must have a Non-Point Source Pollution Control Plan (NPSPCP) that has been approved by the DRBC. The NPSPCP describes the Best Management Practices that will be used at the project site and service area to control the increases in non-point source pollutant loadings resulting from the project.

Summit Hill and Lansford Wastewater Disposal

The downtown areas of Summit Hill and Lansford are served by a public sewer system. Both municipalities have an adopted Act 537 Plan, with Summit Hill's adopted on March 23, 2005 and Lansford's on April 17, 2001. Public sewer service in Summit Hill and Lansford is provided by the Coaldale-Lansford-Summit Hill Sewer Authority, which serves approximately 4,500 customers with 3,800 of those in Summit Hill and Lansford. The wastewater treatment plant, located in Coaldale, has a capacity of 1.65 million gallons per day (gpd) and discharges to Panther Creek. It handles an average of 1.1 million gpd, but on rainy days it exceeds its capacity with an intake of more than 2 million gpd. This is the result of a serious inflow and infiltration problem in Summit Hill and a combined system in Lansford Borough.

Summit Hill and Lansford are both under a moratorium imposed by the PA DEP in 1987. During wet periods, the Summit Hill system experiences excessive inflow and infiltration of rain water creating pressure on the lines, causing back-ups, and flooding the wastewater treatment plant. Summit Hill is in the early stages of problem resolution. It has an ordinance that prohibits residents from diverting or pumping rain water into the sewer system, and is contemplating a program to inspect sewer connections. However, the Borough lacks funding to effectively address the problem with system upgrades. Under the moratorium, no new connections to the system are permitted until the situation is remedied.

Lansford Borough has a combined system which carries wastewater and stormwater to the treatment plant, contributing to the problem of excessive flows and back-ups. Lansford has been working to separate its wastewater and stormwater systems to address the problem and reverse the moratorium. It recently completed the separation along five streets and was granted ten new connections by the DEP. The Borough will continue the separation project, which is funded by a state loan, Community

Development Block Grant, and a grant from the PA Department of Community and Economic Development.

Clearly, the condition of the sewerage systems in Summit Hill and Lansford hinders the prospect of bringing new development to downtown areas. Until the moratorium is lifted, economic development will largely depend on increasing patronage of existing businesses and reuse or redevelopment of existing buildings. Any new residential subdivisions are most likely to occur in the currently undeveloped outskirts of Summit Hill where on-lot septic systems are used where soils permit.

Jim Thorpe Wastewater Disposal

Both the East Side and West Side of downtown Jim Thorpe are served by public sewer. The system is managed by the Jim Thorpe Sewer Authority and is guided by the Borough's Act 537 Plan adopted on the March 12, 2007. On the East Side, the public sewer service area extends from the Lehigh River north to the Borough's border with Penn Forest Township, and from the area of the Silk Mill generally north to Pine Street. On the West Side, the service area includes the Borough's downtown area and extends along Lentz Trail to Mauch Chunk Lake Park.

The oldest parts of the sewer system date from 1964. The mains are primarily gravity with two small areas that use a low pressure system relying on individual grinder pumps. The sewer treatment plant discharges to the Lehigh River and is dedicated to handling flows solely from Jim Thorpe Borough. The treatment plant is permitted for 920,000 gallons per day (gpd). In 2011, it handled an average daily flow of 633,000 gpd. During rain storms, the sewer system experiences inflow and infiltration of stormwater, which causes excess flows and threatens water quality.

There are no immediate plans and no immediate needs to expand the sewer service area. However, the Borough will be applying for renewal of the discharge permit from DEP in 2013. New development or redevelopment in the Borough's downtown may be hindered if strict limits are placed on the system. This could have the effect of forcing new development into the Borough's periphery (outside of the downtown) which would consume more open land.

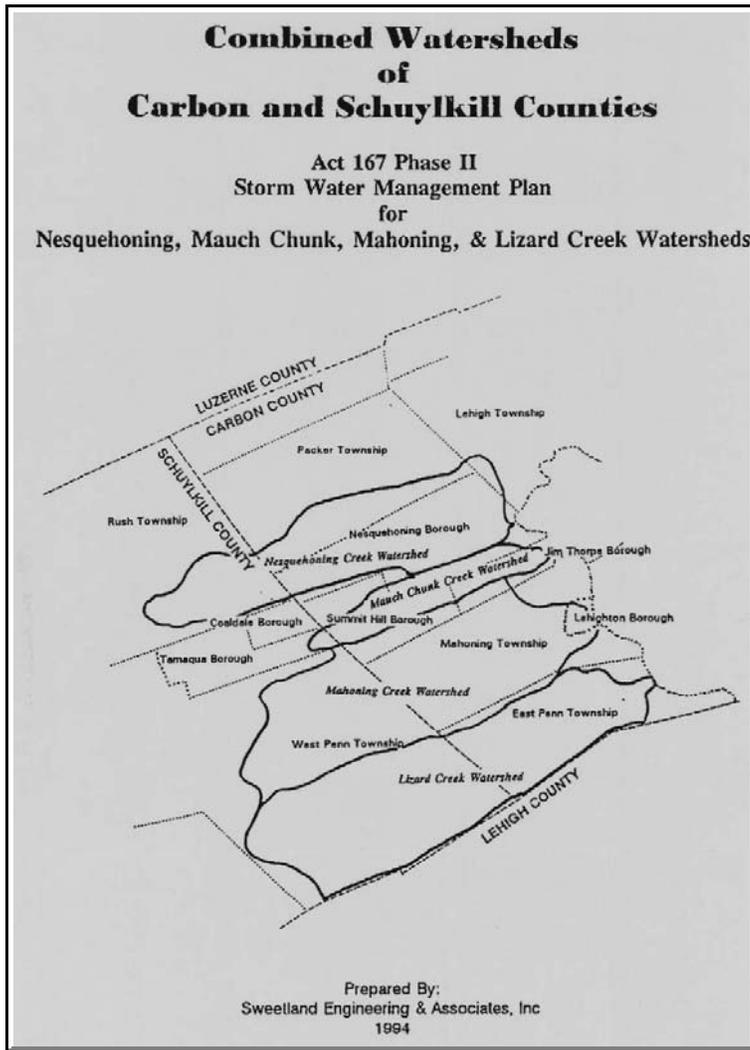
Penn Forest Township Wastewater Disposal

There is no public sewer service in Penn Forest Township. All residences and business rely on on-lot septic systems for wastewater treatment. The only exception is the Pennsylvania Turnpike rest stop which has its own treatment plant. Any future large-scale commercial development will most likely need to provide for its own treatment system as well. Otherwise, Penn Forest Township will continue to develop with on-lot sewage disposal and water wells. Any installation of public sewer and water systems must be planned very carefully to avoid inducing strip commercial development and sprawling residential development.

As reported by the Township Sewage Enforcement Officer, there are occasional malfunctions of on-lot septic systems due to homeowners' failure to properly maintain their systems. Such malfunctions can threaten to contaminate drinking water. As on-lot systems age and if neglect becomes more prevalent, drinking water and surface water contamination can become more widespread and problematic. An on-lot septic system maintenance program can inform property owners of the importance of regular maintenance and the cost savings that can be derived through prevention of a system failure and replacement. Some municipalities require regular tank pumping by licensed haulers.

Stormwater

Stormwater runoff is the rainwater that moves over the ground in a watershed during and immediately following a rain event. In a watershed that is developed or is undergoing land development, the amount of stormwater can increase dramatically due to the reduction of natural areas and increase of impervious cover. This increased volume and rate of stormwater runoff results in altered drainage patterns, more frequent and destructive localized flooding, greater stream channel erosion, greater siltation and sedimentation, and a reduction in groundwater recharge.



Act 167, the Pennsylvania Stormwater Management Act of 1978, was enacted to address the growing negative impacts of stormwater runoff. The Act requires the Pennsylvania 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.

Municipalities play a key role in Act 167 stormwater management planning, since the preparation and adoption of a stormwater management plan by the County may require changes to local land use regulations. Act 167 specifies: *within six months following adoption and approval of the watershed storm water plan, each municipality shall adopt or amend, and shall implement such ordinances and regulations... as are necessary to regulate development within the municipality in a manner consistent with the applicable watershed storm water plan and the provisions of this act.*

A stormwater management plan for parts of Summit Hill and Jim Thorpe was completed in 1994 and adopted by Carbon County and Schuylkill County, and a model ordinance was developed. No other stormwater plans were adopted for the other parts of the Planning Area. In more recent years, funding for Commonwealth stormwater management plans has not been available.



Lack of Stormwater Planning



Stabilized Drainage Swale

Absent a single-purpose ordinance, stormwater management standards are included in the subdivision and land development ordinance. Such standards are applied to new development and typically require that post-development stormwater runoff cannot exceed pre-development run-off. While large detention basins were typically the primary means of control, *best management practices* such as infiltration, rain gardens and on-lot detention are now preferred.

Stormwater ordinances, however, cannot address current stormwater problems, which in many cases were created by poor development practices. Solving such problems is typically expensive given the need for capital projects such as improved drainage swales, increased culvert size and stream bank stabilization. A good example is the recent stabilization of Slaughterhouse Creek in Jim Thorpe which has been a longstanding problem created by upstream stormwater runoff.

The three Boroughs are in need of long term improvement of the storm sewer systems. This will result in less street flooding and likely reduction in inflow and infiltration to the sewer systems. This must be based on accurate information about the location and condition of the systems which is currently lacking.

Shade Trees

Shade trees are an important part of the social, economic, and environmental well-being of a community. Shade trees benefit communities in numerous ways, including providing cleaner air, shadier streets that reduce summer heat, a more attractive streetscape, increased community pride, increased outdoor social activity, an increased feeling of safety and comfort, and enhanced community character. In commercial areas, shade trees are particularly beneficial to businesses, as the more aesthetically pleasing and comfortable streetscape can stimulate business by attracting shoppers and patrons.



Northeastern Pennsylvania Urban & Community Forestry Program

Since 1995, the program has supported more than 200 projects in communities throughout Northeastern Pennsylvania. These projects have brought diverse organizations together in a shared effort to support the long-term care and management of trees and natural resources in their communities.

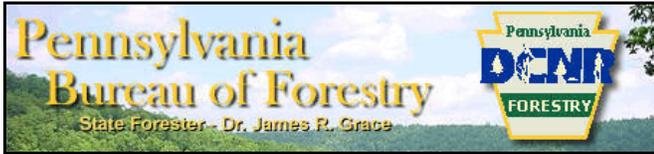
Partnership building fostered through NEPA UCFP has helped to raise community awareness and participation in tree planting, tree care, stewardship, and educational activities throughout a thirteen-county region that encompasses three watersheds and supports more than a million residents. The program seeks to improve the ecological health of the region and to restore damaged ecosystems, to support economic improvements through natural resource planning, and to create pleasant places to live and work through sustainable community forestry programs.

Projects funded through the NEPA UCFP have involved more than 2,450 partners in planting, tree risk assessment, and restoration projects on degraded mine lands and parks, along highways, trails and river corridors, in downtown districts, neighborhoods, schools and at tourist attractions.

The program is sponsored through the USDA Forest Service, Northeastern Area, State and Private Forestry, and the Urban and Community Forestry Program. It is directed by the Pennsylvania Urban and Community Forestry Council in cooperation with the Pennsylvania Department of Conservation and Natural Resources Bureau of Forestry and the Penn State Cooperative Extension.

For more information about the program call the office at (570) 945-8099 or visit the website NEPA Urban & Community Forestry Program. (Source: www.patrees.org.)

The Summit Hill Borough Shade Tree Commission was established by ordinance in 1999. It holds two plantings per year, a spring planting in Memorial Park and a fall planting along Borough streets. Since its inception, the Shade Tree Commission has planted over 300 trees in the Borough. It has also gained a Tree City USA designation for the Borough from the National Arbor Day Foundation, a designation that brings technical assistance, preference for financial assistance for tree and forestry programs, and publicity.



The Pennsylvania Bureau of Forestry provides assistance to landowners and municipalities for management of forest land and shade trees as a partner in the Northeastern Pennsylvania Urban and Community Forestry partner. (See sidebar on the preceding page.)

Jim Thorpe has established a shade tree commission by ordinance, but it has not been active in recent years. Lansford borough does not have a shade tree commission. Jim Thorpe Borough should reactive its Commission and Lansford Borough should enact an ordinance to create and outline the responsibilities of a shade tree commission and both should pursue designation as a Tree City USA community to enhance the communities and support revitalization and tourism promotion efforts.

Circumstances in Penn Forest Township and in the outer areas of the Boroughs are somewhat different given that most residential subdivisions have been developed on forested parcels. Nevertheless, the preservation of existing trees and vegetation and the planting of shade trees in new subdivisions and commercial areas where necessary, will still provide great benefits.

The Boroughs and the Township should include tree preservation and tree planting and replacement provisions for new development in the zoning ordinance and subdivision and land development ordinance.




*The **Lansford-Summit Hill Community Partnership** is the newest organization to be headquartered at the **Summit Hill Heritage Center**. The organization came together through a partnership between **Lansford Alive** and **Summit Hill Community Improvement Organization**. The goal is to have an active working relationship between the two towns and complete a wide variety of local and regional projects. Some of the partnership goals include increasing the number of businesses and jobs in the area, improvement and promotion of several area parks and tourist attractions, and the creation of events that celebrate the history and people of the towns. The overall goal is to revitalize both towns.* (Source: www.summithillheritagecenter.com)

The partnership is currently working with the Delaware & Lehigh National Heritage Corridor to install theme signs directing visitors to key heritage and community interest sites in the two Boroughs.

The mission of the **Summit Hill Heritage Center** is to provide a community meeting place for all in Summit Hill and the surrounding communities, provide a perpetual facility for the Summit Hill Community Food Bank and its successors; provide a venue for cultural events including musical, historical, low cost educational programs; and a place for all community service groups to meet and/or hold events. (Source: www.summithillheritagecenter.com)

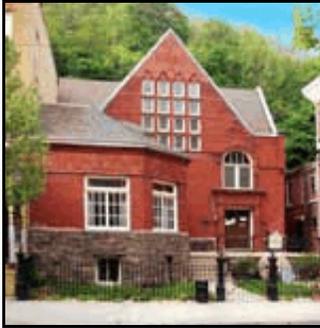
Community Organizations The four Planning Area municipalities should encourage the continued participation of civic organizations in meeting community needs with such programs as food

pantries, clothing distribution, parks and recreation and tree planting, sponsoring events and promoting local heritage. These organizations can play an important role in maintaining the vitality of a community and improving the quality of life. Examples in the Planning Area include churches, Lions Clubs, Rotary Clubs, Lansford Alive and the Lansford - Summit Hill Community Partnership.

Libraries

Libraries play an important role in the community by making information available to all residents. Libraries supplement school libraries for students, provide life-long learning opportunities for adults, and offer special services such as interlibrary loan, books by mail and children's reading programs. Libraries also provide computer and internet access to residents who do not own a computer, which can aid in job searches and professional development.

Four libraries serve the residents of the Planning Area: the Dimmick Memorial Library in Jim Thorpe, the Panther Valley Public Library in Lansford, the Lehigh Area Memorial Library, and the Palmerton Library. Each has access to online material hosted by the Access PA Power Library.



www.dimmicklibrary.org

Community Facilities in Private Communities

Many residents of the Planning Area, primarily in Penn Forest Township, have chosen to live in private communities where the facilities and services within the community are available only to residents, and in many cases, access by the general public is restricted. The type and level of facilities and services vary depending on the size of the community, but range from roads, to clubhouses, to swimming pools. In some of these communities the home and lot owners support a wide range of facilities and services which may include, among others, a paid management staff, administrative offices, a community center, and recreation facilities and programs. Maintaining regular contact with community associations would facilitate communication and improved means of addressing common issues.

Community Facilities for New Development

A critical concern for any community is the provision of adequate facilities for new development. The Pennsylvania Municipalities Planning Code establishes the authority for local governments to require developers to provide adequate community facilities for their particular project. Via the subdivision and land development ordinance, roads, central water supply, central sewage disposal, storm water control and other facilities, must either be installed or be financially guaranteed prior to the sale of any lots in the development.

It is critical that the four Planning Area municipalities carefully enforce each subdivision and land development ordinance, and continue to update it to ensure that roads, drainage and other community facilities are installed to standards which will result in quality, durable facilities.

Community Facility and Service Priorities

A common theme in this *Comprehensive Plan* is the need for local municipalities to set priorities for the use of resources in meeting community needs and resident expectations. Concurrently, immediate community needs and resident expectations must be balanced with local officials' long term view of the future of the community and the costs of action or non-action in providing or postponing facilities and services. Based on this tenet, the Boroughs and Township will focus local municipal resources on those facilities and services traditionally provided by small municipalities and those important to residents.

- Roads - Road maintenance now accounts for much of the municipal budgets and this will continue to be a primary role of the municipalities.
- Water Supply and Wastewater Disposal - In the three Boroughs, operation, maintenance and improvement of the public water supply and public wastewater disposal systems will continue to be high priorities. The aim in Lansford and Summit Hill is for the lifting of the sewer moratorium.
- Police Protection - The three Borough will strive to provide police protection at least at current levels and the Township will monitor the need for local police service.
- Emergency Services - The municipalities will continue to support and work with the volunteer organizations to maintain and improve emergency services.
- Recreation - The three Boroughs will focus on maintaining existing recreation facilities and add priority facilities and services as funding, particularly grant funding, permits. The Township will continue to plan and then develop its new park, again as funding and grants permit. (See the Open Space and Recreation Plan for details.)
- Stormwater Management - The improvement of storm sewers in the three Boroughs must be addressed over the long term. Evaluation of the storm sewers is the first step with planned improvements included in the capital improvements program.
- Cooperation - The municipalities will also explore ways to cooperate with the County and other municipalities to manage growth and development in the area as the best means for minimizing community impacts, planning for the use of municipal resources, and maintaining a quality lifestyle.

Capital Improvements Program

Along with land use control ordinances, a formal capital improvements program (CIP) is a primary tool for the implementation of a comprehensive plan. Although not legally binding, the CIP includes and establishes a time frame for the long-term capital expenditures planned by a municipality. A capital expenditure may be defined as an outlay of municipal funds to purchase, improve or construct a piece of equipment or a facility that is expected to provide service over a long period of time.

Typically, a capital expenditure is relatively large when compared to normal operating expenditures included in the budget. Examples include the construction of, or major improvements to, buildings, land acquisition, recreation facilities, highway improvements, and vehicle purchases. In short, the CIP is a budgeting device to guide the allocation of non-operating funds, and to avoid the unexpected mid-year expenditure of large sums.

Informal v. Formal

Many local officials think in terms of a capital improvements program in the more informal terms of simply setting aside funds for anticipated large expenditures. Local officials know what they need, how much it costs, and if the municipality can afford it. While this is certainly one technique in planning for community facilities and services, a more formal approach with an adopted, written CIP with projected revenues, expenditures and capital improvement costs has certain advantages. *The Practice of Local Government Planning*, published by the International City Management Association, identifies the following benefits of an effective CIP:

- Ensures that plans for community facilities are accomplished.
- Provides an adopted plan that continues even if local officials change.
- Allows improvement proposals to be evaluated against established policies and the comprehensive plan.
- Enables the scheduling of improvements requiring more than one year to construct.
- Provides the opportunity for the purchase of needed land before costs increase.
- Encourages long range financial planning and management.
- Provides for sensible scheduling of improvements.
- Offers the opportunity for public participation in decision making.
- Leads to improved overall municipal management.

In February 2010, Jim Thorpe completed a **Capital Improvements Plan for Civil Infrastructure Projects**: *This Capital Improvements Plan has been created to assist the Borough of Jim Thorpe with its planning and funding for improvements to the general civil infrastructure of the Borough. The Plan identifies eleven sites that required improvements. Each site was visited to obtain a general understanding of the condition and to identify probably corrections. Each site was assigned an opinion of probable cost and a priority level. This Plan identifies improvements with opinion of probably costs totaling approximately \$2,500,000 based on today's dollars, and depending on the scope of improvements actually selected for implementation and construction. Keep in mind that costs will likely increase with time, perhaps on the order of 3% to 5% per year; so as time passes, this capital plan cost range will also increase.*

<u>Priority</u>	<u>Project</u>
1	Hill Road Wall Phase 2 - stormwater / stone wall reconstruction
1	Old Gravity Railroad / Sanitary Sewer Access Road - stormwater control
2	Hill Road Wall Phase 1 - stormwater / stone wall reconstruction
2	Mauch Chunk Lane - stormwater / road reconstruction
3	807 Carbon Avenue - grading / stormwater control
3	High Street Wall - repair and monitoring
3	Maple Street - slope stabilization
3	Packer Hill Road - stone wall restoration
4	700 South Avenue - storm sewer replacement
5	Memorial Hall (Rear) - detention basin / stormwater control
5	Packer Hill Road Guiderail - guiderail installation

Prioritization of Municipal Needs

In developing a CIP a municipality must prioritize its capital needs based on planning findings, and the CIP establishes commitment for public investment in accord with the specific goals and objectives included in the comprehensive plan. *The Practice of Local Government Planning* suggests one method is for a community to divide its needs into three categories: essential, desirable and deferrable. In prioritizing needs, municipal officials must also consider the revenue side of the equation. Needed capital expenditure can only be made by identifying anticipated revenues in terms of other operating expenditures.

In other words, the costs of scheduled capital expenditures must be evaluated in terms of acquiring the necessary revenue to fund the improvements. In any case, the CIP is,

by necessity, an on-going process which must be reevaluated annually, with a planning period of six years being typical. It is also critical that the costs of operation and maintenance of new facilities and equipment must also be considered for inclusion in annual budgets.

PLANNING IMPLICATIONS

Overview

As the Planning Area's population continues to change the demand for facilities and services will also change. In the case of the Boroughs, with stable or slightly decreasing populations and somewhat limited opportunities for economic development and increased tax revenues, maintaining existing facilities and services within current budget constraints is the key.

Penn Forest Township, with recent and projected increases in the population, will require expanded and new community facilities and services. The growth will place more demands on roads, the groundwater supply, wastewater disposal alternatives, and stormwater facilities. Costs to provide these facilities and services will also increase, but a development plan that includes contemporary land use practices with a mix of residential and commercial can help to promote efficient provision of services and balance costs and revenues.

Growth Areas

To this end, the planning and provision of community facilities, services and utilities must be undertaken in the overall context of the *Comprehensive Plan* and the Planning Area's long term goals and objectives. Community facilities, services and utilities must be coordinated with the future higher density growth areas, and the moderate density growth areas. These areas are intended to absorb the majority of the projected growth. Community facilities are to be concentrated in this area making them accessible to the bulk of the population. This also enables more efficient delivery of municipal and emergency services that have better access for residents.

Water and Sewer

Utilities are planned to correspond to the future growth areas. That is, where a higher intensity of uses is proposed, public and community water supply and wastewater treatment systems are most appropriate. In low-density residential areas, on-lot systems may be more appropriate. The aim is to achieve more efficient allocation of services and reduce the widespread, adverse environmental impacts that often arise from un-managed growth and inadequate water and sewerage facilities, balanced against the unanticipated growth that central water and sewer extensions can stimulate.

Cooperation

Finally, the Boroughs and Township should not act individually when considering facilities, services, and utilities, but should cooperate with each other and other municipalities, the School District, and the County to provide and improve facilities and services which are best provided regionally.

FUTURE PLANNING POLICIES AND ACTIONS

Introduction

The following future planning policies and recommendations are measures intended to address issues related to community facilities and services and guide related decisions and actions.

Cooperation

- Strengthen current cooperative efforts and explore means of additional cooperation.

- Begin discussions with other local municipalities for the formation of a Council of Governments to improve efficiency of program operation and service delivery, and economies of scale in purchasing of supplies and materials.
- Explore the idea of a shared manager for Lansford Borough and Summit Hill Borough.

Police Protection

- Boroughs - Evaluate the possibility of sharing resources and manpower and reconsider the creation of a regional police force.
- Township - Monitor the need for police protection and the cost involved, and consider the options of regionalization and contracting with an existing police department.

Emergency Services

- Continue municipal financial support of the fire departments
- Assist fire departments with promoting volunteerism.
- Provide support to the Emergency Management Coordinators to update each municipal Emergency Operation Plan every two years as required by the Pennsylvania Emergency Management Agency.
- Continue to work with the Carbon County Emergency Management Agency on planning and programs.
- Fire Departments.
 - Pursue upgrades to buildings and equipment as necessary.
 - Consider consolidation / regionalization of fire departments.
 - Work with private communities to develop reliable firefighting water supplies.

Solid Waste Disposal

- Continue current solid waste disposal and recycling programs.

Water Supply

- Lansford - Coaldale Joint Water Authority and Summit Hill Water Authority - Continue upgrading water lines as problems arise and funds permit.
- Jim Thorpe Water Department and Lansford - Coaldale Joint Water Authority - Prepare Source water Protection Plans based on Pennsylvania Department of Environmental Protection recommendations and guidelines.
- To protect the Planning Area's surface and groundwater supply:
 - Include natural resource protection standards in the zoning ordinance that prohibit development on environmentally constrained land, such as wetlands, stream banks, very steep slopes, and hydric and high water table soils. These features should be included in the designated open space area of any new development.
 - Amend ordinance development standards to strictly limit disturbance of forest and vegetative cover, especially in headwater drainage areas.

- Provide wellhead protection buffer zones surrounding community drinking water wells to regulate land use to reduce potential infiltration of surface pollution into groundwater.

Wastewater Disposal

- Lansford and Summit Hill - Continue to upgrade the public sewer systems in order to lift the moratorium.
- Develop and enforce a management plan for on-lot septic systems that would require routine maintenance.
- For new community disposal systems, use alternative systems to the extent possible, such as on-lot and community sand mounds, and spray and drip irrigation, in accord with PA DEP's Water Quality Antidegradation Guidance.
- Continue to apply on-lot sewage disposal regulations that ensure adequate well isolation distance, placement of systems on suitable soils, and provisions for system replacement areas.
- Limit development of lots with unsuitable soils and steep slopes that are not appropriate for individual septic systems.

Stormwater Management

- Update stormwater management standards in the subdivision and land development ordinances and apply the standards to all new development. (See the stormwater recommendations in the Natural resources Protection Plan for additional details.)
- Identify and prioritize existing stormwater runoff problems and storm sewer upgrades, and add corrective projects to the capital improvements program.

Shade Trees

- Summit Hill Shade Tree Commission - Continue current programs and coordinate with civic organizations.
- Jim Thorpe - Reactivate the existing Shade Tree Commission.
- Lansford - Consider creating a shade tree commission and coordinate programs with civic organizations.
- Include tree preservation and tree planting and replacement provisions for new development in the zoning ordinance and subdivision and land development ordinance.

Community Organizations

- Encourage the continued participation of civic organizations in meeting community needs such as parks and recreation and tree planting, sponsoring events and promoting local heritage.

Private Communities

- Maintain regular contact with community associations to facilitate communication and improved means of addressing common issues.

Community Facilities for New Development

- Enforce subdivision and land development ordinances and update to ensure that roads, drainage and other community facilities are installed to standards which will result in quality, durable facilities.

Capital Improvements Program

- Develop a capital improvements program with projected revenues, expenditures and capital improvement costs to plan for community facilities and services.

NATURAL RESOURCES CONSERVATION PLAN

INTRODUCTION

Overview

The Middle Carbon County Planning Area landscape is comprised of a variety of natural features ranging from the Lehigh River, streams and lakes, to wetlands, to upland forest and areas of steep slope. This landscape gives the Planning Area its distinctive character and has been an integral part of its unique history, attracting residents and recreation visitors. The three Boroughs and Township have long been blessed with an abundance of natural resources – clean water, forests, and wildlife – providing a high quality of life for many years. Access to public lakes and streams, and the large expanses of private forest land and open space, combined with thousands of acres of State Game Land and State Forest land, and the clean environment, are critical to the quality lifestyle. Although the open space and forest land is extensive, the natural resources and environmental quality are very fragile. Clean plentiful water, pure air, open space, vegetation and wildlife can be irreparably damaged by development undertaken without concern for the natural environment and careful planning and land use control. Coal is the natural resource that led to the much of the settlement of the area and fueled local economy. Without coal, the Planning Area would not be what it is today. However, in hindsight, more careful control of the environmental effects of mining could have minimized the long term environmental effects such as the acid mine drainage affecting Panther Creek.

As the area continues to grow, it is incumbent upon the Boroughs to work to preserve the health, safety, and welfare of its residents, as well as the identity and heritage of the community. Natural resource conservation and environmental protection are critical elements in accomplishing this task.

The Plan

Protection of natural resources is an important issue as expressed by Planning Area residents. The *Natural Resource Protection Plan* addresses concerns related to land and water resources. It is intended to introduce contemporary conservation and management practices to derive the maximum benefit for the health and safety of residents and visitors.

NATURAL RESOURCES GOAL AND OBJECTIVES

Conserve streams, lakes, woodlands, ridge lines, mountainsides and other natural resources and use the resources in a way to sustain the Middle Carbon Planning Area’s economy and quality of life.

Without careful planning and management, the use of natural resources and sensitive environmental areas in the Planning Area can lead to the decline of community character and the quality lifestyle it affords, with eventual direct threats to the environment and public

The purpose of conservation: The greatest good to the greatest number of people for the longest time.
- Gifford Pinchot

I recognize the right and duty of this generation to develop and use our natural resources, but I do not recognize the right to waste them, or to rob by wasteful use, the generations that come after us.
- Theodore Roosevelt

If we learn, finally, that what we need to “manage” is not the land so much as ourselves in the land, we will have turned the history of American land-use on its head.
- Gaylord Nelson, Founder of Earth Day

health and safety. Of special concern are lakes, streams, ground water, forest and soil resources. If the quality of the area's natural resources are diminished, the quality of life and the local economy will suffer, and water supplies could be threatened.

The Lehigh River has long been a key ingredient of the Planning Area and County character and economy, serving as a transportation route and now a focus of recreation and tourism. Today, Mauch Chunk Lake and the surrounding Carbon County Park are also important recreation resources as are the lakes in private communities in Penn. Forest Township. Without the protection of headwaters, including such streams as White Bear Creek, Mauch Chunk Creek, Silkmill Run, Robertson Run, Slaughterhouse Creek, Little Bear Creek, Bear Creek, Wild Creek, Hell Creek and Cross Run, downstream water quality and water supply reservoirs cannot be preserved. Panther Creek in Lansford flows to the Little Schuylkill and also must be protected. Good surface water quality must be maintained to sustain its economic value to the Middle Carbon Planning Area and region. Watercourses also carry flood waters, and this capacity must also be considered.

OBJECTIVES:

Conservation and Sensitive Natural Areas

Conserve open land, including those areas containing unique and sensitive natural features such as woodlands, steep slopes, streams, flood plains and wetlands, by setting them aside from development.

- Identification Identify sensitive natural areas such as wetlands, groundwater recharge areas, woodlands, steep slopes, poor soils and flood plains, and adopt regulations to protect such areas by requiring resource sensitive development.
- Critical Resource Areas - Promote the conservation of open space within the Planning Area and the County and actively promote the long-term preservation and maintenance of valuable natural resource areas through public negotiated acquisition, private dedication of easements, and other cooperative efforts.
- Land Use Ordinances - Evaluate and develop land use ordinances in terms of effects on natural resources with the goal of maintaining open space to the greatest extent possible while allowing a reasonable density of development.
- Development Standards - Maintain up-to-date standards in local ordinances for storm water control, soil erosion and sedimentation control, sewage disposal, solid waste disposal and other environmental concerns.
- Development Incentives - Implement adopted municipal policies to conserve a variety of irreplaceable and environmentally sensitive resource lands, including provisions for reasonable incentives to create a greenway and trail system for the benefit of present and future residents.
- Conservation Design - Use *conservation subdivision design* to cluster residential development away from important natural, historic, scenic and cultural features, and preserve the resulting open space.
- Transferrable Development Rights - Use transferrable development rights to direct development to locations with adequate infrastructure and enable conservation-minded landowners to preserve their properties.

- Area Wide Cooperation - Coordinate environmental preservation efforts with neighboring jurisdictions, and establish an action plan targeting environmental concerns that require a regional approach.
- Economic Development - Encourage local economic development groups to make natural resource protection an integral part of all promotion efforts.

Water Supply and Surface Water

Protect the supply and quality of drinking water and protect surface water quality.

- E & S Control - Reduce erosion and sedimentation by requiring compliance with DEP regulations
- Stormwater - Adopt up to date stormwater ordinances to control runoff through the use of best management practices.
- Water Quality - Consider the impacts of residential and nonresidential development on water quantity and quality and encourage the use of best management practices to preserve stream and River water quality for aquatic life and recreational use.
- Waterfronts - Consider adopting use regulations applicable to waterfront land recognizing that Article VI of the Pennsylvania Municipalities Planning Code enables local municipalities to adopt zoning ordinances which *may permit, prohibit, regulate, restrict and determine uses of land, watercourses and other bodies of water.*
- Sewage Disposal - Monitor the effectiveness of on-lot sewage disposal systems and evaluate central sewage disposal as a means of correcting any widespread problems.
- Well Ordinance - Apply well construction standards with a well ordinance in areas not served by community water supply.
- Floodplain - Use land use controls to direct new residential and commercial development away from floodplain to areas where land is adequate to provide facilities necessary to support development and flood damage is minimized.
- State Agencies - Work with the Pennsylvania Fish Commission, the Pennsylvania Department of Environmental Protection and other agencies to identify and address water quality and public safety issues.

Wildlife Habitat

Protect critical wildlife habitat areas.

- Natural Areas Inventory - Protect sites of rare, threatened, and endangered species.
- Forest - Conserve large forested areas that provide habitat.
- Corridors - Protect wildlife corridors, consisting of networked open space areas and stream corridors.

Ridge Lines and Scenic View Sheds

Conserve ridge lines and scenic view sheds.

- Development Standards - Consider measures that will preserve the characteristics of important ridge lines and scenic view sheds by limiting the amount and type of clearing associated with development.

EXISTING CONDITIONS

Overview

The discussion of existing conditions provides an inventory of Planning Area natural features, issues related to their current state, and protections afforded by the four municipalities and other regulatory agencies. The inventory includes physiography, topography, and geology; soils; forest and vegetative cover; watersheds, streams and lakes; wetlands; floodplain; and critical habitat. The assessment of existing conditions forms the basis of future planning policy recommendations and implementation strategies. The various elements of the natural environment must be conserved because the environment has a finite, limited capacity for development. Furthermore, given the interrelationship of all elements of the environment, a change in one element will result in an often unexpected effect on another element.

Physiography

The three Boroughs and the western part of the Township lie in the in the Anthracite Upland Section of the Ridge and Valley Province with the balance of the Township included in the Glaciated Pocono Plateau Section of the Appalachian Plateaus Province. Each Section is one of the land classifications of the Commonwealth based on geologic formations and landscape characteristics. (*See Physiographic Regions Figure on the following page.*)

The Anthracite Upland Section consists of an upland that has low, linear to rounded hills, strip mines, and mining waste piles. The upland is surrounded by an escarpment, a valley, and a mountain rim. The dominant rock types are sandstone, siltstone, conglomerate, and anthracite coal. The local relief ranges from low to high; the range in elevation is from 320 feet to 2,094 feet. Rocks are folded; many folds are narrow with steep limbs. The Anthracite Upland Section occurs in east-central Pennsylvania where it occurs in parts of eight counties including Carbon, Columbia, Dauphin, Lebanon, Luzerne, Northumberland, Perry, and Schuylkill. Typical topography can be viewed almost anywhere within the Section, but especially along Interstate 81 between the Schuylkill County line and Hazleton. US Route 209 also traverses the section.¹

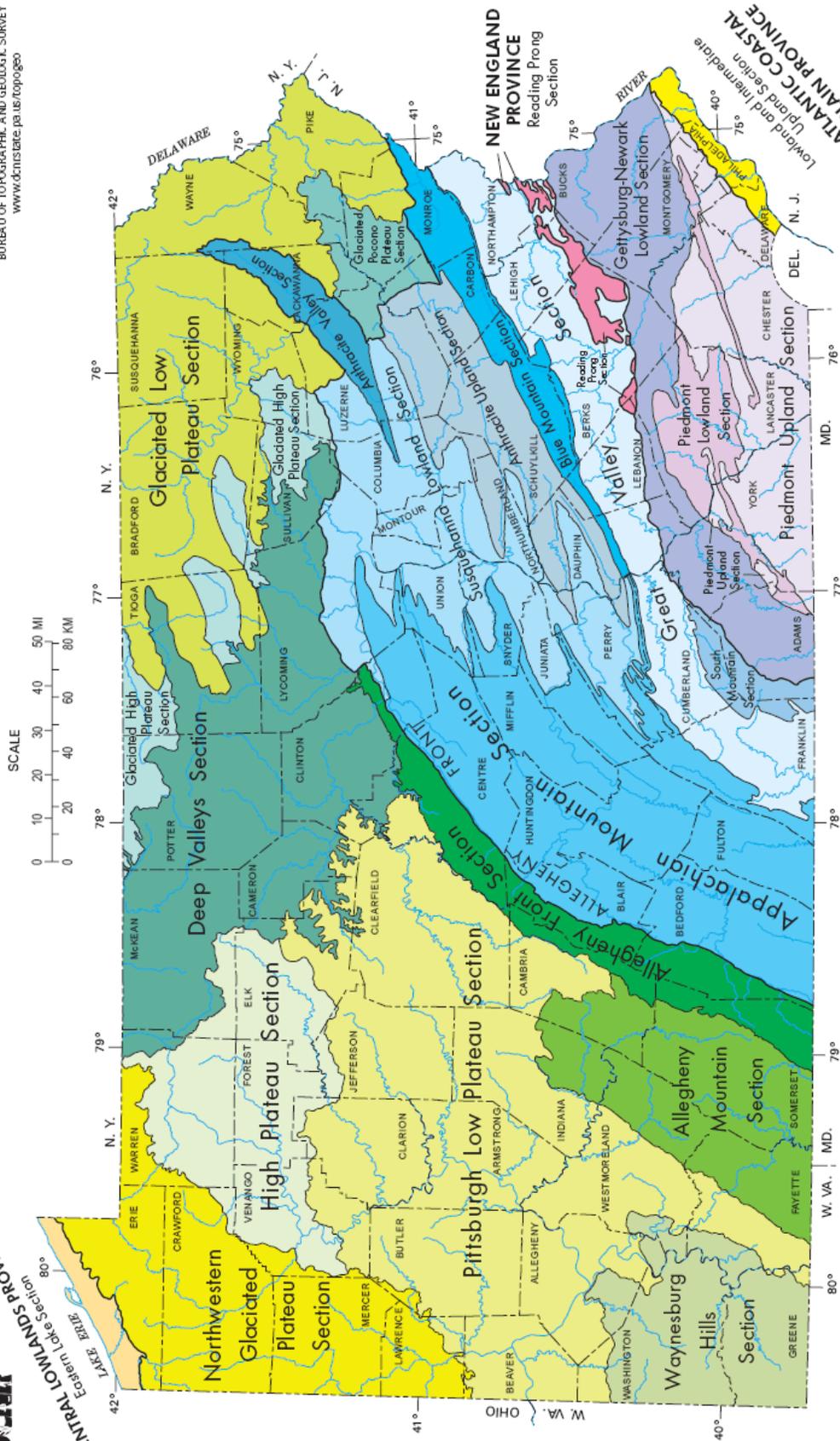
The Glaciated Pocono Plateau Section is a broad upland surrounded on all but its western side by a steep to moderately steep slope that marks the boundary with an adjacent Section. The upland is underlain mainly by tough, erosion resistant sandstones that are relatively flat lying. Relief on the upland is generally less than 200 feet, but can be as much as 600 feet where small hills rise above the general level of the upland. Elevations on the upland range from 1,200 to 2,320 feet. Weather in this area can be severe. The upland is drained by several small streams that flow from the upland interior to and away from the margins. The low relief and relative smoothness of the upland surface results from both the flatness of the underlying rock and the scouring of the surface by glacial ice. The area was glaciated at least three different times in the past million years. In addition to erosion, the most recent glacier also left

¹<http://www.dcnr.state.pa.us/topogeo/map13/13aus.aspx>.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF
CONSERVATION AND NATURAL RESOURCES
BUREAU OF TOPOGRAPHIC AND GEOLOGIC SURVEY
www.dcnr.state.pa.us/topogeo

PHYSIOGRAPHIC PROVINCES OF PENNSYLVANIA

MAP 13



EXPLANATION

	CENTRAL LOWLANDS PROVINCE
	APPALACHIAN PLATEAUS PROVINCE
	RIDGE AND VALLEY PROVINCE
	PIEDMONT PROVINCE
	NEW ENGLAND PROVINCE
	ATLANTIC COASTAL PROVINCE

SYMBOLS

Approximate boundary between physiographic provinces

Approximate boundary between physiographic sections

Compiled by W. D. Sevon, Fourth Edition, 2000.

behind a variety of glacial deposits that occur on the surface of the upland. Particularly notable is the abundance of sandstone boulders that litter the surface in many places. Swamps and peat bogs have developed in small undrained depressions created by glacial scour and deposition. The Section occurs in parts of Carbon, Luzerne, Monroe, Lackawanna, Pike, and Wayne Counties in Northeastern Pennsylvania. The area is crossed by several roads that provide excellent views of the upland including Interstate 80 and 380, and Pennsylvania Route 115. Other good routes are Pennsylvania Routes 903, 423, and 940.²

Topography

The Planning Area’s topography can be characterized as rolling with extreme elevation changes from the tops of ridges to the stream valleys and the Lehigh River. All three Boroughs are characterized by these changes in elevation resulting in steep slopes. (See the *Natural Resources Map* which accompanies this Plan.) The most extreme elevation changes are found along the Lehigh River where the ridge tops fall precipitously from some 1,600 feet to 620 feet on the River.



Jim Thorpe Overlook from Flagstaff Mountain

Elevations in the Planning Area range from a high of some 1,900 feet above sea level in Penn Forest Township along the Tunkhannock Township (Monroe County) line to an elevation of 500 feet where the Lehigh River leaves the Planning Area in Jim Thorpe. The lowest elevation in Penn Forest Township, about 660 feet, is found where Bear creek joins the Lehigh River. In Lansford, elevations range from 1,460 feet along the Summit Hill line west of Route 902 to a low of 980 feet where Panther Creek enters Coaldale. The central business district of Lansford lies at some 1,130 feet above sea level. Summit Hill’s central

business districts lies at an elevation of approximately 1,500 feet. Summit Hill, the actual *hill*, rises to an elevation of 1,560 feet, but the highest point in the Borough, at 1,600 feet, is just to the southwest toward the Schuylkill County line. The lowest point in Summit Hill, at 980 feet, lies below Mauch Chunk Lake at the Jim Thorpe boundary. The East Side of Jim Thorpe falls from an elevation of 1,000 feet to 620 feet and the West Side Central Business District lies below Pisgah Mountain with an elevation of 1,480 feet falling to 540 feet at the confluence of Mauch Chunk Creek and the Lehigh River.

**Planning Implications:
Steep Slopes**

As shown on the *Natural Resources Map*, the vast majority of the Planning Area falls below the steep slope threshold, so steep slopes are not significant in terms of limiting overall development. Nevertheless, disturbance of steep slopes and vegetation alters topography and drainage, contributes to slope instability and erosion, and the increased stormwater runoff diminishes groundwater recharge and exacerbates flooding. The need for management of development on steep slopes is clearly documented by stormwater control problems in Lansford and Summit Hill, Slaughterhouse Creek erosion in Jim Thorpe, the historic development of Jim Thorpe and the miles of private roads in Penn Forest Township residential subdivisions.



Erosion Problem in Area with Development on Steep Slopes

Although development on steep slopes is technically feasible, development costs increase dramatically as the slope increases, and the environmental

²<http://www.dcnr.state.pa.us/topogeo/map13/13aus.aspx>



Jim Thorpe Retaining Wall



Lansford Street with Steep Grade

concerns also escalate. For example, soil erosion control and stormwater management are more difficult on steep slopes because rainfall run-off volume and velocity increase. Measures are needed to maintain slope stability, prevent erosion, and ensure a safe and adequate groundwater supply.

In terms of the use of on-site sewage disposal systems in unsewered areas, many sites are relatively flat and present no slope limitations. Nevertheless, steep slopes throughout the Planning Area present a problem for the installation of conventional on-site sewage disposal systems, and in the case of steeper slopes, preclude even the use of elevated sand mounds. On-site, subsurface sewage disposal systems require special engineering design on slopes over eight percent and are entirely prohibited if the slope exceeds twelve percent. The undulating topography, along with the often shallow bedrock, will also be a cost consideration in any areas proposed for the use of sewage collection and treatment systems, requiring the use of pump stations in lieu of gravity for collection and conveyance of sewage.

The topography of the developed areas of the three Boroughs will also have long term effects on community facilities. Stormwater management will continue to be a concern in all three Boroughs and winter road maintenance and improvements on steep streets and the installation and maintenance of sewer and water lines are more expensive. A good example of community facilities, are the very old stone retaining walls in Jim Thorpe which require constant maintenance.

Geology

Geology is a fundamental natural feature because it shapes all other features including topography, soils, vegetation, and hydrology. The physical characteristics and geographic patterns exhibited by these features are in large part a result of underlying geologic formations and processes along with the more recent glaciation. The specific characteristics of the underlying bedrock and other geologic strata determine the quality and quantity of the ground water.

In Paleozoic time Carbon County was eroded nearly level and was flooded. by a shallow sea, which is now the Atlantic Ocean. Mud and sand flowed into this shallow seat from land to the southeast. As the sediment became thicker, its weight caused the underlying rock to sink. The process continued for about 400 million years until the sediment wits about 5miles thick.

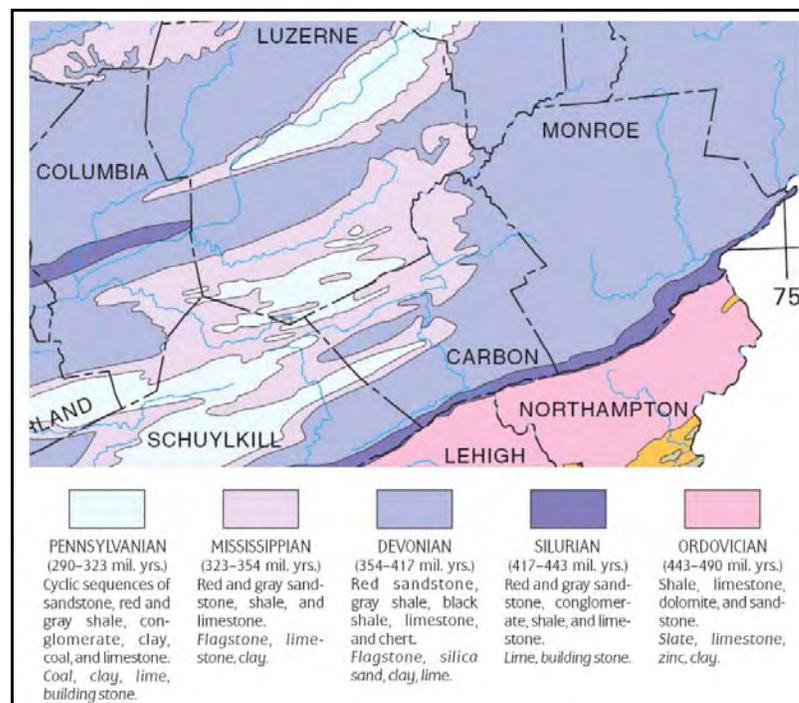
Areas that had been under water it long time were slowly raised high above sea level. Tremendous pressure from the southeast caused the flat layers or mud and sand to bend in long folds, much like a pile of rugs pushed horizontally. Tremendous anticlines, or crests, and synclines, or troughs which run in a northeasterly direction, were formed. On Stony Ridge in the southern part of the county, and in other places, the pressure was so great that older rocks were pushed over younger ones. The heat and pressure involved in the severe folding and faulting caused the escape of most of the gases from the coalbeds and resulted in the formation of hard coal, or anthracite.

Long parallel valleys, underlain by weak shale and siltstone, were formed adjacent to ridges of stronger rocks. Low ridges between valleys have larger amounts of thinly bedded siltstone and some fine sandstone. Blue Mountain, Bear Mountain, and other

major ridges were formed on steeply tilted, hard sandstone and conglomerate.³

The geology of the Planning Area and the region is characterized as follows:

- The region’s geologic structure is folded.
- Most of the three Boroughs and the western section of the Township are underlain primarily by bedrock of the Mississippian Age which is 323 to 354 million years old with rock types of sandstone, shale and limestone. Minerals of economic value include flagstone, limestone and clay.
- Devonian age bedrock, 354 to 417 million years old and comprised of red sandstone, gray shale, black shale, limestone and chert, underlies the eastern section of Penn Forest Township with flagstone, silica sand, clay and lime the minerals of value.
- Those areas with coal deposits are underlain by Pennsylvanian Age bedrock 290 to 323 millions years old. Present are cyclic sequences of sandstone, shale, conglomerate, clay coal and limestone. In addition to coal, clay, lime and building stone are minerals of economic value.
- Surficial deposits, that is, those materials lying on top of the bedrock have accumulated by a number of natural processes including weathering by water, temperature fluctuation, plant and animal activity and wind; hydraulic activity of flowing streams; downward movement of materials on steep slopes; glaciation; and the accumulation of organic materials in ponds and lakes which eventually formed peat and muck.



Geologic Map

³Soil Survey, Carbon County, Pennsylvania, U.S. Dept. Of Agriculture, p. 87.

Discovery of Coal

While hunting, Ginter discovered anthracite on Sharp Mountain here in 1791. He showed it to Col. Jacob Weiss, a prominent area settler. In 1792 Weiss and others formed the Lehigh Coal Mine Co., the first anthracite company and a forerunner of Lehigh Coal and Navigation. The story of Philip Ginter (often spelled Ginder) and his "discovery" of anthracite remains one of those historical episodes that lies somewhere between fact and folklore.

