Offical Comprehensive Plan

Nittany Valley Region
Centre County, PA

Adopted: September 16, 2004

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All maps and aerials presented within this Plan rely upon digital information of the Centre County Geographic Information System. While the accuracy of this information is believed to be very high, it should only be used for community planning purposes and cannot be relied upon for definitive site survey delineation.

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Look forward to the future!

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I. Introduction

A. PURPOSE OF THE PLAN

Healthy, attractive and economically-sound communities do not "just happen." They are created through vision and foresight and grow and change successfully with the same. Today, local governments are responsible for guiding growth and development within communities, for setting aside open spaces, and for delivering public services. Like any business, local governments need to chart future plans so that they can assure the efficient use of resources. The preparation of a comprehensive plan provides a deliberate framework of information that can be used to make future decisions regarding local government functions. The Comprehensive Plan further provides a sound legal basis for specific implementing measures, such as zoning and subdivision regulations designed to carry out the intent of the Comprehensive Plan. One definition of comprehensive planning is "the allocation of municipal resources towards municipal goals and objectives"; this definition describes the essence of this work.

The Nittany Valley Regional Comprehensive Plan embodies a truly regional effort. The municipalities of Bellefonte Borough, Benner, Marion, Spring and Walker Townships, as well as the Bellefonte Area School District, have come together to prepare a sound plan for the future growth and development of the Nittany Valley Region. This regional cooperation has been enhanced by the involvement and mapping data by the Centre County Planning Department in this process.

This Comprehensive Plan first sets forth a set of Community Planning Goals. These goals can include broad objectives, such as the provision of adequate housing and employment opportunities, the protection of the environment, and the provision of a balance of public services. They can also seek to correct existing or foreseeable deficiencies or problems, such as improving the design of a particular road intersection or reducing localized flooding through improved storm water management.

Next, this Plan inventories, maps and describes the Region's resources over several chapters. These resources include many features, such as land, streams, roads, utilities, parks, housing, schools, police and fire service, businesses, and so on. Analyses are performed within each of the Plan's chapters to determine their capabilities in meeting the desired future. Then, each chapter makes specific recommendations to improve the capabilities of these in attaining locally-expressed planning goals.

Next, the analyses of resources and recommendations are used together with the Community Planning Goals to develop a future land use scenario and a plan for the future delivery of public and other services. The time frame for this Comprehensive Plan is to the year 2020; all recommendations made within this Plan are structured around this time period.

Finally, implementation strategies are discussed and recommended that will enable the Region's municipalities to set in motion the goals, objectives and recommendations identified in the Plan. In the end, any planning process is meaningless unless its recommendations find application as part of the Region's business—the protection of public welfare and the delivery of public services.

B. MPC REQUIREMENTS

Pennsylvania's Constitution gives the General Assembly the power to enact laws that protect the public health, safety and general welfare of its citizens. The General Assembly has, in turn, given local municipalities primary responsibility for community comprehensive planning. Municipalities in Pennsylvania are empowered by the Pennsylvania Municipalities Planning Code (MPC), Act 247 of 1968, to prepare and adopt comprehensive plans according to specified requirements and procedures. Revisions to the MPC made by Act 170 of 1988 expanded the subject matter and goals of comprehensive planning to enable municipalities to manage growth more effectively, and to provide greater protection for environmentally sensitive lands and important historic and cultural sites. Furthermore, Act 170 also requires that all counties in Pennsylvania prepare and adopt comprehensive plans and that municipal plans be generally consistent with the adopted county plans. Municipalities are also empowered by this Act to carry out joint planning with one another. Finally, the most recent amendments to the MPC specifically enable municipalities to work together and develop regional plans for the allocation of growth and development, along with the delivery of public facilities and services.

These MPC standards are the foundation upon which the Comprehensive Plan for the Nittany Valley Region is built. This Plan, therefore, is born not only out of a belief that sound planning is the key to a healthy, attractive and economically sound community, but also out of a respect and regard for the laws of the Commonwealth of Pennsylvania.

C. HOW TO USE THIS PLAN

This Comprehensive Plan is designed to serve several important purposes. Principally, the Plan is intended to share with Nittany Valley residents a vision for the Region's future. Secondly, it is designed to assist the Region in the administration of land use planning programs. A detailed table of contents appears at the beginning of the text that provides quick reference to the appropriate sections of the Plan. ***Action-oriented recommendations within each of the Plan's chapters are printed in bold, italicized letters so that the decision-maker's attention is immediately drawn to them.*** Many of these recommendations tie in to specific implementation strategies discussed in the Plan's final chapter.

The numerous maps within the Plan have been carefully prepared so that the information can be easily visualized and is meaningful. Related features are composited together so that the reader gains a better understanding of their connection. The many analyses utilized throughout the study are intended to maximize the utility of the findings. Step-by-step descriptions of these methodologies are furnished to enable the reader to gain a better understanding of the issues and their planning implications. All of these features will aid local decision-makers in their evaluation of future planning proposals. Data used to compile the maps in this Plan was largely furnished by the Centre County Planning Department as part of its County-wide Geographic Information System (GIS). Therefore the data is readily consistent with the County's database and new layers of data created by this Plan are similarly compatible with the County's system.