Source: <http://www.delawareandlehigh.org/index.php/visit/philip-ginter-monument/>

Coal

The coal deposits in the Planning Area, found in Lansford and Summit Hill, are part of the Southern Anthracite Field. The mining and transport of coal are undoubtedly the key influences on the development pattern of the Planning Area. *The Southern Anthracite Coalfield, the largest coalfield in northeastern Pennsylvania, is situated in Dauphin, Schuylkill, Northumberland, Columbia, and Carbon counties. It extends 56 miles from Jim Thorpe to Lykens. The larger part of the coalfield drains about 77 square miles toward the Delaware River while the remaining 64 square miles flows toward the Susquehanna River. The coal bearing rock of the Southern Coal basin covers approximately 141 square miles.*



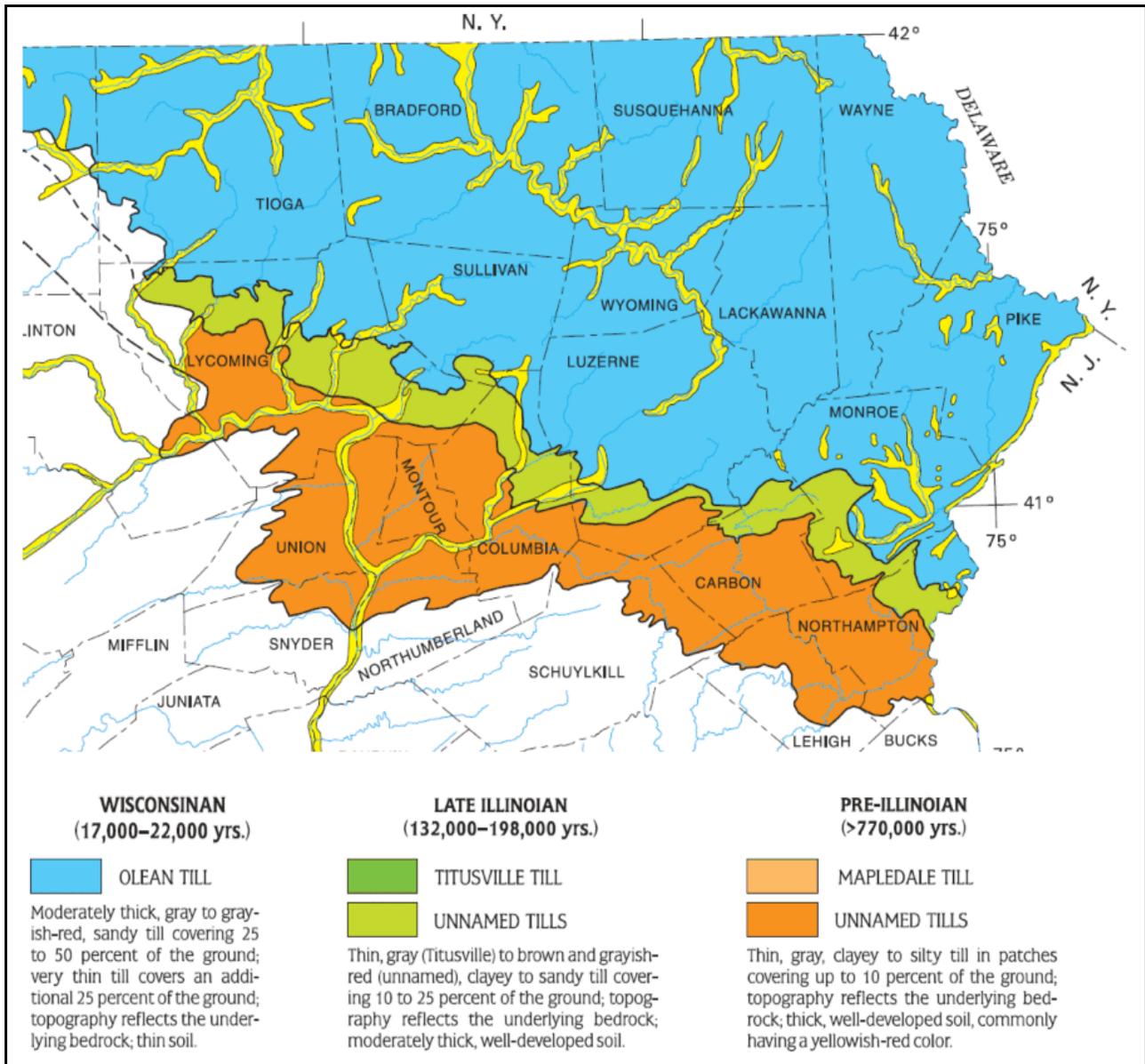
Anthracite is a hard coal that is nearly pure carbon. The high carbon content makes anthracite difficult to ignite, but it burns longer and cleaner than bituminous coal, which is a softer type of coal with less carbon. When fully ignited it burns with a short, very hot, almost colorless, smokeless flame and yields a small quantity of ash. Pennsylvania's anthracite deposits comprise four geographically distinct fields totaling about 480 square miles. The deposits generally run in a northeast-southwest direction along the line of the Appalachian Mountains. The coal beds or veins were folded and faulted by the geological formation of the Appalachian Mountains. The intense pressures associated with this process produced the high carbon content that characterizes anthracite. Where the veins intersect the surface they can be mined using surface mining techniques without expensive equipment or any technical knowledge of mining principals. However, where the steeply pitched veins descend below the surface, frequently extending beneath the water table, underground mining is required.⁴

Glaciers

The glaciation in Pennsylvania has had considerable effect on the soils and groundwater water supply by depositing varying depths of overburden on the underlying rock formations. *All of Carbon County has been glaciated. The first, or Jerseyan, glacier advanced the farthest. It covered all of Carbon County and extended into southeastern Pennsylvania and New Jersey. The second, or Illinoian, glacier occurred about 200,000 to 300,000 years ago. One edge of it extended roughly to the Lehigh River, but tongues or lobes extended into the valleys toward the west. The Wisconsin ice sheet came as far south as lake Mountain and Hickory Run. It disappeared from this front about 15,000 to 20,000 years ago.⁵ (See the Pennsylvania and the Ice Age Figure.)*

⁴Lehigh River Conservation Management Plan, Part 1 Physical Components, p. 13, p. 11

⁵Soil Survey, Carbon County, Pennsylvania, U.S. Dept. Of Agriculture, p. 88.

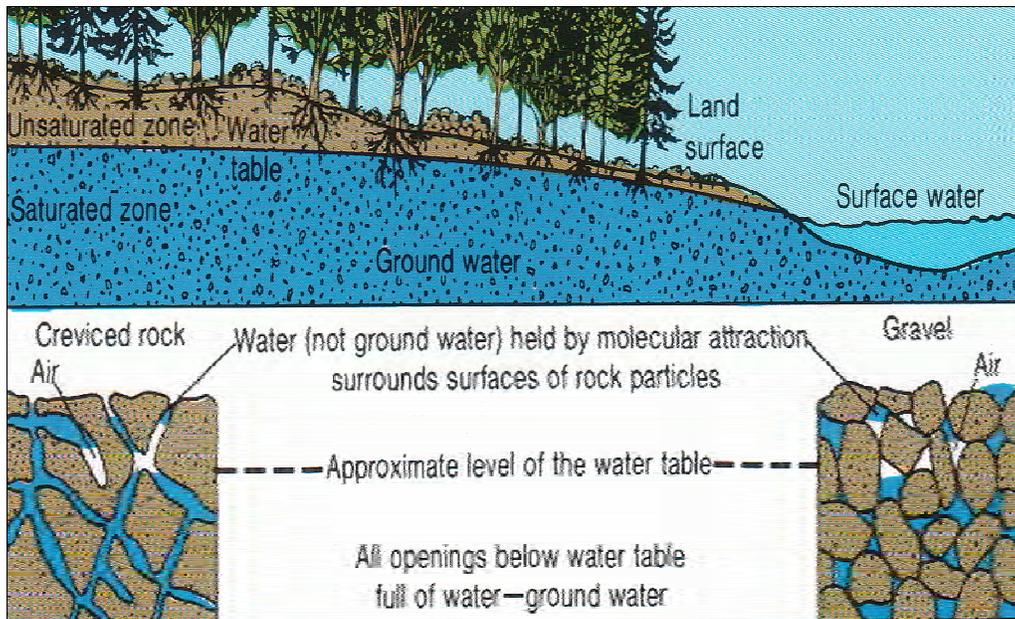


Pennsylvania and the Ice Age, 4th Series, Pennsylvania geological Survey, 1999

Groundwater

Groundwater is that subsurface water in the saturated zone - the zone in which all the spaces or interstices in the rocks, ideally, are filled with water under pressure equal to or greater than atmospheric pressure. Rocks that are capable of yielding usable supplies of water to wells or springs are called aquifers. Ground water occurs in joints, bedding planes, fault and other fractures in the rock. The extent to which the rock is fractured, its density and size will all contribute to its ability to store and move water. In unconsolidated rock, water is stored and moves through the openings in these deposits. In consolidated rock aquifers, water moves primarily through fractures, joints and along bedding planes.⁶

⁶Water Resources Report 65, Groundwater Resources of Pike County, Pennsylvania, Pennsylvania Topographic and Geologic Survey, D. K. Davis, 1989, p. 11.



Water Bearing Geology

Most Planning Area residents rely on groundwater for domestic water supply, with most of the supply pumped from deep wells. Each of the Boroughs has a public water supply serving the densely developed neighborhoods and a number of residential subdivisions in the Planning Area are served by private community water systems. Outlying areas are served by wells sited on individual lots or by community or private water companies. (The Jim Thorpe water system serving the Borough west of the Lehigh River draws water from Mauch Chunk Creek.)

Groundwater Recharge

Based on available studies and with long term consumption primarily residential and commercial, and large areas of undeveloped land for recharge, it appears that the overall supply of groundwater in the Planning Area should be adequate to sustain development and meet the needs of the foreseeable future. Although not specific to the Planning Area the data in the *Groundwater Recharge Rates Sidebar* provides a measure of the amount of groundwater recharge. Most groundwater in the Planning Area moves from upland and hillside recharge areas down gradient with discharge to streams. Alluvial and glacial deposits are also good recharge areas. Comparison of this recharge rate to the volumes of groundwater extracted for residential and commercial use, the only significant water uses in the Middle Carbon County Planning Area, suggests adequate groundwater supply, although cones of depression can extend a few thousand feet from heavily pumped wells during the summer.

Recharge in the Planning Area

Given the total land area of 100 square miles (Jim Thorpe - 14.5 Lansford - 1.6, Penn Forest - Summit Hill - 8.9) average groundwater recharge in the Planning Area, using a conservative factor of 70% undeveloped land and a recharge rate of 900,000 gallons per day per square mile, is estimated 63,000,000 gallons per day. In addition, this does not take into account the recharge in undeveloped areas of adjoining municipalities. Engineers typically use an estimate of 250 gallons per day per dwelling unit when designing water systems and, applying this factor to the number of dwelling units in the four municipalities, about 12,755, yields an estimated 3,200,000 gallons per day in residential water use. Commercial water use would add additional amounts, but the total is well below the estimated recharge rate.

Groundwater Recharge Rates

In 1989, the Pennsylvania Topographic and Geologic Survey estimates in *Water Resources Report 65, Groundwater Resources of Pike County, Pennsylvania*, that in Pike County the average groundwater discharge is estimated to be about 635 (gal/min)/mi², twice the amount estimated for most areas of Pennsylvania. Based on this, groundwater recharge in Pike County is about 900,000 gallons per day per square mile of land area.

In 1964, the U.S. Geological Survey reported that a conservative estimate for recharge in the Highlands of the Delaware River Basin was 750,000 gpd/sq mi. (*Water Resources of the Delaware River Basin*, Geological Survey Professional Paper 381, U.S. Department of the Interior, Parker, Garald G, et. al., 1964, p. 91.)

In 1982, a Delaware River Basin study of the Upper Delaware Basin reported:

- a recharge rate of about 1,000,000 gpd/sq mi for the Upper Pocono Plateau. (*Special Groundwater Study of the Upper Delaware River Basin Study Area III, Volume I*, Delaware River Basin Commission, Wright Associates, R.E., 1982, p. 3-10.)
- normal year recharge rates in the Upper and Lower Pocono Plateaus range from 900,000 to 1,000,000 gpd/sq mi and during a normal year, recharge to the Catskill formation is about 930,000 gpd/sq mi. (*Special Groundwater Study of the Upper Delaware River Basin Study Area III, Volume II*, Delaware River Basin Commission, Wright Associates, R.E., 1982, p. 8-3.)

Withdrawal Regulation

Municipalities in Pennsylvania cannot regulate the quantity of water use, but can require developers to assess effects on groundwater supplies and require developers to address the effects. The PA Safe Drinking Water Act enables state review of withdrawal impacts and the PA Water Resources Planning Act requires the registration of withdrawals of 10,000 gallons per day. Withdrawals of 100,000 gallons per day and consumptive uses of 20,000 gallons per day must be approved by the Delaware River Basin Commission.

Planning Implications: Need for Conservation

However, this is not to suggest that residents and local officials should ignore the important issues of localized groundwater supplies and groundwater conservation. This is particularly important as development occurs. Wells near large water uses can be drawn down resulting in inadequate supply. Increases in impervious areas such as buildings, driveways and roads inevitably leads to more stormwater runoff and less groundwater recharge. In addition, given the characteristics of aquifers, development in the region can also effect local groundwater availability. Simply stated, groundwater availability is a regional issue and adequate supply is not a valid reason for postponing or avoiding action to ensure continued adequate supply.

Planning Implications: Groundwater Quality

No less important is the issue of water quality. No significant groundwater contamination problems have been reported in the Planning Area. However, the potential for groundwater contamination is always present. Bacterial contamination can occur from malfunctioning on-lot sewage systems or poor livestock husbandry, hydrocarbons can eventually reach groundwater from oil spills or leaking storage tanks, and nitrates and chloride can infiltrate as run-off from roads and parking lots, sewage systems, and farm fields. Similar to supply conservation, quality protection is important.

Given the reliance on groundwater for domestic purposes, in combination with the use of on-site disposal systems in many areas, it is vital that groundwater quality be carefully monitored throughout the Planning Area. Proper siting, design, installation and maintenance of on-site disposal systems and water supply wells, and groundwater quality, should continue to be a municipal concern and proper land use controls should be applied to protect groundwater recharge areas.

Land Use and Water Quality and Quantity

Surface water and groundwater quality and quantity can be affected by land use in the following ways:

- Large amounts of sediment can enter streams from farms and construction sites, and pollutants can wash off lawns, parking lots, and industrial properties.
- Removing vegetation adjacent to streams (riparian buffers) can increase stream bank erosion, raise water temperature, and allow non-point source pollutants to enter the stream.
- Channelizing streams during development can result in stream bank erosion and increase flooding and siltation problems downstream.
- Solvents and other liquids associated with non-residential development can leak or be spilled onto the ground, and eventually reach the groundwater.
- Homeowners who dispose of toxic household cleaners, pesticides, oil and other similar products can cause surface water and groundwater contamination as well.
- Failing on-lot sewage disposal systems can allow partially treated sewage to reach surface or ground water.
- Groundwater recharge can be hindered as impervious surfaces increase with development.
- Stormwater systems that remove stormwater quickly from a site and direct it into nearby streams reduce the amount of precipitation that infiltrates the ground (and eventually the underlying aquifers) and increases stream bank erosion and downstream flooding.

Source: *Upper Hanover Township Comprehensive Plan*, 1994, Montgomery County Planning Commission.

Soils

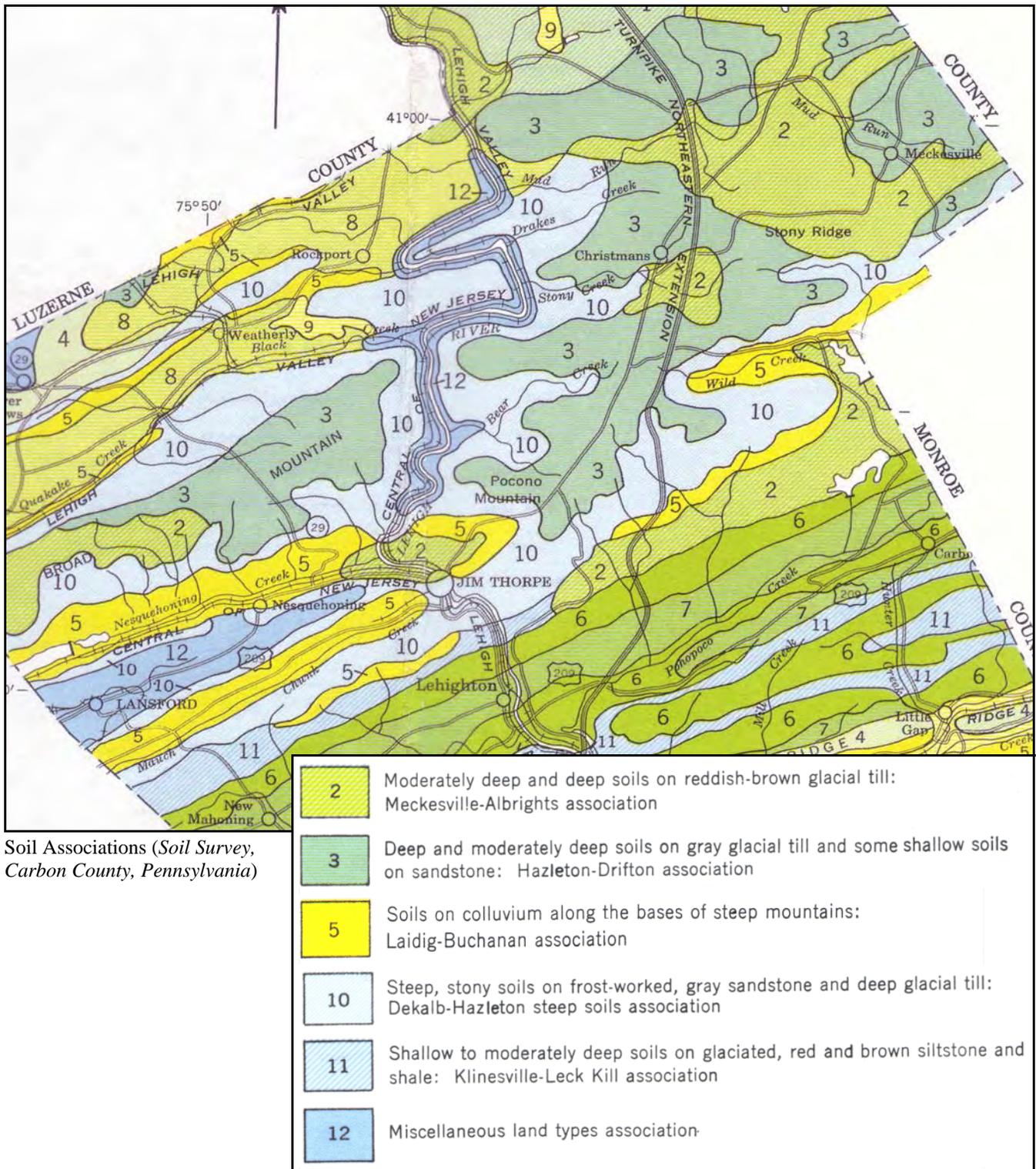
The land's suitability for development largely determines the character of a community's land use, and the most basic component of the land is its soil. Beyond the basic function of the production of food and fiber, soils may either limit or foster community growth depending upon specific soil characteristics. Soils influence local vegetative cover, hydrology, and land use patterns and activities. The *Natural Resources Map* accompanying this *Plan* shows steep slopes, wetlands, hydric soils and floodplain, all of which affect soil suitability for development.

Variables in the formation of soils include climate (precipitation and temperature affecting weathering), biological activity in the forming soil, the parent material (e.g., bedrock vs. glacial material), topography (e.g., steep slopes vs. flood plain), and time. Given this complexity, it is understandable that a number of soil series (i.e., groups of soils formed from a particular parent material and exhibiting similar soil horizons) and many different soil types are found in the Middle Carbon Planning Area.

The soils have been evaluated for planning purposes by the U.S. Department of Agriculture, Natural Resources and Conservation Service (NRCS) for suitability for such uses as agriculture, community development, recreation, and sewage disposal. This detailed information is reported in the *Soil Survey, Carbon County, Pennsylvania*, which should be consulted for site specific information. Six of the 12 major soil associations identified in Carbon County are found in the Planning Area and are shown on the *Soil Associations Figure*, and are described in the *Soil Associations Table*.

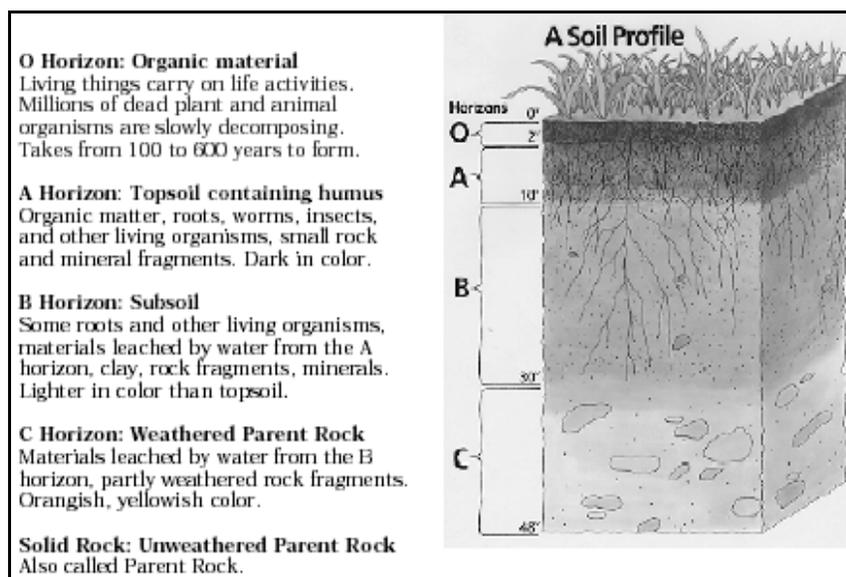
The origin of formation of soils in the Planning Area resulted in the soil characteristics effecting sewage disposal alternatives -- permeability, depth to bedrock, high water table due to fragipan and stoniness. Much of the parent material of the soils in the Planning Areas was glacial till and outwash sand and gravel, resulting in stoniness in many areas and the occurrence of fragipan that inhibits the downward movement of water. It is important to remember that each of the broad associations is comprised of a variety of soil types of varying characteristics. The soil series is the

most specific and consists of soils with similar horizons in terms of color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in profile. Some soils are more suitable for development than others and site specific investigations are required. Many soils in the Planning Area are severely constrained for development.



Soil Associations (Soil Survey, Carbon County, Pennsylvania)

SOIL ASSOCIATIONS
<p><u>Association 2 - Meckesville-Albrights</u></p> <ul style="list-style-type: none"> - moderately deep and deep soils on reddish-brown glacial till - most are mountainous and wooded - better suited to trees and recreational uses
<p><u>Association 3 - Hazleton- Drifton</u></p> <ul style="list-style-type: none"> - deep and moderately deep soils on gray glacial till and some shallow soils on sandstone - nearly level to steeply sloping - suited to tilled crops and pasture - mostly wooded
<p><u>Association 5 - Laidig-Buchanan</u></p> <ul style="list-style-type: none"> - soils on colluvium along the bases of steep mountains - some areas framed but mostly stony and wooded - impervious horizon in the soil profile - poor for crops unless practices are used to dispose of excess water - severely limited for development due to high water table
<p><u>Association 10 - Dekalb-Hazleton Steep Soils</u></p> <ul style="list-style-type: none"> - steep, stony soils on frost-worked, gray sandstone and deep glacial till - trees cover entire association - provide watershed protection
<p><u>Association 11 - Klines-Leck Kill</u></p> <ul style="list-style-type: none"> - shallow to moderately deep soils on glaciated, red and brown siltstone and shale - on red shale ridges south of Jim Thorpe - much has been farmed, but most now idle or planted with trees - droughty and shallow, better suited to grass land farming than cultivated crops - erosion is a problem because of shallowness
<p><u>Association 12 - Miscellaneous Land Types</u></p> <ul style="list-style-type: none"> - coal mine dumps - some areas can be re-vegetated to limit erosion
<p>Source: <i>Soil Survey, Carbon County, Pennsylvania</i>, U.S. Department of Agriculture, 1962</p>



Source: <http://home.earthlink.net/~pdf2krech/SoilProfile.pdf>

Soils: Findings

Fragipan: A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

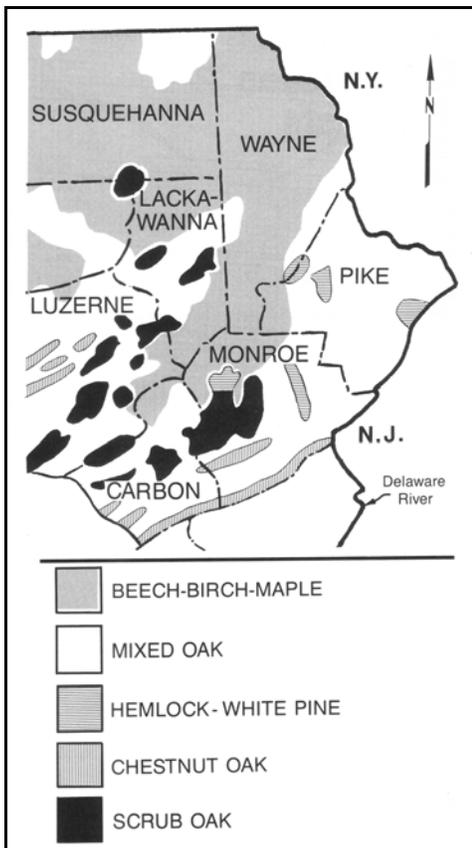
Hardpan: A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

- The deep and moderately deep soils Hazleton-Drifton Association holds the greatest potential for agriculture, and the remaining agricultural land in Penn Forest Township is found primarily on Hazleton loam.
- Many other areas of better soils in the Planning Area which were once farmed have reverted to woodland or have been developed, primarily in Penn Forest Township.
- Soil conditions, along with slope and underlying geology, pose severe limitations to septic absorption throughout the Planning Area. Poorly renovated effluent from existing sewage systems on poor soils poses a threat to the quality of surface waters and groundwater supplies. This is of particular concern for sewage systems installed prior to DEP sewage regulations adopted in the early 1970's.
- Soils with limiting zones at depths of twenty inches or more may be suitable for a sand mound, as determined by field investigations. As more research is conducted on-lot sewage disposal and new types of systems are permitted by DEP, more areas may become suitable for on-lot sewage which relies on soils.
- Poor soil conditions in much of the Planning Area uplands present a major challenge to the traditional development type consisting of single-family dwellings with on-lot septic. Site-specific investigations are required to identify suitable areas.
- Hydric and seasonal high water table soils are found throughout the Planning Area in low-lying areas, along watercourses, and where a *perched* water table lies above bedrock or a fragipan. Hydric soils are formed under persistent conditions of saturation, flooding or ponding during the growing season to develop anaerobic conditions in the upper part. These soils are often indicative of a wetland.
- Hydric and seasonal high water table soils are unsuitable for development due to the risk of damage to structures caused by seepage of water and generally wet conditions. The poor stability of these soils results in inadequate support for structures. These soils also serve as important groundwater recharge areas and should be left undisturbed.
- Few areas of the Planning Area are suitable for in-ground sewage disposal systems.
- The Planning Area has a relatively high proportion of soils with severe sewage disposal system limitations due to slope.
- Many of areas with slopes in excess of twenty-five percent are scattered throughout the Planning Area, often associated with stream-side and ridge top land, and which have extreme limitations for subsurface sewage disposal and development in general.
- In areas where slope is not a limitation, shallow bedrock and low permeability limit subsurface sewage disposal.
- The proportion of flood plain soils in the Planning Area with potential for development is relatively low.

- The soil formation process in Carbon County and the Planning Area resulted in stoniness in many areas and the presence of a fragipan or hardpan that inhibits the downward movement of water. These cemented soil layers can impede the downward movement of water and create a seasonal high water table below the soil surface. This creates the shallow groundwater which carries nutrients from on-lot disposal systems to surface waters.
- Many of the soils in the Planning Area are highly erodible.

**Planning Implications:
Soils**

- Problems associated with soil erosion and sedimentation are exacerbated by development of steep slopes and removal of vegetative cover.
- Limitations for septic absorption, aging and unmaintained on-lot sewage systems on poor soils, and the lack of sufficient ground for on-lot septic replacement threaten to contaminate soil and groundwater and lakes and streams.
- Local subdivision and land development ordinances and zoning ordinances can include standards to conserve hydric and seasonal high water table soils.



Five Major Forest Types (*The Poconos, An Illustrated Natural History Guide*, Oplinger, C. S. and Halma, R., Rutgers, 1988, p. 44)

- Local standards for erosion and sedimentation control must be linked to County Conservation District and Pennsylvania Department of Environmental Resources requirements.
- Long-term maintenance of on-lot sewage systems is critical.

Forest and Vegetative Cover

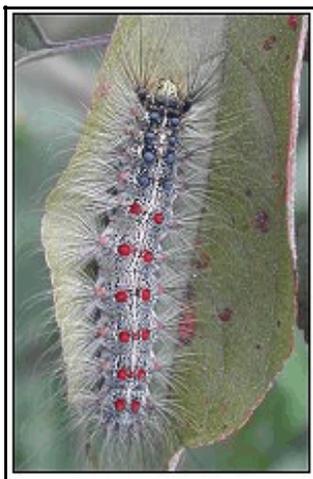
Forest and other natural vegetative cover are important for many reasons and large contiguous, undisturbed tracts are desirable to provide habitat for interior forest species and establish migration corridors for wildlife.

- *Large contiguous forested tracts . . . play an extremely important role in the protection of the current high quality and exceptional value watersheds and water resources.*
- *Forest canopy along stream and river corridors provides shade to minimize the warming of stream temperatures and reduce impacts to fish and other aquatic species.*
- *Forested riparian corridors help sustain stream and lake water quality by acting as nutrient filters and stabilizing soil against erosion.*
- *Forested lands are part of the rural character and scenic relief.*
- *Large forested tracts with proper forest management and good timber operations support the local forest products industry.*
- *Undeveloped, forested landscapes allow for relatively high rates of infiltration or groundwater recharge and decrease stormwater runoff.*⁶

⁶Pike County Comprehensive Plan, p. 6-5.

The Middle Carbon Planning Area remains largely forested owing to the large public and private land holdings. The analysis of forest and vegetative cover indicates that:

- Most of the forest land is found on Pisgah Mountain, Mauch Chunk Ridge, Bear Mountain and Pocono Mountain.
- The predominate forest type in the Planning Area is mixed oak, with areas of the chestnut oak and scrub oak forest types.
- *With the loss of the once magnificent chestnut the common element of this Pocono forest is the blend of three oak species: black, red, and white. Frequently, white pine trees mingle among these three dominant oaks, as do scarlet and chestnut oaks.*
- *The (other) common trees of the mixed oak forest include red maple, tulip-tree, American beech, white ash, basswood and shagbark hickory. Other large trees that occur with some regularity include sugar maple, black cherry, black gum, pitch pine, and hemlock. In places where the forest has been clear-cut or farmed recently, some of the sunloving trees, such as gray birch, the aspens, and red cedar, persist.*
- *There are relatively few sub-canopy tree species. Growing among the replacement saplings, one might find hornbeam, hop hornbeam, sassafras, dogwood, and shadbush (juneberry).⁷*
- A variety of shrubs are found in the Planning Area including among many others, blueberry, huckleberry, mountain laurel, sheep laurel, rhododendron, sweet fern and witch hazel.
- Herbaceous plants include a variety wildflowers and ferns.
- In many areas, the over-population of white-tailed deer has resulted in poor forest regeneration and the loss of many understory herbaceous species and the expansion of invasive species.



Gypsy Moth Caterpillar

Forest Pests

Long-term forest pest management is a concern in the eastern United States, including Carbon County and the Planning Area. Two pest of particular concern in the Planning Area are the gypsy moth and the wooly adelgid. Severe infestations of the gypsy moth caterpillar have occurred in the region in recent years, damaging thousands of acres of forest. According to the Pennsylvania DCNR, 333,335 acres were damaged throughout the state in 2005, mostly in the northeast. DCNR has instituted an aerial suppression program. Local officials will continue to partner with Carbon County and the DCNR and consider a joint suppression program with neighboring municipalities.



Wooly Adelgid on Hemlock

⁷The Poconos, An Illustrated Natural History Guide, Oplinger, C. S. And Halma, R., Rutgers, 1988, p. 53 - 54.

Infestations of the hemlock woolly adelgid are also problematic, especially in the Planning Area’s hemlock forested stream corridors. Destruction to hemlock stands over the long term could negatively impact stream systems and water quality. The DCNR has increased efforts to control the hemlock woolly adelgid by improving surveying techniques (the General Hemlock Survey provides data at the local municipal level), expanding its biological control program, and instituting a chemical suppression program to protect select, high-value trees in state and federal lands.

In addition, the National Park Service (NPS) is conducting extensive research in the Delaware Water Gap National Recreation Area. Landowners can look to the NPS, the PA DCNR Division of Forest Pest Management, the Pennsylvania Cooperative Suppression Program, and the USDA Forest Service for information and assistance on forest pest management.

Invasive Plants

"Invasive plant" is a name for a species that has become a weed pest, a plant which grows aggressively, spreads, and displaces other plants. Invasive plants tend to appear on disturbed ground, and the most aggressive can actually invade existing ecosystems. Invasive plants are generally undesirable because they are difficult to control, can escape from cultivation, and can dominate whole areas. In short, invasive plant infestations can be extremely expensive to control, as well as environmentally destructive. A small number of invasives are "native," meaning they occurred in Pennsylvania before settlement by Europeans but became aggressive after the landscape was altered. However, most invasive plants arrived from other continents and are often referred to as "exotic," "alien," introduced," or "nonnative" invasives. An aggressive plant freed from its environmental, pest, and disease limits, can become an invader of other ecosystems. Invasive plants are noted for their ability to grow and spread aggressively. Invasive plants can be trees, shrubs, vines, grasses, or flowers, and they can reproduce rapidly by roots, seeds, shoots, or all three. Invasive plants tend to:



Purple Loosestrife
(Linda Wilson, Univ. of Idaho, www.forestryimages.org.)

- not be native to North America;
- spread, reproducing by roots or shoots;
- mature quickly;
- if spread by seed, produce numerous seeds that disperse and sprout easily;
- be generalists that can grow in many different conditions;
- and be exploiters and colonizers of disturbed ground.



Japanese Knotweed

The best insurance against future problems is to avoid the use of known invasive plants and educate others about the problems of invasives.



Leslie J. Mehrhoff, Univ. of Connecticut, <http://invasives.eeb.uconn.edu/ipane>

- Avoid using known invasive plants.
- Minimize landscape disturbance.
- Protect healthy native plant communities.
- Use fertilizers wisely.
- Have a land management plan for maintenance over time.
- Scout regularly.
- Remove invasive plants when they are present in low numbers or when they are confined to a small area before they become a problem.
- Dispose of removed invasive plants wisely.
- Replace invasive plants with native or noninvasive species.

- *Clean equipment that has been used in an area having invasive plants.*⁸

The most commonly known invasive species in Planning Area include Japanese knotweed, purple loosestrife and Japanese barberry. Many other flowers, grasses, shrubs, trees and vines are also classified as invasive by the Pennsylvania Department of Conservation and Natural Resources.

**Planning Implications:
Forest Land**

Despite infestations of the gypsy moth, hemlock wooly adelgid and other forest pests and past development, the Planning Area has a healthy, diverse and expansive forest ecosystem. Although state forest land is relatively secure, there is no guarantee that land in private ownership will remain forested. Nevertheless, the opportunity to preserve large tracts of forest and vegetative cover remains and Borough, Township and County officials should continue to take action to preserve its large forest expanses while opportunities still exist.

What is the Forest Stewardship Program?

The Forest Stewardship Program is a voluntary program to help forest landowners learn how to improve and maintain the ecological health of their land. You get to decide what you want to do on your land, and the Forest Stewardship Program links you with the people who can help you do it correctly!

Since 1990, the program has been funded in all 50 states by the U.S. Department of Agriculture Forest Service. In Pennsylvania, the Department of Conservation and Natural Resources Bureau of Forestry administers the program and provides technical assistance. Our state program is overseen by a Forest Stewardship steering committee composed of private landowners, professional resource managers, and representatives from conservancies, higher education, industry, and government.
<http://pubs.cas.psu.edu/FreePubs/pdfs/uh138.pdf>

- *Development of forested lands can fragment habitat for plant and animal species unique to Pennsylvania.*
- *Removal of forested riparian corridors has implications on water quality and clarity.*
- *Loss of these resources could have implications on quality of life and tourism.*
- *Poor forest management and timber harvest operations can have lasting impacts on the long range sustainability of . . . forests.*
- *Improper development and management of forest resources can allow invasive species to proliferate.*⁹

Forest Stewardship Plans

Public and private forest lands are best managed using a formal forest stewardship plan. The Pennsylvania Bureau of Forestry and private consulting foresters provide assistance to landowners to identify forest management goals in terms of timber production, biodiversity, wildlife habitat improvement and conservation of environmentally sensitive areas. A detailed analysis of the forest land using detailed forest type categories is conducted. The Jim Thorpe Water Authority, the Summit Hill Water Authority and the Bethlehem Water Authority (with land in Penn forest Township) have each prepared forest stewardship plans for authority-owned watershed lands.

Wetlands

Wetlands have in past times been considered wastelands, and, as a result, it is estimated that over half of all wetlands in the nation have been lost to development. Wetlands are an integral part of the environment and provide such benefits as groundwater recharge, stormwater control, surface water quality improvement and habitat for unique plant and animal species. The environmental value of wetlands in

⁸www.dcnr.state.pa.us/forestry/wildplant/invasive.aspx

⁹*Pike County Comprehensive Plan*, p. 6-5.



Typical Emergent Wetland



Typical Forested Wetland

the Planning Area is significant and the development which does occur must provide for the conservation of wetlands.

A wetland, as defined by the *Federal Manual For Identifying and Delineating Jurisdictional Wetlands* is any area which supports hydrophytic plants (adapted to growth in saturated soil), contains hydric soils (wet soils) or where water is present at or near the surface of the soil at some time during the growing season. Site specific investigations must be conducted by trained individuals to accurately delineate wetlands. Given the national interest in wetland conservation, and the overlapping jurisdiction of federal and state agencies (U.S. Army Corps of Engineers, Environmental Protection Agency, U.S. Fish and Wildlife Service, and the PA Department of Environmental Protection) wetland delineation and protection has evolved into a complex regulatory process.

In recent years the identification and protection of wetlands have surfaced as key elements of environmental protection. Three types of wetlands have been identified in Pennsylvania according to vegetation type and standing water, or even saturated soil, need not be present to qualify an area as a wetland.

- Emergent - vegetation includes freestanding, non-woody plants such as cattails, reed canary grass, and rushes.
- Scrub-shrub - characterized by woody plants less than twenty feet in height.
- Forested - presence of trees such as red maple, hemlock, yellow and river birch, pin oak and ash over twenty feet tall.

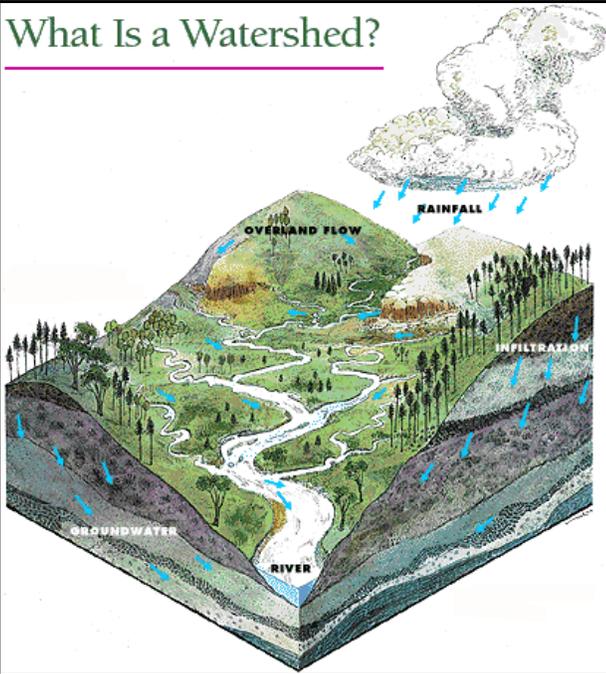
The National Wetlands Inventory (NWI) Maps, published by the U.S. Fish and Wildlife Service, are the best tools for the preliminary identification of wetlands. Wetlands are superimposed over USGS 1:24,000 scale topographic maps and are identified and classified based on vegetation, visible hydrology, and geography. The accuracy of the maps is described as being at the ninety-five percent confidence level, but local experience indicates that the maps are not accurate for detailed site planning and site specific investigations are necessary for a final wetlands determination. (A composite of the NWI maps is included on the *Natural Resources Map* included with this *Plan*.) In addition to the NWI maps, hydric soils descriptions found in the Carbon County Soil Survey provide a good indication of wetland locations.

Planning Area Wetlands

Wetlands in the Planning Area have not significantly limited development and are not expected to do so in the future. The three Boroughs contain relatively few NWI-identified wetlands and hydric soils, although many areas of partially hydric soils are identified. The greatest concentration of wetlands (forested/scrub) and hydric soils in the Boroughs is found upstream and downstream from Mauch Chunk Lake. Hydric soils and wetlands, predominantly forest/scrub, are more prevalent in Penn Forest Township, although not to the extent found on the higher elevations of the Pocono Plateau in Monroe County. Wetlands associated with the Lehigh River, other streams and lakes and ponds are found throughout the Planning Area.

Wetland Regulation

Wetlands are protected by the federal Clean Water Act, which regulates the discharge of dredged and fill material into *waters of the United States*, including wetlands.



http://www.co.berks.pa.us/conservation/lib/conservation/image/s/watershed/what_is_watershed_action.gif

Activities that are regulated include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. Any proposed activity within a wetland must receive a permit from the U.S. Army Corp of Engineers.

The basic premise of the federal wetlands protection program is that no discharge or dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment, or if the waters would be significantly degraded. A permit applicant must demonstrate that steps have been taken to avoid wetland impacts where practicable. Impacts must be minimized and compensation may be required for any remaining unavoidable impacts via the restoration or creation of wetlands.

Watersheds and Surface Waters

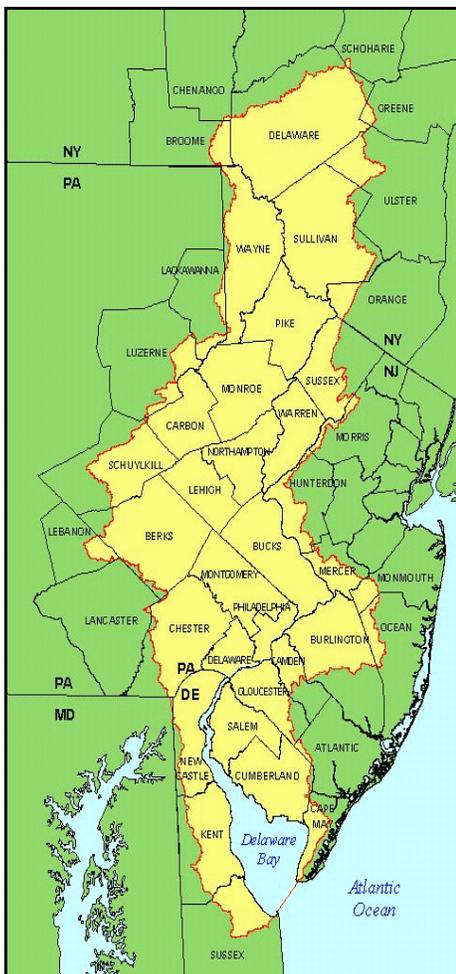
A watershed (or drainage basin) is an area of land that contributes overland flow and groundwater to a common stream or water body. It includes surface of the land, the streams that drain the land, and the underlying soils, geology and groundwater. Groundwater stored in an aquifer eventually reaches the surface again through a seep or spring or direct discharge to a stream. Each is critical to ensuring the proper function of the watershed and the hydrologic cycle. Watersheds are defined by drainage divides (ridge lines), which direct surface and groundwater down the valley and into the stream channel or water body. Ridge lines separate adjacent watersheds.

The Middle Carbon Planning Area lies wholly within the Delaware River Watershed with most of the land draining directly to the Lehigh River via a number of tributaries and ultimately to the Delaware River at Easton. All of Lansford Borough and the northwest area of Summit Hill are drained by Panther Creek which flows to the Schuylkill River and then the Delaware. (See the *Watersheds and Stream Quality Map* accompanying this Plan.)

Stream size, flow and water quality are directly related to the watershed’s natural features (soils, vegetation, etc.) and land use and quality of development. These factors influence the flow and accumulation of stormwater runoff, as well as infiltration, groundwater storage and seepage, and filtration of pollutants. The protection of headwater and smaller streams is important to the health of the entire watershed.

Water Quality Regulation and Stream Classification

The Pennsylvania Department of Environmental Protection has developed antidegradation water quality standards for all surface waters in the Commonwealth. These standards, which are designed to safeguard the streams, rivers, and lakes throughout Pennsylvania, include water quality designations and associated water quality regulations necessary to protect the existing quality and ecology of the streams and water bodies and their use for water supplies and recreation.



Delaware River Watershed

**Planning Area
Streams and Lakes**

All of the tributaries to the Lehigh River in the Middle Carbon Planning Area are classified as *exceptional value*, *high quality cold water fishes*, or *cold water fishes*. The streams and classifications are shown on the *Watersheds and Stream Quality Map*. In Penn Forest Township, Stony Creek, Yellow Run and all tributaries to Penn Forest reservoir are classified *exceptional value* as are White Bear Creek and Mauch Chunk Creek upstream of Laurel Drive in Summit Hill. Streams (including tributaries) classified as *high quality cold water fishes* include Mud Run, Bear Creek, Drakes Creek and Jonas Creek in the Township and Robertson Run in Jim Thorpe.

STREAM CLASSIFICATIONS	
Bear Creek	high quality-cold water fishes
Bear Creek	cold water fishes
Beaver Run	cold water fishes
Berry Run	cold water fishes
Broad Run	high quality-cold water fishes
Butcher Hollow Run	high quality-cold water fishes
Crooked Run	cold water fishes
Drakes Creek & tributaries	high quality-cold water fishes
Lehigh River above Silkmill Run	high quality-cold water fishes
Lehigh River below Silkmill Run	trout stocking
Little Bear Creek	high quality-cold water fishes
Long Run	cold water fishes
Mahoning Creek tributaries	cold water fishes
Maple Hollow Run	high quality-cold water fishes
Mauch Chunk Creek above Laurel Drive	exceptional value
Mauch Chunk Creek below Laurel Drive	cold water fishes
Mud Run & tributaries	high quality-cold water fishes
Panther Creek	cold water fishes
Penn Springs Run	high quality-cold water fishes
Penn Forest Reservoir tributaries	exceptional value
Pine Run	cold water fishes
Robertson Run	high quality-cold water fishes
Sawmill Run	cold water fishes
Silkmill Run	cold water fishes
Stewart Creek	cold water fishes
Stony Creek & tributaries	exceptional value
White Bear Creek	exceptional value
White Oak Run	cold water fishes

Special protection beyond basic standards is provided for streams designated as *exceptional value waters* or *high quality waters*. *Exceptional value* streams are those that constitute an outstanding national, state, regional or local resource. These streams are granted special protection from potentially harmful activities. *High quality* streams are those that have excellent quality waters and environmental or other features that require special protection.

Mauch Chunk Lake, part of the county-owned park surrounding it, is the predominate Planning Area water body west of the Lehigh River. Penn Forest Township lakes include Bear Creek Lake, Towamensing Lake and part of Penn Forest Reservoir. The Penn Forest Reservoir is part of a surface water supply system that serves the City of Bethlehem, which owns approximately 13,600 around the reservoir and the Wild Creek Reservoir just to the south in Towamensing Township.

DEP Regulation

Wastewater treatment plant effluent and any other discharges to streams classified as *high quality* are only permitted by DEP if the discharge is the result of necessary social and economic development, water quality standards are maintained, and all existing uses of the stream are protected. This has the effect of requiring all wastewater treatment plants to provide tertiary treatment to meet discharge criteria. In addition, DEP allows stream discharge only if soil based disposal alternatives are not feasible. Any stream classified by DEP as *exceptional value waters* must be maintained at existing quality and may not be degraded, thereby precluding any wastewater discharge to the stream.

DRBC Regulation

The Delaware River Basin Commission (DRBC) adopted Special Protection Waters (SPW) regulations in 1992 for point source (or "end-of-pipe") discharges and in 1994 for non-point source pollutant loadings carried by runoff to protect existing high water quality in areas of the Delaware River Basin deemed "to have exceptionally high scenic, recreational, ecological and/or water supply values." The SPW regulations . . . initially applied to a 121-mile stretch of the Delaware River from Hancock, N.Y. downstream to the Delaware Water Gap, and its drainage area, but now the entire 197-mile

non-tidal Delaware River is protected by SPW anti-degradation regulations.¹⁰

Within the drainage area to Special Protection Waters, DRBC approval is required for new and expanding industrial and municipal wastewater treatment plants when the proposed facility is designed to discharge a daily average rate of 10,000 gallons a day or more.

Lehigh River Watershed Conservation Management Plan

After years of work, Wildlands Conservancy is pleased to announce the completion of the Lehigh River Watershed Conservation Management Plan. The purpose of the plan is to: identify the cultural, natural, biological, historical, and recreational resources of the watershed; identify problems; seek solutions; and list recommendations for the preservation, protection, and enhancement of the Lehigh River and its watershed. With the completion of the plan, Wildlands Conservancy will petition the Pennsylvania Department of Conservation and Natural Resources to have the Lehigh River watershed placed on the Pennsylvania Rivers Registry, making the watershed eligible for improvement dollars from the state.

Source:
http://www.wildlandspa.org/Rivers/l_r_cp.html

- All non-discharge/load reduction alternatives, including land application such as spray irrigation, must be fully evaluated and rejected because of technical and/or financial infeasibility.
- As defined by a list of seven or eight parameters it must be shown that no measurable change to existing water quality will result.
- Treatment must use Best Demonstrable Technology which is defined for municipal facilities by 30-day average effluent criteria for seven parameters plus ultraviolet light disinfection.
- Projects must have an approved Non-Point Source Pollution Control Plan (NPSPCP) that describes the Best Management Practices that will be used at the project site and service area to control the increases in non-point source pollutant loadings resulting from the project.

Surface Water Quality

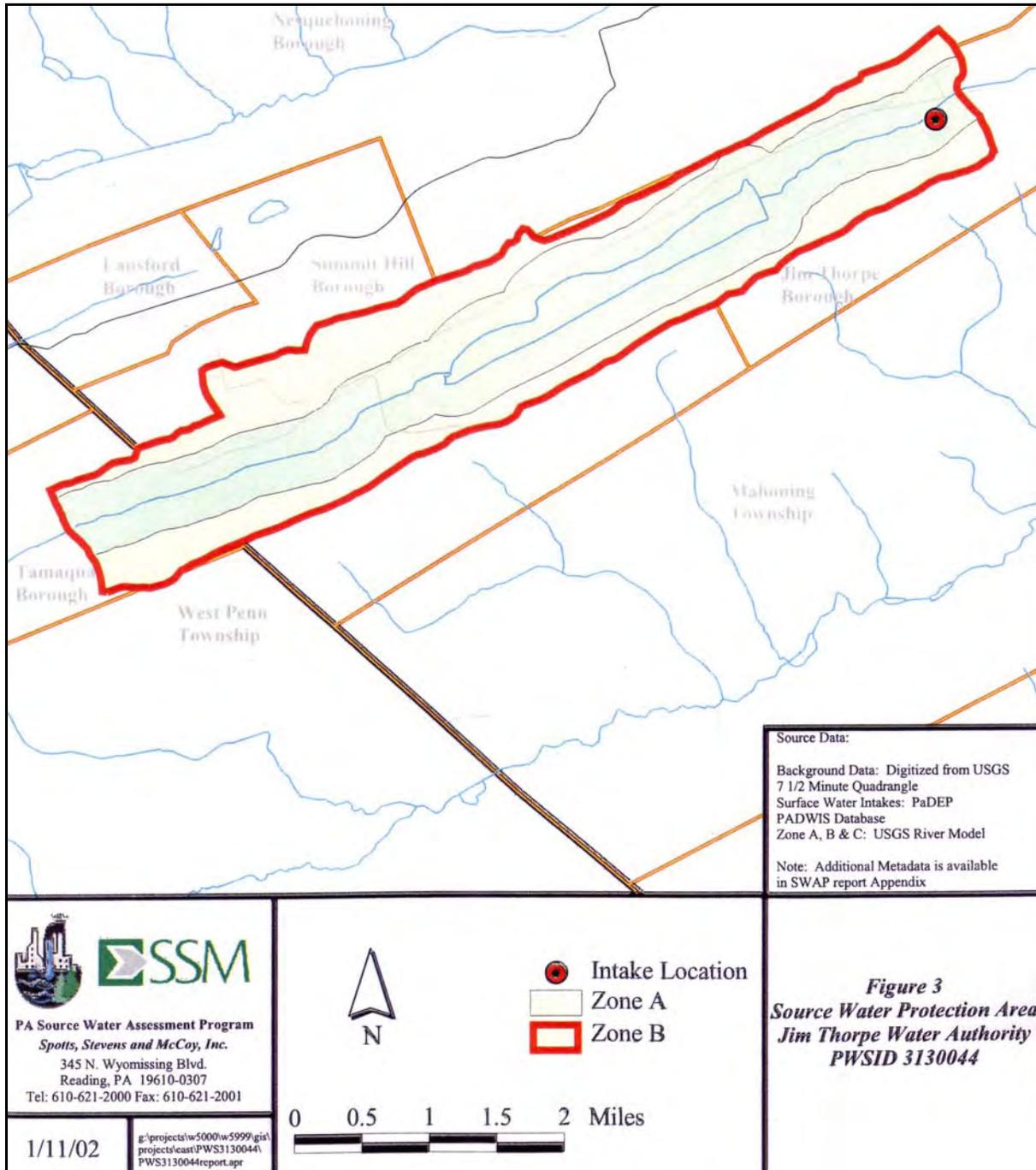
Surface water quality in the Planning Area remains generally good, but is affected by point and non-point pollution. Point sources include direct stream discharges of sewage effluent and stormwater. Non-point sources include soil erosion resulting in stream sedimentation, malfunctioning on-lot sewage disposal systems which add nutrients and bacteria, and in the case of Panther Creek, coal culm bank leachate which lowers stream pH.

Panther Creek, classified as a cold water fishery by the Pennsylvania DEP, is identified as an impaired stream resulting from toxicity from an industrial point source, residential runoff, surface mining siltation and abandoned mine drainage metals. Some lime treatment has been provided to the acid mine drainage in Coaldale but the impairment in Lansford remains an issue to address for the stream to be a real recreation and community asset. The Lehigh River is identified as an impaired stream for metals from acid mine drainage, and Nesquehoning Creek for metals and low pH from acid mine drainage.

Jim Thorpe Water Supply

The Mauch Chunk Creek serves as the source of supply for the Jim Thorpe water system serving the area of the Borough west of the Lehigh River. The 2002 Source Water Assessment Report issued by the PA Department of Environmental Protection notes: *The Mauch Chunk Creek's watershed covers approximately 4,840 acres or 7.5 square miles within Carbon County and a small part in Schuylkill County. The watershed is situated between the Mauch Chunk Ridge and Broad Mountain. This watershed includes the Mauch Chunk Lake which functions as a reservoir about one mile upstream of the intake. The Mauch Chunk Lake Park is under the direction of the Carbon County Parks and Recreation Department. The Park activities include*

¹⁰Special Protection Waters, Keeping the Clean Water Clean, Delaware River Basin Commission, 2008.



Standard Protection Zones

Zone A is an area 1/4 mile in width where greater protection is warranted.

Zone B extends 2 miles on each side of the stream (the extent of the watershed in the case of Mauch Chunk Creek).

camping sites connected to on-lot sewage disposal systems. The recreational fishing and boating is restricted to nonmotorized vessels only. There is one major road that spans the length of the watershed, Lentz Trail, and one road that crosses the watershed west of the Lake, Rte 902.¹¹

The Jim Thorpe (West) Mauch Chunk Creek intake is downstream from a County Park in good quality water. The inventoried potential threats to this source of water supply are:

- Erosion from recreational activities and road use directly uphill from the intake.*
- On-lot wastewater disposal systems which may be failing within a half mile from the intake.*
- Leakage or spills from recreational activity in the lake and park.*
- Underground contamination from gasoline storage tanks and historic cemeteries.*

The watershed of Mauch Chunk Creek intake is protected in several ways. The recreational value of the Mauch Chunk Lake Park provides visibility and desire to protect the resources. The community, through the Jim Thorpe Area High School, is part of the Volunteer Citizens Monitoring Program participating in the annual Watershed Snapshot. Participants in the Watershed Snapshot are also in the Groundwater Guardian Program. Given the geologic and topographic features of the watershed, pressures for development are not likely, especially not on the steep slopes along the southern border of the watershed. However, with the pressure of growth in the Borough of Jim Thorpe and ever increasing seasonal activity within the watershed, more people need to become involved in the source water protection program to maintain the watershed and quality of the source water assessment.¹²

It has been determined that existing state and federal regulations should provide adequate protection of Jim Thorpe's water source. Overall, the watershed contributing raw water to the Jim Thorpe purification plant has little risk of significant contamination. No impaired waters exist within the watershed boundaries, and the entire basin is protected for Cold Water Fishes. However, should a group (watershed organization, water supplier, municipalities) implement a watershed protection plan, the focus should be placed on controlling stormwater runoff along transportation corridors near the lake and streams that carry the source water to the intake. The same runoff management should be applied to the dirt road near the intake. Also, regular testing for contamination from the numerous on-lot septic systems and best management practices should be enforced.¹³

¹¹Jim Thorpe Water Department (West), Mauch Chunk Creek, Source Water Assessment Report, PA Department of Environmental Protection, 2002, p. 6.

¹²Ibid., p. 20.

¹³<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-59631/Jim%20Thorpe%20RS3130044001.pdf>, p. 2.

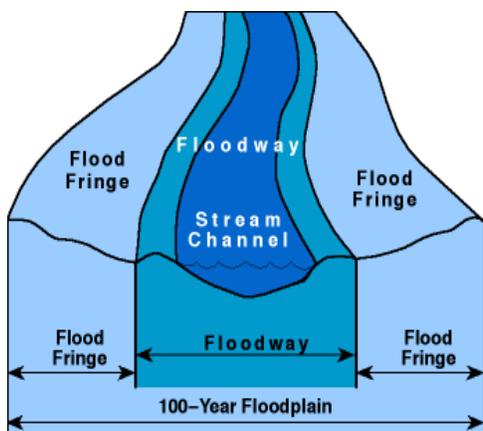
**Planning Implications:
Watersheds and
Surface Waters**

- Maintaining good water quality is critical to the quality of life in the Planning Area and region. In addition to supporting the local tourism and recreation economy, good quality streams and well-conserved watersheds are a good measure of overall environmental quality.
- Water quality in the Mauch Chunk Creek Watershed is of special importance to protect the Jim Thorpe water supply as is the case in the Penn Forest Reservoir / Wild Creek Reservoir drainage area to the City of Bethlehem water supply.
- In order to protect the good water quality, development should be carefully managed. The balance between good water quality and future growth and development will require meticulous consideration to weigh the impact on water quality against the need for economic growth, and the added expense for water quality protection technology against the need to protect water quality.
- Acid mine drainage and the leachate from culm banks are particularly problematic given the volume of water involved and the costs of treatment.
- State and federal regulations go a long way to protect water quality, but local municipalities often adopt additional standards such as buffers and conservation subdivision design to afford additional protection.
- Maintaining good water quality and limiting nutrient loading to White Bear Creek and Mauch Chunk Creek are critical to minimizing eutrophication of Mauch Chunk Lake, one of the Planning Area’s most important recreational assets.
- The clearing of vegetation along streams during the development process increases the potential for surface run-off, erosion and siltation, and downstream flooding.
- Excessive stormwater runoff introduces pollutants into the stream system, increases peak flows, damages stream banks and increases downstream flooding.
- Continued updating and enforcement of on-lot sewage disposal, stormwater and soil erosion control and other water quality regulations are critical.

Floodplain

During the period of early settlement and later development of most regions, waterways played a key role as transportation routes and later as a source of power for operating grain mills, sawmills, and other industries. In addition, the land located along streams and rivers was conducive to development - soils are generally fertile for agriculture and the terrain relatively level, facilitating the construction of roads and buildings. Those stream-side areas often developed into settlements and then expanded as the population grew.

However, an often unanticipated problem with river/stream valley settlement is flooding. As development continued and natural drainage patterns were altered, increases in stormwater run-off heightened the potential for flooding and property damage.



Floodplain Cross Section

Floodplain Maps

The National Flood Insurance Program is administered by the Federal

Emergency Management Agency (FEMA) which also has prepared and issued the Flood Insurance Rate Maps which identify flood prone areas throughout the Country. Flood hazard areas are identified for the *100-year flood* which is a flood event of a magnitude which is expected to be equaled or exceeded once on the average during any 100-year period (1% chance of occurrence in any given year). This is a long term average period between such floods and such floods can occur at shorter intervals or conceivably in the same year. Areas of 500-year floods (0.2% chance of occurrence in any given year) and 100-year floods of less than 1-foot depth are also shown.

**Planning Area
Flood Zones**

The 100-year floodplain identified by FEMA in Lansford is associated with Panther Creek and in Summit Hill with, White Bear Creek and Mauch Chunk Creek.

Fortunately, development in this floodplain is minimal and flood damage is not a significant issue. In Penn Forest Township, flood hazard zones a relatively wide along Dilldown Creek and Mud Run, but the floodplain includes little development.(See the *Natural Resources Map* which accompanies this Plan.) The Lehigh River floodplain is included State Park so flood damage is negligible and floodplain along other tributaries is very narrow.

In Jim Thorpe, FEMA-identified floodplain is found along Slaughterhouse Creek, Silkmill Run, Mauch Chunk Creek and the Lehigh River. Flood damage along the Lehigh River in the Borough is limited given the State ownership of the Gorge, high river banks, and flood control provided by the Francis E. Walter Dam.

Much of the East Side drains to Slaughterhouse Creek along with hundreds of acres of open land with development potential. Flooding along Slaughterhouse Creek, which has been increasing from development stormwater, results primarily in road and bridge damage which limits access to areas on the west side of the stream. Stream channel and stream bank erosion are critical problems resulting in loss of land from residential lots. Jim Thorpe, with the assistance of a state Growing Greener Grant, been installing rip-rap terraces, trees and other measures to control the erosion.

Silkmill Run drains the balance of the East Side and the watershed also includes hundreds of acres of open land which may be developed. Flooding in 2006 resulted in bridge damage which limited access to Pleasant Hill and the Germantown section of the Borough. Flood water now ponds in the Jim Thorpe Market parking lot. While structural damage has been limited, any increase in flood volumes can be expected to exacerbate the flooding problems.

Flooding of Mauch Chunk Creek has long been a problem for Jim Thorpe and the underground channelization of the stream more than 100 years ago has complicated the situation given its limitation on flood water capacity and the need for continued maintenance. FEMA Flood Insurance Rate Maps include the Jim Thorpe central



Jim Thorpe Flood, August 1969

business district in Zone X which are areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 % annual chance flood. (See the Jim Thorpe Zone X Figure.) While FEMA predicts floods of less frequency, the flooding, when it occurs, is no less damaging. Increased stormwater runoff from the Flagstaff Road area combined with the volume from excising developed areas of the watershed suggest continuing problems.



Jim Thorpe Zone X

Floodplain Regulations

Both the state and federal government administer programs for flood control and flood plain development and provide certain regulatory standards which local municipalities must adopt in order for property owners to be eligible for flood insurance. Minimum state and federal requirements allow dwellings in the floodplain if the lowest floor is elevated up to or above the 100-year flood elevation and nonresidential structures if flood-proofed or elevated. The Pennsylvania Flood Plain Management Act (Act 166 of 1978) requires local municipal participation in the flood plain management program, or state funding allocations such as Liquid Fuel Funds can be withheld.

The floodplain regulations of all four municipalities meet the state and federal minimum by requiring all new residential structures to be elevated at least 1.5 feet above the base flood elevation and requiring all nonresidential structures to be elevated at least 1.5 feet or to be floodproofed. The regulations also prohibit the use or storage of certain hazardous materials in the floodplain and require special permits for hospitals, nursing homes, and jails and prisons.

**Planning Implications:
Floodplain**

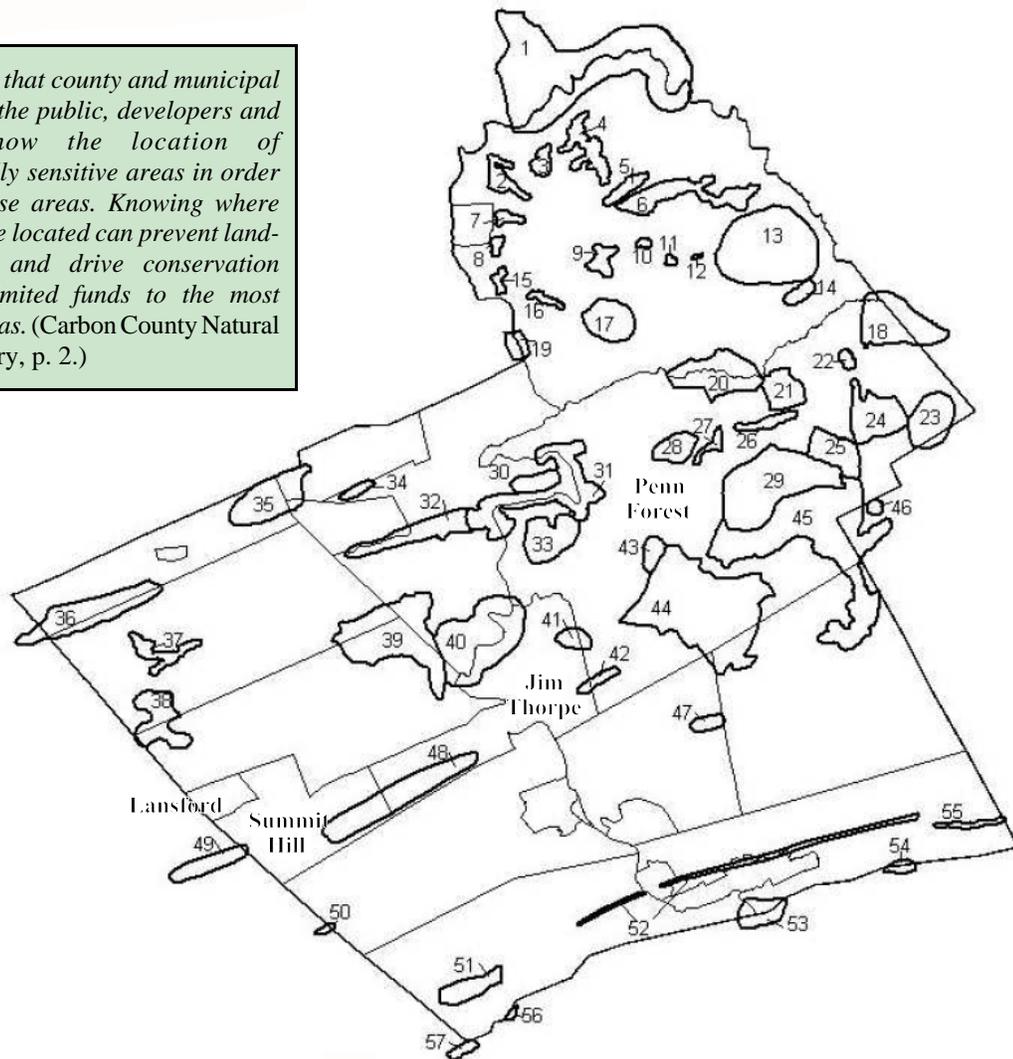
- Managing new development in floodplain is critical to mitigate flood damages and downstream increases in flood height.
- Progressive stormwater management for new development will help to minimize flood height increases.

- The maintenance of the Mauch Chunk Creek tunnel will be a perpetual requirement for Jim Thorpe Borough.
- In addition to floodplain regulations and stormwater management, the acquisition of conservation easements on undeveloped land in headwater areas could help reduce flood levels.

Natural Areas

The Planning Area’s large expanses of forest cover, prevalence of wetlands, and surface water features provide diverse habitat for an abundance of plant and animal species. The 2005 *Carbon County Natural Areas Inventory*, compiled by the Pennsylvania Science Office of The Nature Conservancy, documents the significant natural areas in the County and the location of known animal and plant species of special concern (endangered, threatened, or rare). The maps do not pinpoint the site of the species of concern but rather represent a zone of potential impacts within the site’s watershed. The Inventory also identifies areas that represent good examples of habitat types that are relatively rare or that provide exceptional wildlife habitat. The purpose of the Inventory is to guide planning and conservation efforts and to assist in prioritizing areas to be protected.

It is important that county and municipal governments, the public, developers and planners know the location and environmentally sensitive areas in order to protect these areas. Knowing where these areas are located can prevent land-use conflicts and drive conservation efforts and limited funds to the most vulnerable areas. (Carbon County Natural Areas Inventory, p. 2.)



Natural Areas in Carbon County (*Carbon County Natural Areas Inventory*)

Site Index: Sites numbered from north to south
(Note that natural areas with species of concern are in UPPERCASE LETTERS
while locally significant sites are in Title Case Letters throughout the document)

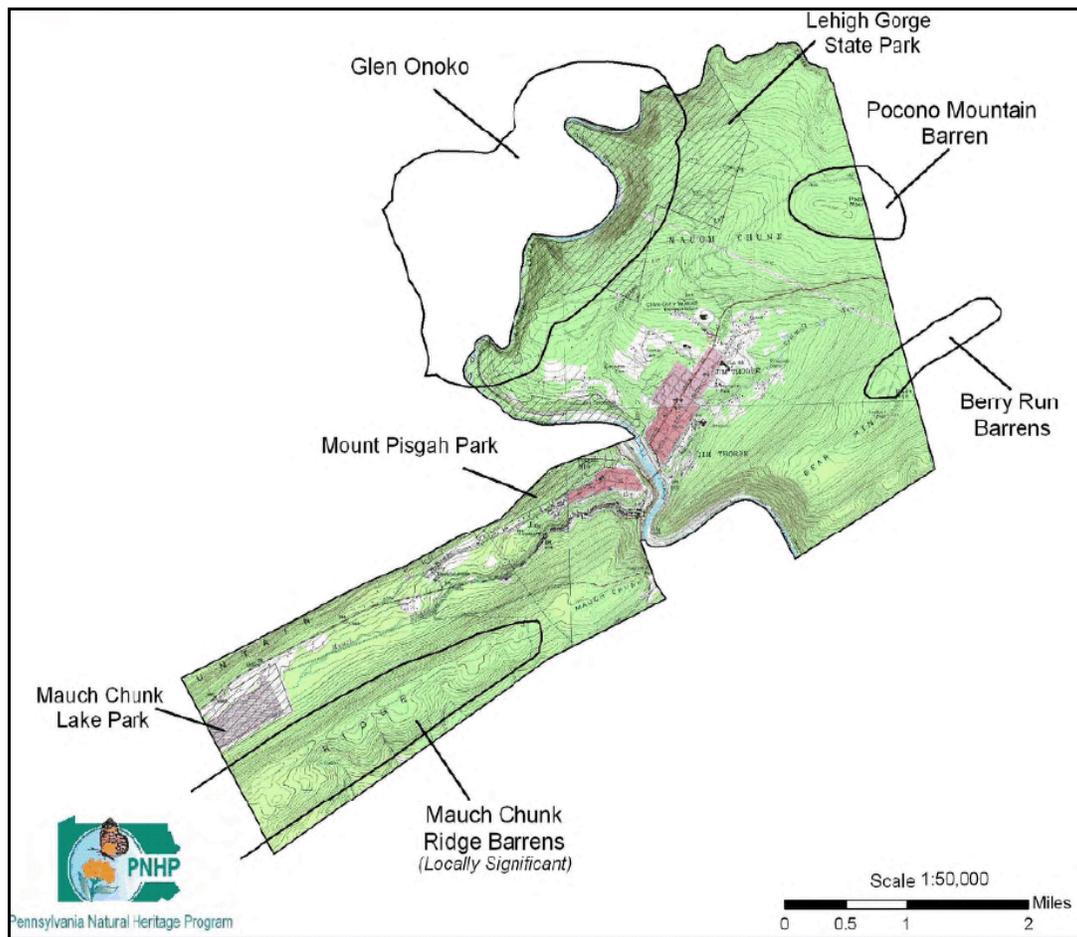
Site #	Site Name	Municipality	Maps
1	FRANCIS E. WALTER RESERVIOR SITE	Kidder Twp., Luzerne Co., Monroe Co.	50b
2	KIDDER WETLANDS	Kidder Twp.	50b
3	FAWN RUN WETLANDS	Kidder Twp.	50b
4	POCONO MOUNTAIN WETLANDS	Kidder Twp.	50b
5	Leonardsville Swamps	Kidder Twp.	50b
6	MOSEY WOOD WETLANDS	Kidder Twp.	50b
7	EAST SIDE WETLAND	Kidder Twp.	50b
8	GOLF COURSE WETLAND	Kidder Twp.	50b
9	HICKORY RUN WETLAND	Kidder Twp.	50b
10	FOURTH RUN WETLANDS	Kidder Twp.	50b
11	HICKORY RUN HEADWATERS	Kidder Twp.	50b
12	HICKORY RUN BOULDER FIELD	Kidder Twp.	50b
13	LAKE HARMONY / BIG BOULDER LAKE	Kidder Twp.	50b
14	SWAMP RUN	Kidder Twp.	50b
15	Black Shanty Run	Kidder Twp.	50b
16	IRISHTOWN RUN	Kidder Twp.	50b
17	HICKORY RUN CAMPGROUND	Kidder Twp.	50b
18	SCHOCH BARRENS COMPLEX	Kidder Twp., Penn Forest Twp., Monroe Co.	50b, 88b
19	LEHIGH GORGE AT SANDY RUN	Kidder Twp., Lehigh Twp., Luzerne Co.	50b, 72b
20	MUD RUN NATURAL AREA	Kidder Twp., Penn Forest Twp.	50b, 88b
21	KEIPERS RUN	Penn Forest Twp.	88b
22	SCHOCH THICKET	Penn Forest Twp.	88b
23	INDIAN MOUNTAIN BARREN	Penn Forest Twp., Monroe Co.	88b
24	CARPSROCUS CREEK THICKETS	Penn Forest Twp.	88b
25	HELL CREEK BARRENS	Penn Forest Twp.	88b

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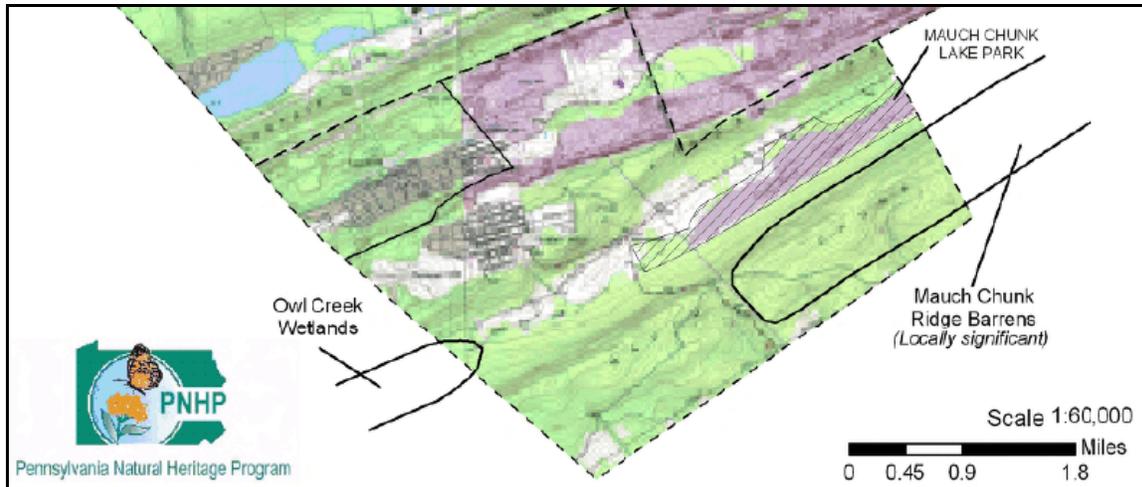
Site #	Site Name	Municipality	Maps
26	MUD SWAMP	Penn Forest Twp.	88b
27	Christmans Wetland	Penn Forest Twp.	88b
28	CHRISTMANS PONDS	Penn Forest Twp.	88b
29	YELLOW RUN BARRENS	Penn Forest Twp.	88b
30	PENN HAVEN OAK BARREN	Lehigh Twp.	72b
31	LEHIGH GORGE AT TANK HOLLOW	Penn Forest Twp., Lehigh Twp.	88b, 72b
32	Black Creek Gorge	Lehigh Twp., Weatherly Boro.	72b
33	SCRUB MOUNTAIN	Penn Forest Twp.	88b
34	ROUNDHEAD MOUNTAIN BARREN	Lehigh Twp.	72b
35	PENROSE SWAMP BARRENS	Banks, Lausanne & Lehigh Twps.	38b, 70b, 72b
36	Spring Mountain	Banks Twp., Packer Twp.	38b, 82b
37	QUAKAKE CREEK WETLAND	Packer Twp.	82b
38	Broad Mountain West	Packer Twp., Nesquehoning Boro.	82b, 64b
39	HUGHES SWAMP	Lehigh Twp., Packer Twp., Nesquehoning Boro.	72b, 64b, 82b
40	GLEN ONOKO	Lehigh Twp., Penn Forest Twp., Jim Thorpe Boro., Nesquehoning Boro.	72b, 88b, 44b, 64b
41	POCONO MOUNTAIN BARREN	Penn Forest Twp., Jim Thorpe Boro.	88b, 44b
42	BERRY RUN BARRENS	Penn Forest Twp., Jim Thorpe Boro.	88b, 45b
43	BEAR CREEK LAKE	Penn Forest Twp.	88b
44	PINE RUN WOODS	Penn Forest Twp., Towamensing Twp., Franklin Twp.	88b, 102b, 42b
45	PENN FOREST / WILD CREEK RESERVIORS	Penn Forest Twp., Towamensing Twp., Monroe Co.	88b, 102b
46	CROSS RUN VERNALS	Penn Forest Twp., Monroe Co.	88b
47	BELTZVILLE LAKE VERNALS	Franklin Twp., Towamensing Twp.	42b, 102b
48	Mauch Chunk Ridge Barrens	Jim Thorpe Boro., Summit Hill Boro.	45b, 64b
49	OWL CREEK WETLANDS	Summit Hill Boro., Schuylkill Co.	64b

Site Index: Sites numbered from north to south
 (Note that natural areas with species of concern are in UPPERCASE LETTERS
 while locally significant sites are in Title Case Letters throughout the document)

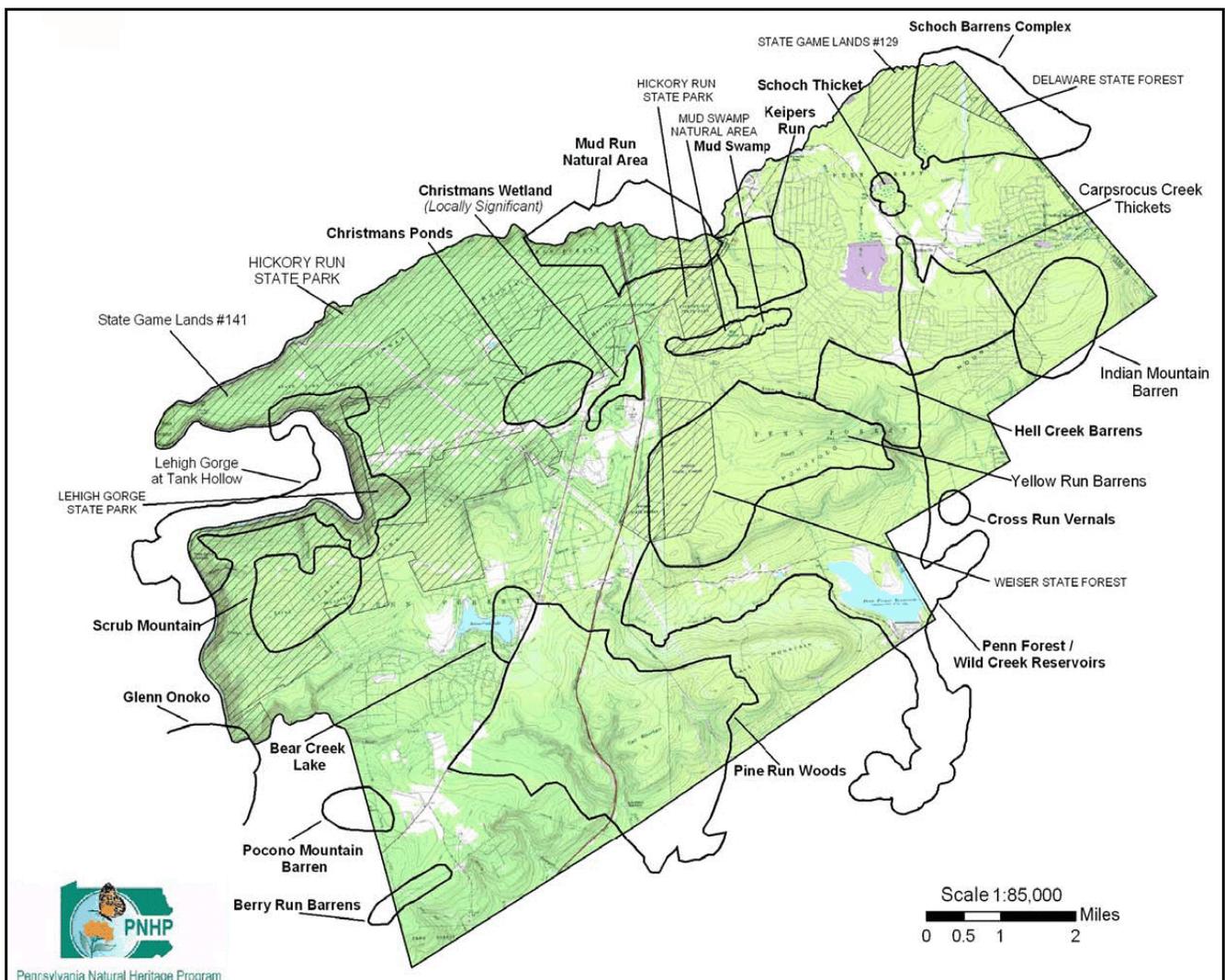
Site #	Site Name	Municipality	Maps
50	Mahoning Creek Wetlands	Mahoning Twp., Schuylkill Co.	81b
51	STONE MOUNTAIN WOODS	East Penn Twp.	40b
52	STONY RIDGE	Lower Towamensing Twp., East Penn Twp., Palmerton Boro.	78b, 40b
53	LEHIGH GAP	Lower Towamensing Twp., East Penn Twp., Northampton Co., Lehigh Co.	78b, 40b
54	DEVIL'S POTATO PATCH / LITTLE GAP	Lower Towamensing Twp., Northampton Co.	78b
55	Aquashicola Creek Wetlands	Lower Towamensing Twp.	78b
56	BAKE OVEN KNOB	East Penn Twp., Lehigh Co.	40b
57	BEARS ROCKS	East Penn Twp., Lehigh Co.	40b



Jim Thorpe - Carbon County Natural Areas Inventory



Lansford and Summit Hill - Carbon County Natural Areas Inventory



Penn Forest Township - Carbon County Natural Areas Inventory

NATURAL AREAS INVENTORY - - TOP PRIORITY SITES IN MIDDLE CARBON

Exceptional Natural Feature

The Lehigh Gorge is an extraordinary natural feature cutting through Carbon and Lehigh Counties. The section of the Lehigh River from the Francis E. Walter Dam to Jim Thorpe is designated as a Pennsylvania Scenic River. The Lehigh Gorge runs for about 32 miles and includes Lehigh Gorge State Park. The state park follows the gorge through Carbon County and provides excellent opportunities for recreation along the river. The 26-mile-long Lehigh Gorge Trail is an abandoned railroad grade and follows the river throughout the park. Many residents and tourists use this trail for hiking, bicycling, sightseeing and photography.

Penn Forest / Wild Creek Reservoir (Penn Forest, Towamensing Townships & Monroe County) *This site encompasses about 4900 acres in the eastern portion of Carbon County, primarily Penn Forest Township. The site includes two reservoirs, Wild Creek and the southern slope of Pohopoco Mountain. This extensive forested area provides habitat for a variety of species and protection for a valuable water source. The watersheds of both Penn Forest and Wild Creek Reservoirs are almost entirely protected by the Bethlehem Authority. Continued protection will not only serve to protect these important municipal water supplies into the future, but also provide critical open space and wildlife habitat.*

Schoch Barrens Complex (Penn Forest and Kidder Townships, Monroe County)

Schoch Barrens Complex includes a group of sites that covers nearly 1500 acres in Carbon and Monroe Counties. The various sites included are Dilldown Creek Barrens, Pimple Hill Barren, Schoch Barren, Schoch Thicket and Schoch Heath. Ten elements monitored by the PA Natural Heritage Program were found in this site including three plant species of concern, four animal species of concern and three natural communities.

Yellow Run Barrens (Penn Forest Township)

This site includes 2700 acres of forested habitat in Penn Forest Township. A portion of this site is located in Weiser State Forest.

Planning Area Sites

Numerous significant natural areas and sites with threatened, rare and endangered plant and animal communities exist in the Planning Area, with three of the top priority sites located in Penn Forest Township and the Lehigh Gorge identified as an exceptional natural feature. Details of the top priority sites, sites of statewide significance and locally significant sites can be found in the *Inventory*.

**Planning Implications:
Natural Areas**

The Planning Area’s woodland habitat is relatively healthy, as large and diverse areas of vegetation remain. However, steps should be taken to ensure that large contiguous forest communities remain in tact.

Wetland and aquatic habitats, and in particular habitats identified by the Natural Areas Inventory, are most at risk from direct development or watershed disturbance. This includes degradation due to encroaching development, logging and forestry operations, and contamination from wastewater and stormwater runoff.

Protection of habitat and Natural Areas Inventory sites requires a combination of local municipal environmental regulations and state and federal resource management and use regulations. The Boroughs and Township will continue to apply, and update as necessary, ordinance standards related to environmental resource protection and promote open space protection among landowners.

The *Carbon County Natural Areas Inventory*¹⁴ makes the following recommendations:

¹⁴ Page 15.

- Consider conservation initiatives for natural areas on private land.
- Prepare management plans that address species of special concern and natural communities.
- Protect bodies of water.
- Provide for buffers around natural areas.
- Reduce fragmentation of surrounding landscape.
- Encourage the formation of grassroots organizations.
- Manage for invasive species.

FUTURE PLANNING POLICIES AND ACTIONS

Overview

The following future planning policies and recommendations are measures intended to achieve the Middle Carbon County Planning Area’s natural resource protection goals. These policy recommendations will guide future decisions and actions related to natural resource protection.

Environmental Protection

Development and environmental protection, as well as conserving open land and natural resources, need not be mutually exclusive. While a clean environment, abundant open land, and natural resources are key elements of the quality of life in the Planning Area, one must recognize that change is inevitable and can contribute positively to a healthy community.

The goal is to strike a balance between development and preserving the essential character of the Planning Area municipalities. Development practices which recognize the importance of the local environment will ensure the continuation of the quality of life that residents enjoy and which is so attractive to new residents. Concurrently, land owners and developers will be able to provide the home sites and businesses that a growing population demands.

The intent is to ensure *environmentally friendly* development within the context of the existing zoning districts. State and federal regulations address many aspects of resource conservation and environmental protection, and these regulations should be the foundation - the base from which local municipal regulations should be built. Local standards must be consistent with and be coordinated with state and federal requirements. In some cases, the zoning ordinance can simply reference the other applicable standards.

Local Authority for Regulation

The Pennsylvania Municipalities Planning Code (MPC) authorizes land use planning and management tools for the Commonwealth’s municipalities. Compliance with the MPC, along with case law, dictates the legality of local regulations. For this reason, it is very important to remember that all land use management tools must be prepared and administered within the bounds of the MPC and current case law. In addition, the Borough Code and Township Code provide authorization for special purpose ordinances aimed at protecting public health, safety and welfare. Other state laws, such as the Floodplain Management Act and Stormwater Management Act, mandate

local regulation of resources. In all cases, the municipal solicitor should be involved in reviewing any changes to municipal plans and ordinances.

Integrated Approach

Given the range of authorizing state statutes, municipal open land, natural resource and environmental regulations are typically found throughout a number of ordinances. While this may appear problematic at first glance, the integration of such standards in various ordinances is important because a certain ordinance may govern one type of development while another governs a different type. For example, the subdivision and land development ordinance governs how land is divided and improved while the zoning ordinance governs the specific uses on the land. In some cases a special purpose ordinance may be more effective than including standards in the zoning ordinance. The important point is consistency of standards in all ordinances.

Borough/Township Ordinances

Borough/Township ordinances include a number of environmental standards, but the standards should be updated, supplemented and coordinated to meet current needs and provide consistency with state and federal regulations. Each of the four Middle Carbon municipalities will review and update its environmental standards to ensure the most effective protection. The recommended range includes:

- Environmental impact analysis requirements for large scale and environmentally problematic uses.
- Retention of existing vegetation on development sites and soil stabilization and landscaping.
- Stream, lake and wetland buffers.
- Stormwater best management practices including quality treatment and infiltration.
- Floodplain management.
- Hydrogeologic studies for proposed uses with large groundwater consumption.
- On-site sewage disposal system management.
- Limitations and special standards for development on steep slopes.

Topography and Geology

Preservation of topographic and geologic features is important for maintaining natural drainage patterns, slope stability, erosion control, and surface and groundwater quality. The following policy recommendations are intended to promote the protection of these features:

- The preferred approach is conservation design which sets steep slopes aside as conservation areas.
- Strictly limit site disturbance of steep and very steep slopes – tree and vegetation removal, soil removal, grading.
- Exclude 100% of very steep slope (slopes 25%+) areas from lot area determination.
- Exclude 50% of steep slope (slopes 15%-25%) areas from lot area determination.

- Limit the use of very steep slopes to open space and passive recreation.
- Prohibit buildings or structures on very steep slopes.
- Establish design and performance criteria for buildings or structures on steep slopes including submission of detailed site, grading and drainage plans.
- Set a maximum building envelope size.
- Limit final slopes of cuts and fills to 50 percent.
- Preserve rock outcrops and unique geologic features.



Coal Refuse, Summit Hill

Mineral Extraction

The primary minerals of commercial importance extant in the Planning Area are coal, coal refuse, sand stone, which is mined as quarry stone and dimensional stone, shale, and sand and gravel. This *Comprehensive Plan* recognizes the economic value of the minerals industry while understanding the necessity that the industry operate within the bounds of environmental regulations.

The Pennsylvania Municipalities Planning Code (MPC) clearly recognizes mineral extraction as a lawful use. Along with other community effects, such uses can have impacts on water supply sources and are governed by state statutes that specify replacement and restoration of affected water supplies. In addition, the Planning Code now severely limits the range of development and operational standards which can be applied to mineral extraction by local municipalities, with location standards the primary tool available to the Planning Area. Planning Code §603(I) states that *zoning ordinances shall provide for the reasonable development of minerals in each municipality.*

The Code definition of minerals is: *Any aggregate or mass of mineral matter, whether or not coherent. The term includes, but is not limited to, limestone and dolomite, sand and gravel, rock and stone, earth, fill, slag, iron ore, zinc ore, vermiculite and clay, anthracite and bituminous coal, coal refuse, peat and crude oil and natural gas.* The Code, at §603(b) allows zoning ordinances to regulate mineral extraction, but only to the extent that such uses are not regulated by the state Surface Mining Conservation and Reclamation Act, the Noncoal Surface Mining Conservation and Reclamation Act, and the Oil and Gas Act. These acts regulate such things as setbacks, dust, noise, blasting, water supply effects, and reclamation.

Coal and Coal Refuse Coal and coal refuse (included in the MPC definition of *mineral*) are particularly important to the Planning Area. While most of the surface accessible coal has been extracted, primarily in Summit Hill and adjoining Nesquehoning Borough, thousands of tons of coal refuse, commonly referred to as culm, remain. The culm does have economic value as a fuel and will likely be worked, processed and removed by the Lehigh Coal and Navigation Company.

Natural Gas Natural gas exploration may surface as an issue in the Planning Area. The mineral extraction language in the MPC, coupled with the Oil and Gas Act, severely limits local municipal authority to regulate natural gas extraction. The Oil and Gas Act requires municipalities to allow natural gas extract as a principal permitted use in all zoning districts. In residential zones, a setback of 500 feet to occupied buildings is authorized by the Act. The municipalities must adjust local regulations consistent with the Oil and gas act and monitor evolving court decisions.

Mineral Extraction: Specific Actions This *Middle Carbon County Comprehensive Plan* recognizes the need to provide for *the reasonable development of minerals* in the Planning Area, and similar to forestry enterprises, encourages mineral extraction provided such operations are conducted in appropriate locations and in accord with sound mining practices and environmental regulations.

Specific actions related to mineral extraction . . .

- Confirm that mineral extraction operations comply with state and federal regulations.
- Communicate and coordinate with the Lehigh Coal and Navigation Company on the use of coal refuse and ultimate reclamation of mined land.
- Zoning is the most effective means of managing the effects of mineral extraction on the local community.
 - To the extent possible under the terms of the Municipalities Planning Code direct mineral extraction operations to suitable areas where impacts will be minimized.
 - Adopt standards to ensure that mineral extraction is controlled to the greatest extent possible within the limitations of the Planning Code and evolving case law .
 - Include provisions to require coordination with the plan information and standards applied by the Pennsylvania Department of Environmental Protection.
- Adopt posting and bonding requirements for municipal roads to ensure road damage is minimized and corrected by drilling operations.

Improving Stormwater Management Development projects are subject to state and federal water quality standards related to stormwater management. Municipal zoning ordinances and subdivision and land development ordinances also include stormwater management standards. In addition, Jim Thorpe has adopted a very comprehensive stand-alone stormwater management ordinance that is watershed specific and provides detailed standards for new development. Enforcing the ordinance, and updating it as necessary, will ensure best

management practices for stormwater control.



Stormwater Swale, Jim Thorpe

Significant changes have recently be instituted in state requirements. Any inconsistency between local and state requirements and county stormwater management planning may result in project delays as applicants face conflicting design standards. In order to ensure that local stormwater management standards are consistent with State water quality antidegradation requirements, Act 167 (Stormwater Management Act), Federal National Pollutant Discharge Elimination System (NPDES) requirements for stormwater discharges associated with construction activities, and DRBC's Special Protection Waters regulations, stand-alone stormwater ordinances should be adopted by Lansford and Summit Hill.

Preserve Existing Hydrologic Conditions

The key is to promote development practices to minimize post-development runoff rates and volumes and the need for artificial conveyance and storage facilities.

- Preserve natural drainage features such as vegetated drainage swales, channels, valleys, or depressions where water normally ponds.
- Minimize earth disturbance and preserve natural vegetation to the greatest extent possible by conforming plans to existing topography.
- Minimize impervious surfaces to the maximum extent possible.
- Disconnect impervious areas by directing runoff to areas where it may either infiltrate into the soil or be filtered through vegetation.

Maintain Groundwater Recharge

Simple provisions are critically important in areas where groundwater use is increasing dramatically and stormwater is too often simply considered a problem.

- Require the use of infiltration to provide groundwater recharge whenever possible in recognition that stormwater as an important resource to maintain groundwater supplies.
- Ensure that any infiltration does not pose a threat to groundwater quality.

Maintain Water Quality

Measures to prevent degradation of surface water quality from pollutants carried in stormwater discharges should be incorporated into management practices.

- Vegetative filter strips to remove sediment and other pollutants.
- Oil removal from parking lot drainage.
- Infiltration basins, bioretention areas and wet detention ponds.

Reduce Erosion and Stream Scouring

As storm flows increase, the velocities in streams increase. Both the volume and rate of stormwater discharges should be managed to prevent physical degradation of receiving waters, such as stream bank erosion and channel scour.

- Minimize site disturbance and maintain vegetation.
- Install and maintain temporary controls during construction and permanent controls.

Control Flooding

Flooding and stormwater problems are caused by excess stormwater quantity. While some over-bank (typically 2-year to 10-year storm events) and extreme (25, 50, and 100-year) flooding events are inevitable the goal of stormwater management standards is to control the frequency of occurrences so that damages to existing infrastructure are not exacerbated by upstream development.

- Use infiltration to the greatest extent possible.
- Limit floodplain development.

Inspection and Maintenance

Without regular inspections during construction and proper and long term maintenance, stormwater infiltration devices, detention basins, pollution control and other facilities will not function properly, often with problematic or even disastrous downstream effects. Even the addition of homes within a residential subdivision can have serious effects on neighbors if facilities are inadequately constructed and maintained.

- Include standards to address inspection during construction, long term ownership, maintenance agreements for privately owned stormwater facilities and specific maintenance schedules.
- Make the failure to maintain any facility an ordinance violation and to provide the authority for enforcement and correction.

Groundwater Conservation and Protection

Methods available for local municipalities to conserve the groundwater supply and protect quality are well documented, and have been successful in many areas of the Commonwealth. The same methods can be applied to surface drinking water supplies. Details of available methods, the authority for action, and sources of assistance are detailed in *Groundwater Protection and Management in Pennsylvania*.¹⁵ The Report recommends the following five-step process to develop and put into place an effective groundwater protection program:

- Involve the community by organizing a committee of interested individuals from the community, and neighboring communities, if appropriate.
- Determine sources and uses of the community's water supply and define the proposed groundwater protection areas.
- Identify possible contamination sources-past, present, and future-in the groundwater protection areas.

¹⁵*Groundwater Protection and Management in Pennsylvania, An Introductory Guide for Citizens and Local Officials*, League of Women Voters of Pennsylvania Citizen Education Fund and Water Resources Education Network Project, R. Merideth, J. R. Drohan, C. W. Abdalla, J. R. Jessen, E. D. Stevens, 2001, Third Edition.

- Establish goals and priorities based on an evaluation of the groundwater threats.
- Implement appropriate management measures, including plans for future needs.¹⁶
- Sponsor an annual well water testing program and compile and map the results.

In addition to evaluating the applicability of the five-step formal planning process, other local municipal actions may include:

Zoning

- Link dwelling unit densities to the quality of the land by identifying environmentally sensitive areas as part of the development process.
- Include standards for identification and protection of environmentally sensitive areas – recharge areas, floodplain, steep slopes, wetlands, riparian buffers, etc. – and update as necessary.
- Provide incentives for conservation subdivision design where full development density is permitted, individual lot sizes are reduced, a certain percentage of open space is set aside, and sensitive natural areas are preserved.
- Allow conservation design development and transfer of development rights as a way to shift development away from sensitive environmental areas.
- Require a hydrogeologic study for any proposed use which will withdraw large quantities of groundwater.
- Require detailed water quality protection plans for any commercial or manufacturing use which have the potential for groundwater contamination.
- Adopt well head protection standards that limit potential contaminating activities in zones around community wells.

Sewage Enforcement

- Continue the strict enforcement of the on-lot sewage disposal program.
- Evaluate the benefit of an on-lot sewage system management program.

Stormwater Management

- Require stormwater infiltration as the option of choice to maximize groundwater recharge.
- Address stormwater quality (nutrient and pollutant removal) along with quantity.

Well Construction and Protection

Each of the municipalities should consider the adoption of a well ordinance because there is no state regulation for the construction of private wells. The ordinance would

¹⁶Ibid., p. 13.

require permits for drilling and making major repairs to water wells for properties not connected to a public water system. One of the most critical provisions would be to establish a 100-foot isolation distance from sewage disposal fields and a 50-foot setback from septic tanks because state law, while requiring sewage fields to maintain the 100-foot isolation distance from wells, sets no converse minimum. The well ordinance should also:

- Require isolation distances from other potential contamination sources such as buildings, driveways, sewer lines and underground petroleum storage tanks.
- Specify casing size, material, length and height above grade.
- Require a well cap and casing grouting.
- Set minimum water quantity and quality standards and require testing.
- Require bacterial testing for all new wells with a report submitted to the municipality and disinfection prior to use.
- Require all water users located within the service area of a central water supply system to connect to such system except where the applicant provides documentation that the central system cannot provide an adequate and safe supply.
- As a means of building a data base, requiring well drillers to submit copies of the State Water Well Completion Report which includes details about new wells – depth, depth to water bearing zones, static level, yield, and type of aquifer.

Soils

Soils play an important role in the hydrological cycle, allowing infiltration of stormwater and recharge of groundwater sources, and are important determinants of vegetation type and cover. Soils can also inhibit development due to wet conditions (hydric and seasonal high water table soils are not suitable for development) or due to unsuitability for on-lot sewage disposal. Policy recommendations aimed at preserving soils and promoting sound development are as follows:

- Strictly limit soil removal, especially on steep and very steep slopes.
- Limit building on hydric soils and seasonal high water table soils.
- Continue enforcement of on-lot sewage regulations to ensure proper location and installation of on-lot sewage systems.

Soil Erosion and Sedimentation Control

Pennsylvania DEP Chapter 102 and other regulations administered through the Carbon County Conservation District govern soil erosion and sedimentation control. A plan is required for any earth disturbance in Special Protection Watersheds regardless of size.

- There is no need to include detailed design standards for specific soil erosion controls in either the SALDO or the zoning ordinance.
- The key is to require an approved soil erosion and sediment control plan in the SALDO as a condition of preliminary plan approval for all major subdivisions and all land developments, and in a zoning ordinance for any use involving earth disturbance.

Forest and Vegetation

Maintaining natural vegetation not only preserves rural character, but also has numerous environmental benefits, not the least of which are reducing stormwater, preserving surface water quality, and maintaining groundwater recharge. The best approach is to set specific standards for maintaining natural vegetation and require the developer to show why the existing vegetation within prescribed setback or buffer areas, and the entire parcel for that matter, cannot be maintained to the greatest extent possible.