An additional important function of this Plan is its collection of important information. The term *Comprehensive Plan* accurately describes the composition of this report; its contents are quite comprehensive. Accordingly, the Plan provides convenient access to a wealth of up-to-date factual information concerning the Region's resources. This information will not only serve local officials, but also service agencies, property owners, residents, business leaders, and prospective developers. The inventories of existing conditions will also provide

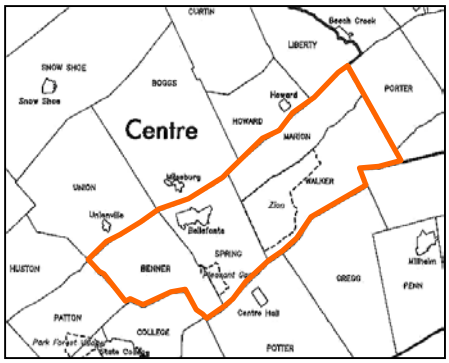
the groundwork upon which future Plan updates can be more easily accomplished.

Finally, the Plan provides a future land use scenario that can be useful to many landowners. For example, residents can get an idea of the land uses that are projected around their homes. Prospective developers can use the Plan to package development proposals that conform to the regional and municipal goals, thereby ensuring a smooth development review process. Business leaders can glean a sense of secure investment climate from the Region's future land use scenario. In all, the Plan considers many competing interests and devises a strategy to assure their relative harmonious co-existence. It is hoped that the Plan will become a powerful and practical tool in local decision-making. ***It is important for all persons involved and/or interested in the future of the Nittany Valley Region to read and understand this Plan. Local decision-makers should keep the Plan handy when evaluating future development proposals, service adjustments or public investments.***

D. REGIONAL SETTING

As mentioned previously, the Nittany Valley Region is composed of Bellefonte Borough, Benner, Marion, Spring and Walker Townships, as well as the Bellefonte Area School District. The Region is situated in the central eastern portion of Centre County nearly in the Centre of the Commonwealth of Pennsylvania. The Region forms a wedge generally 7 miles wide and 20 miles long extending in a northeasterly direction from just east of State College, (which is the home of the Pennsylvania State University) to the Centre/Clinton County lines. Bellefonte Borough is the County seat.

The Nittany Valley Region contains a total of approximately 119 square miles. The Region's proximity to major roads enables it to be economically linked with the many cities of the northeastern US metropolis and the greater Pittsburgh metropolitan area. However, its isolated location in the rural central portion of the state would tend to keep daily commuting within the local economy in and around Centre County.



The Region's boundaries are man-made. Along the northeastern boundary the Region abuts Porter and Logan Townships in adjoining Clinton County. To the southeast are Miles, Gregg and Potter Townships in Centre County. Southwest of the Region are Harris, College and Patton Townships in Centre County. To the northwest are Huston, Union, Boggs, Howard, and Liberty Townships, also in Centre County.

Historically, the Region has retained its rural character as a fertile farming valley between two mountain ranges on the north and south. Obviously, Bellefonte Borough has been the notable exception to this past with its densely built community complete with a central business area and industrial base. Some suburban development has occurred outside of Bellefonte, but large areas of the Region remain unspoiled.

All that could change with completion of ongoing road projects as new routes for commerce and commuting could present tremendous pressures for residential development and attendant sprawl. This Plan will play a large part in determining whether or not this is the Region's fate.

II. Planning Goals

"*If you don't know where you are going, any road will take you there!*"
-An old saying

To derive the goals for this Plan, members of the NVJPC were asked to complete a 37-question community development objectives survey. Then, during the fall of 2002, the Committee met and discussed the results of the survey. The following presents an overall narrative vision of the desired future followed by a detailed listing of specific planning goals for each municipality and the Region.

A. Community Vision

The Nittany Valley Region is a collection of neighboring municipalities with different characteristics and needs. They share the same general location and many of the same natural resources; however, their past planning programs and decisions have created unique and specific planning problems and needs that will be addressed by this Plan. The officials from each of the participating municipalities understand these differences and are, yet, committed to developing regional solutions and implementation strategies. The Nittany Valley Joint Planning Commission has undertaken this Plan with financial assistance from the state and has been working towards this regional plan for several years; their commitment is solid.

The NVR is bracing for a storm! Today, locals believe that they sit in the path of major development pressures that are likely to result from the imminent completion of the I-99 corridor. Bellefonte Borough and Spring Township are prepared to accept and manage this new found development pressure, particularly if it brings needed tax base in the form of economic development. Conversely, Marion and Walker Townships hope to avoid, or at least postpone, the attendant development pressure and impacts associated with completion of this major road. Local officials in these Townships want to "batten-down-the-hatches" and attempt to protect their "rural" way of life amid all of this turmoil. Benner Township acknowledges that it is likely to experience growth but hopes to limit it and minimize its impact.

As a whole officials from the Region recognize that much of their landscape is comprised of important and sensitive natural features that should be immune from rampant suburban growth. They also recognize their reliance upon their large undisturbed natural settings to purify public water sources. Finally, they are committed to preserving productive agricultural areas amid their fertile valley.

But all areas must accommodate some growth and local officials understand that change will occur. They envision a future where new "developed neighborhoods" are close to town, served by public utilities and have a full compliment of public facilities and services

that are conveniently accessible. Benner and Spring Townships will bear most of the planned growth with services reaching out from Bellefonte Borough and even the adjoining Centre Region. Residential growth will be closely tied with projected population trends in settings that are efficient and compact. These areas will occur as (1) infill developments amid settings that have experienced prior growth and have been served with public utilities, (2) traditional neighborhood extensions around the Borough and Villages, and (3) cluster developments with common open spaces on the suburban fringe.