- Include specific standards in the SALDO to govern preservation of vegetation during the development process.
- Also include standards in the zoning ordinance to manage development activities which are not governed by the SALDO, clearing for a parking lot for example.
- Prohibit clearing of vegetation until a land development plan is approved. In the zoning ordinance the section should be written to limit timber harvesting in the buffer to selective cut only in accord with a forestry management plan so as not to preclude reasonable forestry enterprise on the balance of the tract.
- Protect dense and mature forested areas especially on steep and very steep slopes, along stream courses, and in headwater (first order) drainage areas.
- Protect the diversity of vegetative cover and native plant communities.
- Promote the establishment of large contiguous areas of permanently protected forests.
- Encourage the use of native species and prohibit the use of invasive plants.
- Participate in County and State forest pest suppression programs.

Forestry

This *Comprehensive Plan* recognizes the historical and continuing importance of forestry enterprises to the local economy and quality of life, and encourages forestry activities throughout the Planning Area provided such operations are conducted in accord with sound forest management practices and environmental regulations. Landowners manage their forests for a variety of reasons including income from timber sales, wildlife habitat, recreation, water quality protection, bio-diversity, and timber for long-term investment. Improper harvesting and management practices often raise stream water quality and other environmental concerns with local residents and local officials. It is critical for public acceptance of forestry, environmental quality and the long-term viability of the industry and forest resources that logging professionals and individual landowners use best management practices when harvesting and for long-term forest maintenance.



Forestry-Related Business

The Pennsylvania Municipalities Planning Code (MPC), at §603(c)(7), states that *zoning ordinances may not unreasonably restrict forestry activities* and goes on to require that in the Commonwealth, *forestry activities . . . shall be a permitted use by right in all zoning districts in every municipality.* The Code defines *forestry as the management of forests and timberlands when practiced in accord with accepted silvicultural principles, through developing, cultivating, harvesting, transporting and*

selling trees for commercial purposes, which does not involve any land development (buildings such as sawmills and wood products manufacturing are treated as separate uses). Any zoning provisions will be consistent with the MPC by classifying forestry as a principal permitted use in all zoning districts.

Specific actions related to forestry enterprises . . .

- Include in any adopted zoning ordinance reasonable standards for timbering, but not so onerous as to discourage forestry enterprises . . .
 - requirements for logging plans and the use of good forest management practices
 - road and property line setbacks for landings
 - road access and drainage requirements
 - mandating compliance with environmental laws
- Provide ample opportunity for the location and development of *value added* enterprises that use the plentiful forest resources available.
- Encourage the local economic development organizations to work with the forest industry to promote and grow forestry related enterprises, particularly in the realm of *value added* products.

Wetlands

Wetlands provide unique habitat and serve as important groundwater recharge areas, filtering water before it enters an aquifer. Wetland buffer areas are necessary to ensure proper filtration of runoff prior to its entry into the wetland system. Buffers also diminish the opportunity for degradation of the wetland itself, and provide edge habitat for transitional wetland species.

- Prohibit disturbance of wetlands and within an established wetland buffer area.
- As part of all development applications, obtain detailed wetland data that identifies wetlands that are not captured by the NWI.

Watersheds and Surface Waters

Protection of watersheds is imperative for ensuring a safe and sufficient water supply and maintaining water quality and the Jim Thorpe water supply. Healthy stream ecology relies upon certain water quality levels and stream flows and streams should be protected from pollutants, high sediment loads, stormwater runoff, and excessively low base flows. Local policies that protect individual natural features, including steep slopes, soils, forests and vegetation, wetlands, and floodplain, also advance the health of watersheds and streams, and more specifically, support the State's anti-degradation policies. In addition to policy recommendations related to the protection of these individual features, the following apply:

- Prohibit disturbance within an established riparian buffer surrounding streams and other surface water bodies.
- Limit the extent of impervious cover and promote the use of pervious materials.
- Require comprehensive stormwater management that incorporates alternative systems and methods, including Best Management Practices (BMPs), stormwater recharge techniques, and control of non-point source pollution.
- Integrate utilities and development planning: Water supply and wastewater

systems are an important part of watershed planning, affecting water balances and overall watershed health. A coordinated growth pattern, where development is directed to areas that have existing sewer and water infrastructure, or are programmed to have such infrastructure, will help to safeguard water supply and quality.

- Use the Jim Thorpe Water Department Source Water Protection Assessment as the basis for drinking water protection actions.

Floodplain

Floodplain is important for its natural functions of flood flow conveyance, stream channel formation and water filtration. Building within floodplain areas upsets flood conveyance and increases risks to human life and property.

The four municipalities will:

- Consider prohibiting development in identified floodplain areas without a variance.
- Ensure that improvements to existing buildings and structures will not increase the 100-year flood elevation and require flood proofing of permitted improvements.

Habitat and Natural Areas

Protection of habitat is accomplished by maintaining and promoting the health and diversity of natural areas as follows:

- Protect critical habitat areas through protection of topography and geology, soils, forest and vegetative cover, wetlands, floodplain, watersheds and streams.
- Protect as open space those properties that contain sites identified in the Carbon County Natural Areas Inventory.
- Establish a networked system of large contiguous areas of open space.

Dark Skies

The International Dark-Sky Association (IDA, Inc.) notes: *Today, people who live in or near cities have lost much of their view of the universe. This view is often substantially diminished even for people who live in smaller towns and rural areas. The spectacular view of the sky that our ancestors had on clear dark nights no longer exists. The great increase in the number of people living in urban areas has resulted in a rapid increase in urban sky glow due to outdoor lighting, brightening the heavens to such an extent that the only view most people have of the Milky Way or most stars is when they are well away from cities. This excess light in the sky has an adverse impact on the environment and seriously threatens to remove forever one of humanity's natural wonders - our view of the universe.*

This sky glow that adversely affects the environment and compromises astronomical research is called light pollution, for it is wasted light that does nothing to increase nighttime safety, utility, or security. Such wasted light only serves to produce glare, clutter, light trespass and light pollution and wastes energy, money, and natural resources in the process.



Artist rendering of city glow effect and a dark sky site. (IDA, Inc.)

Some solutions that minimize light pollution without compromising in any way nighttime safety, security, or utility:

- *Use night lighting only when necessary. Turn off lights when they are not needed. Timers can be very effective. Use the correct amount of light for the need, more is not better.*
- *Direct the light downward, where it is needed. The use and effective placement of well designed fixtures will achieve excellent lighting control. When possible, retrofit or replace all existing fixtures of poor quality. In all cases, the goal is to use fixtures that control the light well, minimizing glare, light trespass, light pollution, and energy usage.*

- *Use low pressure sodium (LIPS) light sources whenever possible. This is the best possible light source to minimize adverse effects on astronomical activities. LIPS lamps are also the most energy-efficient light sources that exist. Areas where LIPS is especially good include street lighting, parking lot lighting, security lighting, and any application where color rendering is not critical.*
- *Avoid development near existing observatories, and apply rigid controls on outdoor lighting when development is unavoidable. Such controls do not compromise safety, security, or utility. Outdoor lighting ordinances and codes have been enacted by many communities to enforce quality and effective nighttime lighting.¹⁷*

Zoning Standards for Lighting and Glare

The four municipal zoning ordinances include limited standards for the control of lighting and glare associated with nonresidential development. The Boroughs and Township will consider comprehensive updates of the standards.

¹⁷International Dark Sky Association, Inc., *Information Sheet #1*.

TRANSPORTATION PLAN

INTRODUCTION

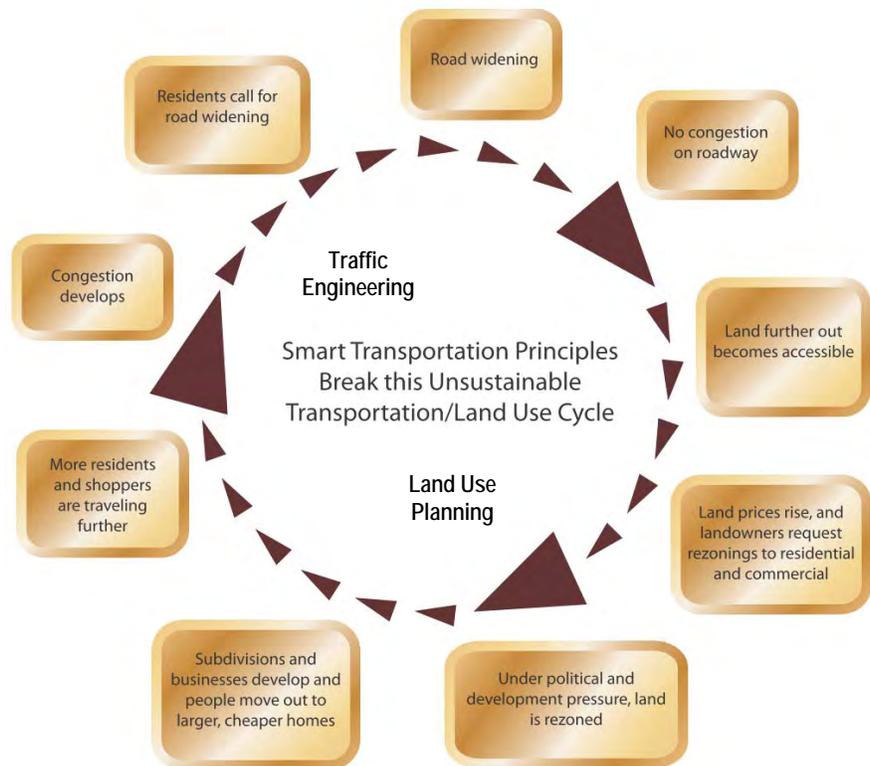
Transportation and Land Use

Transportation and land use need to be considered together for Pennsylvania municipalities to achieve quality of life objectives for their communities. Transportation systems serve communities in various ways: the regional transportation system provides the mobility to travel throughout the region quickly, whereas the local network provides travelers access to the places that they want to go—home, work, school, shopping, appointments, activities, etc. Pennsylvania municipalities should consider how their transportation system meets both the mobility and accessibility needs of the community. Concurrently, municipal land use policies help shape and rearrange the origins and destinations of travel and can either support or hinder mobility and accessibility. Transportation operates most efficiently when it provides a connected network of transportation modes serving a mix of land uses in close proximity. This type of system provides the traveler with a host of options and makes it possible to make fewer, shorter trips and be less dependent on a personal automobile.

A variety, or mix, of land uses, and an increase in land use densities, can lead to shorter trip distances, a better blend of jobs and housing within a community, and an increase in the use of alternative modes of transportation (walking, biking, transit) because different destinations are closer together. A corner store within walking distance of one’s home, for example, means that picking up a bottle of milk can be

PennDOT Smart Transportation Principles

1. Money counts
2. Choose projects with high value price ratio
3. Enhance the local network
4. Look beyond LOS
5. Safety first, and maybe safety only
6. Accomodate all modes
7. Leverage and preserve existing investments
8. Build towns and not sprawl
9. Understand the context; plan and design within the context
10. Develop local governments as strong land use partners



Source: PennDOT Comprehensive Plan Training Power Point

pleasant exercise rather than requiring another trip to the supermarket by car. Also, by providing a range of transportation choices beyond the automobile, individuals who do not drive are provided with new travel opportunities, and congestion and pollution can be eased. By contrast, separating land use types and/or reducing densities can increase the dependency on motorized transportation, thereby increasing congestion and/or the demand for additional roadways.

Thus, the design of Pennsylvania communities can either encourage or discourage the range of transportation options. Thoughtful and functional land use and transportation design (i.e., streetscapes, roadway design, traffic calming, and the connection of commercial and residential developments) can provide a safer environment for travel and encourage the development of healthy communities that appeal to all citizens including pedestrians, bicyclists, and transit riders. Where applicable, roadways should be designed to be Complete Streets to accommodate vehicles, pedestrians, bicyclists, the disabled, and transit by providing travel lanes, sidewalks, bike lanes, wider shoulders, raised crosswalks and medians, audible traffic signals, bus pullouts, and improved access to bus stops. The design of communities can also encourage the use of transit through compact, mixed-use development surrounding a transit station. Transit-oriented developments (TODs) may be appropriate for growing municipalities aiming to reduce the need for more highways in favor of broader transit use. Through careful planning, TODs can also be effective in connecting to existing and planned infrastructure, and linking different transportation modes to one another to form one complete system. In more rural municipalities, community design may include land use controls such as agricultural preservation to focus new development in targeted growth areas and lessen the demands on the overall transportation system.¹

Transportation in Rural Municipalities

Certainly, an ideally sound transportation system would include adequate, safe and well maintained roads and bridges, available public transportation, safe and convenient pedestrian access, and bicycle routes. However, few communities are able to achieve this ideal level of service. This is particularly true in small, less populated communities with limited budgets in a time when local, state and federal resources are less robust. In the end, local municipalities must evaluate transportation needs, set priorities, and garner all available resources to make improvements. These decisions must be made in the overall context of the Comprehensive Plan. Key elements that will influence the Transportation Plan include the Land Use Plan, the Community Facilities Plan and the Open Space/Recreation Plan.

Local Municipal and PennDOT Partnership



The Middle Carbon County Comprehensive plan is supported in part by a PennDOT Supplemental Planning Funds grant through the NEPA Alliance Rural Planning Organization (RPO). Transportation planning in Carbon County has historically been conducted at the County level in cooperation with the RPO with a focus on improvement of state roads and bridges. The intent of this Middle Carbon Plan is to link transportation planning with local land use planning and management, primarily zoning ordinances and subdivision and land development ordinances. The recommendations will serve to strengthen the Carbon County Comprehensive Plan which will address transportation from the broader perspective.

¹*Integrating Transportation and Land Use - A Handbook for Pennsylvania Municipalities*, PennDOT Publication 688, December 2009, p. 5.

NEPA Alliance RPO

The Carbon County Office of Planning and development, working with the Northeastern Pennsylvania Rural Planning Organization (RPO) and PennDOT, identify and prioritize long-range transportation improvements for the rural counties of Northeastern Pennsylvania, including Carbon, Monroe, Pike, Schuylkill and Wayne Counties, by incorporating the projects into a Transportation Improvement Program (TIP). The TIP, which is updated every two years, is an agreed upon list covering a four year period of transportation priorities. It is a project specific, fiscally constrained by year, transportation program of highway, bridge, and transit priorities for a region.

The TIP is submitted to PennDOT and becomes a part of the State Transportation Improvement Program (STIP). The STIP is a compilation of all of the TIPs from the regional agencies across the Commonwealth. The STIP is the official document, submitted by PennDOT, to the Federal Highway Administration for approval. The STIP/TIP shows estimated costs and schedule of a project by phase, including preliminary engineering, final design, utilities, right-of-way acquisition, and construction. The approved TIP can be modified or amended to add, delete, or advance projects, or to accommodate cost and phase of work changes. Inclusion of a project phase in the TIP is not a guarantee or commitment of funds. However, being listed on the TIP is a requirement for consideration of funds to a project and means that the project will have a good chance of being implemented.

2011 - 2014 NEPA Highway and Bridge TIP

Middle Carbon Planning Area projects on the current TIP include:

- Jim Thorpe - Route 903 Bridge across Lehigh River - 2014 construction.
- Penn Forest - Route 903 / PA Turnpike Interchange - Spring 2014 completion.
- Penn Forest - SR 1001 Wild Creek Bridge rehabilitation - 2011 construction.
- Summit Hill - SR 3012 White Bear Creek Bridge preservation activities - 2011 construction.

Source: <http://www.nepa-alliance.org/Transportation/RPO%20-%20TIP.html>.

Transportation Planning Process

The transportation planning process is comprised of three principal components:

- Goal and Objectives - A statement of how the four local municipalities envision the future circulation system in the Planning Area along with objectives which are specific actions designed to achieve the goal and satisfy community needs and expectations.
- Transportation System Profile - An inventory of transportation facilities and an evaluation of the system's capacity, including current and forecasted user demand of the facilities.
 - System Characteristics and Operations - Transportation facilities description, use and performance.
 - Trends and Forecasts - Emerging trends in facility use and projected future use based on internal and external factors.
 - Issues and Opportunities - Current or projected system deficiencies and recommendations for short term construction projects and mid to long-term strategies for system maintenance and improvement.
- Transportation Plan - A list of prioritized projects and actions to be undertaken with local, county, state and federal resources.

PENNSYLVANIA MOBILITY PLAN



This Middle Carbon County Comprehensive Plan is intended to be consistent with the Pennsylvania Mobility Plan. *Pennsylvania's economy continues to evolve. We face growing congestion. The average age of our residents is increasing, and homes and workplaces are more spread out from city and town centers. Transportation funding falls short of transportation needs. These and many other current challenges, as well as opportunities offered by technology, the global economy, and the broader "quality of life" factors considered in transportation planning today, make this an important time for strategic thinking and bold action. The statewide long-range transportation planning process is an opportunity to consider what we would like life in Pennsylvania to be like in the future, how transportation can support that future, and how we can move toward that vision amid the trends and challenges we face today and are likely to face down the road. The Pennsylvania Mobility Plan builds on the strengths of Pennsylvania's previous statewide long-range transportation plan, PennPlan MOVES!, and updates it for the 2006 through 2030 planning horizon. The Mobility Plan articulates a transportation vision and establishes five goals for achieving that vision. Working collaboratively to achieve those goals will make transportation more multimodal, entrepreneurial, and collaborative, and will better link investment decisions with goals for Pennsylvania's economy and quality of life.*²

Mobility Plan Goals & Objectives

Goal 1: Move people and goods safely and securely.

- Reduce the number of fatalities and crashes.
- Ensure the uninterrupted operation of vital transportation services.

Goal 2: Improve quality of life by linking transportation, land use, economic development, and environmental stewardship.

- Direct resources to support economic and community development.
- Integrate land use and transportation.
- Preserve natural, historical, and cultural resources.
- Promote energy conservation.

Goal 3: Develop and sustain quality transportation infrastructure.

- Advance a program to achieve desired maintenance cycles.
- Accelerate the use of innovative construction techniques, better materials, and improved maintenance practices.

Goal 4: Provide mobility for people, goods, and commerce.

- Improve connectivity and accessibility throughout the transportation network.
- Improve transportation system operating efficiency.
- Improve transportation system reliability.

Goal 5: Maximize the benefit of transportation investments.

- Improve transportation investment decision-making.
- Focus statewide planning and investments on a Core PA Transportation System.
- Secure funding to preserve Pennsylvania's transportation infrastructure and to make strategic capacity improvements.
- Improve project delivery to expedite project development and reduce cost.

² *Pennsylvania Mobility Plan*, Executive Summary, p. 2 (<http://www.pamobilityplan.com/pubs/MP-ExecSum-9-11-06-lowres.pdf>).

CIRCULATION SYSTEM GOAL AND OBJECTIVES

Establish and maintain an adequate circulation system to safely and efficiently move people and goods.

Safe and well maintained roads are vital to all communities, serving not only as the means of travel within the community, but as the direct link to the region and beyond. Land use management tools must consider the capacity of roads, directing commercial and higher density development to areas served by roads capable of carrying increased traffic and the trucks necessary to serve resort and other commercial establishments. Concurrently, providing for pedestrians and bicyclists is also important, particularly in the three Boroughs.

Public roads and streets in the Planning Area total about 135 miles, with the three Boroughs and the Township having direct jurisdiction over a total of 77 miles of roads and streets, being entirely responsible for improvements and maintenance. Road maintenance accounts for significant proportions of the budgets of all four Planning Area municipalities, and local officials must plan carefully to ensure adequate funding for the improvement and maintenance of locally-owned roads. The more heavily traveled routes are owned and maintained by the State and total 49 miles, as are an additional 18 miles (9 miles northbound + 9 miles southbound) of the Northeast Extension of the Pennsylvania Turnpike. In addition to the Turnpike, major state routes in the Planning Area include Route 209 running east from Schuylkill County through Lansford, Nesquehoning and Jim Thorpe to Lehigh, Route 902 connecting Route 209 in Lansford through Summit Hill and south to Mahoning Township and Lehigh, and Route 903 connecting Jim Thorpe north to Penn. Forest Township and Kidder Township.

Circulation - Planners typically talk about "circulation" rather than transportation because circulation (getting around) is the goal of the citizens they serve, whereas transportation is just a method of achieving that goal. A good circulation plan includes more than streets and roads – it includes means of pedestrian and bicycle circulation and, in many communities, some form of mass transportation.

Although good circulation plans involve more than roads, the starting point for an existing conditions analysis of circulation is a map of streets and highways in the community.

Source: *Community Planning, an Introduction to the Comprehensive Plan*, p. 80.

CIRCULATION OBJECTIVES

Circulation Network

Improve the current roadway system to provide efficient traffic flow while maintaining a safe environment for pedestrians.



Carbon County
Community Transit Bus Stop
www.carboncounty.com/transport.htm

- Classification - Inventory and classify according to function all public roads and bridges.
- Public Transportation - Support the Carbon County Community Transit system to maintain existing services to agency clients, and expand public service when financially feasible.
- Commuting to Work - Provide for park and ride areas and bus depots in appropriate zoning districts to facilitate commuting to work outside the Planning Area.
- Road Linkages - Include the consideration of through road connections as part of the development review and approval process.
- Project Impacts - Ensure that transportation improvement projects are consistent with the town's policies for protection of natural, cultural and historic resources,

and minimize the impact on residential neighborhoods, and consider pedestrian and bicyclist access.

- Development Location - Limit higher density and higher traffic impact development to areas with adequate highway capacity.

State Roads



White Bear Road / Route 902

Work cooperatively with adjoining municipalities, the County and PennDOT to address regional traffic impacts and highway improvement needs.

- Improvements - Identify key intersections and other problem areas, and required improvements.
- Planning - Actively participate in all County and PennDOT highway planning programs.
- Route 903/PA Turnpike - Anticipate the growth and development effects of the pending Route 903/PA Turnpike interchange and update zoning as necessary.

Local Actions

Develop a coordinated Planning Area program to maintain local municipal streets, roads and sidewalks.

- Improvements Program - Develop a local road and intersection maintenance and capital improvements program.
- Cooperation - Work cooperatively with other municipalities to achieve road maintenance and improvement efficiency by sharing equipment and coordinating contract bidding for services and materials.
- Highway Occupancy Permit
 - Require as part of zoning approval for new or expanded uses, the issuance of a highway occupancy permit by the Borough/Township or PA DOT, as appropriate.
 - Maintain an up-to-date road occupancy ordinance setting standards for driveway access to Borough/Township roads and storm water and utility improvements within the road right-of-way.
- Parking and Access - Require adequate, but not excessive, off-street parking and loading, limit curb cuts, and require well designed access points.
- New Development - Maintain up-to-date standards for construction of new subdivision roads.
- Road Dedication - Continue the policy of not accepting development roads for public dedication unless the road serves a clear benefit that accrues to the public as a whole and not only residents of the development.
- Official Map - Using an official map, establish and reserve public street alignments and adequate rights-of-way for planned street improvements.

Pedestrians and Bicyclists Consider the needs of pedestrians and bicyclists in all transportation planning.



- Opportunity - Provide opportunities for a range of non-automotive transportation alternatives that are easily available to residents and visitors.
- New Development -Consider all new development proposals in terms of effects on existing and provision for new facilities for pedestrians and bicyclists.
- Pedestrians - Provide a safe environment for pedestrians by improving sidewalks, controlling traffic, and requiring new development to address pedestrian traffic.
- Sidewalks - Recognize the importance of sidewalks to the quality of life in the Boroughs and develop a sidewalk inventory, improvement, construction, and maintenance program to ensure long term viability of sidewalks.

PLANNING PARTICIPANTS

Steering Committee

The Transportation Plan is one element of the Middle Carbon County Comprehensive Plan and the Comprehensive Plan Steering Committee provided the overall direction for the planning process. The Committee was comprised of elected officials, planning commissioners, and citizens of each of the four participating municipalities. The Committee identified stakeholders and provided the first tier vetting of issues to focus the process and data collection.

Stakeholders

The stakeholder list developed by the Steering Committee included individuals, organizations and agencies with a range of interests.

- Residents - youth, seniors, persons with disabilities, social agency clients
- Transit providers
 - Carbon County Community Transit
 - Reading Blue Mountain and Northern Railroad
 - Canadian Pacific Railway
 - Norfolk Southern Railroad
 - Bus companies
- Businesses and business organizations
- Emergency service providers - police, fire, ambulance
- Carbon County agencies
 - Planning and Development
 - Emergency Management
 - Economic Development
- School districts
 - Panther Valley
 - Jim Thorpe Area
- Region and State
 - NEPA Alliance
 - Northeastern Pennsylvania Rural Planning Organization

- PennDOT
- Pennsylvania Turnpike Commission
- Pennsylvania Department of Conservation and Natural Resources

- Participating municipalities
 - Elected officials
 - Planning commissions
 - Road departments

Key Person Contact

An email contact list was developed and notice of all meetings and associated documents were provided to the individuals on the list. Based on the direction of the Steering Committee, the planning team contacted key stakeholders to compile background information, identify issues and discuss potential actions.

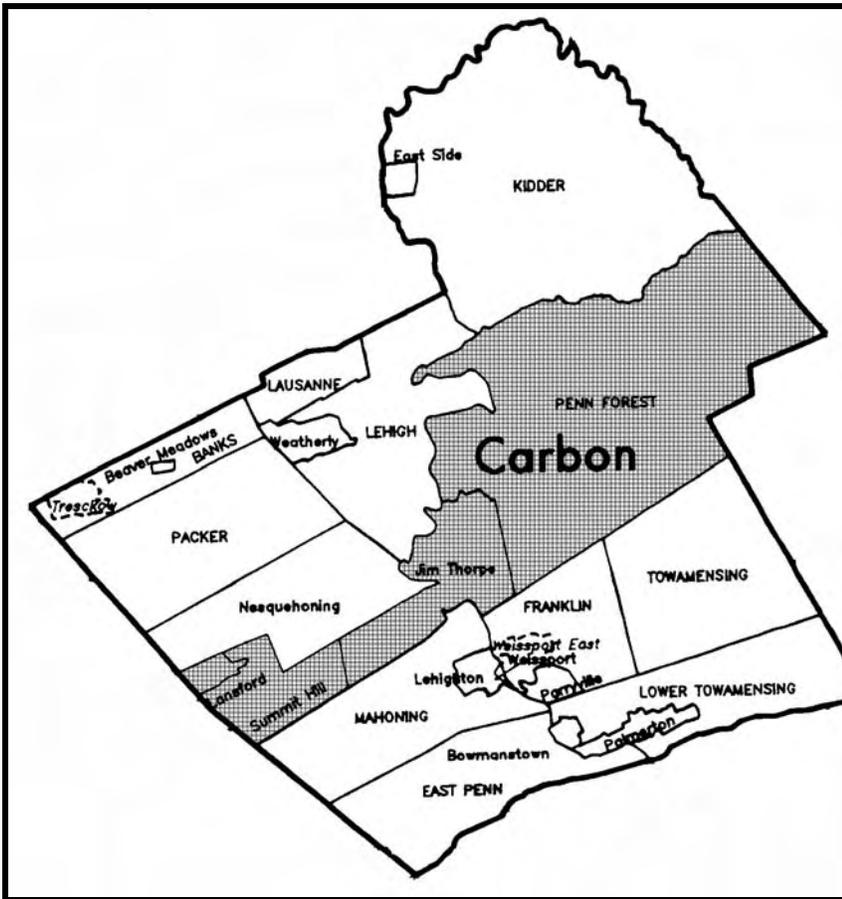
Public Meetings

The Steering Committee conducted a public transportation forum on February 17, 2011, at the Jim Thorpe Memorial Hall. A wide range of issues was discussed including: (See the Appendix for detailed report.)

- Route 903 / Pennsylvania Turnpike Interchange
 - increased traffic
 - stimulation of residential development
- Route 903
 - traffic control
 - monitor need for intersection improvements
- Zoning and Land Use
 - require traffic studies for intensive uses
 - alternatives to strip development
- Bridges
 - Route 903 bridge across Lehigh River is priority
- Public Transportation
 - Carbon County Community Transit
- Rail - Freight and Passenger
 - tourist excursions
 - Packerton Yards Business Park
 - rail car storage in Lansford
- Special Needs
 - discuss with agency staff
- Aviation
 - Jake Arner Memorial Airport - needs runway extension to improve service
- Traffic Congestion
 - only issue is downtown Jim Thorpe during tourist season and special events
- Parking
 - only issue is downtown Jim Thorpe

In addition, the Plan was included in the overall Comprehensive Plan public review and adoption process required by the Pennsylvania Municipalities Planning Code – review by county planning department, contiguous municipalities and school districts; planning commission public meeting and governing body public hearings.

TRANSPORTATION PROFILE



Middle Carbon County Planning Area
 Jim Thorpe, Lansford, Penn Forest, Summit Hill

Development Pattern

Geographically, Jim Thorpe lies in the center of Carbon County serving as a bridge between Summit Hill Borough and Lansford Borough to the west and Penn Forest Township to the east. Although each of the Middle Carbon County Planning Area communities is unique in terms of community character and development concerns, the four municipalities are linked by the area road network and realize the importance of intermunicipal cooperation.

Summit Hill Borough, Lansford Borough and Jim Thorpe Borough are relatively small municipalities in terms of population, but, taken as a whole, with significant land area. The population of the three Boroughs has been declining for more than 60 years. Lansford and Summit Hill are more mature communities linked to the decline in coal production and subsequent loss of businesses, and the U.S. Census 2008 population estimate reported a small loss of population for Lansford and Summit Hill. Jim Thorpe’s population was estimated to have increased somewhat by 2008,

perhaps owing to it serving as the County Seat and a major tourist destination with more retail and service businesses. In any case, the three Boroughs must deal with diminishing resources to maintain existing, and to provide any improved or new, facilities and services.

Penn Forest Township encompasses the largest land area in the County and has experienced significant second home development, and subsequent permanent population growth, similar to other municipalities associated with the Pocono Mountains. In short, Penn Forest Township’s population has been increasing dramatically, and with the completion of the planned Pennsylvania Turnpike/Route 903 interchange, the populations growth is expected to continue.

POPULATION (US Census and 2008 Census Estimate)						
	1990	2000	% 90-00	2008	% 00-08	% 90-08
Jim Thorpe	5,048	4,804	-4.8%	4,893	1.9%	-3.1%
Lansford	4,583	4,230	-7.7%	4,132	-2.3%	-9.8%
Penn Forest	2,895	5,439	87.9%	7,544	38.7%	160.6%
Summit Hill	3,332	2,974	-10.7%	2,956	-0.6%	-11.3%
Total	15,858	17,447	10.0%	19,525	11.9%	23.1%
% of County	27.9%	29.7%	--	31.2%	--	--
Carbon County	56,846	58,802	3.4%	62,567	6.4%	10.1%

Means of Travel

As shown in the *Commuting to Work Table*, the 2000 Census data clearly shows that the automobile remains the primary means of travel to work. Although the data is dated to 2000, little change in proportions is anticipated for the 2010 Census and beyond. In short, Planning Area residents will continue to rely on the automobile, and as the population increases, traffic volume will also increase.

COMMUTING TO WORK (US Census 2000)							
	Workers 16 Years & Over	Car, Truck or Van		Public Transit	Walked	Other Means	Worked at Home
		Alone	Car Pool				
Jim Thorpe	2,234	79.4%	14.1%	0.7%	5.8%	-	-
Lansford	1,499	77.6%	15.2%	0.5%	3.7%	0.6%	2.4%
Penn Forest	2,179	84.5%	10.8%	3.0%	-	-	1.7%
Summit Hill	1,391	86.0%	8.1%	1.2%	2.4%	1.1%	1.4%
Carbon County	25,868	81.8%	11.9%	0.7%	3.2%	0.6%	1.7%
PA (1,000s)	5,556	76.5%	10.4%	5.2%	4.1%	0.8%	3.0%
US (1,000s)	128,279	75.7%	12.2%	4.7%	2.9%	1.2%	3.3%

Travel Time to Work

- Mean travel time to work in all four of the Planning Area municipalities and Carbon County as a whole is higher than the mean for the Commonwealth and the Country.
- This is typical for small towns and rural areas where workers travel greater distances to employment centers.
- Travel time for Penn Forest Township workers is more than double the state and national average, likely a reflection of proportion of workers traveling to the Lehigh Valley via the Pennsylvania Turnpike.

TRAVEL TIME TO WORK (US Census)									
Number of Workers*	minutes								
	US Census 2000					Mean Travel Time to Work			
	< 15	15-29	30-59	60-89	90 +	1990	2000	2005-09**	
Jim Thorpe	2,234	39.8%	22.7%	25.2%	7.4%	4.9%	21.7	28.5	28.4
Lansford	1,463	27.1%	33.6%	22.9%	12.4%	4.0%	21.4	30.9	25.6
Penn Forest	2,143	22.4%	21.9%	31.8%	9.2%	14.7%	27.1	43.2	50.8
Summit Hill	1,372	28.6%	34.0%	26.0%	6.5%	5.0%	24.4	29.9	31.7
Carbon County	24,438	32.0%	25.3%	31.4%	6.5%	4.7%	22.4	29.2	30.6
PA (1,000s)	5,392	30.4%	36.1%	26.0%	4.9%	2.6%	21.6	25.2	25.4
US (1,000s)	124,095	29.4%	36.1%	26.5%	5.2%	2.8%	22.4	25.5	25.2

*Not working at home. **American Community Survey - subject to sampling error

Commuting Patterns

The *Place of Employment Table* and the *Residence of Worker Table* show commuting patterns of Planning Area residents and persons who traveled into the Planning Area to work as reported by the 2000 Census.

- Taken as whole, the Planning Area in 2000 was a net exporter of workers - some 7,300 employed persons lived in the four municipalities while just under 3,400 workers were employed in Carbon County.
- Significant changes are not anticipated in the 2010 Census data which will not be available until 2012.

Place of Employment

- At one-third, Jim Thorpe had the highest proportion of resident workers while Penn Forest Township had the lowest - about 12%.
- About one-half of the workers living in the Planning Area were employed somewhere in Carbon County and another 23% were employed in the Lehigh Valley and points south.

Residence of Worker

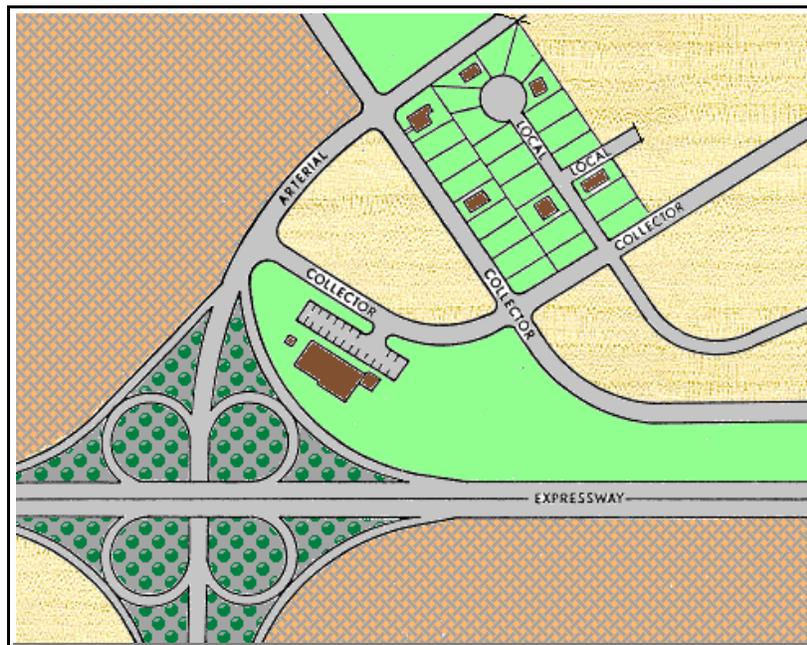
- More than 80% of the workers employed in the four Planning Area municipalities resided in Carbon County.
- The greatest proportion of out-of-county workers commuting to the Planning Area, almost 7%, were from Schuylkill County.

PLACE OF EMPLOYMENT (US Census 2000)					
Example: 0.6 % of the 2,234 employed persons who lived in Jim Thorpe worked in Bowmanstown.	Place of Worker Residence				
	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Mid-Carbon Total
Total workers living in →	2,234	1,499	2,179	1,391	7,303
Place of Employment	percent of workers from municipality working in "Place of Employment"				
Bowmanstown	0.6	0.0	0.0	1.3	0.4
East Penn Twp.	0.0	0.7	0.0	0.6	0.3
Franklin Twp.	0.9	0.5	1.0	0.7	0.8
Jim Thorpe	33.3	3.5	15.7	3.7	16.3
Kidder Twp.	1.1	0.0	4.1	0.0	1.6
Lansford	0.6	15.2	0.0	7.8	4.8
Lehigh Twp.	0.0	0.5	0.0	0.0	0.1
Lehigh Twp.	10.5	5.9	1.8	4.2	5.8
Lower Towamensing Twp.	0.5	0.0	0.0	0.0	0.2
Mahoning Twp.	5.6	4.0	1.4	5.3	4.0
Nesquehoning	6.3	8.3	2.6	12.7	6.8
Palmerton	4.2	1.7	1.4	2.0	2.4
Penn Forest Twp.	0.0	0.5	12.2	0.6	3.8
Summit Hill	0.4	1.0	0.6	13.2	3.0
Weatherly	0.7	0.4	0.0	0.7	0.4
Total Carbon County	64.7	42.2	40.8	52.8	50.7
Lackawanna Co. PA	0.0	0.0	2.2	0.0	0.6
Lehigh Co./Northampton Co./SE PA/MD	24.1	24.3	24.1	17.5	22.9
Luzerne Co. PA	2.8	5.3	3.0	6.7	4.1
Monroe Co. PA	2.4	0.4	16.2	1.3	5.9
Schuylkill Co. PA	3.1	25.4	0.3	19.6	10.0
Wayne Co. PA	0.7	0.0	0.0	0.0	0.2
Wyoming Co. PA	0.0	0.0	0.0	0.5	0.1
Central/S Central PA	0.0	1.5	0.0	0.9	0.5
Metro NJ / NY	1.3	1.1	12.5	0.0	4.4
> 3 hours	1.0	0.0	1.0	0.6	0.7
PLANNING AREA RESIDENTS					
Total working in Planning Area	34.3	20.2	28.5	25.3	27.9
Total working out of Planning Area	65.7	79.8	71.5	74.7	72.1

RESIDENCE OF WORKER (US Census 2000)					
Example: 0.2% of the 2,120 persons who worked in Jim Thorpe lived in Banks Township.	Place of Employment				
	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Mid-Carb Total
Total workers employed in →	2,120	635	328	301	3,384
Place of Worker Residence	percent of persons working in municipality from "Place of Worker Residence"				
Banks Twp.	0.2	0.0	0.0	0.0	0.1
Beaver Meadows	0.1	0.3	0.0	0.7	0.2
Bowmanstown	0.3	0.5	0.0	0.0	0.3
East Penn Twp.	1.8	0.8	0.0	2.7	1.5
Franklin Twp.	3.4	0.0	0.0	0.0	2.1
Jim Thorpe	35.0	2.2	0.0	2.7	22.6
Kidder Twp.	0.8	0.5	0.0	0.0	0.6
Lansford	2.5	35.9	2.1	5.0	9.0
Lehigh Twp.	0.4	0.0	2.1	0.0	0.4
Lehighon	3.1	2.5	0.0	0.0	2.4
Lower Towamensing Twp.	2.7	0.0	0.0	0.0	1.7
Lausanne Twp.	0.0	0.3	0.0	0.0	0.1
Mahoning Twp.	4.6	0.0	1.5	6.3	3.6
Nesquehoning	3.4	13.1	0.0	0.0	4.6
Packer Twp.	0.3	0.0	0.0	1.0	0.3
Palmerton	1.8	2.5	0.0	0.0	1.6
Parryville	0.1	0.0	0.0	0.0	0.1
Penn Forest Twp.	16.2	0.0	81.1	4.7	18.4
Summit Hill	2.4	17.2	2.4	60.8	10.4
Towamensing Twp.	1.1	0.0	0.0	2.7	0.9
Weatherly	0.3	0.0	0.0	0.0	0.2
Weissport	0.4	0.0	0.0	0.0	0.2
Total Carbon County	80.9	75.7	89.3	86.4	81.2
Lehigh Co./Northampton Co./SE PA	3.1	3.5	0.0	0.0	2.6
Lackawanna Co. PA	0.7	0.0	0.0	4.0	0.8
Luzerne Co. PA	2.5	1.3	4.0	0.0	2.2
Monroe Co. PA	5.7	0.0	0.0	0.0	3.6
Schuylkill Co. PA	3.1	16.7	6.7	9.6	6.6
Central PA	3.4	2.8	0.0	0.0	2.7
> 3 hours	0.6	0.0	0.0	0.0	0.4

Access - Mobility

Each highway, road or street in a community plays a specific role for the movement of traffic and it is useful for planning purposes to classify roads according to the particular function each serves. In general terms, the functional classification of a road is based largely on two factors -- access and mobility -- and typically, as access declines mobility increases. For example, the Pennsylvania Turnpike clearly serves a different function than does a street in a Borough or a residential subdivision. Although the Turnpike and local street example compares streets at the opposite ends of the road classification hierarchy, it clearly depicts the relationship between access and mobility. Traffic on a limited access highway travels over long distances at high rates of speed. On the other hand, traffic using a residential street with unlimited access from individual properties moves at minimum speeds to reach roads that connect the residential community with other areas in the Planning Area and the region at large.



Highway Functional Classification

Highway Classification Factors

As previously noted, access, how traffic enters the traffic stream, and mobility, the physical capability of the road to carry traffic, are the key determinants of a road's functional classification. However, several other road and network characteristics also affect the functional classification of a road. Traffic volume in relationship to the physical design of the road, including lane and shoulder width, right-of-way alignment and surface treatment, is important to its classification. Generally, as a community develops, roads are improved to meet the increased traffic demands, with specific routes moving higher in the functional classification as they are improved.

However, in areas of rapid growth and associated traffic increases, the amount of traffic carried by specific roads may increase to the point of exceeding the road's capacity. The road, in terms of traffic, may be serving as an arterial route, but may not have been physically upgraded from a minor collector or local road. In urban areas, mass transit and non-capital approaches such as ride sharing and staggered work hours are promoted as a means of reducing traffic congestion as an alternative to upgrading roads. In a community such as the Middle Carbon Planning Area, where much of the traffic is to travel to work to distant employment centers, such solutions are likely

impractical. A road's location and relationship to other roads in the intra- community and inter-regional highway network may also help define the road's classification.

Those roads which provide direct and convenient connection to arterial routes and expressways typically develop into roads which carry increasing amounts of traffic. Conversely, interchanges for expressways are normally located to provide connection with those roads in a community which historically have developed into arterials and collectors. Traffic flow problems and declines in level-of-service on routes connecting areas of the municipalities and routes providing access to the region are directly related to the capacity of collector and arterial roads. As traffic increases on the collectors and arterials, where access to abutting properties has historically not been limited to any significant degree, increasing traffic congestion can be expected. Also resulting from such access by adjoining residential and commercial properties and intersecting streets are the safety problems associated with increased congestion.

Functional Classification and Federal Aid Status

All roadways in Pennsylvania are categorized by “functional classification,” a system developed by the American Association of State Highway and Transportation Officials (AASHTO). Design guidelines are customized by AASHTO to meet the demands common to each category. The AASHTO categories are as follows:

- *Principal Arterial*
- *Minor Arterial*
- *Collector (Minor and Major in Rural Areas)*
- *Local*

Roadway functional classification is significant not only for design standards, but it can also be used to determine the eligibility of transportation facilities for federal financial aid. All rural roadways functionally classified in the AASHTO system as higher than a minor collector, and all urban roadways classified as higher than a local roadway, are eligible for federal aid.³

In addition, functional classification may be used by local municipalities to direct higher density (e.g., multi-family housing) or higher intensity (e.g., big-box retail) to areas which are served by roads with adequate capacity. The zoning ordinance can require such uses to be located on arterial roads as identified in the municipal comprehensive plan.

A description of the functional classification of state-owned roads in the Planning Area as classified by PennDOT follows. Annual average daily traffic is also from PennDOT for 2009.

Expressway

- Provides interregional and interstate connections.
- Designed for unrestricted, high speed (55+ mph) mobility of traffic.
- Limited access only - no direct access from private property.
- Provides highest level of mobility.
- Intersects selected arterial or collector routes with interchanges.
- Carries highest volumes of automobile and truck traffic with longer trip lengths.

³*Integrating Transportation and Land Use - A Handbook for Pennsylvania Municipalities*, PennDOT Publication 688, December 2009, p. 40.



<http://www.paturnpike.com/ezpass>

The Pennsylvania Turnpike, running north and south through Penn Forest Township and Carbon County, is the only expressway in the Planning Area with access currently at the Pocono Interchange north of the Planning Area and the Mahoning Valley Interchange to the south, with a new interchange at Route 903 to be completed by 2014. The Turnpike has played a central role in shaping the growth and development of much of Carbon County. The ease of access provided for visitors and new residents has certainly contributed to the level of residential development and will continue to facilitate travel to nearby urban centers. Annual average daily traffic (AADT) is 24,300 including 4,870 trucks.

Arterial Highway

- Provides connection between commercial and population centers in the region.
- Provides connection between the municipalities and adjoining communities, counties and states.
- Carries higher volumes of traffic at relatively high speeds (45-55 mph).
- Serves a mix of local and through traffic.
- Carries low volumes of through truck traffic.
- Provides moderate to high levels of mobility.
- Access limited only by PennDOT highway occupancy permits and local zoning and subdivision ordinances.



Route 209 / Route 903

Principal Arterial

Route 209 through Jim Thorpe

- The primary route through Jim Thorpe.
- Serves as a Jim Thorpe *main street*.
- Subject to congestion, particularly during peak tourist visitation.
- Annual average daily traffic (AADT) - 9,400 to 12,000.

Minor Arterial

Route 209 through Lansford and Summit Hill

- Primary east/west route connecting to Schuylkill County.
- Serves as a Lansford *main street*.
- AADT - 5,600 to 6,300.

Minor Arterial

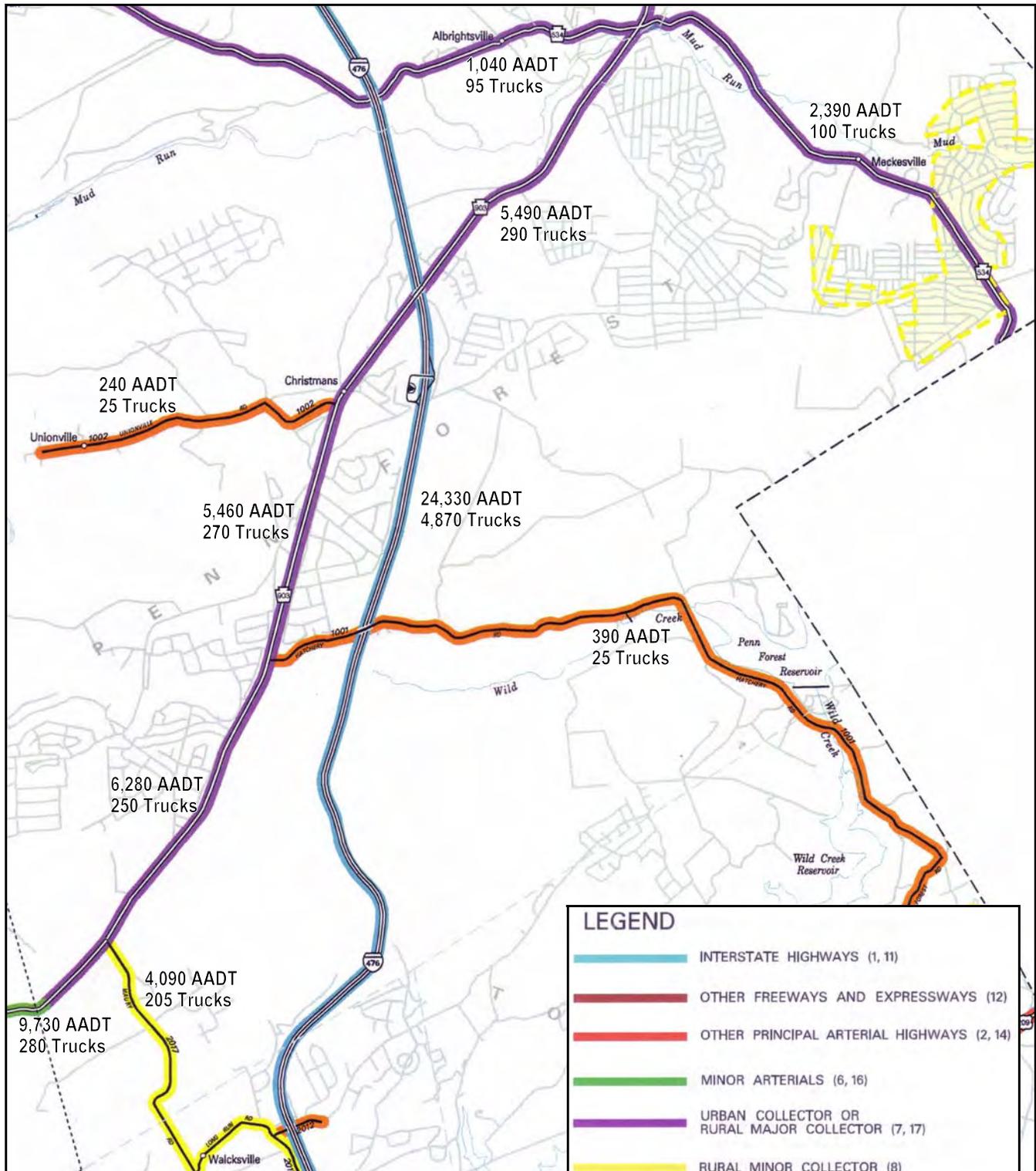
Route 903 from Route 209 to Penn Forest Township Line

- Primary route connecting Jim Thorpe and Penn Forest Township to points northeast.
- Serves as a Jim Thorpe *main street*.
- AADT - 9,700.

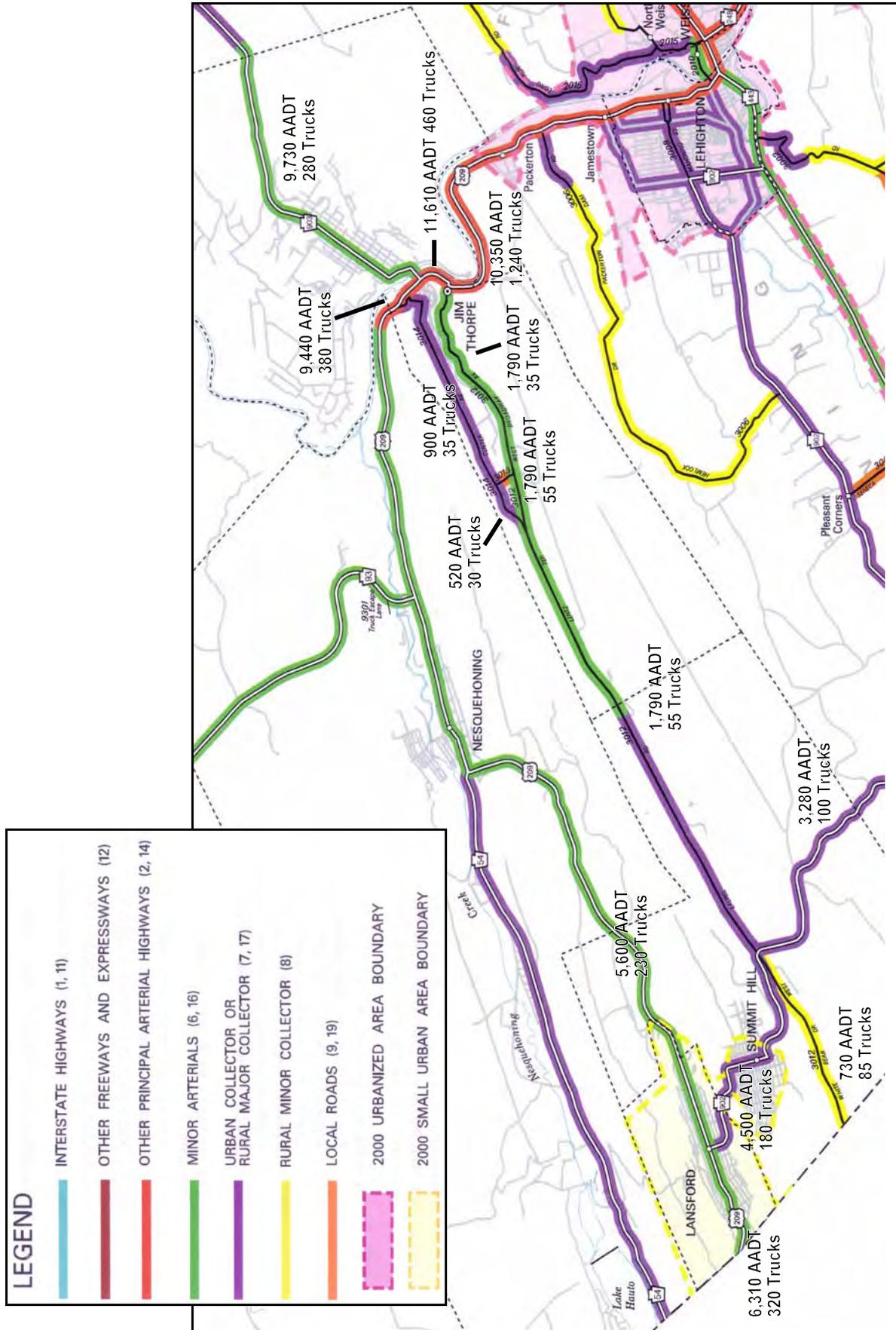
Minor Arterial

SR 3012 (W. Broadway/Laurel Road) from Jim Thorpe to Summit Hill Line

- Provides access Mauch Chunk Lake Park.
- AADT - 1,300 to 1,800



Functional Classification and 2010 AADT (PennDOT)



Functional Classification and 2009 AADT (PennDOT)

Collector Road

- Collects traffic from local streets for connection of residential areas to commercial and activity centers and arterials.
- Serves moderate levels of traffic at reduced speeds (35-45 mph).
- Serves more locally oriented traffic and few through trips.
- Carries primarily only “local delivery” truck traffic.
- Access from smaller and more numerous properties.
- Access limited only by local municipal and PennDOT highway occupancy permits and local zoning and subdivision ordinances.
- Provides reduced levels of mobility.

Major CollectorRoute 903 from Jim Thorpe Line North through Penn Forest Township

- Primary route connecting Jim Thorpe and Penn Forest Township to points northeast.
- AADT - 5,500 to 6,300.

Major CollectorSR 3014 (Center Avenue) Jim Thorpe

- Informal *bypass* between Route 209 and SR 3012.
- AADT - 500 to 900.



Route 902 Lansford



Route 902 Summit Hill

Major CollectorRoute 902 through Lansford and Summit Hill

- Connects Lansford and Summit Hill to Lehigh.
- Serves as a Summit Hill *main street*.
- AADT - 3,300 to 4,500.

Major CollectorSR 3012 (Laurel Road) from Route 902 to Jim Thorpe Line

- Connection between Lansford and Summit Hill and Jim Thorpe.
- AADT - 1,800

Major CollectorRoute 534 in Penn Forest Township

- Connects south to Route 209 in Monroe County.
- AADT - 2,400.

Minor CollectorSR 3012 (White Bear Drive in Summit Hill)

- Connects west into Schuylkill County.
- AADT - 750.



Maury Road / Route 903

Minor Collector

SR 2017 (Maury Drive in Penn Forest Township)

- Connects south into Franklin Township.
- AADT - 4,100.

Local Road

- Provides connection of residential properties and communities and less populated areas to collectors.
- Serves lowest levels of traffic at slowest speeds (less than 35 mph).
- Provides high level of access from smaller residential parcels or areas with little development.
 - Carries local trips only with no through trips.
 - Carries minimal truck traffic for local deliveries.



Unionville Road / Route 903

Local Road

SR 1001 (Hatchery Road in Penn Forest Township)

- Connects Route 903 to Towamensing Township
- AADT - 400.

Local Road

SR 1002 (Unionville Road in Penn Forest Township)

- Dead-ends past Unionville west of Route 903
- AADT - 250.

Local Municipal Roads

- All roads owned and maintained by the three Boroughs and the Township are considered local roads.
- Traffic counts for Borough and Township roads are not available.

Public Roads in the Planning Area

Public roads in the Middle Carbon County Planning Area total 134 miles including 76.83 miles of municipal roads, 48.27 miles of state-owned routes, and about 8.9 miles of the Pennsylvania Turnpike. All roads owned by the municipalities are part of the State Liquid Fuels Programs which provides state payments to the municipalities for road maintenance and reconstruction based on population and miles of roads meeting PennDOT specifications. However, the Liquid Fuels Funds comprise only a small part of the Township and Borough road maintenance budgets and do not nearly cover the cost of long term road maintenance and reconstruction.

ROAD MILES - MIDDLE CARBON COUNTY				
(PennDOT Type 5 and Type 5A Maps)				
	Miles			
	Local Municipal	State	PA Turnpike	Total
Jim Thorpe	18.91	10.95	0.00	29.86
Lansford	13.30	2.15	0.00	15.45
Penn Forest	30.35	25.91	8.90*	65.16
Summit Hill	14.27	9.26	0.00	23.53
TOTAL	76.83	48.27	8.90	134.00
*estimate				

**Private Roads
in the Planning Area**



In addition to the roads owned by the three Boroughs and the Township, hundreds of miles of roads in the Planning Area are owned and maintained by private community associations. These roads serve residents of private communities which have chosen to keep roads private. Road maintenance in these communities is financed by community association dues assessed to all lot owners. Most are in Penn Forest Township with its numerous residential subdivisions such as Bear Creek Lakes, Indian Mountain Lakes and Towamensing Trails. Leisure Land is an example in Jim Thorpe.

Traffic Volume

Annual average daily traffic (AADT) volumes provide an overview of the traffic flow in the Township and Boroughs for planning purposes. PennDOT conducts traffic counts on state roads, and the counts do provide a means of assessing the overall traffic conditions. Traffic data for 2010 for all state roads in the municipalities, reported as annual average daily traffic (AADT), are shown on the preceding *Functional Classification and AADT Figures* and historical data is provided in the *Daily Traffic Table*. The number of trucks, which are included in the total count, is also reported.

As would be expected, other than the Turnpike, Route 209 and Route 903 carry the greatest volume of traffic through the Planning Area, with the highest volume passing through Jim Thorpe. An important point to remember is that AADT does not reflect daily and seasonal traffic volumes which can far exceed AADT. The proportionate increase in daily and seasonal counts can be significant, exacerbating any congestion far beyond what is found on the average day. In the Planning Area, this is most significant in Jim Thorpe during the peak tourist season and special celebration days when traffic congestion makes it difficult to travel through the Borough.

DAILY TRAFFIC										
(PennDOT)										
	2010			2006	2005	2004	2003	2002	2001	2000
	AADT	# Trucks	% Trucks	Count Conducted in Fall of Year						
Pennsylvania Turnpike										
Through Penn Forest	24,330	4,870	20	--	--	--	--	--	--	--
Route 209										
Lansford - west of Route 902	6,310	320	5	6,390	--	--	7,360	--	--	6,990
East of Lansford and Summit Hill	5,600	230	4	--	5,580	--	--	6,290	--	--
West of Route 903	9,440	380	4	--	--	9,100	--	--	--	--
Jim Thorpe downtown	11,610	460	4	--	--	--	--	--	--	13,340
South of Jim Thorpe	10,350	1,240	12	--	--	--	--	--	--	--
Route 902										
Through Summit Hill and Lansford	4,500	180	4	--	4,960	--	--	--	--	4,160
South of White Bear Drive	3,280	100	3	--	--	--	3,670	--	--	--
Route 903										
Through Jim Thorpe	9,730	280	3	--	10,980	--	--	--	--	8,030
Penn Forest between Maury and Hatchery	6,280	250	4	--	--	--	--	5,620	--	--
Penn Forest between Hatchery and Unionville	5,460	270	5	--	--	--	5,250	--	--	--
Penn Forest between Unionville and Route 534	5,500	290	5	--	--	4,800	--	--	3,880	--

DAILY TRAFFIC (PennDOT)										
	2010			2006	2005	2004	2003	2002	2001	2000
	AADT	# Trucks	% Trucks	Count Conducted in Fall of Year						
Route 534										
West of Route 903	1,040	95	9	--	--	570	--	--	--	--
East of Route 903	2,390	100	4	--	--	--	--	2,130	--	--
SR 3012										
Laurel from Route 902 to Jim Thorpe line	1,790	55	3	--	--	--	--	--	--	--
Jim Thorpe - Laurel Road	1,790	55	3	--	--	1,560	--	--	--	--
Jim Thorpe - West Broadway	1,790	35	2	--	1,350	--	--	1,550	--	--
Summit Hill - White Bear Drive	730	85	12	--	--	--	600	--	--	--
SR 3014 - Center Street, Jim Thorpe										
Between Route 209 and Coal Street	900	35	4	1,660	--	--	802	--	--	940
West of Coal Street	520	30	6	--	--	400	--	--	--	--
Penn Forest Township										
SR 2017 - Maury Drive	4,090	205	5	--	--	3,220	--	--	--	--
SR 1001 - Hatchery Road	390	25	6	--	360	--	--	--	--	--
SR 1002 - Unionville Road	240	25	10	--	--	--	--	170	--	--

According to the PennDOT data in the *Daily Traffic Table*, traffic volume in the Planning Area has not changed significantly since 2000, with volume reductions reported on a number of routes. This is certainly counterintuitive given the development which has occurred over the past decade, particularly in Penn Forest Township, and continued importance of tourism.

Truck Traffic

Local truck traffic is heaviest on Route 209 south of Jim Thorpe with an average of 460 trucks passing through the Borough each day. Lansford also sees significant truck traffic on Route 209, particularly west of the junction of Route 290. Truck traffic in Summit Hill is heaviest on Route 902. Trucks traffic on Route 903 is heaviest between Unionville Road and Route 534, perhaps owing to the number of commercial establishments along that segment.

Level of Service

The traffic carrying capacity of a community's road network and the intersections associated with the network to handle the existing and future traffic volumes generated by development is the key element for providing safe and efficient traffic flow. Those land uses which generate larger volumes of traffic should logically be located in the areas of a community served by roads with greater carrying capacity. For example, commercial establishments generate more traffic than a single family residence and should be located on routes which have sufficient capacity to serve the use. The capacity of a highway or road typically decreases as the service area of the route declines. For example, the capacity of the Turnpike is obviously significantly greater than any arterial highway, which has a greater capacity than collector roads, with the lowest capacity associated with local roads.

Local roads, because of the limited service and low traffic volumes, are not considered in terms of capacity. The quality of traffic service is discussed in terms of level of

service (LOS). There are six levels of service ranging from LOS A through LOS F, with LOS A representing free flowing traffic and LOS F representing a total breakdown in the traffic flow or *bumper to bumper* traffic as traffic volume exceeds capacity. As LOS moves from A to E speeds decrease, delay time increases and noticeable platoon formation and platoon size increases occur. Maximum capacity is achieved at LOS E where more vehicles are on the route moving at slower speeds.

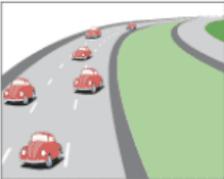
DESCRIPTION OF LEVELS OF SERVICE		
Level of Service	Description of Conditions Intersections	Description of Conditions Freeways
A	Free and unobstructed flow, no delays and all signal phases sufficient in duration to clear all approaching vehicles.	Free flow with little or no restriction on speed or maneuverability caused by other vehicles.
B	Stable flow, very little delay, a few phases are unable to handle all approaching vehicles.	Stable flow but speed is beginning to be restricted by other traffic - still negligible restrictions on maneuverability.
C	Stable flow, delays are low to moderate, full use of peak direction signal phase(s) is experienced.	Stable flow but most drivers are becoming restricted in their freedom to select speed, change lanes or pass. Operating speeds are 2/3 to 3/4 maximum.
D	Approaching unstable flow, delays are moderate to heavy, significant signal time deficiencies are experienced for short durations during the peak traffic period.	Approaching unstable flow. Tolerable average speeds are maintained but subject to considerable and sudden variation. Low maneuverability and driver comfort, high accident potential; most drivers consider this level unsatisfactory.
E	Unstable flow, delays are significant, signal phase timing is generally insufficient, congestion exists for extended duration throughout the peak period.	Absolute capacity (maximum flow rate), usually at 35 mph or 1/2 design speed. However, operation is unstable and both speed and flow rate may fall below optimum levels.
F	Forced flow, in urban areas flow may cease or approach "grid-lock."	Forced flow beyond capacity of facility. Speed and flow rate may drop to zero. Generally referred to as "bumper-to-bumper" traffic.

The capacity of a rural, two lane highway is dependent on a number of design variables; and, the ideal conditions for two-lane highways as defined by the Transportation Research Board of the National Research Council in their *Highway Capacity Manual* are:

LEVELS OF SERVICE (LOS) For Ideal Conditions			
LOS	Avg Speed (mph)	Delay Time (%)	Max. Flow Rate (pcph)
A	60	35	420
B	55+	45	750
C	50+	60	1,200
D	50+	75	1,800
E	25 - 50	75+	2,800
pcph=passenger cars per hour, total in both directions			

1. Design speed greater than or equal to 60 mph.
2. Lane widths greater than or equal to 12 ft.
3. Clear shoulders wider than or equal to 6 ft.
4. No "no passing zones" on the highway.
5. All passenger cars in the traffic stream.
6. A 50/50 directional split of traffic.
7. No impediments to through traffic due to traffic control or turning vehicles.
8. Level terrain.

If all the ideal conditions are satisfied, the capacity of the highway would be 2,800 passenger cars per hour (pcph), total, in both directions at LOS E. Given the rolling terrain of the Township, the capacity of the arterials and collectors in the area is substantially less than the ideal.

	<p>LOS A</p> <p>Represents the best operating conditions and is considered free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.</p>		<p>LOS D</p> <p>Represents traffic operations approaching unstable flow with high passing demand and passing capacity near zero, characterized by drivers being severely restricted in maneuverability.</p>
	<p>LOS B</p> <p>Represents reasonably free-flowing conditions but with some influence by others.</p>		<p>LOS E</p> <p>Represents unstable flow near capacity. LOS E often changes to LOS F very quickly because of disturbances (road conditions, accidents, etc.) in traffic flow.</p>
	<p>LOS C</p> <p>Represents a constrained constant flow below speed limits, with additional attention required by the drivers to maintain safe operations. Comfort and convenience levels of the driver decline noticeably.</p>		<p>LOS F</p> <p>Represents the worst conditions with heavily congested flow and traffic demand exceeding capacity, characterized by stop-and-go waves, poor travel time, low comfort and convenience, and increased accident exposure.</p>

Level of Service (<http://www.ccpytransit.com/CCPY%20Public%20Meeting%20Boards%20Traffic%20Effect.pdf>)

Level-of-Service in the Planning Area

Highway level of service in the Planning Area is not an issue at this time and, given the traffic volume compared to the potential capacity of the state roads, it is not expected to be an issue over at least the next ten to fifteen years. For example, traffic volume on Route 903 is under 10,000 vehicles per day compared to the potential of 2,800 passenger cars per hour at LOS E. Steering Committee members confirmed the lack of congestion on state and local roads.⁴



Queued Rt 209 traffic entering Jim Thorpe from south

LOS for intersections in the Planning Area is also generally adequate. The exceptions are several intersections in Jim Thorpe which suffer lowered LOS during the peak tourist season and during special events. These intersections include:

- Route 903 / Route 209
- Broadway and Route 209
- Race Street and Route 209 (Race Street is used by locals to *avoid traffic*, as are the Heights and Flagstaff Road.)
- Hazard Square and Route 209

(Accompanying photos taken Wednesday, August 17, 2001.)

⁴Based on the lack of identified capacity problems, the Steering Committee determined that specific capacity analyses for Planning Area routes were not warranted.



Queued Rt 903 Bridge traffic turning south on Rt 209



Queued Rt 209 traffic entering Jim Thorpe from north

Broadway and Route 209



Race Street and Rt 209

Options for improving traffic flow through Jim Thorpe are limited.

- Routes for a bypass are unrealistic given the steep topography and connections to Route 93 and Route 903. Local business owners may also oppose a bypass fearing loss of customers.
- Turning lanes at key intersections. This may be unacceptable given the need to preserve historic character, particularly around the Square, and a number of parking spaces would be eliminated.

- The possibility of making Broadway one way west from the Route 209 intersection to Race Street. Narrowness and need for improvement of Race Street and possible increased traffic through the heights would be issues.
- Improving traffic directional signs.
- Regulating truck deliveries and pickups on lower Broadway, Race Street and Lehigh Avenue to certain times, specified parking spaces and/or truck sizes.
- Remote parking areas and shuttle service to tourist attractions and special events.
 - This may be possible in association with the industrial development of the 52-acre Packerton Yards just south in Mahoning Township. Shared parking should be considered based on tourism and special event parking demand peaks occurring on weekends and holidays when industrial parking demand is lower.
 - Remote parking may also be available in nearby Lehighton.
- Improved timing of traffic signals along Route 209 and providing police officers for traffic control.
- Redesigning the entrance to the County parking lot along Lehigh Avenue to provide a turning lane by eliminating the metered parking along Lehigh Avenue.
- The replacement of the Route 903 Lehigh River Bridge should improve traffic flow.
- The Route 903/PA Turnpike Interchange in Penn Forest Township may redirect some Route 903 traffic from passing through the Borough.

Crash Analysis

PennDOT's Bureau of Highway Safety and Traffic Engineering collects reportable motor vehicle crash information from the entire Commonwealth. A reportable crash is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene. The type of information provided includes the number of injuries and fatalities, date, time of day, weather and roadway conditions, and type of crash.

The Comprehensive Plan Committee identified a number of intersections for consideration in terms of crashes based on local knowledge of congested areas and anecdotal accident history. The reportable crashes for the identified intersections by severity level and description for the five-year period from January 1, 2006 through December 31, 2010 as provided by PennDOT are listed on the following pages.

- The identified intersections have a very low reportable crash rate over the five-year period.
- Four of the 30 intersections had no reportable crashes, 10 had only one crash, four had only two and five had three crashes..
- Seventeen of the reportable crashes involved minor injuries, two involved moderate injuries, two involved major injuries, and one involved a fatality.

JIM THORPE

#1 - Main Street / Route 903 (North Street)	
CRASH SEVERITY LEVEL	
Minor Injury	2
Total	2
CRASH DESCRIPTION	
Angle	1
Rear End	1
Total	2

#2 - Fifth Street / Route 903 (North Street)	
CRASH SEVERITY LEVEL	
Minor Injury	2
Property Damage Only	2
Total	4
CRASH DESCRIPTION	
Angle	3
Rear End	1
Total	4

#3 - Tenth Street / Route 903 (North Street)	
no reportable crashes	

#4 - Eleventh Street / Route 903 (North Street)	
CRASH SEVERITY LEVEL	
Property Damage Only	1
Total	1
CRASH DESCRIPTION	
Rear End	1
Total	1

JIM THORPE

#5 - Twelfth Street (Olympian Way) / Route 903 (North Street)	
CRASH SEVERITY LEVEL	
Unknown Severity	2
Total	2
CRASH DESCRIPTION	
Angle	1
Hit Fixed Object	1
Total	2

#6 - Thirteenth Street / Route 903 (North Street)	
CRASH SEVERITY LEVEL	
Unknown Severity	1
Total	1
CRASH DESCRIPTION	
Angle	1
Total	1

#7 -SR 3014 (Liberty Road) / Route 209 (Lehigh Avenue)	
CRASH SEVERITY LEVEL	
Minor Injury	5
Moderate Injury	1
Property Damage Only	2
Total	8
CRASH DESCRIPTION	
Angle	1
Rear End	7
Total	8

**NOTE: Accident data from
01/01/06 through 12/31/10.**

JIM THORPE

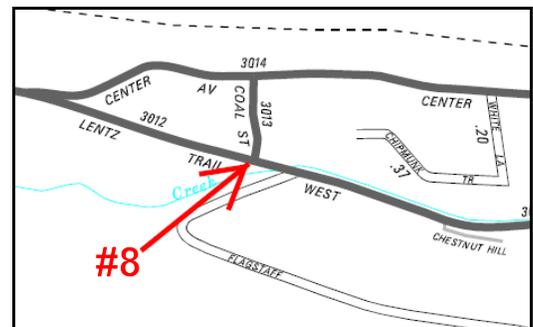
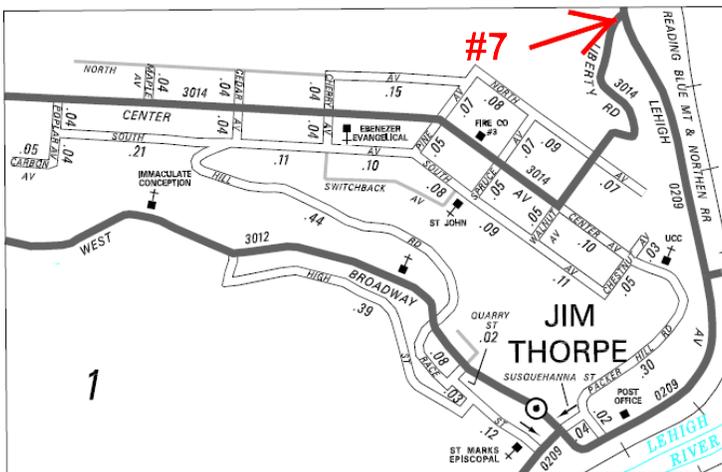
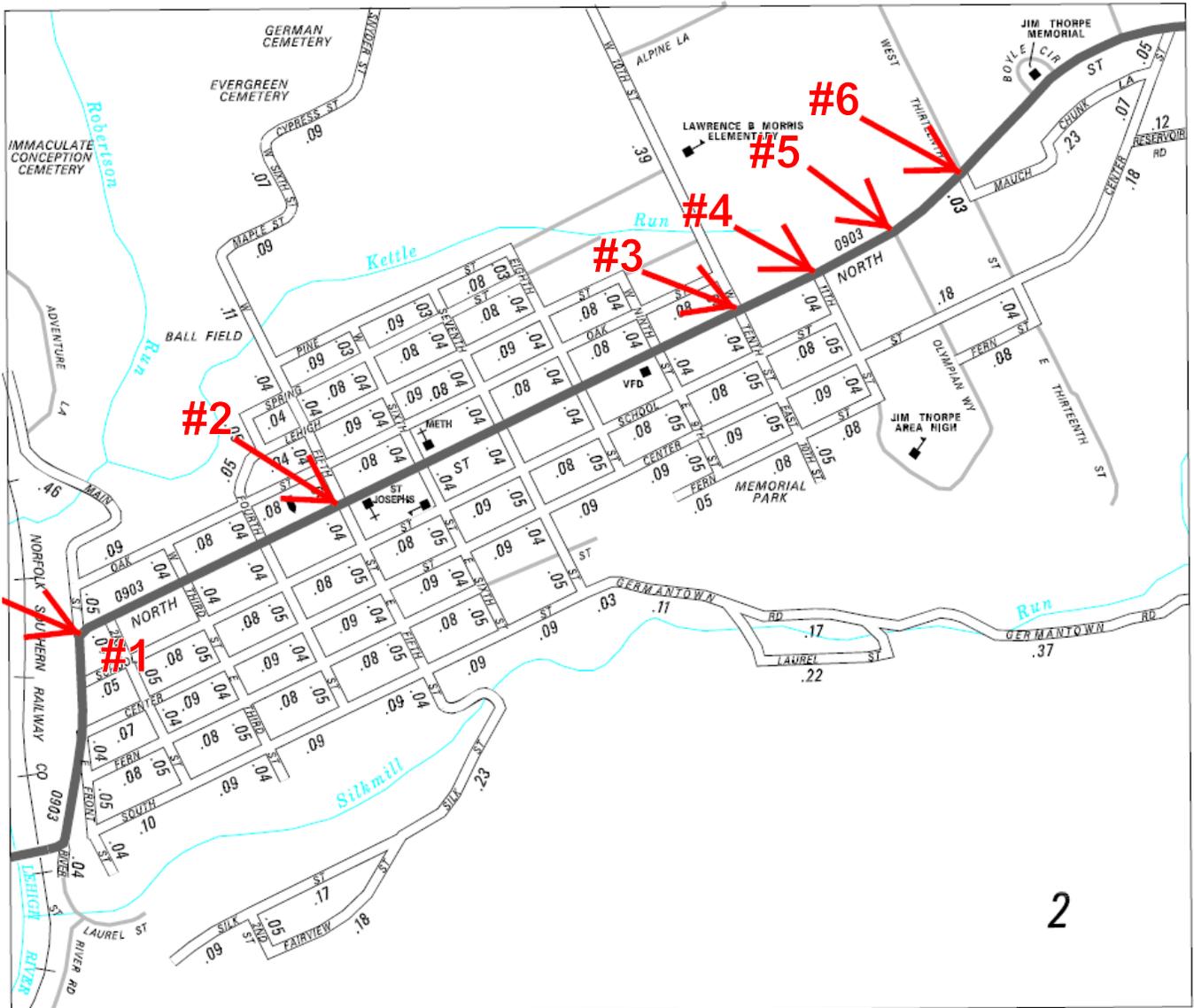
#8 - SR 3012 (West Broadway) / SR 3013 (Coal Street)	
no reportable crashes	

LANSFORD

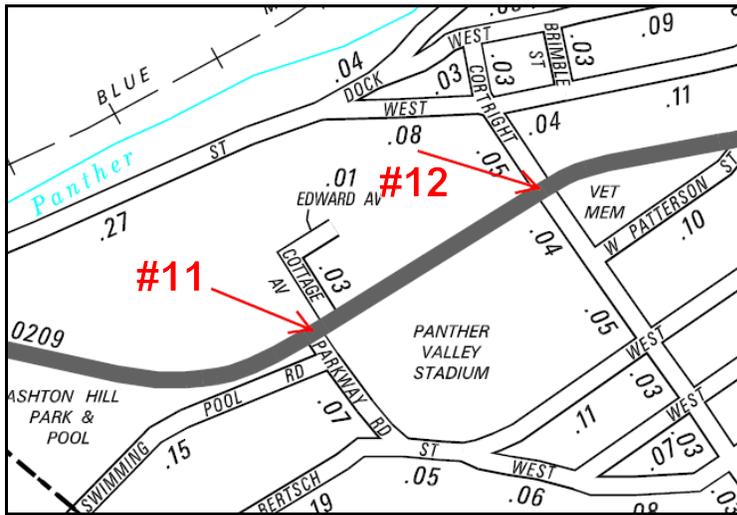
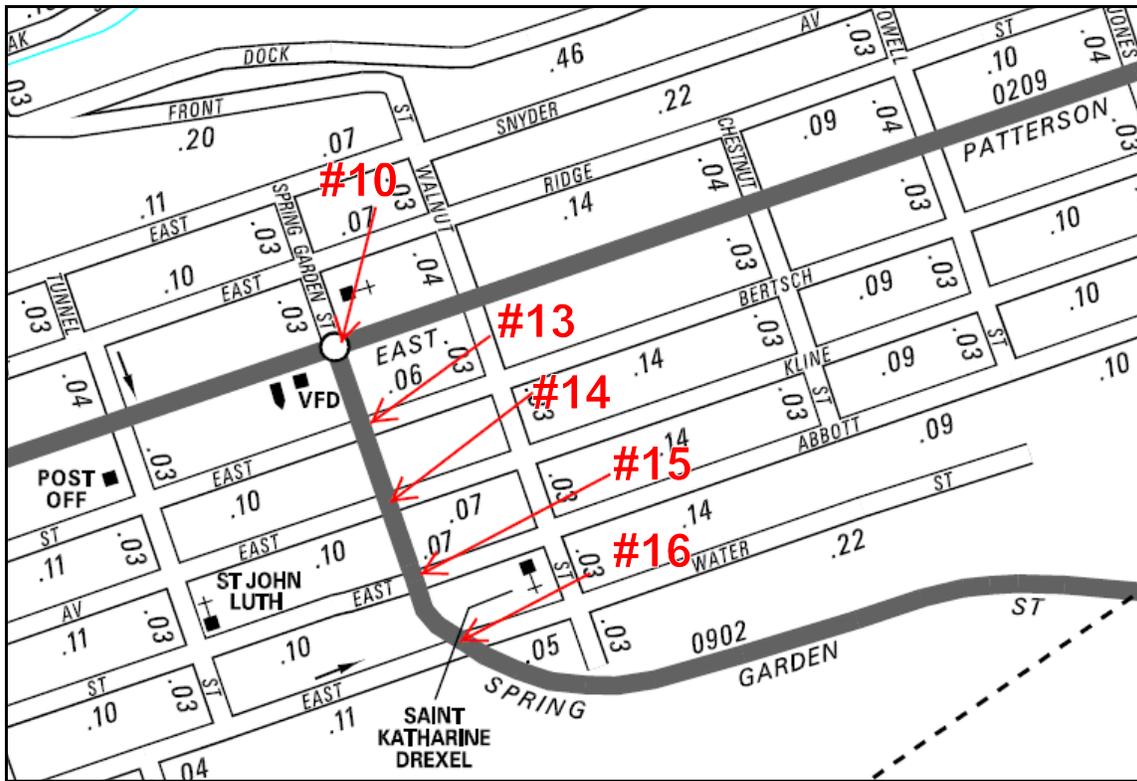
#9 - East Ridge Street / Route 209 (Patterson Street)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Total	1
CRASH DESCRIPTION	
Angle	1
Total	1

#10 - Route 902 (Spring Garden) / Route 209 (Patterson Street)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Moderate Injury	1
Property Damage Only	1
Total	4
CRASH DESCRIPTION	
Angle	2
Rear End	2
Total	4

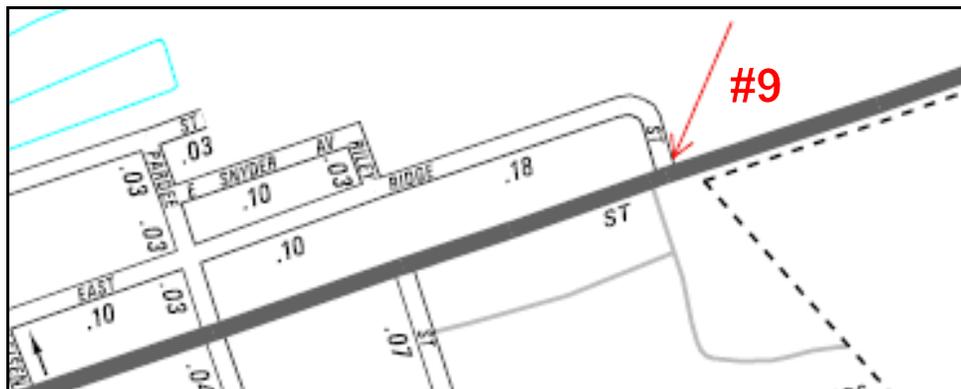
#11 - Parkway Road / Route 209 (Patterson Street)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Total	1
CRASH DESCRIPTION	
Same Direction Sideswipe	1
Total	1



JIM THORPE



LANSFORD



LANSFORD

#12 - Cortright Street / Route 209 (Patterson Street)	
CRASH SEVERITY LEVEL	
Property Damage Only	1
Total	1
CRASH DESCRIPTION	
Rear End	1
Total	1

#13 - Bertsch Street / Route 902 (Spring Garden Street)	
no reportable crashes	

#14 - Kline Street / Route 902 (Spring Garden Street)	
no reportable crashes	

#15 - Abbott Street / Route 902 (Spring Garden Street)	
CRASH SEVERITY LEVEL	
Property Damage Only	2
Total	2
CRASH DESCRIPTION	
Angle	2
Total	2

#16 - Water Street / Route 902 (Spring Garden Street)	
CRASH SEVERITY LEVEL	
Property Damage Only	1
Total	1
CRASH DESCRIPTION	
Hit Fixed Object	1
Total	1

PENN FOREST

#17 - SR 2017 (Maury Road) / Route 903	
CRASH SEVERITY LEVEL	
Fatal Injury	1
Major Injury	1
Minor Injury	3
Property Damage Only	5
Unknown Severity	3
Total	13
CRASH DESCRIPTION	
Angle	4
Head On	2
Hit Fixed Object	4
Opp Direction Sideswipe	1
Rear End	2
Total	13

#18 - SR 1001 (Hatchery Road) / Route 903	
CRASH SEVERITY LEVEL	
Property Damage Only	1
Total	1
CRASH DESCRIPTION	
Unknown Type	1
Total	1

#19 - SR 1002 (Unionville Road) / Route 903	
CRASH SEVERITY LEVEL	
Major Injury	1
Minor Injury	1
Property Damage Only	1
Total	3

PENN FOREST

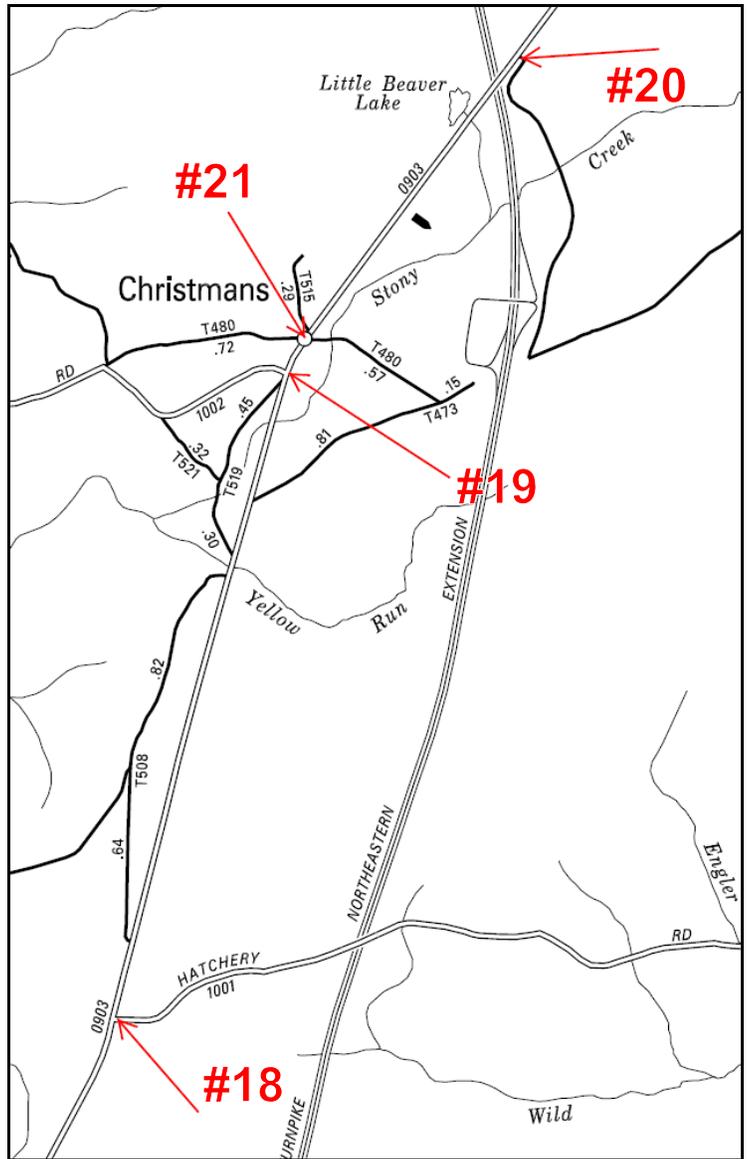
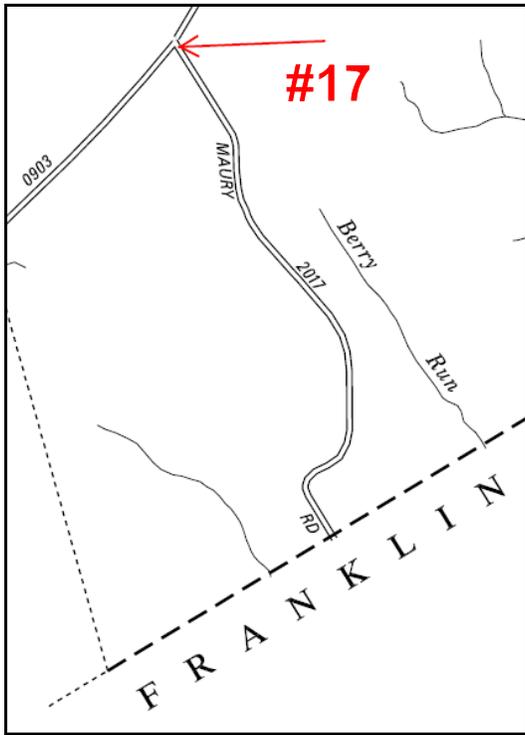
#19 - SR 1002 (Unionville Road) / Route 903	
CRASH DESCRIPTION	
Hit Fixed Object	1
Rear End	2
Total	3

#20 - T 474 (Stony Mountain Road) / Route 903	
CRASH SEVERITY LEVEL	
Minor Injury	1
Total	1
CRASH DESCRIPTION	
Angle	1
Total	1

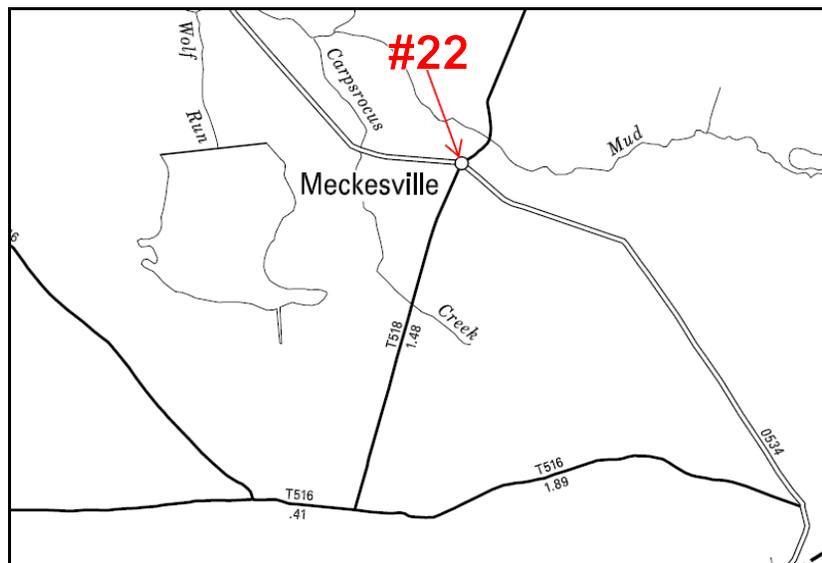
#21 - T 480 (Smith Road) / Route 903	
CRASH SEVERITY LEVEL	
Property Damage Only	1
Total	1
CRASH DESCRIPTION	
Hit Fixed Object	1
Total	1

#22 - T 518 (Meckesville Road) / Route 534	
CRASH SEVERITY LEVEL	
Minor Injury	2
Property Damage Only	5
Total	7

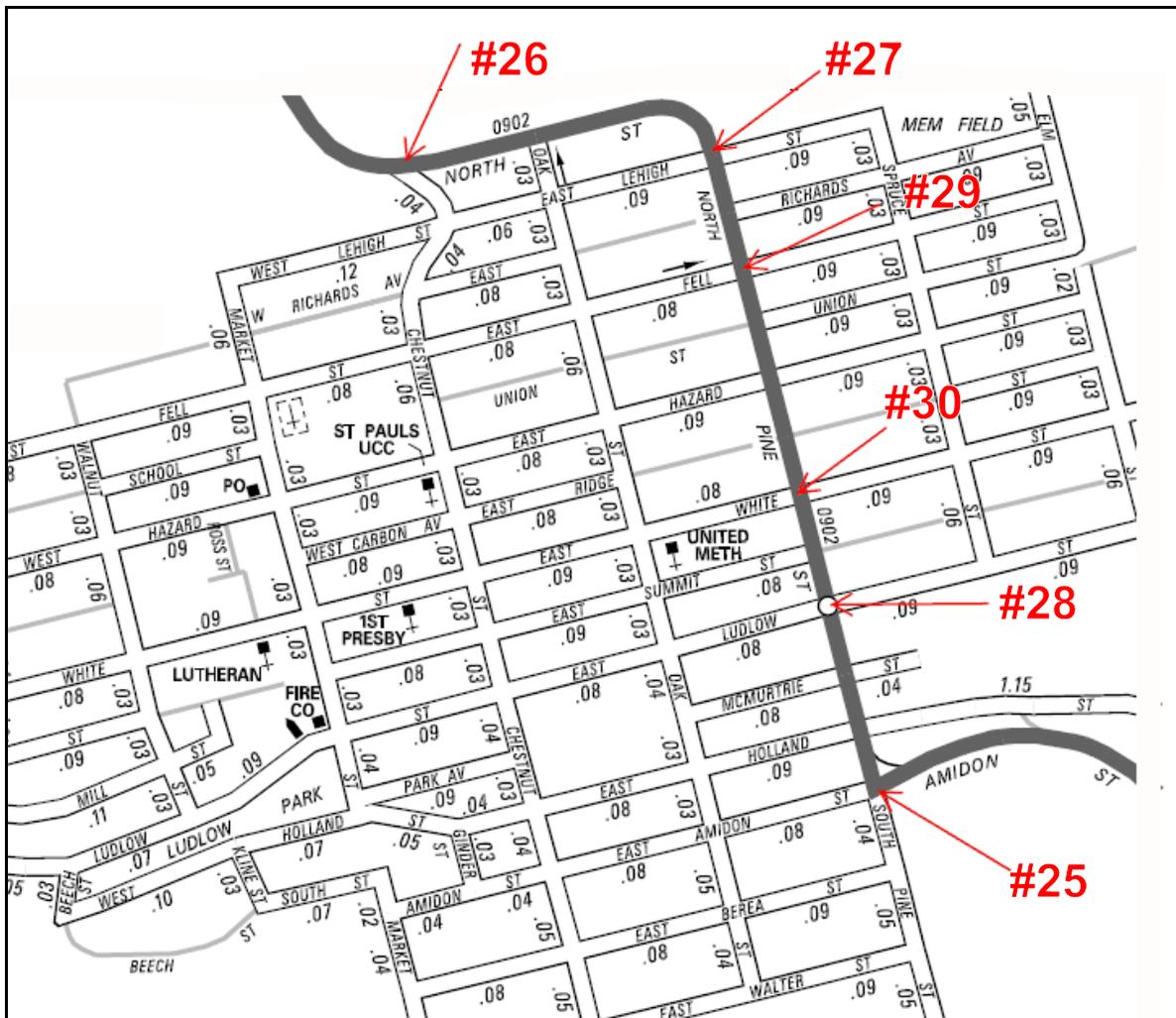
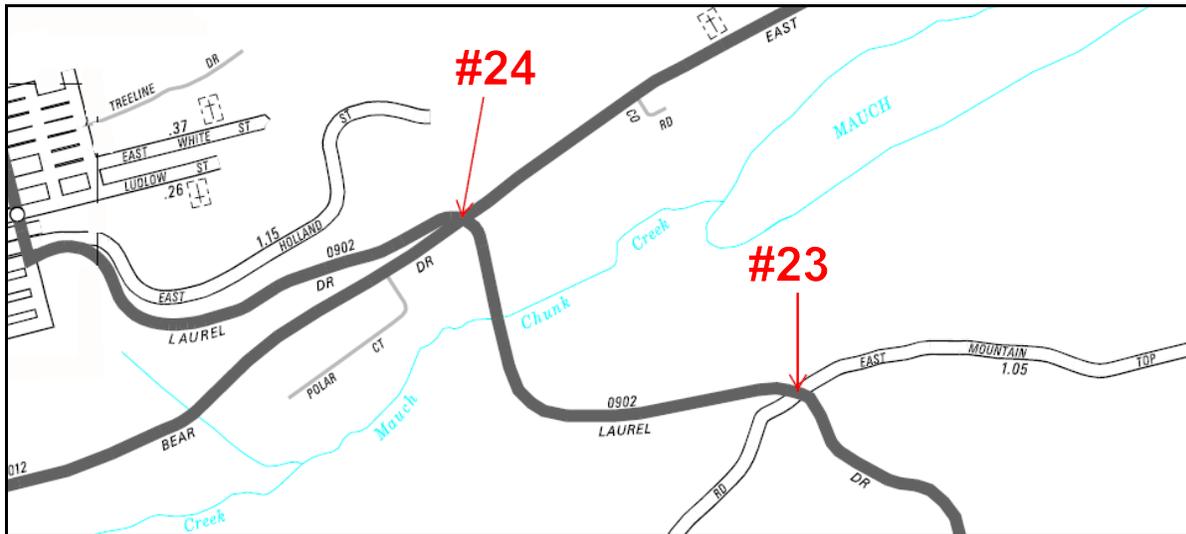
NOTE: Accident data from 01/01/06 through 12/31/10.



PENN FOREST



SUMMIT HILL



PENN FOREST

#22 - T 518 (Meckesville Road) / Route 534	
CRASH DESCRIPTION	
Angle	2
Hit Fixed Object	4
Non-collision	1
Total	7

SUMMIT HILL

#23 - Mountain Top Road / Route 902 (Laurel Drive)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Unknown Severity	1
Total	2
CRASH DESCRIPTION	
Hit Fixed Object	2
Total	2

#24 - SR 3012 (White Bear Drive) / Route 902 (Laurel Drive)	
CRASH SEVERITY LEVEL	
Major Injury	2
Minor Injury	1
Property Damage Only	1
Total	4
CRASH DESCRIPTION	
Angle	1
Head On	1
Hit Fixed Object	1
Same Direction Sideswipe	1
Total	4

SUMMIT HILL

#25 - Pine Street (Route 902) / Route 902 (Amidon Street)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Property Damage Only	1
Unknown Severity	1
Total	3
CRASH DESCRIPTION	
Hit Fixed Object	1
Opp Direction Sideswipe	1
Rear End	1
Total	3

#26 - Chestnut Street / Route 902 (North Street)	
CRASH SEVERITY LEVEL	
Property Damage Only	3
Total	3
CRASH DESCRIPTION	
Hit Fixed Object	2
Rear End	1
Total	3

#27 - Lehigh Street / Route 902 (Pine Street)	
CRASH SEVERITY LEVEL	
Minor Injury	2
Property Damage Only	1
Total	3
CRASH DESCRIPTION	
Angle	1
Head On	1
Opp Direction Sideswipe	1
Total	3

SUMMIT HILL

#28 - Ludlow Street / Route 902 (Pine Street)	
CRASH SEVERITY LEVEL	
Minor Injury	1
Property Damage Only	1
Unknown Severity	1
Total	3
CRASH DESCRIPTION	
Angle	1
Hit Fixed Object	2
Total	3

#29 - Fell Street / Route 902 (Pine Street)	
CRASH SEVERITY LEVEL	
Unknown Severity	1
Total	1
CRASH DESCRIPTION	
Angle	1
Total	1

#30 - White Street / Route 902 (Pine Street)	
CRASH SEVERITY LEVEL	
Moderate Injury	1
Property Damage Only	1
Unknown Severity	2
Total	4
CRASH DESCRIPTION	
Angle	3
Hit Fixed Object	1
Total	4

NOTE: Accident data from 01/01/06 through 12/31/10.

- The Maury Road and Route 903 intersection in Penn Forest Township had 13 crashes, the greatest number of crashes in the entire Planning Area and including the only fatality.
- In Jim Thorpe, the Liberty Road and Lehigh Avenue intersection was the most problematic with a total of eight crashes over the five years. Seven of the eight crashes were rear end collisions.
- PennDOT data shows only four reportable crashes at the Spring Garden Street and Patterson Street intersection in Lansford, the most of the identified intersections in the Borough.
- Two intersections in Summit Hill had four reportable crashes, White Bear Drive and Route 902 and White Street and Route 902.
- While the injuries and property damage are certainly concerns, the limited number of crashes do not suggest any critical deficiencies with the identified intersections.

Point of Access Report
The overall project study area contains several municipalities in Carbon and Monroe Counties. The study area is roughly a ten-mile radius surrounding the location of the proposed interchange and includes I-80 and SR 940 to the north, US 209 to the south, SR 115 to the east, and Jim Thorpe Borough to the west. The traffic analysis focused on the area immediately affected by the proposed interchange: I-476 and existing interchanges, and the SR 903 corridor.