All residents of the Region will rely upon a revitalized and vibrant downtown within Bellefonte Borough. This area combines the shops, offices, restaurants and cafes, social and civic agencies and other related uses that serve the Region's daily needs. It is designed to limit uses to ones that can be supported by local daily demands, promotes foot traffic and enables the efficient adaptive reuse of historic buildings that add to the charm of the town. Larger highway commercial uses will be targeted at existing concentrations of such uses with incentives to improve function and appearance through coordination of vehicular access, parking/loading, signs, landscaping and stormwater management.

Out in the country, residents are largely undisturbed by the bustle of modern life. Their large lots protect privacy and rural habits. Some crossroad and home-based businesses are permitted to encourage local employment, but only if such uses don't interfere with their neighbors' residences. For new uses, lots are kept smaller than in the past but tied with the protection of large areas of undisturbed terrain. New lotting and access techniques (rural clusters, flag lots and shared driveways) enable new homes to "tuck" into the "nooks and crannies" produced by the Region's rugged landscape while protecting its habitats and important watersheds.

B. Community Planning Goals

The following goals were derived from discussions with local officials and citizens of the Region, plus the review of completed surveys by local officials. These specific goals will guide the rest of this effort by allocating the Region's resources towards expressed needs. The goals are presented by functional category.

Goal	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region
Environmental Goals						
1. Protect the Big Spring and its watershed as a major public water source for Region.	X	X		X		
2. Preserve prime farmlands and productive farms.						X
3. Strengthen agricultural preservation zoning.		X				

Goal	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region
4. Develop strategies to protect important natural features and farmlands that happen to fall along, or just beyond, previously-installed public utility service lines extended across the countryside to provide remedial sewer service to small pockets of older development.		X		X	X	
5. Devise a strategy to compensate farmers for their loss in development potential property value as a result of effective agricultural zoning.					X	
6. Integrate the protection of important natural features in outlying rural areas and as part of cluster developments that are proposed on the suburban fringe.		X	X	X	X	
7. Steer development away from steep slopes and karst drainage-ways to avoid stormwater and drainage problems.						X
8. Promote greenways along important streams as a means of protecting local surface water quality and providing wildlife habitats.						X
9. Inventory and acknowledge properties that have sold or donated conservation/agricultural easements that prevent their future development		X	X	X	X	
Community Development Goals						
10. Promote continuous revitalization of the downtown and waterfront area through adaptive reuse of vacant and underutilized commercial and industrial buildings.	X					
11. Promote residential use of upper-level stories within the downtown that are largely vacant and/or underutilized.	X					
12. Provide opportunities and incentives to improve small and scattered pockets of run-down housing.	X					
13. Continue the current program of historic preservation.	X					
14. Allocate and coordinate land uses on a regional basis.						X
15. Bring the comprehensive plan and resulting zoning and land development ordinances into better conformity.		X				
16. Coordinate planned growth areas with planned public utility service areas.	X	X		X	X	
17. Coordinate proposed growth areas with projected population so as to properly size growth zones and relieve development pressures in outlying rural areas.	X	X		X		
18. Increase density in planned residential areas as a means of reducing development pressure on the outlying rural landscape.	X	X		X		
19. Stage economic development at the interchanges of the new I-99 corridor and apply design standards that create desirable high quality settings.		X		X		

Goal	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region
20. Vigorously defend the rural character and the lack of installed infrastructure.			X			
21. Seek to improve the appearance and function of older strip commercial developments and Water Street to avoid similar configurations in the future.	X	X		X	X	
22. Promote the creation of new businesses and related services and market support for existing uses that serve the daily needs of the local Region within the downtown areas of Bellefonte Borough.						X
23. Rely upon larger commercial centers in nearby areas for regional commercial goods and services.						X
24. Acknowledge a mix of new and old neighborhood styles that exist within the Borough.	X					
25. Promote adaptive reuse of carriage houses and other related outbuildings on the "lanes" within the Borough as a means of providing for affordable housing opportunities, limited home occupations and suitable adaptive reuse of accessory historic structures.	X					
26. Encourage rural businesses that can provide for local employment and contribute to an expanded tax base, particularly for public schools.			X		X	
27. Discourage large-scale commercial and industrial developments due to a lack of sufficient road access and infrastructure.			X		X	
28. Acknowledge the important role that quarries play in the local economy and devise a strategy that enables continued recovery of these resources in a manner that does not unnecessarily threaten public welfare and convenience.						X
29. Add a local village shopping area in Pleasant Gap.				X		
30. Integrate the Bellefonte Waterfront Master Plan, Nittany and Bald Eagle Greenway Plan and the Spring Creel Corridor study into the Plan's policies.	X	X		X		
Planning Program Goals						
31. Update planning policies to reflect current needs and conditions.						X
32. Provide planning recommendations that guide zoning policies.						X
33. Devise a technically competent and legally defensible strategy to accommodate a regional fair-share of growth.						X
34. Structure the Plan and its policies to enable a regional allocation of various land uses through the future development of one regional or individual zoning ordinance(s).						X
35. Devise a pro-active land use policy that eliminates the need for incremental rezoning and development reviews that lack coordination and overall vision.						X