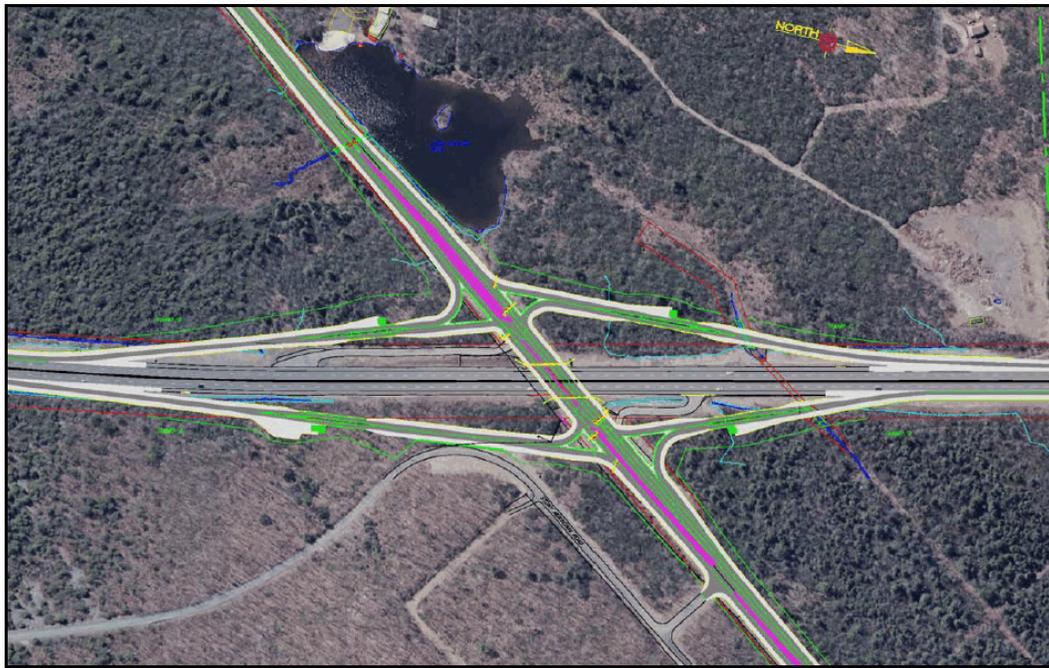
Route 903 / PA Turnpike

The effect of the new Route 903 / PA Turnpike Interchange on the Planning area road network traffic is an important question. The Pennsylvania Turnpike Commission completed a *Point of Access Report* under a consultant contract to evaluate anticipated traffic increases and potential development stimulus. The December 2007 *Report* notes:

- *The Route 903 corridor currently operates at a LOS C or better.* (Page ES-2.)
- *The Route 903 corridor was found to exhibit lower crash rates than the average statewide crash rate for a roadway with similar traffic and geometric characteristics.* (Page ES-2.)
- *Projects Penn Forest Township population to increase from 5,439 in 2000 to 10,600 in 2030, and Jim Thorpe population to hold steady at 4,800.* (Page 25.)
- *. . . the availability and affordable nature of land for development and housing closer to the major employment centers of Allentown and Wilkes-Barre, does not warrant the additional commuting distance to the SR 903 area. As such, it is felt that a new access point would not substantially increase the construction of housing for the purposes of permanent housing.* (Page 48.)

Location	Average Daily Traffic		
	2005	2030	
		without interchange	with interchange
Rt 903 north of Rt 476	8,000	17,200	23,000
Rt 903 south of Rt 476	8,000	17,200	30,500
Rt 209 in Jim Thorpe	7,800	31,700	25,600

- *It is felt that a new access point could increase the rate of development on lots that are already subdivided for the purpose of building seasonal homes. The construction of seasonal homes is an existing trend in the region, particularly in Penn Forest Township.* (Page 48.)
- *Reports that traffic on Route 209 through Jim Thorpe will decrease when the interchange is completed.* (Page 51.)



Route 903 / PA Turnpike Interchange (Source: The Pennsylvania Turnpike Commission)

- . . . the SR 903 corridor is projected to operate at unacceptable LOS D along the entire corridor under future No Build conditions. The proposed interchange will increase traffic on SR 903 resulting in LOS D and E operations. (Page 53.)
- As mentioned above, traffic operations at unacceptable LOS are projected for both Future No Build and Build scenarios, which means that the proposed interchange is not solely responsible for deteriorating traffic operations along SR 903 and at its intersections. (Page 53.)
- The only roadway improvement that can enhance traffic operations to LOS C or better is widening SR 903 to a four-lane highway for approximately 17 miles. In addition to being cost prohibitive, the widening will result in potentially significant impacts to wetlands, wildlife habitat, parkland, as well as residential and commercial right-of-way impacts. (Page 62.)

Route 93 / PA Turnpike Interchange

The Route 903 Exit is a new Turnpike interchange under development along the Northeast Extension (I-476) in Carbon County. Located between the Mahoning Valley exit (#74) and the Pocono exit (#95), the new facility will shorten travel times for commuters; help ease traffic congestion at neighboring interchanges and on local roads; and provide additional access to nearby recreational areas. This All-Electronic Interchange – an unstaffed interchange built exclusively for use by E-ZPass members. Construction will be performed in a two-phase approach: Phase 1 is a DESIGN-BUILD contract to construct one-half of the new bridge to carry Route 903 over the Northeast Extension. Phase 2 is a conventional construction contract and will include all remaining and necessary work to complete this new point of access.

Project Summary:

Construction of an E-ZPass-only exit along the Northeast Extension between existing Mahoning Valley (#74) and Pocono (#95) exits.

Construction Start:

Phase 1 - Spring 2009

Phase 2 - Spring 2012

Construction Completion:

Phase 1 - Spring 2010

Phase 2 - Spring 2014

Project Total:

Approximately \$25 million.

Source: <http://www.paturnpike.com>

Municipal Roads

Roads and streets owned and maintained by the Boroughs and Township are generally in good condition, with the primary concerns being routine maintenance and drainage improvements. The Boroughs and Township will focus on the maintenance and improvement of existing local municipal roads, and monitor the need and ability to correct specific drainage problems and width and alignment problems which would require reconstruction as traffic volumes dictate and available funds allow. The four municipalities will also monitor the effectiveness of new materials and practices and use such innovations to best advantage. Good examples are plastic culverts and plastic head walls. Funding for road maintenance is taken from the general fund and the Liquid Fuels Fund, and no shortfalls are anticipated to meet the maintenance needs.

Liquid Fuels Program

The roads and streets owned and maintained by the Boroughs and Township are part of the State Liquid Fuels Programs which provides state payments to the municipalities for road maintenance and reconstruction based on population and miles of roads meeting PennDOT specifications. However, the Liquid Fuels Funds comprise only a small part of the municipal road maintenance budget and do not nearly cover the cost of long term maintenance and replacement.

**Municipal Roads
Specific Needs**

Included in the Appendix is a *Road Inventory and Evaluation Worksheet* which will enable the municipalities to periodically evaluate the condition of all Borough and Township roads and plan and budget for necessary improvements as part of a long term maintenance plan and capital improvements program.

Local municipal roads are in generally good condition. The continued maintenance of local municipal roads, including resurfacing, is the primary concern of all four Middle Carbon municipalities. Adding or improving shoulders and improving drainage are also important. Paving projects in the three Boroughs are scheduled annually based on road condition and available funding while Penn Forest Township follows a ten-year resurfacing plan. There are no near term plans for the relocation, widening, curve elimination, or grade changes of any roads, and no plans for paving of gravel roads.

**New Municipal Roads
Subdivision Roads**

In terms of new road construction, the municipalities are not likely to undertake any new road construction. Roads serving new residential developments will be constructed by developers in accord with the applicable subdivision and land development ordinance standards. The subdivision and land development ordinance sets standards for road layout, design, and construction. Roads may be owned and maintained by private communities, or if a road is constructed to the required standards of the road dedication ordinance it may be accepted by the municipality for general public use.

Road Dedication

Local municipalities may, but are not required to, accept for public dedication roads which have been privately constructed to specified municipal standards. This typically occurs in residential subdivisions as part of the development process. Many developers choose to maintain the private status of roads. Ownership and maintenance of these private roads is the responsibility of property owners' associations, a practice somewhat unique to the Pocono Region where recreation communities have typically chosen to restrict access to the community rather than dedicate roads to the municipality, which would open the roads to public use.

Tax revenues generated from residential development do not typically cover the cost of associated road maintenance. Boroughs and townships are not obligated to accept roads for dedication even if a road meets current municipal design and construction standards. These roads can be accepted for public dedication by the municipality, and provided such roads meet PennDOT standards, the municipality's State Liquid Fuels Fund allocation would increase. However, funds received from the Commonwealth from the Liquid Fuels Program fall far short of the long term cost of the maintenance of public roads. Local officials must carefully weigh the long term maintenance costs against the local tax revenues generated by development and increased state funding before accepting private roads for dedication.

State Roads

The condition of the state roads in the Planning Area is also generally good, with continued maintenance and a few dangerous intersections the primary concerns. The state roads in the Planning Area also include segments with sharp curves and steep grades. Given the modest traffic volumes on state roads and limited funding available, the upgrading of these roads by the state is obviously not a priority in the near term and is unlikely to occur in the longer term. As traffic volumes increase, the improvement of those routes which carry the highest traffic volumes may be warranted. For example, the ultimate effect of the new PA Turnpike Interchange will certainly be a key determinant of future improvements to Route 903.

Although the municipalities have no direct control over state roads, the roads that carry the most traffic at higher speeds and present the most critical safety concerns, this Plan identifies a number of concerns which must be monitored:

- Accident-prone intersections (See preceding Crash Analysis section.)
- Increasing volumes of traffic
- Horizontal and vertical alignment
- Speed limit enforcement
- Adequate surface and drainage maintenance
- Improved signs for hazards and traffic control
- Maintenance of lane markings

Should the condition of state routes deteriorate due to lack of maintenance, or if PennDOT does not make improvements in anticipation of traffic volume increases over the long term, the capacity and level-of service could degenerate. The municipalities should work with the Carbon County Office of Planning and Development, the Northeastern Pennsylvania Rural Transportation Planning Organization and PennDOT to identify the most critical state route improvement needs in the municipalities and work to have the improvements programmed by PennDOT.

Bridges

Public bridges carrying municipal and state roads throughout the Commonwealth are owned by local municipalities, counties or the state. The ownership, construction details and sufficiency rating of the bridges in the Planning area are included on the *Public Bridges in Middle Carbon County Planning Area Table*. (See also the *Structurally Deficient/Sufficiency Rating Sidebar*. Jim Thorpe, Lansford and Summit Hill own no bridges and Penn Forest Township owns only one bridge which carries North Meckesville Road (T-518) across Mud Run. The four municipalities are fortunate for the paucity of locally owned bridges because bridge maintenance, repair and replacement can be very costly.

PUBLIC BRIDGES IN MIDDLE CARBON COUNTY PLANNING AREA (Source: PennDOT)												
FEATURE CARRIED	FEATURE INTERSECTED	LENGTH	STRUCTURE TYPE	YEAR BUILT	Weight Limit		Struct Def	Func Obsol	SUFF RATE	MUNI CODE	ADT	
					Single (Tons)	Comb (Tons)						
PennDOT Bridges												
SR 534	DILLDOWN CREEK	27	Concrete(in place), T-beams	1938	--	--	SD	--	38.6	PENN FOREST	2353	
SR 534	CARPSROCUS CREEK	39	Steel, I beams	1961	--	--	SD	--	57.4	PENN FOREST	2353	
SR 534	BRANCH OF CARPSROCUS CR.	21	Concrete(in place), Slab (solid)	1930	--	--	--	FO	60.9	PENN FOREST	2353	
PA 903	YELLOW RUN	14	Concrete(in place), Arch culvert	1930	--	--	--	--	88.5	PENN FOREST	5459	
PA 903	STONY CREEK	19	Concrete(in place), Arch culvert	1930	--	--	--	--	88.5	PENN FOREST	5459	
PA 903	STONY CREEK	9	Concrete(in place), Box culvert	1932	--	--	--	--	75.8	PENN FOREST	5478	
PA 903	KEIPERS RUN	10	Concrete(in place), Arch culvert	1932	--	--	--	--	88.5	PENN FOREST	5478	
PA 903	MUD RUN	87	Concrete(in place), T-beams	1932	--	--	SD	--	37.4	PENN FOREST	5478	
SR 1001	WILD CREEK	27	P/S, Box beam - adj	1956	26	39	SD	--	52.8	PENN FOREST	387	
SR 209	MAUCH CHUNK CREEK	17	Masonry, Arch culvert	1908	--	--	--	--	78.3	JIM THORPE	10352	
SR903	LEHIGH RIVER	613	Steel, Girder riv/deck	1953	--	--	SD	--	32.1	JIM THORPE	9725	
SR 3012	MAUCH CHUNK CREEK	60	Concrete(in place), T-beams	1930	--	--	SD	--	64.4	JIM THORPE	1778	
SR 3012	MAUCH CHUNK CREEK	19	Masonry, Arch culvert	1895	--	--	--	--	88.4	JIM THORPE	1778	
SR 3012	MAUCH CHUNK CREEK	13	Masonry, Arch culvert	1895	--	--	--	--	89.4	JIM THORPE	1778	
SR 3012	MAUCH CHUNK CREEK	13	Masonry, Arch culvert	1895	--	--	--	--	88.4	JIM THORPE	1778	
SR 209	L.C.&N.R.	31	Concrete(in place), T-beams	1921	30	40	--	--	67.4	LANSFORD	5587	
SR 209	TRIB. TO PANTHER CREEK	10	Masonry, Arch culvert	1904	--	--	--	--	96.6	SUMMIT HILL	5587	
SR 902	MAUCH CHUNK CREEK	27	Concrete(in place), T-beams	1926	--	--	--	--	80.8	SUMMIT HILL	3277	
SR 3012	BRANCH OF WHITE BEAR CR	13	Concrete(in place), Slab (solid)	1933	--	--	--	--	70.5	SUMMIT HILL	728	
Carbon County Bridges												
HENNING RD	MUD RUN	48	Concrete(precast), Box beam - (s)	2008	--	--	--	--	45	PENN FOREST		
N.OLD STAGE	MUD RUN	46	Steel, I beams	1970	5	--	SD	FO	45.2	PENN FOREST	200	
STONEV CK RD	STONEY CREEK	24	Masonry, Arch deck - closed	1910	5	--	SD	FO	33.4	PENN FOREST	100	
Penn Forest Bridge												
N.MECKVI.RD.	MUD RUN	34	Steel, I beams	1970	29	40	SD	--	43.1	PENN FOREST	75	

<p>“Struct Def” (Structurally Deficient)</p> <p>Indication of bridge’s overall status in terms of structural soundness and ability to service traveling public. “SD” indicates that the bridge has deterioration to one or more of its major components.</p>									
<p>“Suff Rate” (Sufficiency Rating)</p> <p>A calculated rating indicating the bridge’s sufficiency (or capability). Factors included in the calculation are:</p> <ul style="list-style-type: none"> the structure’s adequacy and safety (accounting for 55% and based on inspection data), the structure’s serviceability and functional obsolescence (accounting for 30% and based on ability of bridge to meet current traffic conditions), and how essential the bridge is for public use (accounting for 15%) <p>Ratings range from 100 (entirely sufficient) to 0 (entirely insufficient or deficient).</p> <p>The Sufficiency Rating is considered by the federal government when a state requests federal bridge dollars to improve the condition of the bridge. Bridges with low sufficiency ratings are eligible for more funds.</p> <table border="1"> <thead> <tr> <th>Sufficiency Rating</th> <th>Funding Eligibility</th> </tr> </thead> <tbody> <tr> <td>80 – 100</td> <td>Not available</td> </tr> <tr> <td>50 – 79</td> <td>Eligible for costs to rehabilitate or refurbish bridge</td> </tr> <tr> <td>0 – 49</td> <td>Eligible for costs to replace bridge</td> </tr> </tbody> </table>		Sufficiency Rating	Funding Eligibility	80 – 100	Not available	50 – 79	Eligible for costs to rehabilitate or refurbish bridge	0 – 49	Eligible for costs to replace bridge
Sufficiency Rating	Funding Eligibility								
80 – 100	Not available								
50 – 79	Eligible for costs to rehabilitate or refurbish bridge								
0 – 49	Eligible for costs to replace bridge								

Structurally Deficient / Sufficiency Rating
(Source: PennDOT)

Carbon County owns three bridges in the Planning Area, all in Penn Forest Township: Stony Creek Road (T-519) over Stony Creek, N. Old Stage Road (T-516) over Mud Run and Henning Road (T-513) over Mud Run. Penn DOT owns 19 bridges in the Planning Area. Other stream crossings are accomplished with culverts which are not classified as bridges.

Penn Forest Bridge Structural Condition

The Penn Forest Meckesville Road bridge is classified by PennDOT as *structurally deficient* based on the deck, road support structure, piers/abutments, and culvert inspection conducted every two years by a state-certified bridge inspector. The bridge rated poor for superstructure and substructure resulting in the structurally deficient classification.

While the bridge is not in serious or critical condition according to PennDOT, the Township will continue the maintenance of the bridge as recommended by inspections to extend its useful life. In addition, the Township must plan for its eventual replacement and include the bridge in its capital improvements program at the appropriate time to ensure funds are available.

Flood Capacity

Any bridge repair or replacement project should consider the maintenance of the structure to pass flood waters

Federal Bridge Funding

Eight of the public bridges in the Planning Area have a sufficiency rating of 80 or more suggesting current adequacy because the bridges are not eligible for federal funds for rehabilitation or refurbishing. Eight are eligible based on a sufficiency rating of 50 to 79. Seven bridges, including the three County bridges and the Penn Forest bridge, with ratings under 50, are eligible for federal funds for replacement.



Meckesville Road Bridge

**Route 903 Bridge
Jim Thorpe**

PennDOT's Route 903 Bridge across the Lehigh River in Jim Thorpe is scheduled for replacement with construction expected to begin in 2014 at a cost of \$22,000,000. The Bridge will be moved to the north for direct alignment with North Street which will eliminate the existing sharp curve approaching the Bridge. *The new bridge's location affects properties near the Old Mauch Chunk Historic District, Lehigh Gorge State Park, the Delaware and Lehigh National Heritage Corridor Trail and the National Register-eligible Center Street Historic District. Context-sensitive design relative to lighting, sidewalks, retaining walls, surface textures and colors, plus a single 8-foot-wide multi-use walk/bikeway, will be installed across the bridge and leading into the downtown historic district. In addition, Americans with Disabilities Act handicapped-accessible pedestrian crossings will be put in at all intersections on the east and west side of the River. Context sensitive design is an approach that considers the total context within which a transportation improvement project will exist.*¹

The Borough and County will continue to work with PennDOT on the alignment and design of the Bridge to ensure its maximum utility and best accommodation of existing community character. This should include the possibility of connecting Main Street to Third Street for access to North Street.

Serious consideration was given to maintaining the existing bridge for pedestrian use. Given the age of the Bridge, which was constructed in 1953, and its *structurally deficient* rating by PennDOT, the long term maintenance costs will certainly be very high. The Borough is not in a financial position to assume ownership.

Public Transportation

Public transportation in the Planning Area and all of Carbon County is provided by Carbon County Community Transit (CCCT) under contract with the Allentown-based Lehigh and Northampton Transportation Authority (LANTA) since 1996. (See the *CCCT/LANTA Sidebar*.) *LANTA staff oversees the operations and submits plans and applications to PennDOT on behalf of Carbon County to provide door-to-door demand response shared ride services and the Lynx, a fixed-route service that links the major boroughs in the County.*²

This *Plan* calls for the Planning Area to continue to rely on the services of CCCT. Direct local participation in public transportation, fixed route or on-demand, is typically undertaken only by the most populous municipalities given the large volume of riders necessary to meet expenses. In most cases, such systems operate with government subsidies and agency support for specific qualifying clients.

Extensive public transportation systems in rural communities is generally limited by low population density, the cost of providing the service, and uncertainty of public acceptance and use. In short, the cost is too high in relation to the potential revenue from the users of the system, and without public subsidy, it is often not feasible. In addition, even in areas where the public subsidy has been provided, use of public transport is often low given long trips and limited schedules, and the historic reliance on automobiles in rural areas.

¹<http://standardspeaker.com/news/replacing-route-903-bridge-to-cost-22m-carbon-told-1.1100215#axzz1RKez3mYu>

²<http://movinglantaforward.blogspot.com/2010/06/pennDOT-officials-review-carbon-county.html>

Public Transport

LANTA, under a contractual agreement with the County of Carbon, offers public transportation within Carbon and to several points outside of the county including the regional Mall area in Whitehall, Lehigh County. This service is sponsored by Carbon County in cooperation with the Pennsylvania Department of Transportation's State Lottery Program, Rural Transportation Division and the Federal Transit Administration.



http://www.carboncounty.com/transport.htm

WHAT IS CCCT?

Carbon County Community Transit (CCCT) offers public transportation in Carbon County and to several points outside of the County. Door-to-door and "fixed route" services are offered. Carbon County has retained the Lehigh and Northampton Transportation Authority (LANTA), based in Allentown, to manage the Carbon County Community Transit System. LANTA's sub-contractor, Easton Coach, with an office in Nesquehoning, oversees day-to-day operations.

Transportation Programs

Agencies sponsoring part or all of the costs of transportation for eligible customers are the:

- "Shared-Ride Lottery Program for Seniors" managed by PennDOT
- Carbon Area Agency on Aging
- PA Department of Welfare, Medical Assistance Transportation Program
- Transportation for People With Disabilities Program ([more information](#))

Contact CCCT if you believe you qualify for these services.

DOOR-TO-DOOR SERVICES

CCCT offers van services from 7 a.m. to 5:30 p.m. Monday thru Friday. Customers must apply and call in advance (up to 2 weeks) to reserve a trip. Call-in hours are from 8 a.m. to 4 p.m. Monday thru Friday. For services needed the following day, customers must call by 2 p.m. the day before. The reservation number is: 570-669-6380.

Customers should know:

- The Exact Address of their Destination
- Desired time of arrival.
- Time of return trip.

Since services are limited, it is a good idea for customers to have an acceptable alternative date or time of travel.

ABOUT FARES

The Door-to-Door fare zones are:

In County: Anywhere within Carbon County.

Outside of Carbon County: The K-MART in Walnutport, Tamaqua, Hazleton, the Frackville Mall, LCCC, Allentown, Bethlehem.

Fares for door-to-door services depend upon whether or not a customer's trip is sponsored:

	In County	Outside
AAA Sponsored *	3 tickets	5 tickets
Shared Ride	9 tickets	15 tickets
Medical Assistance	-	-
Co-Pay Fare	\$2.70	\$4.50
General Public fares **	\$18.00	\$30.00

* Please note: Area Agency on Aging (AAA) sponsorship reduces the cost per trip for seniors for medical trips only. AAA no longer subsidizes trips for any other purpose.

FIXED ROUTE, CARBON COUNTY PLAZA SERVICE

CCCT operates the LYNX, a "fixed-route" service, from Monday through Friday, between Nesquehoning and the Lehigh Valley Mall in the Allentown, Lehigh County area. Trips depart Nesquehoning for the Mall at 9 a.m., 11 a.m. and 1 p.m. The return trips from the Lehigh Valley Mall are at 11 a.m. 1 p.m. and 3 p.m. Fares are \$1.50 per one-way trip for those who board and alight within Carbon County, and \$2.50 for those traveling from Carbon to the Malls in Lehigh County. Please have exact change as drivers are not required to carry change.

Seniors 65 or older, with proper ID (Medicare card or State Transit ID card) and who board at the designated stops, may ride the service free of charge except for between 7:00 & 8:00 a.m. and 4:30 and 5:30 p.m. If you do not have a Transit ID card call LANTA at 610-776-7433 and request an application.

For persons who are unable to get to the fixed pick-up points because of some physical or mental impairment, and who live within 3/4 miles of the bus stop, arrangements can be made in advance to provide door-to-door service. Please call 570-669-6380 between 8 a.m. until 4 p.m., Monday thru Friday, to ask about this service.

Public Transportation Study

Carbon County Community Transit recently submitted a Technical Assistance Grant application to the PennDOT Bureau of Public Transportation. The grant application notes *the fixed-route system – The Lynx - has been in operation virtually unchanged in Carbon County since the fall of 1999. Over this 10 year period, the community has changed in many ways and thus the demand for transit has changed. In recent years, ridership has been trending down and this is an indication that the original design of the system no longer is responding to community needs. The service is designed to accommodate seniors and others without auto access to connect them to health care and shopping centers. At the same time, there has been considerable growth in demand for Shared Ride services in the County. For the same period, while fixed-route ridership has declined, Shared Ride passenger trips have risen by 70%.*

The grant application goes on to note *the study will consist of an analysis of the current route and ridership demand and the market in Carbon County. Public input from riders and area residents, as well as an analysis of population concentrations, destination desires and patterns, will ascertain if a different level of transit service would be more appropriate. In particular, social service agency staff and others involved in addressing the needs of the financial disadvantaged in Carbon – those without auto access – will be interviewed to identify the need for peak hour transit. The goal of this project will be to design an improved, more productive and efficient service, that is responsive to both peak and off-peak service demands within the County of Carbon.*

An analysis of County public transportation needs has not been conducted since 1998. Planning Area officials should support Carbon County Community Transit efforts to identify needs and costs of public transportation and participate fully in the planning process when it is initiated.

Airports

Airport and railroad development are regional in terms of service area and required financial support and this *Comprehensive Plan* calls for no specific action to be taken by the Boroughs or Township with regard to providing air and rail service. Direct local municipal provision of air and rail transportation is not feasible and no action is anticipated other than participation in regional transportation planning efforts and monitoring potential community effects of air and rail operations and development.



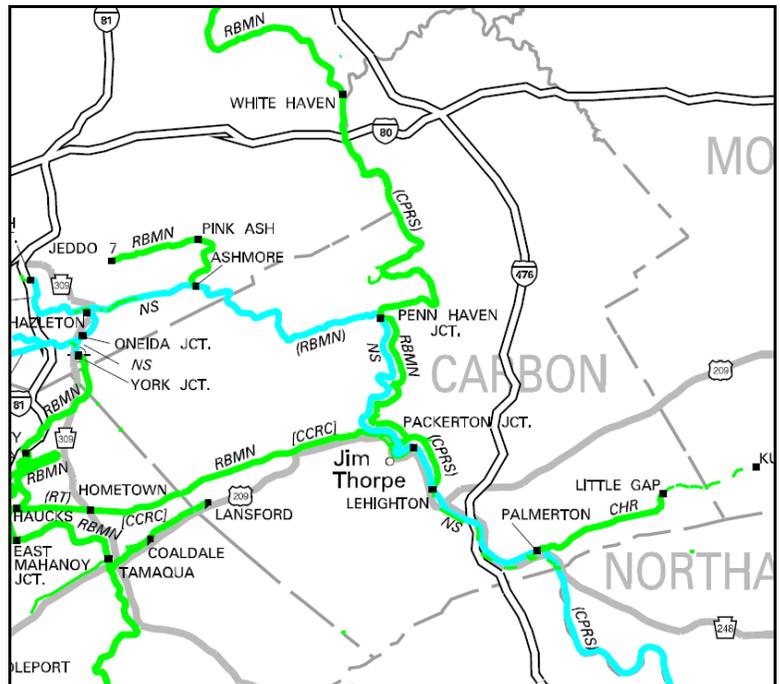
Jake Arner Memorial Airport

(Source: <http://www.airnav.com/airport/22N>)

The Jake Arner Memorial Airport in Mahoning Township is owned and operated by the Carbon County Airport Authority. The 3,000-foot runway requires a extension of 1,000 to 2,000 feet for increased corporate use which would serve as an economic development asset for the entire County. Area residents rely on regional airports in Pennsylvania, New York and New Jersey for major commercial carrier service.



RBM&NR System
 (Source: <http://www.readingnorthern.com/map.shtml>)



RBMN - Reading Blue Mountain and Northern
 CPRS - Canadian Pacific Railway
 NS - Norfolk Southern Railway Company
 CCRC - Carbon County Railway Commission



<http://www.lgsry.com/index.html>

Railroads

The Reading Blue Mountain and Northern Railroad Company provides freight service in Carbon County and seven other Pennsylvania and regional connections. From Memorial Day to mid-December, the Company also operates the Lehigh Gorge Scenic Railway which runs regular passenger excursions from Jim Thorpe north to Old Penn Haven. In addition, it runs excursions on October weekends from Jim Thorpe west to Hauks and then south to Port Clinton, and from Duryea to Jim Thorpe. These excursions are a key component of the local tourism economy. The Canadian Pacific Railway and the Norfolk Southern Railway Company also operate in Carbon County.

The Reading Blue Mountain and Northern Railroad Company is rehabilitating the line which runs through Lansford and plans to store rail cars on sidings in the Borough. Local elected officials and the emergency management coordinator should contact the Railroad Company in order to determine the types of materials contained in the rail cars and the need for emergency response planning.

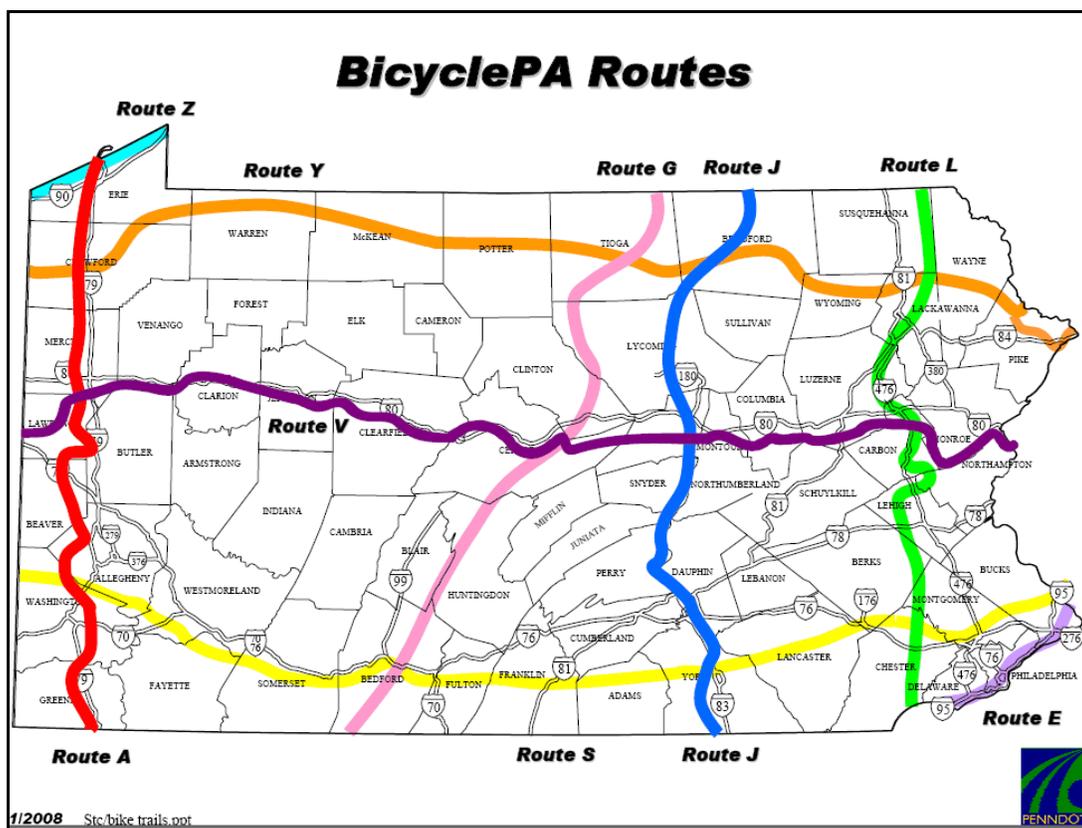
Bicycle Routes



Maury Road

Bicycle PA is the name for a network of cross-state bicycle routes that guide the bicycle tourist across the Commonwealth. The routes generally use existing highways that have been identified as desirable roads for bicycling. In some cases, the route uses improved rail trails to bypass difficult sections. In Penn Forest Township, *Bicycle PA Route L* follows Route 534 from the west to south Route 903, then south along Maury Road. the Route 6/Route 209 corridor and any transportation planning should consider the establishment of additional bicycle routes in the Planning Area. *Bicycle PA Route V* follows Route 534 from the west through Penn Forest Township to the east. No designated *Bicycle PA Routes* traverse the other Planning Area municipalities.

Local recreational bicycle routes such as the Lehigh Gorge and the Switchback, and the potential for additional routes, are discussed in the Open Space and Recreation Plan.



Sidewalks

Sidewalks and crosswalks are critical to safe and convenient pedestrian circulation in the higher density areas of the three Boroughs. Walking is the most basic form of transportation. In a small communities such as Jim Thorpe, Lansford and Summit Hill and in new residential developments with smaller lot sizes walking is a very viable means of transportation for many community residents. Walking can also increase quality of life. Trips made by walking decrease total automobile emissions, thus improving air quality.

What are the impediments to walking? Safety and lack of adequate facilities top the list. Increased traffic volume and speeds on our roadways underscore the importance and necessity of separate pedestrian accommodations, such as sidewalks. Sidewalks

Sidewalks in Jim Thorpe, Lansford and Summit Hill



are an important safety issue for any community. In the Boroughs, installing, improving and upgrading the sidewalk network would add to the small town character and quality of life. There are several key steps to determining the sidewalk improvements needed in the Boroughs. To begin, community leaders need to identify and prioritize specific problems and areas of needed improvement.

One method for identifying and prioritizing the various tasks is to complete a walking audit or *walkability checklist*, a concept developed a partnership of the U.S. Department of Transportation, the Pedestrian and Bicycle Information Center, and the Partnership for a Walkable America. A *walkability checklist* is a subjective method to help communities identify problems and deterrence's to safe walking in their communities. (See the *How walkable is your community?* Sidebar on the following pages.)

Sidewalks in the three Boroughs range from excellent condition for recently installed segments with handicapped access to areas where maintenance is required, to areas without sidewalks. A sidewalk inventory should be developed by each Borough. This inventory would map the sidewalk network, identify strengths and deficiencies, and prioritize needs. Some items to take note of in the sidewalk inventory include the material or composition of the sidewalks, profiles, dimension, overall condition, curbs, ADA accessibility, breaks or gaps in the sidewalk network, and street crossings and intersection design.

Sidewalk ordinances can be used to govern the installation and maintenance of sidewalks and identified deficiencies should be included in a capital improvements program. Sidewalk ordinances are in effect in Jim Thorpe and Lansford, and Summit Hill should consider adoption of an ordinance. In addition, all four municipalities should include requirements in the subdivision and land development ordinance for sidewalks in higher density residential subdivisions.



Partnership for a Walkable America



Pedestrian and Bicycle Information Center



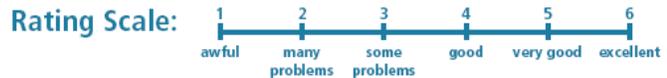
U.S. Department of Transportation



Take a walk and use this checklist to rate your neighborhood's walkability.

How walkable is your community?

Location of walk _____



1. Did you have room to walk?

- Yes Some problems:
- Sidewalks or paths started and stopped
 - Sidewalks were broken or cracked
 - Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
 - No sidewalks, paths, or shoulders
 - Too much traffic
 - Something else _____
- Locations of problems: _____

Rating: (circle one) _____
 1 2 3 4 5 6 _____

2. Was it easy to cross streets?

- Yes Some problems:
- Road was too wide
 - Traffic signals made us wait too long or did not give us enough time to cross
 - Needed striped crosswalks or traffic signals
 - Parked cars blocked our view of traffic
 - Trees or plants blocked our view of traffic
 - Needed curb ramps or ramps needed repair
 - Something else _____
- Locations of problems: _____

Rating: (circle one) _____
 1 2 3 4 5 6 _____

3. Did drivers behave well?

- Yes Some problems: Drivers...
- Backed out of driveways without looking
 - Did not yield to people crossing the street
 - Turned into people crossing the street
 - Drove too fast
 - Sped up to make it through traffic lights or drove through traffic lights?
 - Something else _____
- Locations of problems: _____

Rating: (circle one) _____
 1 2 3 4 5 6 _____

4. Was it easy to follow safety rules? Could you and your child...

- Yes No Cross at crosswalks or where you could see and be seen by drivers?
- Yes No Stop and look left, right and then left again before crossing streets?
- Yes No Walk on sidewalks or shoulders facing traffic where there were no sidewalks?
- Yes No Cross with the light?
- Locations of problems: _____

Rating: (circle one) _____
 1 2 3 4 5 6 _____

5. Was your walk pleasant?

- Yes Some unpleasant things:
- Needed more grass, flowers, or trees
 - Scary dogs
 - Scary people
 - Not well lighted
 - Dirty, lots of litter or trash
 - Dirty air due to automobile exhaust
 - Something else _____
- Locations of problems: _____

Rating: (circle one) _____
 1 2 3 4 5 6 _____

How does your neighborhood stack up? Add up your ratings and decide.

1. _____ 26-30 Celebrate! You have a great neighborhood for walking.
2. _____ 21-25 Celebrate a little. Your neighborhood is pretty good.
3. _____ 16-20 Okay, but it needs work.
4. _____ 11-15 It needs lots of work. You deserve better than that.
5. _____ 5-10 It's a disaster for walking!

Total _____

<http://www.walkableamerica.org/checklist-walkability.pdf>

Now that you know the problems,
you can find the answers.

Improving your community's score...




	What you and your child can do immediately	What you and your community can do with more time
<p>1. Did you have room to walk?</p> <p>Sidewalks or paths started and stopped Sidewalks broken or cracked Sidewalks blocked No sidewalks, paths or shoulders Too much traffic</p>	<ul style="list-style-type: none"> pick another route for now tell local traffic engineering or public works department about specific problems and provide a copy of the checklist 	<ul style="list-style-type: none"> speak up at board meetings write or petition city for walkways and gather neighborhood signatures make media aware of problem work with a local transportation engineer to develop a plan for a safe walking route
<p>2. Was it easy to cross streets?</p> <p>Road too wide Traffic signals made us wait too long or did not give us enough time to cross Crosswalks/traffic signals needed View of traffic blocked by parked cars, trees, or plants Needed curb ramps or ramps needed repair</p>	<ul style="list-style-type: none"> pick another route for now share problems and checklist with local traffic engineering or public works department trim your trees or bushes that block the street and ask your neighbors to do the same leave nice notes on problem cars asking owners not to park there 	<ul style="list-style-type: none"> push for crosswalks/signals/ parking changes/curb ramps at city meetings report to traffic engineer where parked cars are safety hazards report illegally parked cars to the police request that the public works department trim trees or plants make media aware of problem
<p>3. Did drivers behave well?</p> <p>Backed without looking Did not yield Turned into walkers Drove too fast Sped up to make traffic lights or drove through red lights</p>	<ul style="list-style-type: none"> pick another route for now set an example: slow down and be considerate of others encourage your neighbors to do the same report unsafe driving to the police 	<ul style="list-style-type: none"> petition for more enforcement request protected turns ask city planners and traffic engineers for traffic calming ideas ask schools about getting crossing guards at key locations organize a neighborhood speed watch program
<p>4. Could you follow safety rules?</p> <p>Cross at crosswalks or where you could see and be seen Stop and look left, right, left before crossing Walk on sidewalks or shoulders facing traffic Cross with the light</p>	<ul style="list-style-type: none"> educate yourself and your child about safe walking organize parents in your neighborhood to walk children to school 	<ul style="list-style-type: none"> encourage schools to teach walking safely help schools start safe walking programs encourage corporate support for flex schedules so parents can walk children to school
<p>5. Was your walk pleasant?</p> <p>Needs grass, flowers, trees Scary dogs Scary people Not well lit Dirty, litter Lots of traffic</p> 	<ul style="list-style-type: none"> point out areas to avoid to your child; agree on safe routes ask neighbors to keep dogs leashed or fenced report scary dogs to the animal control department report scary people to the police report lighting needs to the police or appropriate public works department take a walk with a trash bag plant trees, flowers in your yard select alternative route with less traffic 	<ul style="list-style-type: none"> request increased police enforcement start a crime watch program in your neighborhood organize a community clean-up day sponsor a neighborhood beautification or tree-planting day begin an adopt-a-street program initiate support to provide routes with less traffic to schools in your community (reduced traffic during am and pm school commute times)
<p>A Quick Health Check</p>		
<p>Could not go as far or as fast as we wanted Were tired, short of breath or had sore feet or muscles Was the sun really hot? Was it hot and hazy?</p>	<ul style="list-style-type: none"> start with short walks and work up to 30 minutes of walking most days invite a friend or child along walk along shaded routes where possible use sunscreen of SPF 15 or higher, wear a hat and sunglasses try not to walk during the hottest time of day 	<ul style="list-style-type: none"> get media to do a story about the health benefits of walking call parks and recreation department about community walks encourage corporate support for employee walking programs plant shade trees along routes have a sun safety seminar for kids have kids learn about unhealthy ozone days and the Air Quality Index (AQI)

PLAN POLICIES AND ACTIONS

Need for Prioritization The cost of transportation improvements, particularly at the local municipal level, must be evaluated in terms of other community facility and service demands. Local resources are limited and large tax increases are not a realistic option in this time of an uncertain economy and employment opportunity.

Overview Future planning policies and actions are intended to address identified problems and achieve the goals established by the Middle Carbon County Planning Area. The policies and actions are intended to be practical and achievable within the framework of available resources and acceptance by the community. Policies and actions are discussed in detail on the following pages and are summarized in the *Policies and Actions Table*. Categories include:

- Maintenance - Maintaining existing roads and facilities to preserve capacity.
- Regional Transportation Planning - Transportation issues cross local municipal and county boundaries. Carbon County and the NEPA Alliance must continue regional transportation planning programs.
- Land Use Planning and Ordinances - Linking land use to highway capacity.
- Signals/Signal Systems - Improving the area's transportation operations.
- Lane Markings - Roadway markings to improve traffic flow and safety.
- Geometric/Capacity Improvements - Monitor for long term capacity improvements.
- Intersection Safety - Where sight distance is a factor.
- Bridges - Maintain to extend useful life and replace if necessary.
- Public Transportation - Support Carbon County Community Transit.
- Pedestrians - How to improve pedestrian circulation.
- Subdivision Roads and Dedication - Ensuring adequate roads and long term maintenance for new development.

Maintenance Maintaining existing roads, drainage systems, sidewalks and other facilities is the most critical element of meeting current and future transportation needs of the Planning Area. Increasing costs and limited resources demand that existing transportation facilities be maintained to extend useful life.

- Maintain an up-to-date inventory of road maintenance equipment as a means of planning for replacement and inclusion the capital improvements program.
- Complete and update annually a detailed municipal road inventory and evaluation to identify needs and develop an improvements schedule within normal budgetary process, and to identify potential capital projects.
- Develop a Transportation Capital Improvement Program to plan and budget for

improvements.

**Regional
Transportation Planning**

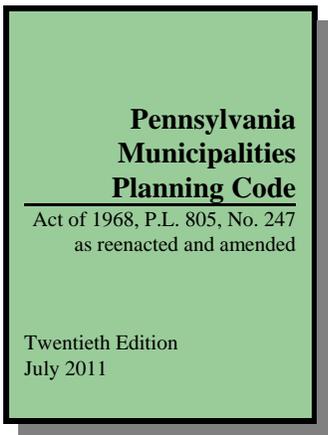
Given that transportation is an issue that transcends municipal and county boundaries and affects the entire region, the Carbon County Office of Planning and Development should take the lead role in coordinating and promoting the idea of regional planning initiated as part of the County Comprehensive Plan. This should include local municipalities, the County Planning Commission, the NEPA Alliance, PennDOT and the Pennsylvania Turnpike Commission. This will require a long term commitment of significant staff time and effort. However, without such commitment the issues will simply intensify with no real plan or solution. The County Comprehensive Plan certainly lays the foundation for continued transportation planning in the County and the NEPA Alliance provides the forum for regional planning.

**Land Use Planning
and Ordinances**

Local municipalities, as authorized by the Pennsylvania Municipalities Planning Code, may adopt a number of land use management ordinances which are critical to addressing transportation issues. The key ordinances for the Planning Area are the zoning ordinance and the subdivision and land development which are discussed in detail in the Land Use Section of the Comprehensive Plan.

Cooperative Zoning

Each of the four Planning Area municipalities has adopted zoning and, based on the adoption of this multimunicipal plan, have the opportunity to participate in cooperative zoning. The Planning Area municipalities should develop an intermunicipal agreement to implement cooperative zoning to direct higher intensity development such as commercial and multi-family to areas with adequate highway capacity and access to public transportation (current or probable future) and other adequate community facilities (e.g., water supply and sewage disposal).



Cooperative Zoning – PA MPC §1006-A(b.1)
Where municipalities have adopted a multimunicipal comprehensive plan pursuant to Article XI but have not adopted a joint municipal ordinance pursuant to Article VIII-A and all municipalities participating in the multimunicipal comprehensive plan have adopted and are administering zoning ordinances generally consistent with the provisions of the multimunicipal comprehensive plan, and a challenge is brought to the validity of a zoning ordinance of a participating municipality involving a proposed use, then the court shall consider the availability of uses under zoning ordinances within the municipalities participating in the multimunicipal comprehensive plan within a reasonable geographic area and shall not limit its consideration to the application of the zoning ordinance on the municipality whose zoning ordinance is being challenged.

- Direct high traffic commercial to Route 903 corridor in Penn Forest Township, particularly to the vicinity of PA Turnpike Interchange.
- Direct commercial and industrial to the existing Lansford Industrial District with access to the railroad.
- Direct high density multi-family dwellings to areas of the three Boroughs served by central water and central sewage.

- Provide for consolidated commercial zones to avoid strip commercial development, particularly in Penn Forest Township along Route 903.
- Review and update zoning standards for parking and loading areas to ensure safe and adequate parking facilities without requiring excessive parking areas.
- Require a Traffic Impact Study for higher intensity developments.

Access Management

Update zoning, subdivision and land development, and driveway permit ordinances, as appropriate, to:

Why Access Management?



Without applying access management techniques, studies show that corridors experience:

- Diminished roadway capacity, resulting in greater congestion.
- An increase in the number of crashes with other vehicles, as well as pedestrians and cyclists.
- Reduced character.
- An unfriendly environment for those who walk or bike.
- Commercial strip development.
- Overburdened arterials resulting in more cut-through traffic in residential areas.
- Homes and businesses adversely affected by a continuous cycle of widening roads.
- Increased commute times, fuel consumption, and vehicular emissions.

Finally, with increasing fiscal pressure on both the local and state levels, capital intensive solutions such as widening a roadway may not always be possible. The more proactive communities can be in addressing this issue, the greater the likelihood a community will have of preserving its character and quality of life.

- Require a permit prior to the installation of a driveway to access any PennDOT or local municipal road.
- In the case of PennDOT roads, make the zoning use permit contingent on the installation of all required improvements in accord with PennDOT requirements.
- In the case of Borough and Township roads, include standards for sight distance, intersection separation, spacing, grade, width, turning radii and stormwater management.
- For development proposals which are likely to have a significant impact on safety or traffic flow, require a traffic impact study using Institute of Transportation Engineers *Trip Generation* manual and PennDOT study requirements.
- Include requirements in the subdivision and land development ordinance for:
 - Joint driveways and cross accesses for adjoining commercial parking lots.
 - Reserved rights-of-way at logical locations in residential subdivisions to provide for interconnection of roads to adjoining parcels at the time of development .
- Require commercial and residential development plans to design for pedestrian access and safety.

PennDOT Access Management Handbook

Signals/Signal Systems

No new traffic signals are proposed. (The Route 209/Route 903 signal will be replaced as part of the Route 903 Bridge project.) Actions include:



East Amidon St / Route 902

- Work with PennDOT to ensure optimum timing of signals for traffic movement and pedestrian circulation and safety.
- Monitor the long term need and PennDOT warrant criteria for signalization of:
 - Maury Road (SR 2017) and Route 903 - increasing traffic and crash numbers.



Liberty Rd and Lehigh St



Maury Rd and Rt 903



- Amidon Street and Pine Street (Route 902) - poor alignment
- Liberty Road (SR 3014) and Lehigh Street (Route 209) - poor alignment, crash numbers, effect of Route 903 Bridge relocation.

Pavement Markings

Pavement markings are used to convey messages to roadway users without diverting their attention by indicating which part of the road to use, providing information about conditions ahead, and indicating where passing is allowed. The markings supplement signs and improve safety significantly, particularly at night and during other times of low visibility such as foggy weather. Crosswalk markings improve pedestrian safety.

- All PennDOT roads in the Planning Area are well marked with a double yellow centerline and white lane edge lines on segments without curbs. Regular repainting is critical.
- The Boroughs will continue to maintain existing crosswalks.
- Penn Forest Township roads are marked with center lines and edge lines in areas with more traffic and center lines on many other segments and the Township will maintain existing pavement markings.

Geometric/Capacity Improvements

No geometric or capacity improvements are proposed at this time. The Planning Area municipalities will monitor traffic conditions and consider improvements as capacity problems are anticipated.

Intersection Safety

Poor sight distances at the Route 902/SR 3012 (White Bear Drive) intersection and the Route 902/Mountain Top Road intersection, both in Summit Hill, were identified in the planning process. Current traffic volumes are relatively low with no level-of-service issues and reportable crashes over the past five years are low for both intersections, four and two, respectively.

Route 902/SR 3012 (White Bear Drive)

- No realignment or other roadway improvements proposed at this time.
- Trim vegetation to greatest extent possible.
- Post advisory speed signs on Route 902 east and west.



Route 902/White Bear Drive





Route 902/West Mountain Top Road



Route 902/Mountain Top Road

- No realignment or other roadway improvements proposed at this time.
- Trim vegetation to greatest extent possible.
- Post advisory speed signs on Route 902 east and west.

Bridges

The only locally owned bridge is the North Meckesville Road (T-518) across Mud Run in Penn Forest Township. Bridge actions include:

- Penn Forest - The Township will continue the maintenance to extend its useful life and include the bridge in its capital improvements program plan for its eventual replacement.
- County and State Bridges - The Planning Area municipalities will work with Carbon County and PennDOT to improve/replace the most critical bridges.
- Route 903/Lehigh River Bridge - Jim Thorpe will continue to work with PennDOT on the alignment of the bridge and North Street and explore the possibility of connecting Main Street to Third Street for access to North Street.
- Flood Capacity - Flood capacity must be considered in the design of any bridge replacements.

Public Transportation

No local municipal action is planned for public transportation other than to support the current operations and planning for improved service by Carbon County Community Transit.

Pedestrians

A sidewalk inventory should be developed by each Borough to map the sidewalk network, identify strengths and deficiencies, and prioritize needs.

- The Jim Thorpe and Lansford ordinances which require landowner installation, maintenance and replacement of sidewalks should be enforced and Summit Hill should consider such an ordinance.
- In addition, all four municipalities should include requirements in the subdivision and land development ordinance for sidewalks in higher density residential subdivisions.
- The Boroughs should consider limiting obstructions on sidewalks such as retail displays and restaurant seating.

Parking

Parking for the business districts in Lansford and Summit Hill is not currently an issue, but is an issue in Jim Thorpe, particularly during the tourist season and during special events. The Borough must consider the effect on the overall traffic and vehicle and pedestrian circulation when making parking changes and additions.

- Remote parking areas and shuttle service to tourist attractions and special events may be possible in association with the industrial development of the Packerton Yards and in Lehighton.

- Shared parking should be considered based on tourism and special event parking demand peaks occurring on weekends and holidays when industrial parking demand is lower.
- Jim Thorpe currently owns one municipal parking lot along Broadway at the Old Jail and Opera House and additional lots may be another option.
- New parking structures should be designed to be compatible with downtown historic character.
- Parking along North Avenue for the park and ball fields is becoming a problem and the Borough and the Sam Miller Association should work together to address the issue.

Subdivision Roads

Each of the Planning Area municipalities will:

- Maintain an up-to-date road ordinance and subdivision and land development ordinance setting standards for construction of roads and establishing procedures for dedication to the public.
- Carefully weigh the costs and benefits of accepting private roads for dedication.
- Review road construction standards to ensure adequacy for public safety and eliminate excessive requirements to minimize the consumption of resources for construction and long term maintenance.

HISTORIC PRESERVATION PLAN

INTRODUCTION

Historic resources provide a sense of place that fosters a connection to the community and a sense of pride among its residents. The aim of historic resource protection is to retain the heritage and identity of a community or region as reflected in its natural and built environment and to ensure that the community’s history and unique character are preserved for future generations.

Preserving historic buildings, structures, sites, and landscapes, and encouraging new development to be consistent with existing historic character are critical to the future of the Planning Area. Many historic sites and structures are found in the Middle Carbon County Planning Area, ranging from the Summit Hill site of the discovery of anthracite coal in 1791 and later Switchback Gravity Railroad route, to the Lansford No. 9 Mine - the world’s longest continuously operated hard coal mine - to the widely-known historic Jim Thorpe downtown, to the Old Albrightsville Cemetery in Penn Forest Township. The Planning Area has embraced history and historical sites as an important ingredient of the community and local economy. Local history and historic resources have been very well documented. Each of the three Boroughs is fortunate to have an active local historical society. Other active groups are the Carbon County Historical Society and the Delaware & Lehigh National Heritage Corridor. Partnerships with these organizations will be instrumental in protecting the Planning Area’s historic resources.

Pennsylvania has more than 100,000 historic resources identified by the National Register of Historic Places. Thousands more could be identified across the state, in cities, towns and villages, and rural areas. This rich heritage is under threat from abandonment and demolition of decaying urban building stock, destruction of rural landscapes and prime farmland for housing and business, and highway construction to accommodate the tidal wave of trucking and passenger traffic. As with our natural resources, we must strengthen our values and develop strategies to maintain our historic resources. Historic resources are worth saving. Without these resources, communities would lose their integrity, identity, and their attractiveness to newcomers. The goal is to strike a balance between development and saving what’s important to the community’s past.
 Source: *Better Models for Development in Pennsylvania*, p. 83.

GOAL AND OBJECTIVES

Historic Preservation Goal:

Protect historic resources as an important part of the character and economy of the Planning Area.

The Planning Area has a rich heritage with evidence of native inhabitants and early settlers, and remnants of its early industrial history. Historic buildings, structures, mining sites, and the natural features and landscapes that made this area so important to the development of the region are found throughout the Planning Area. These historic resources play a key role in the local economy, bringing tourism and fostering local business development. They are important and valuable assets that should be preserved and utilized for their economic, educational, and aesthetic benefits.

Objectives:

Identify & Evaluate Continue to identify historic resources and evaluate the resources for register status.

- **Historic Register** - Based on the historic resources inventory, create a local historic register and consider nomination of qualifying structures and places to the National Register of Historic Places.

Conservation

- **Boroughs** - Continue to support the local historical societies and other historic preservation organizations.
- **Township** – Encourage the creation of a Penn Forest Historical Society.

D&L Corridor

Coordinate local efforts to conserve cultural resources with Delaware & Lehigh National Heritage Corridor programs.

Tourism

Continue to support and participate in economic development efforts that highlight historic resources.

Ordinances

Provide for conservation of cultural resources in Borough/Township ordinances

- **Adaptive Use** - Allow the adaptive use of historic commercial buildings and large older homes to enable owners to adequately maintain the structures.
- **New Development** - Adopt conservation subdivision design standards to ensure an evaluation of any structure older than 50 years and threatened by development. The regulations should promote the retention of those structures deemed significant, because of age, architectural style or relationship to an historic event.
- **Demolition** - Consider the adoption of demolition ordinances to prohibit demolition by neglect and require demolition review.

Design Guidelines

Encourage consistency with the *Design Guidelines for D&L Corridor Market Towns* for development and redevelopment projects.

Public Information

Inform property owners about the significance and economic value of historic resources, and of the opportunities for their conservation.

BRIEF HISTORY

Prehistory

Middle Carbon County contains evidence of a rich and unique past important to the region and the nation. Early Native Americans inhabited the region until the mid 1700s when European-American settlers forced the last of the Native Americans to leave. In his *History of Carbon County Pennsylvania*, Fred Brenckman states that *the Lenni-Lenape were primarily hunter-gatherers, but practiced agriculture in small settlements along the Delaware, Susquehanna, and Lehigh Rivers. Hunting and scouting parties frequently traversed the region. On their way between the Delaware and Susquehanna, they usually followed the Warrior’s Path, a trail along the Lehigh River. The trail diverged from the river at the mouth of the Nesquehoning Creek and followed the Nesquehoning, crossing Broad Mountain and the Laurytown Valley, and touching the eastern border of present-day Weatherly Borough. From here it proceeded to the Indian Spring on the Carbon-Luzerne County boundary*



Photo Courtesy of National Park Service

and on to the present-day town of Drums. Here the Nescopeck Path branched off to the west and the Warrior's Path continued directly northward to the village of the Nanticokes, not far from Wilkes-Barre.

Post-European History

Swedish settlers came to the region in the mid-1600s followed by other European settlers upon the establishment of the Pennsylvania colony by William Penn in 1681 and the Walking Purchase in 1737. By the mid-1700s, the Lenni-Lenape had moved west, forced out of the area by the settlers.

The Post-European history of the region centers on industrial development brought on by the discovery of coal in 1791 on Sharp Mountain in Summit Hill. The discovery led to a coal rush that provided cheap, plentiful fuel for homes and industries. It is said that the discovery of coal started the Industrial Revolution. Workers began to move to the area, and the towns of Lansford, Summit Hill, and Mauch Chunk (now Jim Thorpe) arose when the Lehigh Coal & Navigation Company began work in the area in 1818 and later built homes for their employees. The need to transport coal led to the development of the canal and railroad systems in the region and along the Delaware and Lehigh Rivers.

Summit Hill: In the mid 1820s, five houses were built, including the first two-story house. Ten years later, Lehigh Coal and Navigation began to build houses for the employees and Summit Hill began to look like a town. By 1850, lots were being sold to individuals and the first coal breaker was built. In the mid 1870s, the charter for the Diligence Fire Company was drawn, street lights were installed, the Water Company was incorporated, and the Switchback, being needed less and less for coal hauling, began carrying passengers for the 18 mile round trip between Mauch Chunk and Summit Hill. In 1889, after being part of Mauch Chuck Township, Summit Hill became incorporated on January 14 as a borough. (Source: SummitHill.com)

Lansford: Settled in 1845, the western part of Lansford was previous named the town of Ashton and the eastern part of Lansford was named Storm Hill. A petition by the residents of Ashton was filed on March 19, 1876 in county court to make Ashton a borough. The name "Lansford" was chosen in honor of Asa Lansford Foster. Mr. Foster was a prominent figure in the first half of the 1800's being involved in the mercantile business and coal mining. Lansford was considered the Jewel of the Valley. Today, Lansford isn't the Jewel of the Valley that it once was but there are some dedicated people who are trying to bring some of that glory back. Tourism will be the wave of Lansford's future. Its past will be its future. (Source: Lansford Borough website)

Jim Thorpe: Now nearing its 200th birthday, visitors again flock to the town of Jim Thorpe (formerly named Mauch Chunk). In addition to its rich history, they find top rated Victorian era accommodations, a reputation for the culinary excellence of its restaurants, and the music, art galleries, and other attractions of a bustling town. (Source: Mauch Chunk Historical Society)

Penn Forest: Penn Forest Township was formed from land held by Monroe County. It land was primarily use for timbering in the 1800s in support of the coal industry. The *History of Northampton, Lehigh, Monroe, Carbon, and Schuylkill County* states: *The soil of the township, especially the mountainous parts, is gravel, and in many places very well timbered. The greater portion of the township is classed among unseated lands; forty thousand acres of which was offered by the county treasurer, at a public sale, to pay the arrears of taxes due thereon. There are several sawmills in this township.* (Source: Young, James, John Van Etten, James Burd. History of Northampton, Lehigh, Monroe, Carbon, and Schuylkill County, G. Hills, Proprietor, 1845.)

Canals replaced rafts and arks that floated coal to market on the Lehigh and Delaware rivers. In 1829, the 46-mile Lehigh Navigation ascending and descending lift-lock canal system opened between Easton and Mauch Chunk (Jim Thorpe). In 1830, the Delaware Division Canal opened from Easton to Bristol, and in 1837, 26 miles known as the Upper Grand Section were added to the Lehigh Navigation, extending the system to White Haven¹.

Railroads were initially built to deliver coal from the fields to the canal. Beginning in 1827, the rails and coal cars of the Mauch Chunk Gravity Railroad replaced the wagons that traveled the original graded coal road. This was the first "railed road" in Pennsylvania and the first significant railroad in America, using only the power of gravity to transport the coal from the mines to the wharves on the Lehigh at Mauch Chunk. The coal cars descended nearly 900 feet in the nine miles they traveled, powered only by gravity².

By the 1860s the efficiency of steam locomotion and the expansion of railroad systems diminished the use of the canal system. The Mauch Chunk Gravity Railroad, which had become known as the Switchback Railroad, fell from use as a coal transporter with the opening of the Hauto Tunnel in 1872, connecting the coalmines of the Panther Valley with the railroads of the Lehigh. Freed of its industrial roots, the Switchback was used solely for transportation and recreation from that time until its final run in 1933. During its heyday, the eighteen-mile open rail car ride was a "must do" and one of the most popular attractions in America. Today, though dismantled, it leaves its legacy in the form of trails for hikers and bikers³.

Coal was also important to the development of the region's iron and steelmaking industry.

A wealth of natural resources and the explosion of transportation bode well for the growth of the iron and steel industries. Charcoal-fired iron furnaces dotted Bucks County in the 1700s, but it was the continent's first anthracite hot air blast furnace in Catasauqua that catapulted iron making to full-scale proportions in 1840. Many iron companies sprouted soon thereafter, including the Bethlehem Iron Company, which later became Bethlehem Steel Company⁴.



Summit Hill Borough in the mid to late 1870s (photo: www.summit-Hill.com)

¹ Delaware & Lehigh Natural Heritage Corridor. *Fact Sheet: History of the Corridor.*

² Mauch Chunk Historical Society

³ Ibid

⁴ Delaware & Lehigh Natural Heritage Corridor. *Fact Sheet: History of the Corridor.*

By the 1920s the coal industry began to decline, bringing about a decline in the railroad industry. This was devastating to Lansford, Summit Hill, Mauch Chunk, and Nesquehoning, all of whom depended on these industries. Through the 1950s and 1960s other important manufacturing industries in Carbon County faded. In the mid 1950s the towns of Mauch Chunk and East Mauch Chunk merged and took the name of Jim Thorpe in an effort to turn the tide on economic decline, but it wasn't enough. By the late 1960s the future looked bleak for the region as the last coal mines closed and the railroads closed their shops and depots. Today, Jim Thorpe is thriving again on the tourism industry, based largely on its historic significance. Lansford and Summit Hill struggle with the effects of the economy and now function primarily as bedroom communities. Penn Forest Township has transformed from a timbering and agricultural community in support of the coal industry to a bedroom community and a market for second homes.

CULTURAL LANDSCAPE

The Planning Area, which is included in the geographic region known as the Delaware and Lehigh National Heritage Corridor, is comprised of a landscape that is historically significant to the nation. In its *Inventory and Assessment of Cultural Landscapes*, the Delaware & Lehigh National Heritage Corridor defines a cultural landscape as *the interaction between people and land, where the opportunities and limitations of the land have determined man's activities, and man's values and activities have produced landscape patterns of the widest and*

most interesting variety. The report identifies two cultural landscapes in the Planning Area. First is the Lehigh Gorge noted for its exceptional importance to transportation and the series of locks and dams that are landmarks of national significance. The second, named "Jim Thorpe to Summit Hill," is comprised of Jim Thorpe, Summit Hill, Lansford, and Nesquehoning, and is *unique for its association with the anthracite mines, the transportation system, the neighborhoods of working people, and the corporate headquarters town.*



View of Mauch Chunk (photo: www.Summit-Hill.com)

These cultural landscapes should be preserved. The Lehigh Gorge, which borders Jim Thorpe and Penn Forest, still functions as a major attraction for tourists and recreation enthusiasts. Penn Forest Township remains a primarily wooded landscape with a timbering and agricultural heritage. The Borough of Jim Thorpe is still dominated by the cultural landscape of the anthracite mines, the canal and railroad, the corporations, and the prominent citizens that built them. Summit Hill and Lansford, home to thousands of mine workers at the height of the coal rush, still contain the "wood houses, distinctive domed churches and hillside cemeteries that create a textbook of the form of American mining landscapes⁵." Culm banks are also present which contribute to the cultural landscape. The Switchback Gravity Railroad is less visible, although a trail follows a

portion of the rail bed. Few changes have occurred to the Planning Area's landscape with the exception of the regeneration of the forest. However, economic decline poses a threat in the form of deteriorating buildings and structures that are historically and culturally significant.

⁵ Delaware & Lehigh Nation Heritage Corridor. *Inventory and Assessment of Cultural Landscapes*, 1991

HISTORIC RESOURCES INVENTORY

The Planning Area's historic resources have been well documented by the local historical societies, the Delaware & Lehigh National Heritage Corridor, and the Pennsylvania Historical and Museum Commission. Each organization maintains an extensive list and description of buildings, structures and sites which comprise the historic fabric of the Planning Area communities. The preservation of these resources is one of the primary goals of this *Comprehensive Plan*. Identified historic resources are discussed below and are categorized as resources listed on the National Register of Historic Places, Eligible for the National Register, and Locally Significant Historic Resources. A discussion of the Switchback Gravity Railroad is also included.

Switchback Gravity Railroad

The Switchback Gravity Railroad was completed in 1827 as a means to transport coal from the anthracite mines around Summit Hill to Mauch Chunk (now Jim Thorpe) where it would then be shipped down the Lehigh River to markets in Philadelphia and beyond. The prior inability to transport coal threatened to limit, if not eliminate, coal production in the region, but the creation of the Switchback Gravity Railroad overcame this problem. Its creation enabled the development of the region's coal fields and its subsequent industrial and economic growth. The towns of Mauch Chunk, Summit Hill, Lansford and many other towns owe their creation to the Switchback Gravity Railroad.

The Switchback Gravity Railroad went through several transformations, from a simple system of wheeled cars propelled by gravity and draft animals, to a more sophisticated railroad of backtracks and traction systems. It served as both a coal transport system and a tourist attraction, providing rides to paying tourists. In 1937, after years of deterioration and a declining tourism base, the Switchback Gravity Railroad was auctioned and its parts sold as scrap metal.

Today, the 18 mile railroad right-of-way remains, along with some ruins, and is used as a hiking, biking, and cross-country skiing trail by area residents and tourists. It is listed on the National Register of Historic Places and is within the Delaware and Lehigh National Heritage Corridor. There is great interest among Planning Area residents, the Delaware and Lehigh National Heritage Corridor, and other stakeholders in preserving the Switchback Gravity Railroad as an important historic resource and tourism feature. In 2007, the Delaware and Lehigh National Heritage Corridor commissioned a study for the preservation of the Switchback Gravity railroad entitled "*Switchback Gravity Railroad Historic Landscape Preservation Planning Study*." The study contained the following recommendations:



Switchback Gravity Railroad in Late 1860s (Photo: www.Summit-Hill.com)

- *Preserve existing resources while improving vital infrastructure to ensure that the site remains open and accessible to the public. Preservation of significant historic and environmental resources comes first, and improvements, to the extent they are contemplated, should only increase access within a strict policy of preservation. Construction or development on the site that would damage its existing*

historic and natural resources, or produce clearly negative impacts on the surrounding community, are not endorsed.

- *Preventative conservation methods should be initiated to stabilize, reveal and maintain the remaining historic ruins. The historic fabric and trail should be fully documented in a professional capacity.*
- *Maintenance of the current Switchback trail should include erosion control and other environmentally-conscious improvements for hikers and bikers. That said, the use of ATVs and other motorized vehicles should be banned from the trail.*
- *There should be an effort to increase awareness of the significance of the Switchback as both a historic and cultural site. The creation of more user-friendly maps and brochures will allow visitors to more easily navigate and understand the trail and historic fabric. Interpretive and directional signage at pivotal trail points would also ease the visitors' experience.*
- *Increased access, by means of improvements to the existing trailheads or the creation of alternative routes should be evaluated carefully, and with a long-term development horizon.*
- *To ensure the successful implementation of all recommendations, a cooperative management structure should be organized. This structure would begin with the formation of an administrative body (a "conservancy" or "user's cooperative"), working in an advisory capacity with the Carbon County Parks and Recreation Department. The administrative body would take on the responsibility of creating a comprehensive management plan and articulate a holistic approach to managing the entire Switchback Gravity Railroad landscape, which if followed will assure the proper conservation and preservation of the historic structures and natural landscape. Once a comprehensive plan is developed this body would have the overall responsibility for coordination and oversight; including delegation of the work associated with implementing the management plan. As a means of addressing the community's appreciation of the site and their strong interest in how it is managed, a "Friends of the Switchback" group should be formed to spearhead and coordinate community efforts relating to the site. This group would play a supportive role to the administrative body and would consist of partnerships formed out of some of the diverse stakeholder groups heard from during the public engagement process.*

This Comprehensive Plan endorses the recommendations of the "*Switchback Gravity Railroad Historic Landscape Preservation Planning Study*" and supports efforts to preserve the existing trail as a recreational resource and as a historic resource with educational value.

Resources Listed on the National Register of Historic Places

The National Register of Historic Places was established by the National Historic Preservation Act of 1966. In Pennsylvania, the program is managed by the Bureau for Historic Preservation (BHP), a department within the Pennsylvania Historical and Museum Commission (PHMC). The program is designed to assist state and local governments, federal agencies, and others identify significant historic and



Switchback Gravity Railroad in the area of the crossover.
(photo: www.Summit-Hill.com)

archeological resources worthy of preservation and of consideration in planning and development decisions. Properties listed on the National Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. To be eligible for listing on the National Register, a property must meet the National Register Criteria for Evaluation. These Criteria require that a property be old enough to be considered historic (generally at least 50 years old) and that it still appears much the same way as it was in the past. In addition, the property must meet one of the following criteria:⁶

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

A committee of BHP staff reviews information submitted to the BHP to determine whether a resource is eligible for the National Register (using the criteria above). If found eligible, the resource is given a Determination of Eligibility (DOE) and the nomination process can begin. The State Historic Preservation Board reviews all nominations to the National Register. Upon determination of its level of significance and that the resource meets the Criteria for Evaluation, the nomination is sent to the National Park Service (NPS), which either approves or denies the nomination. If approved by the NPS, the resource is entered into the National Register of Historic Places.

Listing on the National Register:⁷

- honors a historic property by recognizing its importance to its local community, state or the nation;
- *encourages* the preservation of historic properties by documenting their significance;
- lists properties *only* if they meet the National Register Criteria for Evaluation;
- facilitates the review of federally funded, licensed, or permitted projects to determine their effects on historic properties;
- provides an opportunity to consult with government agencies to mitigate projects that will adversely affect historic properties;
- provides information about historic resources for planning purposes;
- offers federal tax benefits to owners of income producing (depreciable) historic properties if they rehabilitate their properties according to preservation standards.

Listing on the National Register does not:⁸

- restrict the rights of property owners;
- require that properties be maintained, repaired, or restored;
- prevent destruction of a resource by federal, state, local, or private development;
- guarantee that grant funds will be available for projects;
- require property owners to follow preservation standards on their properties (unless they wish to apply for tax benefits)

Resources in the Middle Carbon County Planning Areas listed on the National Register of Historic Places are as follows:

⁶ Pennsylvania Historical and Museum Commission, *National Register of Historic Places Fact Sheet*.

⁷ *Ibid.*

⁸ *Ibid.*

Resources Listed on the National Register of Historic Places

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Summit Hill		Mauch Chunk & Summit Hill Switchback Railroad	Site	1827	First gravity RR built in the USA; used for transport of coal from Summit Hill to Jim Thorpe
Summit Hill	124 W Hazard St.	Summit Hill High School	Building	1906	Renaissance Revival architecture; now functions as an apartment building
Jim Thorpe	128 Broadway St.	Carbon County Jail	Building	1869	Romanesque Revival structure; a number of suspected Molly Maguires were imprisoned here from 1875-1876.
Jim Thorpe		Carbon County Section of Lehigh Canal	Structure	1816	Canal followed the valley of the Lehigh River; Vital to opening of northeast PA coal fields; Contains remnants locks, gurad locks, dams, and aqueducts and tow paths
Jim Thorpe	Susquehanna St.	Central Railroad of New Jersey: Station	Building	1888	Significant for its architecture and its 3-1/2 story cylindrical tower with conical roof and overhanging eaves, functioned as a major RR station at the entrance to the anthracite region.
Jim Thorpe		Mauch Chunk & Summit Hill Switchback Railroad	Site	1827	(see above description)
Jim Thorpe		Old Mauch Chunk Historic District	District	1820	Consist of two streets: Broadway and Race; covers the area of the original town; contains a mix of well-preserved late 19th century buildings in a spectacular natural setting.
Jim Thorpe	Packer Rd.	Packer, Asa, Mansion (National Historic Landmark)	Building	1860	A National Historic Landmark. Significant as the home of Asa Packer, famed industrialist, politician and philanthropist, and for its Victorian-American-Italiante architecture.
Jim Thorpe	Packer Rd.	Packer, Harry, Mansion	Building	1874	Significant as the home of Harry Packer, son of Asa Packer, and as an example of Victorian architecture.
Jim Thorpe		Saint Marks Episcopal Church (National Historic Landmark)	Building	1869	A National Historic Landmark. Significant as an outstanding example of Gothic Revival church architecture; designed by noted architect Richard Upjohn.

Source: Pennsylvania Historical & Museum Commission; Delaware & Lehigh National Heritage Corridor, Historic Resources Study, 1991

Resources that are Eligible for the National Register

A resource that meets any one of the four eligibility criteria listed above can be given a Determination of Eligibility (DOE) by the Bureau for Historic Preservation. That resource, however, might never obtain a listing on the National Register. Historic resources in the Middle Carbon County Planning Area that have received a DOE are as follows:

Resources with a Determination of Eligibility

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Lansford	1 E Ridge St.	Lansford Community Center	Building	None	Praire School; PHMC notes that re-evaluation might be necessary due to date of initial evaluation.
Lansford		Lansford Historic District	District	1840, 1953	Late 19th & 20th Century Revivals Queen Anne Italianate
Jim Thorpe		Center Street Historic District	District	1854, 1923	Noted for its late Victorian style.
Jim Thorpe		Lehigh Valley Railroad, Jim Thorpe Section	District	None	Contributes to resource.
Jim Thorpe	101 Laurel Ln.	Lehigh Valley Railroad Engine House	Building	1860	No description
Jim Thorpe	102 Center St.	Leisenring Property	Building	1890	Noted for its Queen Anne style.
Jim Thorpe	16 S St.	Ruddle, George, Property	Building	1875	Noted for its Italianate style.
Penn Forest	PA Turnpike	Hawks Falls Bridge	Bridge	1957	Bridge over Mud Run
Penn Forest		Lehigh Valley Railroad (Jim Thorpe Section)	District	None	Contributes to resource
Penn Forest	101 Laurel Ln	Lehigh Valley Railroad Engine House	Building	1860	No description
Penn Forest		Reading Railroad; Lehigh Line (Allentown to Wilkes Barre)	District	None	No description

Source: Pennsylvania Historical & Museum Commission

Locally Significant Resources

Despite the limited number of National Register listed and eligible resources, the Planning Area has a rich history and an abundance of historically significant resources. Many such resources have been submitted to the PHMC for consideration but have not been nominated for the National Register. These resources have been determined

by the PHMC to be ineligible for the National Register or their eligibility is undetermined due to lack of sufficient information. Nonetheless, these resources are still meaningful and important to the community's heritage. They are classified herein as Locally Significant Resources and include the following:

Locally Significant Resources

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Summit Hill	SR 209	Bridge	Structure	1921	LC&N RR Bridge US209 1/2 mi east of Lansford
Summit Hill	SR 902	Bridge	Structure	1926	Bridge - Rt. 902/Laurel Dr.
Summit Hill	44 W White St.	First Presbyterian Church	Building	1895	Gothic Revival; Pennsylvania Inventory
Summit Hill	121 White St.	Saint Paul's Evangelical Lutheran Church	Building	1897	Pennsylvania Inventory
Lansford	Center Ave.	Center Ave. Houses	Building	None	
Lansford	26 E Patterson St.	American Fire Co. #1	Building	1906	Late Victorian; Contributes to resource
Lansford		Central Railroad of New Jersey(1900)	District	None	No description
Lansford	W Patterson St.	Lansford Stadium; Panther Valley Football Stadium	Structure	1937	No description
Lansford		Lehigh and Susquehanna Division	District	None	No description
Lansford	116 E Bertsch St.	Saint John the Baptist Byzantine Catholic Church	Building	1910	Exotic Revival; Pennsylvania Inventory
Lansford		No. 9 Mine		None	
Lansford		Old Jail		None	
Jim Thorpe	82-84 E Third St.	Heydt/Wenzelberger Property	Building	1871	No description
Jim Thorpe	SR 903	Jim Thorpe Bridge	Structure	1953	Bridge
Jim Thorpe	86 E 3rd St.	Kanishock, Todd, House	Building	1870	No description
Jim Thorpe	11 E Front St.	Kocher, Conrad, Property	Building	1870	Style - Italianate
Jim Thorpe	1 Maple St.	Mulligan Property	Building	1854	No description

Source: Pennsylvania Historical & Museum Commission; Borough records.

Locally Significant Resources (continued)

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Jim Thorpe		North Street Neighborhood Grouping	District	1854	Style - Other Bungalow/Craftsman
Jim Thorpe		River and West Front Streets	District	1890	Style - Other Late Victorian
Jim Thorpe		South Street Neighborhood Grouping	District	1854	Style - Other Late Victorian
Jim Thorpe	139 Silk Rd.	None	Building	1900	Style - Bungalow/Craftsman
Jim Thorpe	SR 3012	Bridge	Structure	1930	Lentz Trail Rd over Mauch Chunk Creek
Jim Thorpe		Carbon Co. Courthouse	Building	1893	Style- Romanesque; In NR District
Jim Thorpe		Central Railroad of New Jersey(1900); Lehigh and Susquehanna Division	District	None	No description
Jim Thorpe		Central Railroad of New Jersey: Mauch Chunk Upper Yard	Site	1875	No description
Jim Thorpe		Dimmick Memorial Library	Building	None	No description
Jim Thorpe	411 Center Ave.	Ebenezer Evangelical Congregational Church	Building	1895	Pennsylvania Inventory
Jim Thorpe	39-41 Broadway	Oak Hall; I.O.O.F. Hall	District	1869	Contributes to resource
Jim Thorpe		Kemmerer Park Carriage House	Building	1879	Placed on Preservation Pennsylvania AT RISK list 11/17/08
Jim Thorpe	16 W Broadway	Marion Hose Company	Building	1885	Classic Revival; Contributes to resource
Jim Thorpe		Mauch Chunk Opera House	Building	None	No description
Jim Thorpe	13 E 3rd St.	Saint John's Episcopal Church	Building	1876	Late Gothic Revival; Penna Inventory
Jim Thorpe		Soldier's Monument	Structure	None	Contributes to resource
Jim Thorpe	27-67 Race St.	Stone Row	Building	1849	In NR District

Source: Pennsylvania Historical & Museum Commission

Locally Significant Resources (continued)

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Penn Forest	PA Turnpike	Slatington Maintenance Facility	Building	1957	No description
Penn Forest		Stony Creek Hotel	Building	1860	No description
Penn Forest	SR 7211	Bridge	Structure	1950	Steel bridge over Drakes Creek
Penn Forest	SR 534	Bridge	Structure	1938	Concrete bridge over Dilldown Creek
Penn Forest	SR 101	Bridge	Structure	1956	Concrete bridge over Wild Creek
Penn Forest	SR 7211	Smiths Bridge	Structure	1890	Stone bridge over Stoney Creek
Penn Forest	PA Turnpike	Lansdale Interchange	Structure	1955	No description
Penn Forest	PA Turnpike	Hickory Run Service Plaza	Building	1957	No description
Penn Forest	PA Turnpike	Pocono Maintenance Facility and State Police Station	Building	1957	No description
Penn Forest	PA Turnpike	Wyoming Valley Maintenance Facility	Building	1957	No description
Penn Forest	PA Turnpike	PA Turnpike: Northeast Extension	Structure	None	No description
Penn Forest	PA Turnpike	Lehigh Valley Tunnel	Structure	1957	No description
Penn Forest	PA Turnpike	Scranton Interchange	Structure	1957	No description
Penn Forest	SR 903	Bridge	Structure	1932	Concrete bridge crossing Mud Run
Penn Forest	PA Turnpike	Quakertown Interchange	Structure	1957	No description
Penn Forest	PA Turnpike	Lehigh Valley Interchange	Structure	1957	No description
Penn Forest	PA Turnpike	Pocono Interchange	Structure	1957	No description
Penn Forest	PA Turnpike	Allentown Service Plaza	Building	1957	No description
Penn Forest	PA Turnpike	Wyoming Valley Interchange	Structure	1957	No description
Penn Forest	SR 7211	Bridge	Structure	1910	Stone bridge crossing Mud Run
Penn Forest		Lehigh Valley Railroad (aggregate file)	District	None	No description

Source: Pennsylvania Historical & Museum Commission

Locally Significant Resources (continued)

Municipality	Address	Historic Name	Resource Category	Date Built	Description
Penn Forest	PA Turnpike	Quakertown Maintenance Facility	Building	1957	No description
Penn Forest	SR 534	Bridge	Structure	1925	Concrete bridge over Branch of Carpsrocus Creek

Source: Pennsylvania Historical & Museum Commission

DELAWARE & LEHIGH NATIONAL HERITAGE CORRIDOR

The Delaware & Lehigh National Heritage Corridor is a joint effort of private groups and interested citizens, county and municipal governments, the Commonwealth of Pennsylvania and the federal government to conserve cultural and natural resources in the five-county region of Pennsylvania that traverses the historic Delaware and Lehigh Canals. Since its designation by Congress in 1988, it has been the Delaware & Lehigh's mission to restore historic places, conserve green space for public use and preserve and interpret our heritage to enhance life for generations to come⁹.

The Delaware & Lehigh National Heritage Corridor passes through three distinct areas: the Wyoming Valley and Carbon County, home to many of Pennsylvania's former anthracite mines; the Lehigh Valley, where the discovery of coal to the north spawned prosperous iron and steel industries; and the Delaware Valley, through which coal-laden canal boats traveled to Philadelphia and other markets¹⁰. Jim Thorpe, Summit Hill, Lansford, and Penn Forest lie within the Wyoming Valley and Carbon County portion of the D&L Corridor. They can benefit from the information and resources generated by the D&L Corridor, its marketing efforts, its community and educational programs, and its preservation efforts. This *Comprehensive Plan*, advocates cooperation between the Planning Area municipalities and the Delaware & Lehigh National Heritage Corridor.

PLANNING IMPLICATIONS

The Planning Area is rich in history and historic resources and a cultural landscape that evokes the region's industrial roots. The historic fabric of the Planning Area has remained largely unchanged and has become an integral part of its present culture and economy. Many historic buildings and structures remain, and the mountainous landscape evokes memories of the area's coal mining heritage. Preservation and promotion of the Planning Area's historic resources and cultural landscape is critical to maintaining the viability of Jim Thorpe's recreation and tourism based economy and can be a key feature in the economic development of Summit Hill, Lansford, and Penn Forest.

Despite their importance to the Planning Area, historic resources have received no formal protection by the Planning Area municipalities through the measures enabled by the PA Historic District Act (Act 167 of 1961) and the Pennsylvania Municipalities Planning Code. Such measures, typically realized through zoning ordinance regulations, can add a level of protection to identified historic resources by providing, at the very least, a means to review activities that could lead to the alternation or destruction of historic resources.

⁹Delaware & Lehigh National Heritage Corridor website. <http://www.delawareandlehigh.org>

¹⁰ Ibid.

Local Historic District Act (Act 167 of 1961)

Pennsylvania's Local Historic District Act (Act 167 of 1961) "*authorizes counties, cities, boroughs, incorporated towns and townships to create historic districts within their boundaries providing for the appointment of Boards of Historical Architectural Review; empowering governing bodies to protect the distinctive historical character of these districts and to regulate the erection, reconstruction, alteration, restoration, demolition or razing of buildings within the historic districts.*" Historic districts established by local ordinance under the Local Historic

District Act must be "certified" by the Pennsylvania Historical and Museum Commission. Certification means that the district has been determined eligible for the National Register of Historic Places and authorization has been given to protect the character of the district through regulatory means. Act 167 enables municipalities to regulate the erection, reconstruction, alteration, restoration, demolition or razing of buildings within the district boundaries. A Historical and Architectural Review Board (HARB) must be established and contain at least five members comprised of a registered architect, licensed real estate broker, the municipal building inspector and at least two others with interest or knowledge of local history or historic preservation. The HARB advises the governing body whether to issue permits for work proposed on buildings within the district.

Benefits of Historic Preservation

Since the 1970s, mounting evidence has shown that historic preservation can be a powerful community and economic development strategy. Evidence includes statistics compiled from annual surveys conducted by the National Trust for Historic Preservation and statewide Main Street programs, state-level tourism and economic impact studies, and studies that have analyzed the impact of specific actions such as historic designation, tax credits, and revolving loan funds. Among the findings:

- *Creation of local historic districts stabilizes, and often increases residential and commercial property values.*
- *Increases in property values in historic districts are typically greater than increases in the community at large.*
- *Historic building rehabilitation, which is more labor intensive and requires greater specialization and higher skill levels, creates more jobs and results in more local business than does new construction.*
- *Heritage tourism provides substantial economic benefits. Tourists drawn by a community's (or region's) historic character typically stay longer and spend more during their visit than other tourists.*
- *Historic rehabilitation encourages additional neighborhood investment and produces a high return for municipal dollars spent.*
- *Use of a city or town's existing, historic building stock can support growth management policies by increasing the supply of centrally located housing.*

Source: Planning Commissioners Journal, No. 52, Fall 2003, p. 4.

Currently, the Lansford Historic District and the Old Mauch Chunk Historic District and Center Street Historic District in Jim Thorpe, could be candidates for designation as Certified Historic Districts due to their National Register status. An attempt to designate a certified historic district in Jim Thorpe was defeated in recent years as property owners have demonstrated their willingness and ability to maintain their properties without the need for local regulation. A certified historic district might be an option for Lansford, and might also be an option for the other historic districts in the future if conditions change.

PA Municipalities Planning Code

The Pennsylvania Municipalities Planning Code enables municipalities to plan for and act to preserve and protect historic resources. "*Preservation or protection, when used in connection with . . . historic resources, shall include means to conserve and safeguard these resources from wasteful or destructive use.*" The MPC also states "*where zoning districts are created, all provisions shall be uniform for each class of uses or structures, within each district, except that additional classifications may be made within any district for places having unique historical, architectural or patriotic interest or value.*" Although not having the force of provisions under the Local Historic District Act of regulating with specific design standards, a municipally organized historical commission could act in a support capacity by conducting research, providing data on historic resources and making recommendations for historically sensitive

development. The zoning ordinance could formalize the review process for historic resources, place restrictions on the demolition and alteration of historic resources, and include incentives for historic resource protection such as increased lot coverage or reduced building setbacks to support protection of a historic resource. The Planning Area municipalities currently have no zoning provisions for historic resource protection under the MPC; therefore, historic resources are left virtually unprotected.

FUTURE PLANNING POLICIES

Overview Future planning policies and actions are measures intended to achieve the Planning Area's historic resource protection goals by guiding future decisions and actions related to historic resource protection.

Policies The history of the Middle Carbon County Planning Area is extremely important, providing evidence of Native American and early European settlement, the industrial transformation of the 19th and early 20th centuries, the decline of the cola industry in the region, and the recent influence of tourism and recreation. The following policies are intended to preserve and promote this important and unique past which also serves as an invaluable asset for the local tourism economy:

- Continue the identification of historic resources and pursue National Register listing.
- Work to establish a historic corridor between Jim Thorpe, Summit Hill, Lansford, and Penn Forest and market the corridor for recreation and tourism.
- Promote public education to raise awareness of the history and historic resources of Summit Hill, Lansford, and Penn Forest.
- Consider the establishment of protection measures enabled by the Municipalities Planning Code and the Local Historic District Act.
- Promote preservation of historic buildings and structures during the land development process.
- Preserve historic buildings by incorporation in commercial areas as commercial uses.
- Encourage the adaptive reuse of historic buildings as multi-family or commercial uses.
- Preserve historic resources by promotion as recreational and tourist destinations.
- Preserve the Planning Area's cultural landscapes.
- Pursue technical assistance and funding for historic resource identification and preservation.

IMPLEMENTATION STRATEGIES

Overview Implementation strategies are the specific means by which the Planning Area municipalities can execute the future planning policies. The strategies take the form of

regulatory provisions included in the zoning, subdivision and land development ordinance, and other ordinances, as well as non-regulatory initiatives. The following implementation strategies are organized according to zoning ordinance amendments, subdivision and land development ordinance amendments, and additional measures.

Historic Resources

- Continue to work with the local historical societies and the D&L National Heritage Corridor to identify historic resources.
- Develop a local historic register program aimed at identifying properties eligible for local, state, and national recognition, and encourage and support efforts to list such properties on the National Register.
- Support any efforts by landowners and chambers of commerce to create certified historic districts and adopt required historic district ordinances to support such efforts.
- Create a system for efficient storage, mapping, and retrieval of historic resource data (for example, Geographic Information Systems) and maintain a historic resources database and map.
- Seek technical assistance from historic preservation organizations, such as the Pennsylvania Historical and Museum Commission, National Park Service, and Preservation Pennsylvania for inventorying and documenting resources and nominating resources for the National Register.
- Seek funding from organizations such as the National Park Service, National Trust for Historic Preservation, Pennsylvania Historical and Museum Commission, and PA Department of Conservation and Natural Resources, and from programs such as the Federal Rehabilitation Tax Credit Program.

Recreation & Tourism

- Incorporate historic resources into recreation and tourism planning.
- Improve the trail along the Switchback Gravity Railroad and extend it to the No. 9 Mine in Lansford Borough.
- Create a historical, cultural and physical connection between Jim Thorpe, Summit Hill Lansford, and Penn Forest based on the area's cultural landscape and linked by the Switchback Gravity Railroad trail and the Lehigh Gorge, and create a historic driving tour that incorporates aspects of each municipality.
- Create marketing materials that market Jim Thorpe, Summit Hill, Lansford, and Penn Forest as a connected historical area.

Ordinances

Ordinance provisions intended to implement the planning policies and recommendations pertaining to historic resource protection are as follows:

- Adopt a historic resource protection ordinance to:
 - Apply property maintenance codes to limit demolition by neglect.
 - Facilitate the adaptive re-use of historic resources (allow flexibility of contemporary standards, such as parking requirements, when a historic property is

involved).

- Provide incentives for rehabilitation of historic resources.
- Require a historic resources impact assessment for development in proximity to a historic resource.
- Require review of demolition, alteration, additions, reconstruction, and restoration of historic resources.
- Allow home occupations in all zoning districts as a means of encouraging productive use of historic structures which tend to be more difficult to maintain (e.g., bed and breakfast, government offices, multi-family).
- Incorporate the preservation of historic resources in conservation design for residential and commercial development.

Historic Preservation Planning

A well-conceived preservation planning process serves to:

- *Establish a basis of public policy about historic resources;*
- *Educate and inform residents and others about their community's heritage and its value;*
- *Identify opportunities for economic growth based on the community's historic and architectural character.*
- *Ensure consistency among various local government policies that affect the community's historic resources;*
- *Lay the groundwork for adopting a local historic preservation ordinance or strengthening an existing one;*
- *Eliminate uncertainty or confusion about the purpose, meaning, and content of a community's preservation ordinance;*
- *Inform existing and potential property owners, investors, and developers about what historic resources the community wants to protect as it grows;*
- *Create an agenda for future preservation activities; and*
- *Facilitate compliance with federal and state historic preservation and environmental quality laws.*

Preservation plans serve several purposes:

- *educating elected and appointed officials, municipal staff, property owners, investors, and others about the status of historic resources within the community and the economic benefits of preservation;*
- *formally documenting existing conditions, issues, opportunities, and challenges;*
- *providing information on tax and other incentives for preservation;*
- *offering discussion and analysis regarding preservation of historic resources, and establishing a roadmap for future efforts;*
- *setting out the roles and responsibilities of the public, private, and nonprofit sectors with regard to the preservation of historic resources.*

Source: Planning Commissioners Journal, No. 52, Fall 2003, p. 6.

Site and Sign Design Guidelines

Prepare and adopt design guidelines for residential, commercial, industrial, and institutional development to encourage the most efficient use of land and development consistent with community character. As part of a continuing commitment to the historic character of a community some municipalities and historical societies provide site and

sign design guidelines to encourage commercial establishments and signs to be consistent with the community’s heritage. Such a community based effort would be invaluable to preserving the overall character of the Planning Area, and would be particularly effective in support of any borough revitalization programs.

Education and Outreach

Conduct a public outreach program, perhaps through a borough/township newsletter or web site, to provide educational materials on the Planning Area’s history and historic resources.

Downtown Revitalization

Incorporate the preservation of historic resources into downtown revitalization programs by incorporating adaptive reuse of resources.

Certified Local Government Program

Consider participation in the Certified Local Government Historic Preservation Program of the National Park Service and the Pennsylvania Bureau of Historic Preservation.

CERTIFIED LOCAL GOVERNMENT HISTORIC PRESERVATION PROGRAM

The Certified Local Government Program is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level. The program is jointly administered by the National Park Service (NPS) and the State Historic Preservation Offices (SHPOs) in each state, with each local community working through a certification process to become recognized as a Certified Local Government (CLG). CLGs then become an active partner in the Federal Historic Preservation Program and the opportunities it provides.

Why become a CLG? The key reason is the access certification provides to the expert technical advice of the State Offices as well as the NPS. Partnerships with the National Alliance of Preservation Commissions, Preserve America, the National Trust for Historic Preservation, and the National Main Street Center are also networks that CLGs have an opportunity to tap into. Of course, access to Federal funding is another benefit, making certified communities able to access the portion of Federal funds set aside by each SHPO for just CLGs annually. Being a CLG also shows your community's commitment to keeping what is significant from the past for future generations. As a certified town, city, or county seeking other opportunities, it becomes easy to demonstrate a readiness to take on a preservation project and be successful.

What is a CLG required to do?

A community must show both the state and NPS that they are committed to historic preservation. They can do this by addressing the following minimum goals.

- * Establish a Preservation Commission*
- * Establish an ordinance*
- * Maintain an active survey of local historic resources*
- * Participate in the National Register process*

(Source: www.nps.gov/history/hps/clg/)

DEMOGRAPHIC PROFILE

INTRODUCTION

The demographic composition of a community's population is affected by the geographic, physical and economic character of the community. At the same time, the demographic composition is largely responsible for the manner in which a community develops and grows (or declines) in terms of demand for community facilities and services to meet the specific needs of the changing population, thereby altering the very character of the community. By gaining an understanding of the demographic character of a community and forecasting how the population is likely to change, both in number and composition, local officials can assess the need for additional or different types of public and private facilities and services required to meet the demands of the changing population.

This demographic profile contains data from the U.S. Census on population, income, and employment. Population projections through the year 2020 are also included. To gain a broader perspective and a measure of comparison, data for Carbon County and the Commonwealth of Pennsylvania are included where appropriate.

POPULATION TRENDS

Population Trends

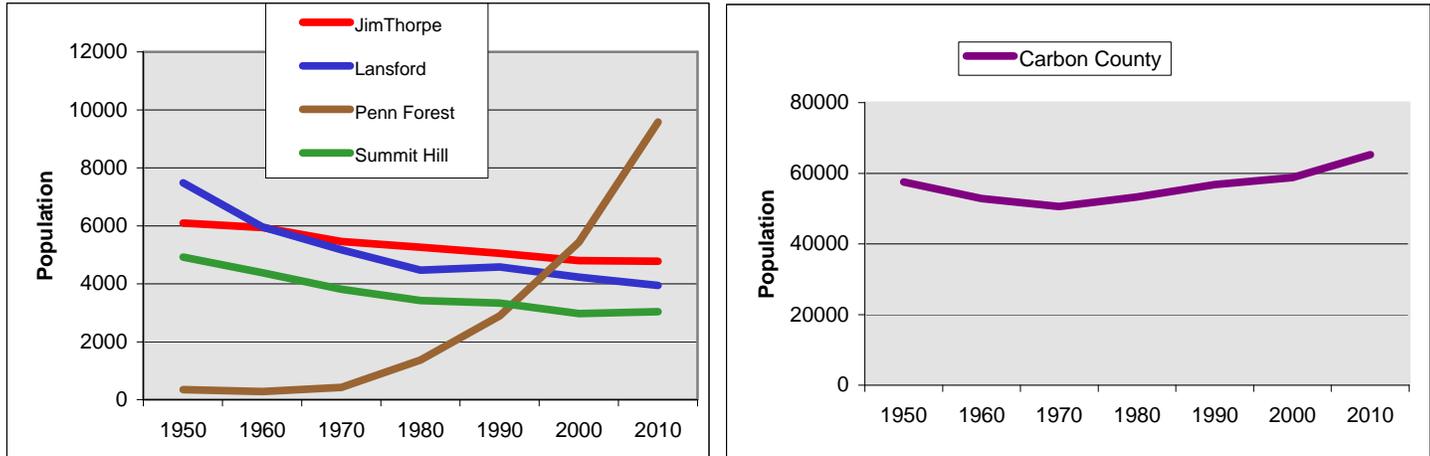
To gain an understanding of population growth trends, the analysis of population begins with an examination of historical data from 1950 to 2010. Data on population by age provide an understanding of which age groups account for recent population shifts and which age groups are most prominent in the Planning Area.. Finally, population projections are presented, providing an estimate of future growth through the year 2020.

Table 1 - Population Trends 1950-2010 provides U.S. census data from 1950 to 2010 for Jim Thorpe, Lansford, Penn Forest, Summit Hill, the Planning Area as a whole, Carbon County, and Pennsylvania. *Figure 1 - Population Trends 1950-2010* provides a graphic representation of the Planning Area's population growth.

Table 1 - Population Trends 1950-2010

Municipality	1950 Census	1960 Census	1970 Census	1980 Census	% Change 1970-1980	1990 Census	% Change 1980-1990	2000 Census	% Change 1990-2000	2010 Census	% Change 2000-2010
Jim Thorpe	6,091	5,945	5,456	5,263	-3.5%	5,048	-4.1%	4,804	-4.8%	4,781	-0.5%
Lansford	7,486	5,958	5,168	4,466	-13.6%	4,583	2.6%	4,230	-7.7%	3,941	-6.8%
Penn Forest	352	283	423	1,368	223.4%	2,895	111.6%	5,439	87.9%	9,581	76.2%
Summit Hill	4,924	4,386	3,811	3,418	-10.3%	3,332	-2.5%	2,974	-10.7%	3,034	2.0%
Planning Area Total	18,853	16,572	14,858	14,515	-2.3%	15,858	9.3%	17,447	10.0%	21,337	22.3%
Carbon County	57,557	52,889	50,573	53,285	5.4%	56,846	6.7%	58,802	3.4%	65,249	11.0%
Penna. (thousands)	10,498	11,319	11,800	11,864	0.5%	11,881	0.1%	12,281	3.4%	12,702	3.4%

Source: U.S. Census Bureau

Figure 1. Population Trend Lines: 1970 - 2010

Source: U.S. Census Bureau

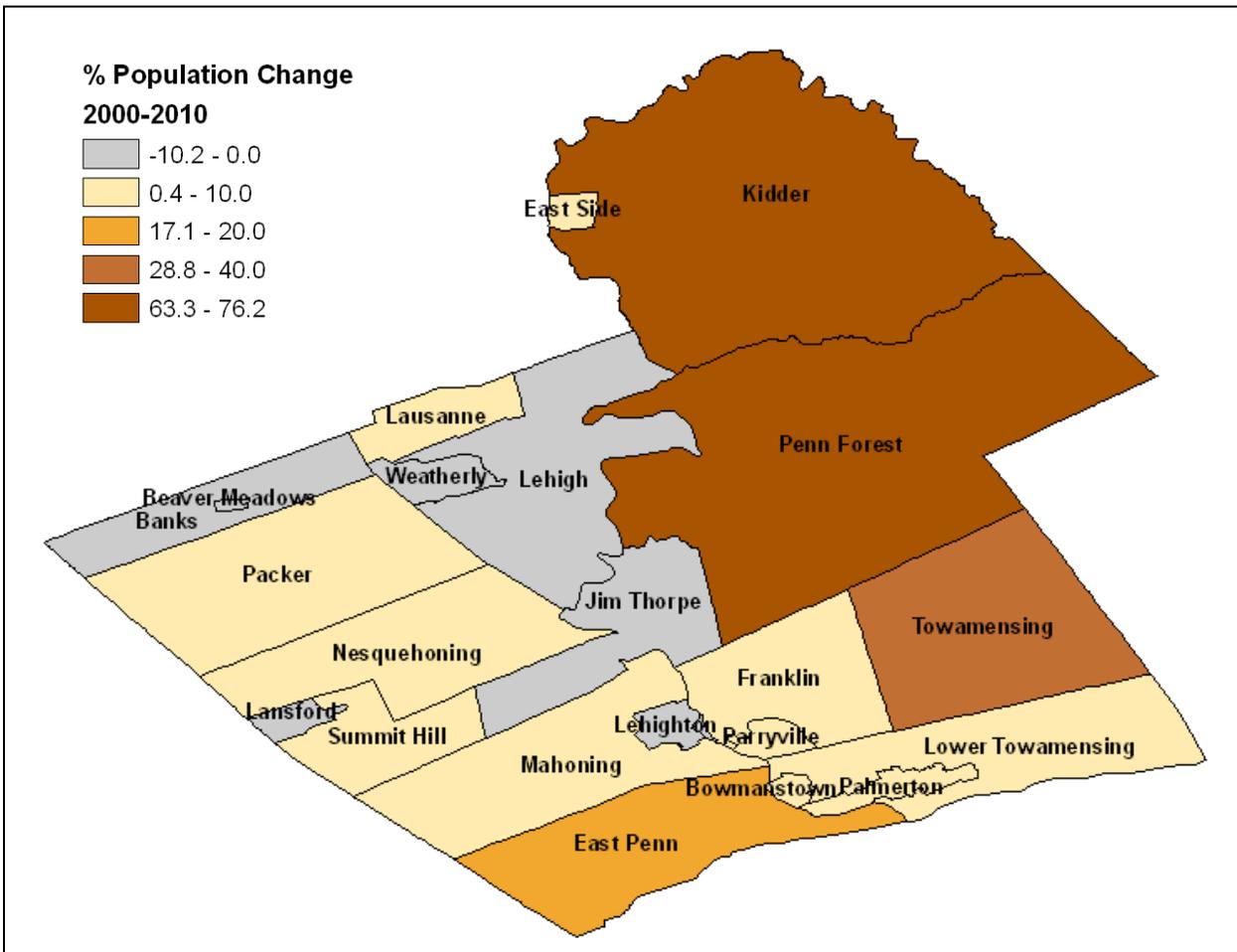
Findings

The analysis of population trends shows a consistent decrease in population in each of the three Boroughs since 1950, with the exception of Summit Hill Borough which shows slight growth in the last decade. Penn Forest Township has had a consistent and extremely sharp increase in population since 1960. The County's population has grown since 1970. Most of that growth has occurred in the Penn Forest, Kidder and Towamensing Townships (see Figure 2 below). Specific findings are as follows:

- Jim Thorpe Borough experienced a steady rate of decline through the year 2000. Population virtually stagnated from 2000 to 2010 (-0.5%).
- Lansford Borough shows a steadily decreasing population from 1950 to 1980. From 1980 to 1990 it experienced slight growth (2.6%), but has declined ever since with a -7.7% decrease from 1990 to 2000 and a -6.83% decrease from 2000 to 2010.
- Penn Forest Township had a very small population with little change from 1950 to 1960. However, the Township's population has experienced extremely rapid growth since 1970. It more than tripled in size in the 1970s, more than doubled in size in the 1980s, and nearly doubled again in the 1990s. From 2000 to 2010, the Township continued to grow with a 76.2% increase in population. Although this is a slower growth rate than in the past, it might be an anomaly due to the recent economic downturn.
- After steady decline since the 1950s, Summit Hill Borough shows a 2% increase in population in the last decade.