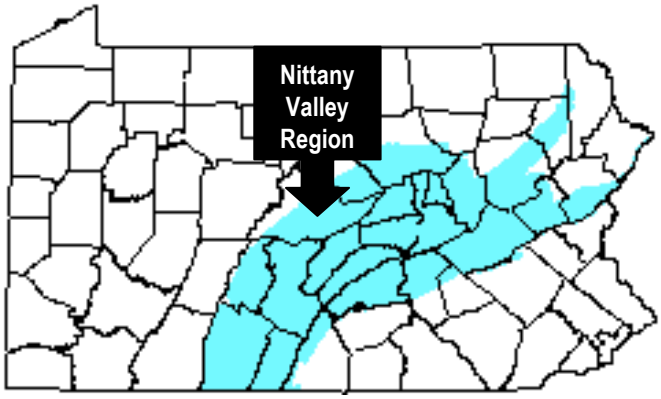
Goal	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region
36. Provide for a firm, yet cooperative, approach to development reviews that enable local officials to negotiate with prospective developers for needed public improvements.	X	X		X	X	
37. Engage a proactive plan development process that invites public participation and awareness.						X
38. Prepare this comprehensive plan in an unbiased manner that responds only to direction from local officials and avoids undue influence from special interest groups.						X
39. Develop an ongoing process of dialog between the municipalities to assist each other and meet future challenges together.						X
40. Coordinate the findings of this Plan with ongoing individual comprehensive planning process underway.			X			
41. Coordinate this Plan with ongoing planning underway at the County level.						X
Public Facilities and Services Goals						
42. Improve opportunities for art, recreation and culture, public safety and high-quality education as a means of stimulating economic development and residential growth.	X					
43. Revisit the use of a regional police force.	X	X		X		
44. Continue reliance upon State Police protection.			X		X	
45. Provide centralized park and recreation opportunities for the Region with a new regional recreation agency.						X
46. Initiate efforts towards providing an community recreation center with competitive swimming facilities.						X
47. Add neighborhood parks in areas lacking such facilities especially in Pleasant Gap.						X
48. Continue the bartering partnerships on equipment exchange and snow plowing already in practice.			X		X	
49. Coordinate local planning policies with the need to support local volunteer emergency services.						X
50. Seek to formally link the Region's overall planning review processes with that of the public School District.						X
Public Utilities Goals						
51. Expand the sewage treatment capacity to serve Bellefonte Borough and flows from the Spring/Benner/Walker sewer authority.	X	X		X	X	
52. Update and centralize ongoing public utility planning into one "understood" and cohesive strategy to serve the Region.						X
53. Coordinate planned urban growth areas with planned public sewer and water service areas.	X	X		X		

Goal	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region
54. Protect the Big Spring and its watershed as a major public water source for Region	X	X		X		
55. Protect the wellhead for the new well coming on-line for the Spring Township Water Authority.				X		
56. Protect the wellheads for the two wells serving the Walker Township Water Association on the Nittany Valley Country Club and Sand Ridge.					X	
57. Monitor the progress of connection to the Nittany Valley Joint Municipal Authority located in Walker, Porter, and Lamar Townships.					X	
58. Reign-in past practices that permitted the scattered and haphazard location of various developments and their utility extensions.		X		X	X	
59. Investigate the use of new low-tech community sewers to serve outlying remedial sewer service needs as opposed to the extension of public sewer lines.		X	X	X	X	
60. Investigate means to overcome current limitations imposed by DEP on the out-fall of treated sewage effluent from the Bellefonte Sewage Treatment Plant into Spring Creek including groundwater reintroduction wells.	X	X		X	X	
61. Coordinate zoning policies with the availability public utilities.	X	X		X	X	
62. Explore the development of telecommunications technology (including broadband) as a means of serving economic development.	XX					
Transportation Goals						
63. Attempt to increase parking capacity downtown as a means of encouraging market support by local and Regional patrons.	X					
64. Assess current road conditions and compare with adopted design standards.						X
65. Promote pedestrian travel within the Borough and to its adjoining neighborhoods.	X			X		
68. Monitor the long range plans concerning major road corridors and public transit that may affect the Region.						X
69. Coordinate future land uses with roads that have sufficient capacity to handle the additional traffic.						X
70. Avoid the improvement of additional roadway capacity that would lead to additional local development pressure.			X		X	
71. Incorporate the University Park and Bellefonte Airports Master Plans and the Centre Region Long Range Transportation Plan.						X

III. Natural & Cultural Features

This chapter will describe and map the Nittany Valley Region's natural and cultural resources. This information will be extremely useful in allocating future land uses within the Region, as well as in formulating policies and implementing measures that protect these natural and cultural resources.

A. PHYSIOGRAPHY



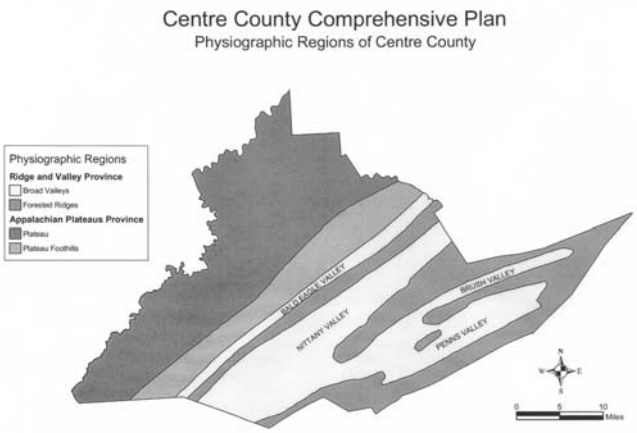
The Nittany Valley Region (NVR) is situated within the Appalachian Mountain Section - Ridge and Valley Province. The Appalachian Mountain Section occurs as a northeast-southwest, band that curves from Bedford and Fulton Counties in the southwest to Lackawanna, Carbon, Monroe, and Pike Counties in the northeast. This is referred to by some as the backbone of Pennsylvania as viewed from satellite imagery as its rugged mountains resemble the vertebrae of a spine. The southern half of Centre County lies within this physoigraphic section.