According to *Figure 2 – Population Change 1990-2010*, much of Carbon County has seen negative to modest population growth in the last decade. The highest growth rates are found to the east in Penn Forest, Kidder, and Towamensing Townships.

Figure 2 – Population Change 2000 – 2009



Source: U.S. Census Bureau; Consultant’s Analysis

Population Trends by Age

Population trends are also analyzed by examining changes within age groups occurring between 2000 and 2010. This provides insight into which populations, with respect to age, account for recent population shifts and which age groups are dominant. Based on this information, the Planning Area municipalities can begin to consider planning for services for special populations such as youth and the elderly.

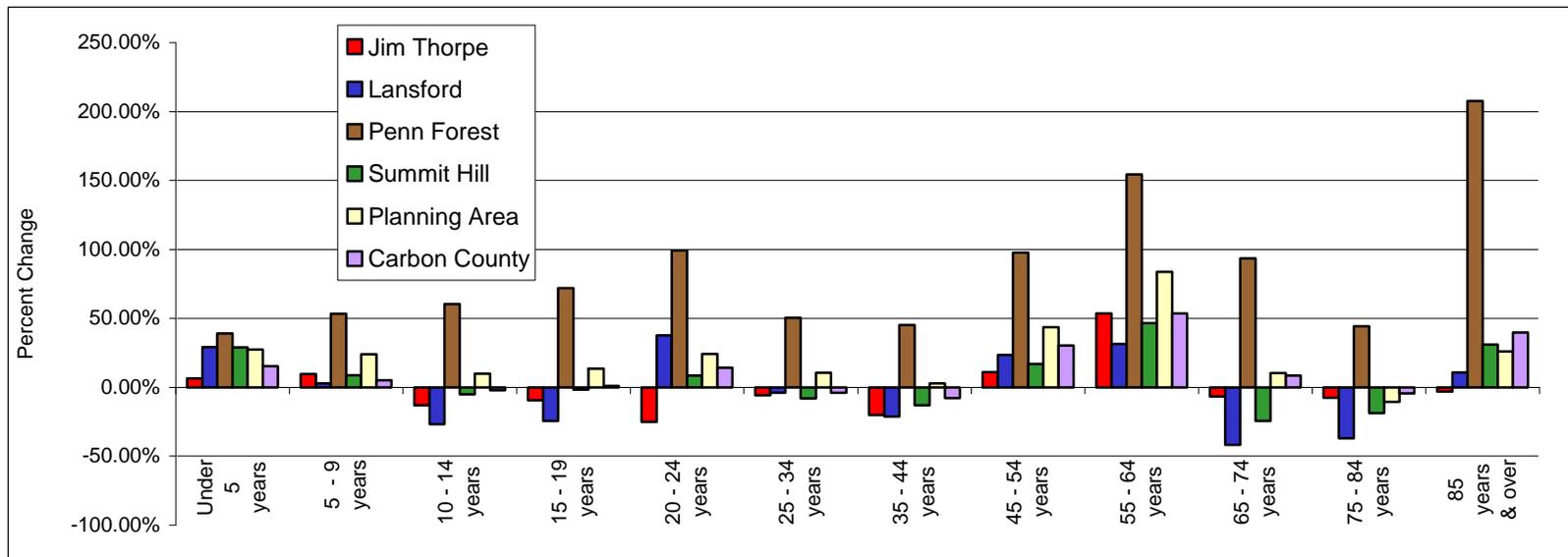
Table 2 - Population Trends by Age and Figure 3 – Population Trends by Age show population growth and decline by age group from 2000 to 2010 for each of the four municipalities and for the Planning Area as a whole. Overall, however, the Planning Area’s median age is increasing, indicating an aging population.

Table 2 - Population Trends by Age

Age Range	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Planning Area		Carbon County	
	# Change 2000-2010	% Change 2000-2010										
Under 5 years	15	6.55%	65	29.15%	138	38.98%	38	29.01%	256	27.32%	462	15.27%
5 - 9 years	24	9.60%	7	2.81%	208	53.47%	15	8.77%	254	23.98%	177	5.03%
10 - 14 years	-44	-13.10%	-82	-26.89%	257	60.47%	-9	-5.11%	122	9.82%	-87	-2.17%
15 - 19 years	-29	-9.32%	-71	-24.23%	254	71.95%	-3	-1.75%	151	13.39%	42	1.13%
20 - 24 years	-69	-24.91%	73	37.82%	177	99.44%	13	8.50%	194	24.22%	396	14.21%
25 - 34 years	-34	-5.78%	-20	-3.98%	301	50.33%	-30	-7.92%	217	10.50%	-284	-3.97%
35 - 44 years	-160	-20.10%	-122	-21.07%	416	45.32%	-57	-12.93%	77	2.82%	-741	-7.82%
45 - 54 years	80	10.93%	109	23.49%	797	97.67%	68	17.00%	1,054	43.70%	2,491	30.22%
55 - 64 years	248	53.56%	108	31.49%	934	154.38%	138	46.62%	1,428	83.66%	3,213	53.58%
65 - 74 years	-29	-6.74%	-203	-41.86%	498	93.43%	-82	-24.33%	184	10.31%	479	8.51%
75 - 84 years	-22	-7.56%	-168	-36.92%	108	44.26%	-49	-18.77%	-131	-10.47%	-177	-4.38%
85 years & over	-3	-2.97%	15	10.79%	54	207.69%	18	31.03%	84	25.93%	476	39.87%
Under 18 Years	-145	-14.34%	-63	-6.61%	768	54.31%	31	5.19%	591	14.87%	511	3.92%

Source: U.S. Census Bureau

Figure 3 – Population Trends by Age



Source: U.S. Census Bureau

Population trends by age show population growth across all age groups in Penn Forest Township, and more widespread losses in the three boroughs. An increase in median age from 2000 to 2010 indicates an aging population in each of the four municipalities, as well as the County. Specific findings are as follows:

- Jim Thorpe Borough has seen a decline among its young adult population, which indicates a draining of the young labor force. It had the largest percentage growth rates in the 45-64 year age groups and in the very young population. All age groups aged 65 years and over have declined in the last decade.
- Lansford Borough shows large declines in its young adult population and seniors aged 65 to 84 years. The population aged 20 to 24 has increased, possibly indicating that this age group is moving back home after college or staying home due to lack of opportunities elsewhere. The population of mature workers and those approaching retirement age has increased, as has the population aged 85 years and over.
- Penn Forest Township has experienced substantial increases across all age segments. The number of youth under the age of 18 years has grown by 54%. The growth in the number of youth along with the growth in age segments between 25 and 54 years of age suggests an influx of families with children. The population age 55-64 more than doubled and the 85-and-over age group more than tripled. Penn Forest Township will see demand for services for all age groups in the years to come, especially youth and the seniors.
- Summit Hill Borough experienced increases in those nearing retirement, the elderly (85 and over), and the very young (9 years and younger).

Population Projections

Estimating a municipality's future population is a good way to anticipate changing demand for community facilities and services and to assess the demand for land and its effect on such community characteristics such as open space and housing affordability. However, the reliability of population projections at the small scale of a municipality is suspect since projections may change drastically as the result of one large-scale event. Different projection methods may yield very different results at this scale. Population projections at the municipal level are therefore intended to serve as a general measure of expected growth.

Table 3 – Population Projections shows projections for 2020 for the Planning Area based on two methods. The first, based on a linear trend from 1970 through 2010, shows population decreasing in the three boroughs and growing by 11.2% in Penn Forest Township. It projects very little growth in the Planning Area (1.1%). The second set of projections is calculated based on the percentage change from 2000 to 2010, assuming that recent trends will continue over the coming decade. The projections show population growth in all Planning Area municipalities except Lansford Borough. Penn Forest is projected to continue its rapid growth with a 64.4% increase of population. The Planning Area as a whole is projected to grow at 30.8%.

The general conclusion that can be reached from the population projections is that the Planning Area must institute policies to manage the extremely high rate of growth and development in Penn Forest Township, and to retain population in the downtown areas of the three boroughs.

Table 3. Population Projections

Municipality	2010 Census	Linear Trend			10-Year Growth Rate		
		2020 Projection	# Change 2010-2020	% Change 2010-2020	2020 Projection	# Change 2010-2020	% Change 2010-2020
Jim Thorpe	4,781	4,528	-253	-5.3%	4,966	185	3.9%
Lansford	3,941	3,671	-270	-6.9%	3,706	-235	-6.0%
Penn Forest	9,581	10,657	1,076	11.2%	15,754	6,173	64.4%
Summit Hill	3,034	2,714	-320	-10.5%	3,482	448	14.8%
Planning Area	21,337	21,570	233	1.1%	27,909	6,572	30.8%

Source: Consultant's Analysis

SOCIOECONOMIC CHARACTERISTICS

Overview

The examination of socioeconomic characteristics includes population age, income levels, and employment. This provides a description of the composition of the population and an indication of services and facilities required to meet the social and economic needs of the Planning Area.

Age Distribution

While the data presented in previous pages showed age trends over previous decades, the following data show the current (2010) population's age characteristics. Along with the age trend data, the age distribution data are important in terms of determining the types of community facilities and services that must be provided, bearing in mind that many of the services that are age dependant are provided by public entities other than the municipality. For example, the number of children determines the size of educational facilities provided by the school district. An aging population will require more social services from county and state agencies and might also bring about the construction of age-qualified and continuing care retirement communities.

Table 4 - Age Distribution and Figure 4 -Age Distribution show the Planning Area's population composition by age group. The data show that PennForest Township has the largest percentage of individuals under the age of 18, but it also has large numbers of seniors and individuals approaching retirement, making it the oldest population in the Planning Area. Lansford Borough has the largest percentage of elderly residents, but is the youngest of the Planning Area municipalities with a median age of 40.7.

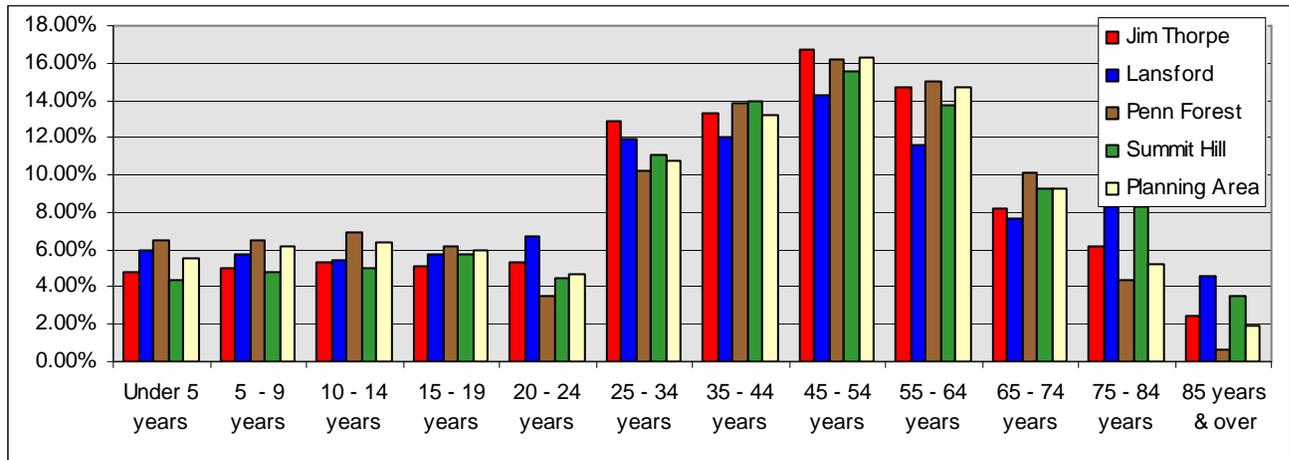
Facilities and services for Planning Area residents must be provided at a level to support the current population and to meet future demand. While the young population is growing, Table 2 indicates that demand for facilities and services for seniors is likely to outpace the demand for youth-oriented facilities and services. Agencies serving the senior population must plan now for this growing population segment.

Table 4 - Age Distribution

Age Distribution	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Planning Area	
	#	%	#	%	#	%	#	%	#	%
Total Population	4,781		3,941		9,581		3,034		21,337	
Under 5 years	244	4.80%	288	6.00%	492	6.50%	169	4.40%	1,193	5.59%
5 - 9 years	274	5.00%	256	5.70%	597	6.50%	186	4.80%	1,313	6.15%
10 - 14 years	292	5.30%	223	5.40%	682	6.90%	167	5.00%	1,364	6.39%
15 - 19 years	282	5.10%	222	5.80%	607	6.20%	168	5.70%	1,279	5.99%
20 - 24 years	208	5.30%	266	6.70%	355	3.50%	166	4.50%	995	4.66%
25 - 34 years	554	12.90%	482	11.90%	899	10.20%	349	11.10%	2,284	10.70%
35 - 44 years	636	13.30%	457	12.00%	1334	13.80%	384	14.00%	2,811	13.17%
45 - 54 years	812	16.70%	573	14.30%	1613	16.20%	468	15.60%	3,466	16.24%
55 - 64 years	711	14.70%	451	11.60%	1539	15.00%	434	13.70%	3,135	14.69%
65 - 74 years	401	8.20%	282	7.70%	1031	10.10%	255	9.30%	1,969	9.23%
75 - 84 years	269	6.20%	287	8.30%	352	4.40%	212	8.30%	1,120	5.25%
85 years & over	98	2.50%	154	4.60%	80	0.60%	76	3.50%	408	1.91%
Under 18 Years	866	18.20%	890	20.60%	2182	24.30%	628	18.00%	4,566	21.40%
Median Age	43.8		40.7		43.7		43.2			

Source: U.S. Census Bureau

Figure 4 - Age Distribution



Source: U.S. Census Bureau

Educational Attainment

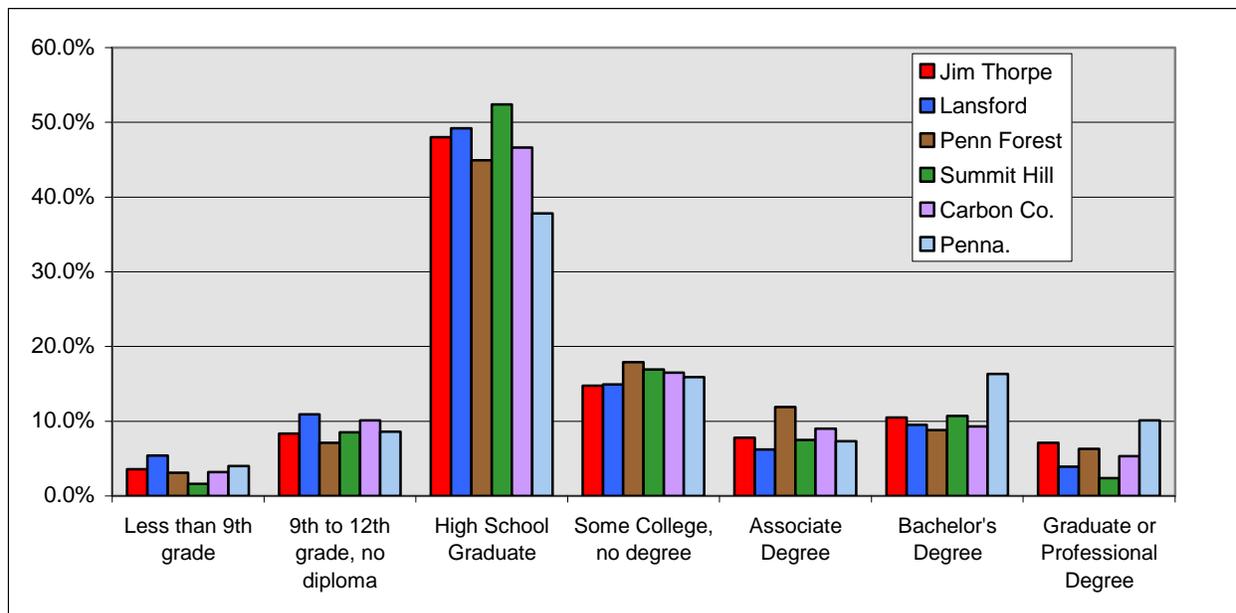
Table 5 and Figure 5 - Educational Attainment represent the highest level of education reached by individuals aged 25 years and over according to 2010 estimates. The data reveal that educational levels throughout the Planning Area are consistent with Carbon County, but are lower than Pennsylvania. The majority of the population in the Planning Area and the County have a high school or less than high school education. The percentage of persons in the Planning Area with a Bachelor's Degree or Graduate/Professional Degree ranges from 7.6% to 20.6%. This is consistent with Carbon County (14.6%) but substantially lower than Pennsylvania (26.4%) and puts the Planning Area at a competitive disadvantage in an economy with increasing reliance on a educated labor force

Table 5 - Educational Attainment

Educational Attainment 2010 Estimate	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Carbon Co.	Penna.
	#	%	#	%	#	%	#	%	%	%
Population 25 years and over	3,516		2,849		6,204		2,217			
Less than 9th grade	125	3.6%	56	5.4%	151	3.1%	33	1.6%	3.2%	4.0%
9th to 12th grade, no diploma	293	8.3%	300	10.9%	648	7.1%	161	8.5%	10.1%	8.6%
High School Graduate	1,688	48.0%	1,655	49.2%	2,559	44.9%	895	52.4%	46.6%	37.8%
Some College, no degree	518	14.7%	410	14.9%	1,008	17.9%	522	16.9%	16.5%	15.9%
Associate Degree	274	7.8%	212	6.2%	559	11.9%	215	7.5%	9.0%	7.3%
Bachelor's Degree	369	10.5%	136	9.5%	917	8.8%	309	10.7%	9.3%	16.3%
Graduate or Professional Degree	249	7.1%	80	3.9%	362	6.3%	82	2.4%	5.3%	10.1%
% High School or Higher		88.1%		87.5%		87.1%		91.2%	86.7%	87.4%
% Bachelor's Degree or Higher		17.6%		7.6%		20.6%		17.6%	14.6%	26.4%

Source: U.S. Census Bureau

Figure 5 - Educational Attainment



Source: U.S. Census Bureau

Income

Table 6 and Figure 6 – Household Income report income ranges, median household income, and per capita income for the Planning Area municipalities, Carbon County and Pennsylvania based on 2010 estimates. This provides an indication of the economic status of the Planning Area. Household income is used because it is a more inclusive measure representing family households, single persons living alone, and unrelated persons living together. This provides a more accurate description of the community’s economic well-being.

Findings

The data indicate that the Planning Area is largely a lower- to middle-income community with the majority of households earning less than \$50,000 per year. Penn Forest Township is the most affluent of the four municipalities as evidenced by its median household income (note, however that Jim Thorpe Borough has a higher per capita income). The income levels of Lansford Borough are substantially lower than the Planning Area municipalities, the County, and the Commonwealth. In general, income levels in the Planning Area are lower than the Commonwealth. Significant findings are as follows:

- A relatively high proportion of households in the three Boroughs are in the lowest income brackets. Lansford Borough has a large proportion of households earning less than \$25,000 per year – nearly 40% of all households. It has the lowest median household and per capita income in the Planning Area and falls well below the Carbon County and Pennsylvania income figures.
- Income levels in Jim Thorpe borough are generally consistent with the County, but are lower than the Commonwealth.
- As measured by median household income, Penn Forest Township ranks first among the four Planning Area municipalities, and exceeds the County and the Commonwealth. However, its per capita income is lower than the Commonwealth.
- Summit Hill Borough has the third highest income levels among the four Planning Area municipalities. Income measures for the Borough are lower than the County and the Commonwealth.

Table 6 – Household Income Source: U.S. Census Bureau

Household Income 2010 Estimate	Jim Thorpe		Lansford		Penn Forest		Summit Hill		Carbon Co.	Penna.
	#	%	#	%	#	%	#	%	%	%
# of Households	1,961		1,832		3,220		1,309			
Less than \$15,000	264	13.5%	286	15.6%	157	4.9%	217	16.6%	11.4%	13.2%
\$15,000 - \$24,999	253	12.9%	428	23.4%	300	9.3%	175	13.4%	13.0%	11.3%
\$25,000 - \$34,999	314	16.0%	124	6.8%	295	9.2%	149	11.4%	11.0%	10.9%
\$35,000 - \$49,999	229	11.7%	411	22.4%	599	18.6%	286	21.8%	17.2%	14.3%
\$50,000 - \$74,999	336	17.1%	392	21.4%	788	24.5%	227	17.3%	22.8%	19.0%
\$75,000 - \$99,999	240	12.2%	143	7.8%	519	16.1%	125	9.5%	11.9%	12.4%
\$100,000 - \$149,999	230	11.7%	48	2.6%	499	15.5%	102	7.8%	10.4%	11.7%
\$150,000 - \$199,999	46	2.3%	0	0.0%	53	1.6%	15	1.1%	1.5%	3.8%
\$200,000 or more	49	2.50%	0	0.0%	8	0.2%	13	1.0%	0.9%	3.5%
Median Household Income		\$44,831		\$38,252		\$54,901		\$40,680	\$47,744	\$50,398
Per Capita Income		\$25,384		\$18,395		\$23,572		\$21,987	\$22,956	\$27,049

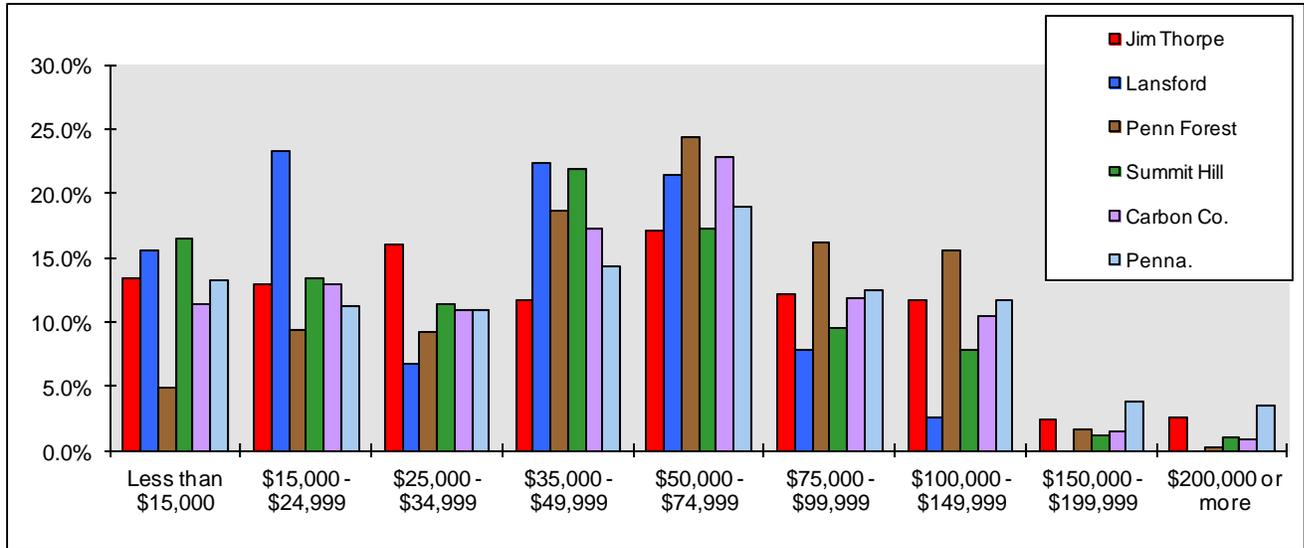


Table 6 – Household Income Source: U.S. Census Bureau

Employment

Table 7 – Employment Status and Figure 7 – Employment by Industry provide 2010 employment estimates and are an indication of the vitality of the local labor force and the most prevalent income generating industries. Employment statistics are derived from the population 16 years old and over. Individuals of this age are legally eligible to work.

Table 7 – Employment Status indicates that the Planning Area has a less stable employment base compared to the County and the Commonwealth. In general, 2010 unemployment rates in the Planning Area were higher than Carbon County and Pennsylvania. Current unemployment rates (as of January 2012) indicate that the County’s unemployment rate increased to 10.9%, while state unemployment decreased to 8.4%, and the national unemployment rate dropped to 8.8%. Contrary to the improving national and state unemployment figures, the situation in Carbon County, and presumably the Planning Area, has worsened.

Findings

Significant findings are as follows:

January 2012 Unemployment Rate
Carbon County - 10.9%
Pennsylvania - 8.4%
USA - 8.8%

Source:
Bureau of Labor Statistics

- 57% of Jim Thorpe Borough’s population is in the labor force. Its unemployment rate exceeds the County and the Commonwealth (*Table 7*).
- 57% of Lansford Borough’s population is in the labor force. Its unemployment rate is the highest in the Planning Area and far exceeds the County and the Commonwealth (*Table 7*).
- Penn Forest Township has the second highest unemployment rate among the Planning Area municipalities, and a much higher unemployment rate than Carbon County and Pennsylvania (*Table 7*).
- Approximately two-thirds of Summit Hill Borough’s population is in the labor force. Its unemployment rate is the lowest in the Planning Area, is slightly lower than the County, but is higher than the Commonwealth. (*Table 7*).

Table 7 - Employment Status: Planning Area Municipalities

Employment Status	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Carbon Co.	Penna.
	2010 Est.	2010 Est.	2010 Est.	2010 Est.	2010 Est.	2010 Est.
Population 16 +	4,044	3,167	7,051	2,476	52,660	10,147,657
In Labor Force	2,318	1,807	4,235	1,676	32,003	6,418,310
Unemployed	9.0%	14.4%	9.8%	8.1%	8.2%	7.3%

Source: U.S. Census Bureau

Table 8 and Figure 7 – Employment by Industry show the number of employed persons by the industry in which they work. The three largest sectors are indicated in bold font. The largest proportion of employed persons in each of the four Planning Area municipalities, as well as in the County and the Commonwealth, work in *Education, Health Care, and Social Assistance*.

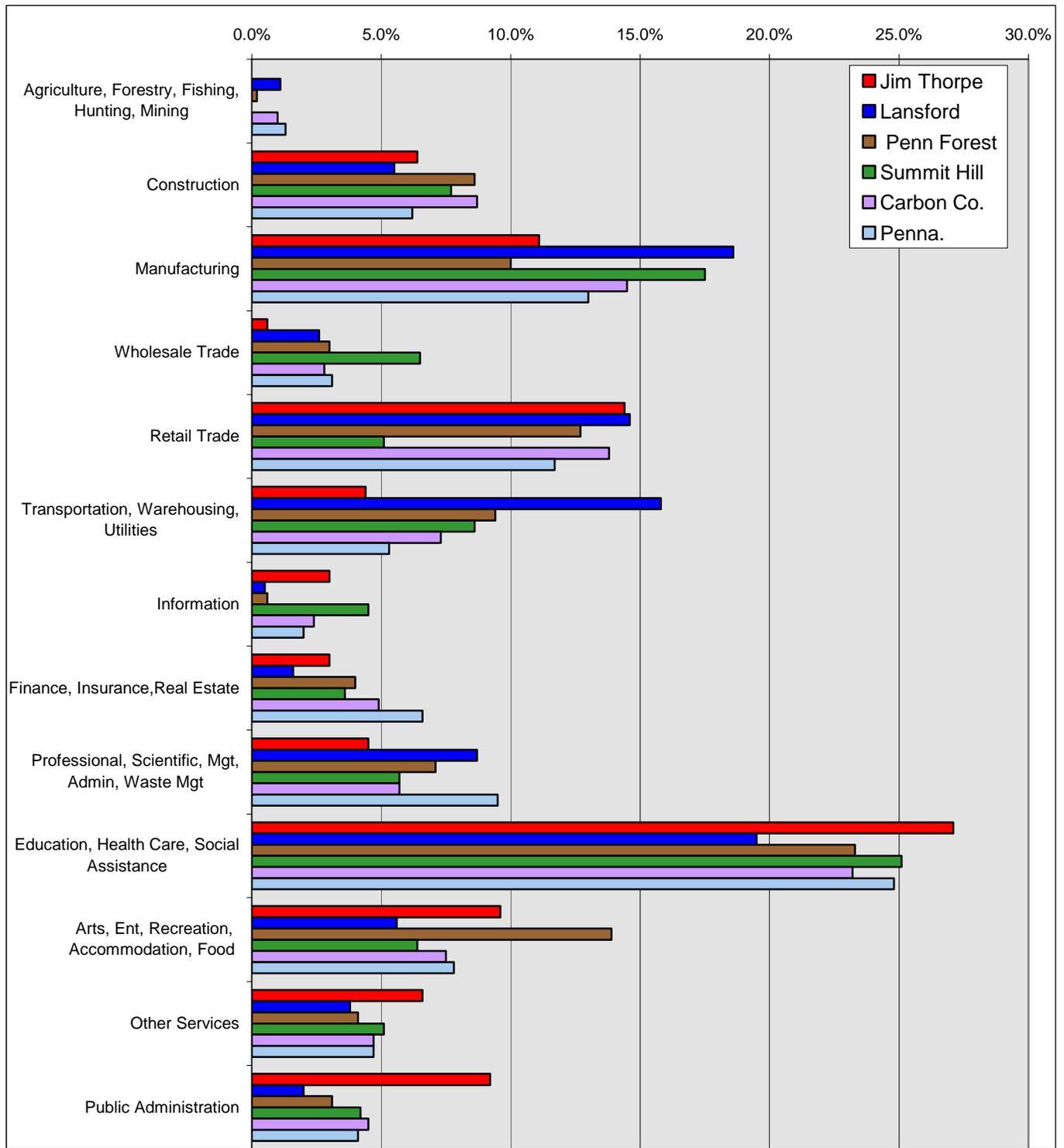
The high proportion of workers in *Retail Trade*, (typically low-paying jobs) combined with low proportions in *Information, Finance, Insurance, Real Estate, Professional, and Management* (typically higher-paying jobs) most likely accounts for the relatively low incomes in the Planning Area.

Table 8: Employment by Industry

Industry	Jim Thorpe	Lansford	Penn Forest	Summit Hill	Carbon Co.	Penna.
	2010 Estimate %	%	%	%	%	%
Employed civilian population 16 years and over						
Agriculture, Forestry, Fishing, Hunting, Mining	0.0%	1.1%	0.2%	0.0%	1.0%	1.3%
Construction	6.4%	5.5%	8.6%	7.7%	8.7%	6.2%
Manufacturing	11.1%	18.6%	10.0%	17.5%	14.5%	13.0%
Wholesale Trade	0.6%	2.6%	3.0%	6.5%	2.8%	3.1%
Retail Trade	14.4%	14.6%	12.7%	5.1%	13.8%	11.7%
Transportation, Warehousing, Utilities	4.4%	15.8%	9.4%	8.6%	7.3%	5.3%
Information	3.0%	0.5%	0.6%	4.5%	2.4%	2.0%
Finance, Insurance, Real Estate	3.0%	1.6%	4.0%	3.6%	4.9%	6.6%
Professional, Scientific, Mgt, Admin, Waste Mgt	4.5%	8.7%	7.1%	5.7%	5.7%	9.5%
Education, Health Care, Social Assistance	27.1%	19.5%	23.3%	25.1%	23.2%	24.8%
Arts, Ent, Recreation, Accommodation, Food	9.6%	5.6%	13.9%	6.4%	7.5%	7.8%
Other Services	6.6%	3.8%	4.1%	5.1%	4.7%	4.7%
Public Administration	9.2%	2.0%	3.1%	4.2%	4.5%	4.1%

Source: U.S. Census Bureau

Figure 7 - Employment by Industry



Source: U.S. Census Bureau

PLANNING IMPLICATIONS

Population trends demonstrate that, with the exception of Penn Forest Township, the Planning Area municipalities have experienced an overall decline in population since 1950. This is the case with most of Carbon County's boroughs. Population trends also suggest an overall decline in the young population among the three Boroughs, but a large increase in this age segment in Penn Forest Township. The data also suggest the decline of young families and young workers in the three Boroughs, which can have adverse impacts on the Planning Area's economy. With the growth in the elderly population and those approaching retirement, communities will need to consider providing services for an aging population.

Recent population estimates and future projections suggest the population of the three Boroughs will continue to fluctuate, while Penn Forest Township will continue to grow at a rapid pace. However, these projections are a fragile indication of population change in the Planning Area given the nation's current economic climate.

Employment data show high unemployment rates across the Planning Area most likely due to the recent downturn in the nation's economy. An economic development program may be needed to bring jobs with family-sustaining wages and that will enable the Planning Area to retain young workers. Any economic development program should be carefully coordinated with land use to ensure that growth is managed in a way that does not adversely impact the Planning Area's natural and scenic qualities and historical character, but instead incorporates these features into the local economy.

FUNDING SOURCES

COMMUNITY FACILITIES AND SERVICES	
<u>PROGRAM / AGENCY</u>	<u>DESCRIPTION / ELIGIBILITY</u>
Community Development Block Grant (CDBG) -Carbon County	<ul style="list-style-type: none"> • Grants and technical assistance for <u>housing rehabilitation, public services, community facilities, infrastructure improvement, development and planning</u>. • Must benefit 51% low and moderate income or handicapped persons, or eliminate blight. • Entitlement program which provides annual funding to designated municipalities. Competitive program is available to all non-federal entitlement municipalities.
Early Intervention Program -PA DCED	<ul style="list-style-type: none"> • Matching grant funds to assist municipalities experiencing fiscal difficulties to develop <u>comprehensive multi-year financial plans</u> and establish short and long term financial objectives. • Local governments.
Elm Street (Now part of Keystone Communities) -PA DCED	<ul style="list-style-type: none"> • Grants for planning, technical assistance and physical improvements to residential and mixed use <u>areas in proximity to central business districts</u>. • Municipalities; redevelopment authorities; non-profit main street organizations; economic development organizations; neighborhood improvement districts
H2O PA Flood Control Projects -PA DCED	<ul style="list-style-type: none"> • Single-year or multi-year grants to the Commonwealth, independent agencies, municipalities or municipal authorities for <u>flood control projects</u>.
H2O PA Water Supply, Sanitary Sewer, Storm Water -PA DCED	<ul style="list-style-type: none"> • Single-year or multi-year grants to municipalities or municipal authorities to assist with the construction of <u>drinking water, sanitary sewer and storm sewer projects</u>.
Libraries -Keystone Recreation, Park and Conservation Fund -PA Department of Education	<ul style="list-style-type: none"> • Grants to construct new <u>library buildings</u>, renovate or rehabilitate existing facilities and make library buildings accessible for persons with disabilities. • Sponsoring municipality(s) and authorities approved by the participating local governing body jointly with a state-aided public library.
Local Share Assessment Fund (Gaming Funds) -PA DCED	<ul style="list-style-type: none"> • Grants for <u>quality of life projects, community improvement, economic development, roadway improvements</u>. • Counties, municipalities, economic development agencies, redevelopment authorities.
Municipal Assistance -PA DCED	<ul style="list-style-type: none"> • Grants for <u>intergovernmental services, comprehensive plans and land use ordinances, and floodplain management reimbursement</u>.
On-lot Sewage Disposal System Program -PennVEST -PA Housing Finance Agency (PHFA)	<ul style="list-style-type: none"> • Loans to eligible homeowners who do not have access to a public sewage system and need to repair or replace their <u>individual on-lot sewage disposal system</u>. • Family income may not exceed \$78,808.

COMMUNITY FACILITIES AND SERVICES	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
PA Infrastructure Investment Authority -PennVEST	<ul style="list-style-type: none"> Design, engineering and construction costs associated with publicly and privately owned <u>drinking water distribution and treatment facilities, storm water conveyance and wastewater collection, conveyance, treatment facilities and brownfield site remediation.</u> Any owner or operator (public or private) of an existing or proposed drinking water or wastewater system; any municipal owner of a storm water conveyance system
Recycling Grants - §902 and §904 -PA DEP	<ul style="list-style-type: none"> Grants for <u>recycling</u> program implementation and equipment, containers and education outreach.
Regional Police Assistance Grant -PA DCED	<ul style="list-style-type: none"> Grants for two or more municipalities that <u>regionalize police operations.</u> Pays for regional police chief salary and other related expenses
State Surplus Property -PA Dept. of General Services	<ul style="list-style-type: none"> <u>Used equipment</u> available to local governments and volunteer fire companies.
Volunteer Fire Company, Volunteer Ambulance Service Grant/Loan -PA Office of State Fire Commissioner	<ul style="list-style-type: none"> Grants and loans for <u>facilities, equipment, debt reduction and training.</u> Volunteer emergency services organizations.
Water Supply and Wastewater Infrastructure -PennVEST	<ul style="list-style-type: none"> Grants and loans for <u>water and sewer projects</u> not used solely for residential purposes: land and building acquisition; demolition; water/sewer project construction costs; engineering and other fees associated with project. Municipalities; industrial development corporations; municipal authorities; investor-owned water or wastewater enterprise
TRANSPORTATION FACILITIES	
FHWA/PennDOT Transportation Funds -PennDOT -NE PA Alliance	Funds for a variety of <u>bridge, roadway and traffic control projects</u> funded by: Federal/State Highway Funds, Federal/State Bridge Funds, CMAQ Funds, Rail Highway Grade Crossing Funds, Special Federal Earmarks (SXF), PennDOT Discretionary Funds.
Transportation Enhancements -PennDOT	<ul style="list-style-type: none"> Grants for <u>streetscapes, trails/paths, bicycle improvements and other related activities</u> including the Hometown Streets/Safe Routes to School grant program. Municipalities, government agencies, non-profit organizations.
PA Infrastructure Bank -PennDOT	<ul style="list-style-type: none"> Provides low-interest loans to help fund <u>aviation, bridge/highway and railroad projects</u>, leveraging state and federal funds, accelerate priority transportation projects, spur economic development, and assist local governments with their transportation needs. Municipalities, transportation authorities, economic development agencies, non-profits, and private corporations.

RECREATION / HISTORIC PRESERVATION / CONSERVATION	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
Grants -PA Department of Conservation and Natural Resources	<ul style="list-style-type: none"> • <u>Volunteer Fire Assistance</u> - Financial and technical assistance to State Foresters in cooperative efforts to organize, train and equip local forces in rural areas or communities under 10,000 population to prevent, control and suppress fires which threaten human life, livestock, wildlife, crops, pastures, orchards, woodlands, farmsteads, or other improvements. • <u>(C2P2) Community Recreation and Conservation Program</u> - Projects that plan for, acquire, develop and/or rehabilitate public park, recreation, open space, greenway, trail and conservation areas and facilities. • <u>(C2P2) Land Trust Program</u> - Projects that plan for and acquire critical habitat, as well as, open space and natural areas. • <u>(C2P2) Pennsylvania Recreational Trails Program</u> - Projects that help develop and maintain recreational trails, as well as, trail related facilities for both motorized and non-motorized recreational trail use and provides for the purchase of trail related equipment. • <u>(C2P2) Rails-to-Trails Program</u> - Projects that plan for, acquire and/or develop rail-trail corridors, to include trails and support facilities, such as comfort stations, trail heads, interpretive facilities, landscaping, signs, etc. • <u>(C2P2) Rivers Conservation Program</u> - Projects that help develop watershed/river-corridor conservation plans, assist with land acquisition and development projects contained and recommended within a registered River Conservation Plan. • <u>(C2P2) Snowmobile/All Terrain Vehicle (ATV) Program</u> - Projects that plan for, acquire, construct, renovate and/or maintain areas and facilities for snowmobile and all terrain vehicle (ATV) use. • <u>(C2P2) Partnerships Program</u> - Projects that help build professional capacity and provide education to the public on the benefit and value of recreation, conservation and heritage in Pennsylvania, to better develop and manage recreation and park facilities and to promote the conservation of natural and heritage resources. • <u>(C2P2) Circuit Rider Program</u> - Projects for county, multi-municipal entities and/or Council of Governments to hire a professional, full-time parks/recreation staff person. • <u>(C2P2) Peer-to-Peer Program</u> - Projects that help municipalities improve their park, recreation and conservation services through contracts with experienced park, recreation and conservation professionals from nearby communities.
Emergency Watershed Program (EWP) -US Natural Resources Conservation Service	<ul style="list-style-type: none"> • Emergency measures, including the purchase of flood plain easements, to <u>prevent runoff and soil erosion</u>. • Municipalities, conservation district.
Growing Greener Watershed Protection and Surface Mining Conservation -PA DEP	<ul style="list-style-type: none"> • Funding for protecting water quality in watersheds affected by <u>nonpoint sources of pollution and mine-related pollution</u>. • Municipalities, authorities, watershed associations, conservation districts and certain nonprofits.
Keystone Historic Preservation Grant -PA Historical and Museum Commission	<ul style="list-style-type: none"> • Funding for projects that identify, preserve, promote and protect <u>historic and archaeological resources</u> or rehabilitate, restore, or preserve historic resources listed in or eligible for listing in the National Register of Historic Places.

RECREATION / HISTORIC PRESERVATION / CONSERVATION	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
Rural Development -US Dept. of Agriculture Rural Development	<ul style="list-style-type: none"> Grants and loans for <u>essential public facilities and services</u> such as water and sewer systems, housing, health clinics, emergency service facilities and electric and telephone service. Promote <u>economic development</u> by supporting loans to businesses through banks , credit unions and community-managed lending pools. Technical assistance to help communities undertake <u>community empowerment programs</u>. Loans and grants to very low-income homeowners to <u>repair, improve, or modernize their dwellings</u> or to remove health and safety hazards.
Stream Improvement Program -PA DEP	<ul style="list-style-type: none"> Assistance with designing and constructing small projects to reduce <u>flooding, protect structures from stream bank erosion, and to restore degraded stream channels</u>.
HOUSING	
Emergency Shelter Grant (ESG) -PA DCED	<ul style="list-style-type: none"> Federal grants to assist in <u>creating or rehabilitating shelter space</u> for the homeless, the purchase of machinery, equipment, furniture and appliances for homeless shelters, the provision of new social services, or the development or upgrade of shelter space. Local governments; local governments for non-profit organizations.
HOME -PA DCED	<ul style="list-style-type: none"> Federally funded grants, loans and technical assistance for municipalities to expand the supply of <u>decent and affordable housing</u> for low- and very low-income persons. Local governments that are not HUD participating jurisdictions; Local government for non-profit and for-profit housing development corporations.
<u>Home Loans</u> -PA Housing Finance Agency	<ul style="list-style-type: none"> Provides home purchase loans, accessibility modification loans, purchase improvement loans, down payment assistance, and housing counseling through participating lenders.
ECONOMIC DEVELOPMENT / REVITALIZATION (See www.newpa.com for all PA DCED programs.)	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
Alternative and Clean Energy Program -PA DCED	<ul style="list-style-type: none"> Grant and loan funds for the use, development and construction of <u>alternative and clean energy</u> projects. Businesses; economic development organizations; political subdivisions.
Building PA -PA DCED	<ul style="list-style-type: none"> \$150 million in funding for the <u>development of real estate</u> matched by private investors and foundations looking to facilitate projects. The resulting \$300 million fund will provide capital for developers seeking to redevelop and revitalize real estate assets in small to mid-sized Pennsylvania communities.
Community Economic Development -PA DCED	<ul style="list-style-type: none"> Loans for <u>land and building</u> acquisition; building, construction and renovation; <u>machinery and equipment</u> acquisition and installation; <u>working capital</u> funding. For-profit small businesses (100 employees or less) involved in the business to public service, mercantile, commercial, or point of sale retail sectors that are located in a DCED designated distressed community, Keystone Opportunity Zone.

ECONOMIC DEVELOPMENT / REVITALIZATION (See www.newpa.com for all PA DCED programs.)	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
Discovered and Developed in PA (D2PA) -PA DCED	<ul style="list-style-type: none"> Grants for salary/personnel expenses; consultant fees relating to approved programmatic activities; land/building/equipment improvements; meeting/travel expenses; costs associated with preparation and publishing of educational/marketing materials. Private and public sector <u>economic development entities</u>.
Enterprise Zone -PA DCED	<ul style="list-style-type: none"> Grants to <u>financially disadvantaged communities</u> for preparing and implementing <u>business development strategies</u> within municipal Enterprise Zones. Municipalities, redevelopment authorities, non-profit economic development organizations, or other non-profit organizations on a case-by-case basis.
First Industries Fund (FIF) -PA DCED	<ul style="list-style-type: none"> Loans, loan guarantees, and grants aimed at strengthening <u>agriculture and tourism industries</u>. For-profit businesses and non-profit organizations
Housing & Redevelopment Assistance (Now part of Keystone Communities) -PA DCED	<ul style="list-style-type: none"> State-funded grants for <u>community revitalization and economic development</u> activities at the local level to assist the community in becoming competitive for business retention, expansion and attraction.
Humanities - Public -PA Humanities Council	<ul style="list-style-type: none"> Grants to <u>host exhibitions or events encouraging programs on Pennsylvania traditions</u>. Non-profits, local and state government agencies, ad hoc groups.
Industrial Sites Reuse Program -PA DCED	<ul style="list-style-type: none"> Grant and low-interest loan financing to perform <u>environmental site assessment and remediation</u> work at former industrial sites. Public entities, private nonprofit economic development entities, and companies involved in reuse of former industrial land.
<u>Infrastructure Development</u> -PA DCED	<ul style="list-style-type: none"> Loans and grants for transportation facilities, airports; clearing and preparation of land and environmental remediation; water and sewer systems, storm sewers; energy facilities; parking facilities; bridges, waterways; rail and port facilities; telecommunications infrastructure. Municipalities, industrial development authorities and corporations, municipal authorities, redevelopment authorities and local development districts
Keystone Communities -PA DCED	<ul style="list-style-type: none"> Grants for physical improvements part of <u>revitalization activities</u>; and <u>accessible modifications for homes</u> of persons with physical disabilities. Local governments; redevelopment authorities; housing authorities, non-profit main street organizations; economic development organizations; neighborhood improvement districts, downtown improvement districts, business improvement districts, and other nonprofit corporations. Keystone <u>Main Streets</u>: Funding and technical assistance for a community's downtown revitalization. Keystone <u>Elm Streets</u>: Funding and technical assistance for residential and mixed use areas in proximity to central business district. Keystone <u>Enterprise Zones</u>: Funding and technical assistance for disadvantaged industrial/manufacturing and business sites. Keystone Communities: Designation and potential access to funding and <u>Neighborhood Assistance tax credits</u>.

ECONOMIC DEVELOPMENT / REVITALIZATION (See www.newpa.com for all PA DCED programs.)	
PROGRAM / AGENCY	DESCRIPTION / ELIGIBILITY
Keystone Opportunity Zones (KOZ) -PA DCED	<ul style="list-style-type: none"> • Businesses, property owners and residents in a KOZ, KOEZ/KOIZ are eligible to receive significant <u>state and local tax benefits</u>. • Projects in KOZ/KOEZ are given priority consideration for assistance under various community and economic building initiatives. • Qualified businesses, property owners and residents.
Main Street Program (Now part of Keystone Communities) -PA DCED	<ul style="list-style-type: none"> • Grants to municipalities to help a community's <u>downtown economic development</u> effort through the establishment of a local organization dedicated to downtown revitalization and the management of downtown revitalization efforts by hiring a full-time professional downtown coordinator.
<u>Marketing to Attract Tourists</u> -PA DCED	<ul style="list-style-type: none"> • Support events, facility enhancements, new construction and/or renovations, or for the development of marketing, advertising and public relations campaigns to build attendance. • Non-profit organizations with a significant interest in the development of tourism product that provides a visitor experience to a tourist region, destination and/or attractions are eligible to apply.
Neighborhood Assistance Program (NAP) -PA DCED	<ul style="list-style-type: none"> • <u>Tax credit</u> program to encourage businesses to invest in projects which improve distressed areas. • Neighborhood organizations.
Rail Freight Assistance (RFA) -PennDOT Bureau of Rail Freight.	<ul style="list-style-type: none"> • <u>Rail freight</u>: maintenance; construction. • Railroads; rail freight users
Renewable Energy Geothermal and Wind Projects -PA DCED	<ul style="list-style-type: none"> • Grants and loans for <u>geothermal technologies and wind energy</u> projects. • Businesses; economic development organizations; individuals (geothermal only); or political subdivisions.
Rural Community Assistance Partnership Revolving Loan Fund -RCAP Solutions	<ul style="list-style-type: none"> • Pre-development expenses necessary to secure permanent financing for major capital improvements to <u>water and wastewater systems</u> • Small capital improvement projects to preserve, improve, or enhance the services of the system. • Public entities and associated non-profits.
Solar Energy Program -PA DCED	<ul style="list-style-type: none"> • Grants and loans for generation and use of <u>solar energy</u> and the manufacture or assembly of solar equipment. • Businesses; economic development organizations; individuals; or political subdivisions.
Water Supply and Wastewater Infrastructure (PennWorks) -PA DCED	<ul style="list-style-type: none"> • Grants and loans for <u>water and sewer projects</u> not used solely for residential purposes: land and building acquisition; demolition; water/sewer project construction costs; engineering and other fees associated with project. • Municipalities; industrial development corporations; municipal authorities; investor-owned water or wastewater enterprise