It consists of numerous, long, narrow mountain ridges separated by narrow to wide valleys (lowlands). The tops of the ridges are always several hundred feet higher than the adjacent valley, and some ridges are more than a thousand feet higher than the adjacent valley. Very tough sandstones occur at the crests of the ridges. Relatively soft shales and siltstones occur in most of the lowlands. Some of the lowlands are underlain by limestone and dolomite; this is particularly true within the Nittany Valley Region.

At one time many millions of years ago the rocks in this Section were flat lying. Then they were compressed toward the northwest by immense pressure coming from the southeast. This pressure buckled the rocks into long, linear folds called anticlines (upward-buckled rocks) and synclines (downward-buckled rocks). Erosion of the rocks in these adjacent anticlines and synclines created the ridges and valleys of the Appalachian Mountain Section. The shales and siltstones are eroded more easily than the sandstones. Thus, as erosion proceeds, the slowly eroded sandstones form ridges while the shales and siltstones are eroded more rapidly to form the lowlands.

The Potomac and Delaware Rivers drain limited areas of the section in southeast and northeast Pennsylvania, respectively; however, water eroding the ridges and valleys of the Nittany Valley Region are carried away by the West Branch of the Susquehanna River to the Chesapeake Bay.[1]

Locally, the Ridge and Valley Province begins along the southern edge of the Allegheny Plateau and includes all of the Nittany Valley Region. Here wooded ridges are separated by broad limestone valleys that offer favorable settings for agricultural activities and human settlements.



[1] http://www.dcnr.state.pa.us/topogeo/map13/13ams.htm

B. GEOLOGY

The geology of an area plays an important role in determining the surfacial shape of the environment. Throughout the ages, underlying rock is subjected to natural weathering forces that chemically and physically erode its original shape. The physical properties of underlying rock determine its strength and suitability to support development, including the ease of excavation, and ability to support the foundations of various structural types. In addition the geology offers valuable mineral deposits that can be the source of economy and construction materials.

GEOLOGIC FORMATIONS

The *Soils and Geology Map* illustrates the geologic conditions within the Region. All of the geologic formations within the Region were formed during the Silurian and Ordovician Eras, which occurred between 492 and 412 million years ago.

As described within the previous Physiography Section, the Nittany Valley Region is dominated by two distinct settings – ridges and valleys. The parallel mountain ridges are formed by the **Bald Eagle, Juniata, Clinton Group, Reedsville and Tuscarora Formations**. These formations are largely comprised of sandstone that is relatively hard and resistant to erosion having withstood the effects of weathering over the millennia. These formations tend to yield the lowest groundwater amounts due to their high topographic position and their dense and compact structure. Typical well yields range between 10 to 23 gallons per minute (gpm). These formations produce the Region's Hazelton, Ladig, Andover and Ungers soils.

Conversely, the Region's valleys are formed by **the Gatesburg, Axeman, Bellefonte, Benner, Coburn, Nittany and Stonehenge Formations**. Physical and chemical weathering over the ages have caused these softer formations to erode and settle into the valley. These formations are typically characterized with limestone, dolomite and various other interbedded materials. These low-lying formations yield an abundance of groundwater through frequent joint and solution channels and cavities. Typical yields range between 50 and 375 gallons per minute (gpm). These same water-carrying features also present the opportunity for groundwater contamination. The best grade of high-calcium limestone found in the State is found in the Bellefonte area.[2] The Valentine member is mined extensively and other limestone formations are quarried for road materials. These carbonate formations produce the Region's Hagerstown, Opequon, Hublersburg, Morrison, Murrill and Millheim soils.

The following table has been constructed to show the relationship between the geology of the Region and four important land use planning considerations. Porosity and permeability, ease of excavation, foundation stability, and groundwater availability are integral to the planning of land use activities. This table is intended for reference use only and can be utilized to determine general characteristics of formation types.

The ***porosity*** and ***permeability*** of a geologic formation refers to how quickly and easily water, air, and other substances pass through the rock. A classification of low means the rock is essentially impermeable. A classification of moderate refers to a permeability of less than 14 feet per day, while high permeability means that substances may pass through the rock at a rate between 14 and 847 feet per day. The ***ease of excavation*** refers to how

[2] Soil Survey of Centre County, Pennsylvania, United States Department of Agriculture, Soil Conservation Service. August, 1981 (pg.1)

pliable the rock is when moving or drilling it. The classifications range from easy to difficult. ***Foundation stability*** can be classified as either good, fair, or poor. Good foundation stability means that the bearing capacity of the rock is sufficient for the heaviest classes of construction, except where located on intensely fractured zones or solution openings. Fair foundation stability is determined by the location of the water table, type of rock composition, and weathering depth. Poor foundation stability means that foundations must be artificially stabilized to allow sufficient bearing capacity for construction.

GEOLOGIC FORMATION CHARACTERISTICS

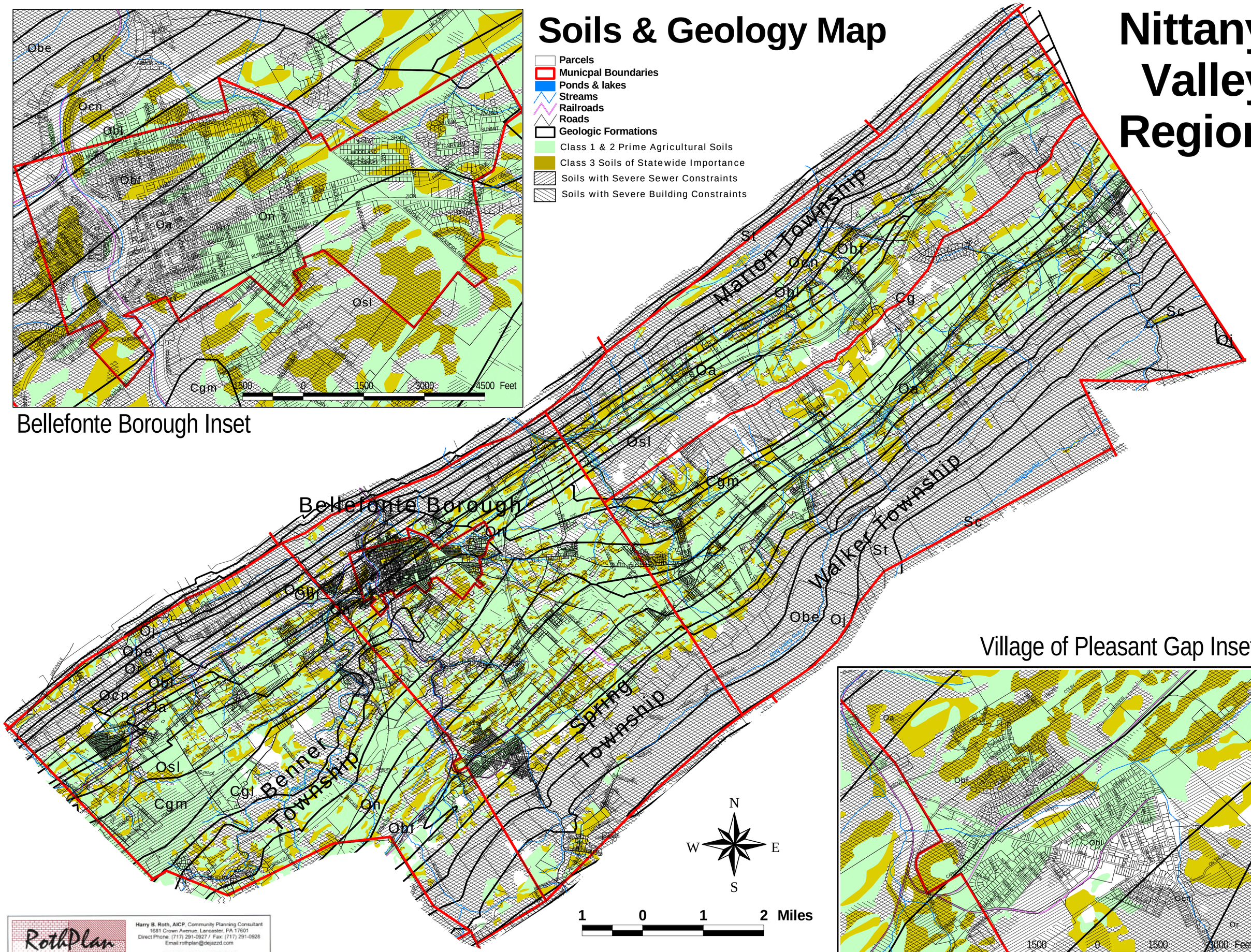
Formation Name (Composition)	Symbol	Porosity & Permeability	Ease of Excavation	Foundation Stability	Groundwater
GATESBURG FORMATION Gray, coarsely crystalline dolomite having many sandstone interbeds up to 10-feet thick, oolitic, cherty, cryptozoon fossils	Cg	Solution channels produce a secondary porosity of moderate to high magnitude; locally very high porosity and high permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate; numerous sandstone beds slow the drilling rate.	Good; a thorough sinkhole investi-gation should be undertaken and must be excavated to fresh bedrock.	Avergae yield of 375 gpm although drilling conditions may be difficult due to flowing sand. Water levels are often below 100 feet.
GATESBURG FORMATION (LOWER MEMBER) Cyclic repititions of sandstone and dolomite.	Cgl	Solution channels produce a secondary porosity of moderate to high magnitude; locally very high porosity and high permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate; numerous sandstone beds slow the drilling rate.	Good; a thorough sinkhole investi-gation should be undertaken and must be excavated to fresh bedrock.	Avergae yield of 375 gpm although drilling conditions may be difficult due to flowing sand. Water levels are often below 100 feet.
GATESBURG FORMATION (MINES MEMBER) Gray dolomite containing siliceous " oolites" and chert having cryptozoon structures.	Cgm	Solution channels produce a secondary porosity of moderate to high magnitude; locally very high porosity and high permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate; numerous sandstone beds slow the drilling rate.	Good; a thorough sinkhole investi-gation should be undertaken and must be excavated to fresh bedrock.	Avergae yield of 375 gpm although drilling conditions may be difficult due to flowing sand. Water levels are often below 100 feet.
AXEMAN FORMATION Light-gray limestone, fossiliferous, coarsely crystalline. Interbedded with silty, fine-grained dolomitic limestone; some oolitic and conglomeratic limestone, Flint concretions and chert occur throughout the unit.. In certain areas, limonite has replaced oolitic limestone. Maximum thickness is about 500 feet..	Oa	Joint and solution-channel openings provide a secondary porosity of moderate to high magnitude; moderate permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate due to the presence of chert and flint.	Good; should be excavated to uniformly sound material. Should be thoroughly investigated for solution openings that could lead to surface collapse..	Median yield is 100 gpm. Water quality is generally good but easily contaminated. Hardness is sometimes high.
BALD EAGLE FORMATION Gray to reddish-gray to brownish gray, fine-to-coarse grained, crossbedded sandstone and quartz-pebble conglomerate. Maximum thickness is about 1,000 feet.	Obe	Interstitial and joint openings produce low to moderate porosity. Moderate permeability.	Difficult; drillablity is slow.	Good; should be excavated to sound material.	Median yield is 10 gpm. In most areas very poor topographic position for groundwater development. Best wells in valley and on hill slopes.
BELLEFONTE FORMATION Light-tomedium gray, tan-weathering, very fine grained dolomite. Minor sandstone beds; some chert maximum thickness is about 2100 feet.	Obf	Joint and solution channel openings provide a low-to-moderate secondary porosity. Low permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate due to the presence of chert beds lenses. Quartz sand slows the drilling rate.	Good; should be thouroughly investigated for solution openings.	Median yield is 100 gpm. Industrial and public supplies are available. Highest yields from fractures and solution cavities.
BENNER FORMATION Light-to-dark gray, very fine crystalline limestone at top. An agrillaceous limestone containing interbedded	Obl	Joints produce a secondary porosity of moderate to high magnitude. Low	Difficult; bedrock pinnacles are a special problem; moderate drilling	Good; should be thouroughly investigated for solution openings	Yield of 50 gpm. Excellent quality in most areas.

Soils & Geology Map

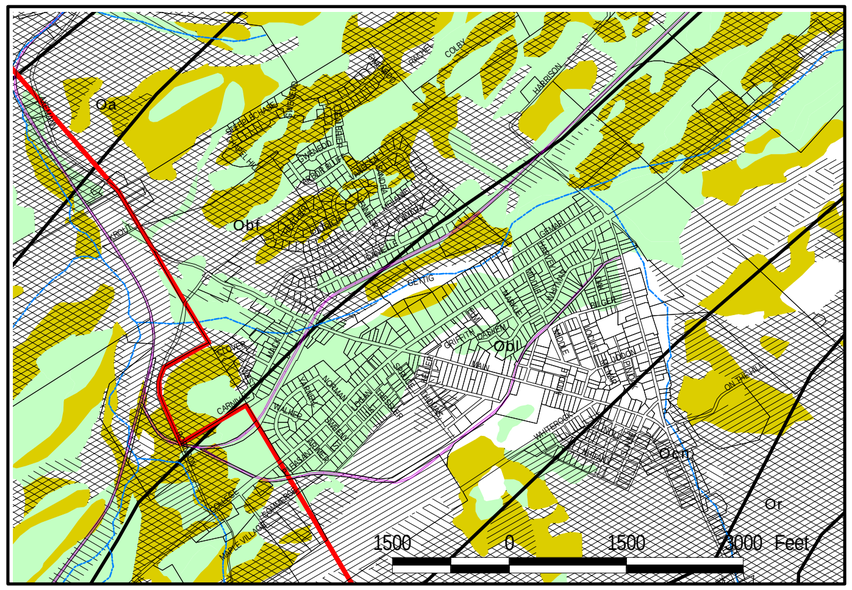
Nittany Valley Region

- Parcels
- Municpal Boundaries
- Ponds & lakes
- Streams
- Railroads
- Roads
- Geologic Formations
- Class 1 & 2 Prime Agricultural Soils
- Class 3 Soils of Statewide Importance
- Soils with Severe Sewer Constraints
- Soils with Severe Building Constraints

Bellefonte Borough Inset



Village of Pleasant Gap Inset



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Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

GEOLOGIC FORMATION CHARACTERISTICS					
Formation Name (Composition)	**Symbol**	**Porosity & Permeability**	**Ease of Excavation**	**Foundation Stability**	**Groundwater**
metabentonite beds at base. Maximum thickness of 180 feet.		permeability.	rate.		
COBURN FORMATION (LOYSBURG & NEALMONT) Medium to very dark gray fossiliferous, shaly limestone; 400 feet thick.	Ocl and Ocn	Joint and solution openings provide a secondary porosity of moderate to high magnitude; high permeability.	Difficult; bedrock pinnacles are a special problem; moderate drilling rate.	Fair, should be excavated to sound material and investigated for possible collapse areas.	Median yield of 130 gpm. Industrial and public groundwater supplies are available. Quality is good but easily contaminated. Harness may be high and hydrogen sulfide is sometimes present.
JUNIATA FORMATION Brownish-red, fine grained to conglomeratic, quartzitic sandstone having well-developed crossbedding. Interbedded red shale. Maximum thickness is 1125 feet.	Oj	Interstitial porosity is present. Low secondary porosity produced by joint, fault and bedding-plane openings. Low permeability.	Difficult; slow drilling rate.	Good; should be excavated to sound material.	Median yield of reported wells is 17 gpm. Generally poor topographic position for groundwater development. Water quality is usually good.
NITTANY FORMATION Light-to-dark gray, fine to coarsely crystalline dolomite. In part, alternating beds of light and dark gray dolomite. Sandy and cherty. Approximate thickness is 1250 feet.	On	Joint and solution openings provide a secondary porosity of moderate to high magnitude; moderate to high permeability.	Difficult; bedrock pinnacles are a special problem; fast drilling rate.	Good; should be excavated to sound bedrock. Should be thoroughly investigated for solution openings.	Median yield is 100 gpm. High yields due to fracture and solution cavities. Water is relatively hard.
REEDSVILLE FORMATION Dark-gray shale containing sandy to silty shale interbeds. Fossiliferous at top. At least 1000 feet thick.	Or	Low secondary porosity produced by joint, fault and bedding-plane openings. Low permeability.	Moderately easy. Slight rebound may be a special problem. Fast drilling rate. Sandy shale interbeds slow the drilling rate	Good; should be excavated to sound material.	Median yield of 15 gpm.. Most favorable well sites in upland stream valleys. Fracture openings decrease in number and size as depth increases. Presence of some iron and hydrogen sulfide may cause water quality problems.
STONEHENGE FORMATION Gray finely crystalline limestone and dark-gray laminated limestone. Contains numerous flat-pebble breccia beds and shaly interbeds. Maximum thickness is 1500 feet.	Osl	Joint and solution channel openings provide for a secondary porosity of low to moderate magnitude. High permeability.	Difficult. Bedrock pinnacles a special problem. Fast drilling rate.	Good; should be excavated to sound bedrock. Should be thoroughly investigated for solution openings.	Median yield is 100 gpm. Highest yields obtained from fractures and solution channels. Water is relatively hard
CLINTON GROUP FORMATION Light to dark-gray fossiliferous sandstone. Hematitic, oolitic sandstone and shale. Light olive gray to brownish gray fossiliferous shale with some limestone and iron sandstone. 890 feet thick.	Sc	Low secondary porosity produced by joint and bedding-plane openings. Low permeability.	Moderately difficult. Moderate to slow drilling rate. Iron sandstone beds slow the drilling rate.	Good. Should be excavated to sound material.	Median yield is 12 gpm. Ridge-forming sandstones have very poor topographic position for groundwater development.
TUSCARORA FORMATION Sandstone and quartzite. Fine to coarsely grained. White sometimes red and green. Tough, firmly cemented, cross-bedded, conglomeratic in part. Includes interbedded red and nonred sandstone at top. Maximum thickness is 1500 feet..	St	Intergranular porosity in conglomerate. Joint openings provide a low-to-moderate secondary porosity. Low permeability.	Difficult. Boulder fields on lower slopes beneath outcrop areas are a special problem. Drilling rate is slow.	Good, excavate to sound bedrock.	Median yield is 23 gpm. High topographic position is unfavorable for high yields. Water quality is usually good with soft water.

Source: Alan R. Geyer and J. Peter Wilshusen, *Engineering Characteristics of the Rocks of Pennsylvania* (Harrisburg, PA: Pennsylvania Geologic Survey, 1982).

GROUNDWATER PROTECTION

Geology is also a primary determinant of ***groundwater quality and quantity***, as shown in the foregoing table. Groundwater is surface water that has seeped into and is contained by underground geological formations called aquifers. Water stored in aquifers is sometimes released to the surface through springs or can be pumped to the surface through wells. Groundwater aquifers are part of an interconnected network that includes surface waters, such as streams, ponds, wetlands, and lakes. Aquifers regulate the levels and flow rates of these surface waters by collecting and retaining water reaching the ground and gradually releasing it during dry periods.

Some of the primary geological determinants of groundwater quality and quantity are the type, structure, permeability, porosity, and chemical composition of the bedrock formations present in the area. An understanding of local groundwater conditions is necessary to (1) plan for future public sewer and water needs, (2) allocate future land uses so as to protect important groundwater recharge areas, and (3) protect existing and potential future groundwater sources from contamination.

A typical household with three family members requires an average flow of 0.2 to 0.4 gpm with a peak rate of use ranging between 3 and 5 gpm. ***The upland geologic formations of the Region are characterized by geologic formations that average between 10-23 gpm that can adequately accommodate a sparsely-developed rural land use pattern.*** The lower-lying valley formations and their limestones and dolomites provide for more ample groundwater yields that range between 50 to 375 gpm. ***Public and industrial water supplies within the Region that rely upon wells or springs for source should be located in the vicinity of these carbonate formations to take advantage of the abundant groundwater supplies. Historically, some areas of the Region have relied upon some of the highest-yield springs within Pennsylvania for their municipal, industrial and resource water needs. The following lists some of the significant springs that serve various uses within the Region:***

Recent estimates suggest that Big Spring provides about 18 million gallons per day for Bellefonte's public water

Significant Springs Serving the Region			
Spring Name	**Municipality**	**Yield**	**Uses Served**
Axeman Spring	Spring	833 gpm	Public water Supply
Big Spring	Bellefonte	12,500 gpm*	Public water supply
Kelly Spring	Spring	7000 gpm	Industrial supply
Benner Spring	Benner	3500 to 10,000 gpm	PA Fish Commission & Rockview Penitentiary
Blue Spring	Benner	2270 gpm	PA Fish Commission
Shutgart Spring	Benner	Unknown	PA Fish Commission

Source: PA Geological Survey, Outstanding Scenic Geological Features of Pennsylvania, Vols. 1 (1979) & 2 (1987).
* Actual measured flow

In addition, the Alexander Well Field of the State College Water Authority contains four public-water-supply wells just northwest of the State College Airport in Benner Township. Their one-year wellhead protection area is depicted on the Natural Features Map.

The high groundwater yields of the Nittany Valley are a mixed blessing. The characteristics of the geology that enable it to convey large quantities of groundwater also expose it to ready contamination and draw-down. Just as many streams have become polluted by the surface runoff from domestic, farm and animal waste and urban runoff, so too have some of our underground water supplies. These contaminants are introduced to the groundwater via sinkholes and closed depressions in the water-soluble limestone. From there, enlarged joints, underground caverns and waterways allow for rapid dispersion throughout the aquifer and can contaminate private and community water sources located miles away.

Unfortunately, quality alone does not suffer by the intervention of our activities. Major disruption of a groundwater drainage system may diminish the quantity of groundwater thus altering surface and subsurface drainage patterns. One disruption problem exits around deep limestone mines where large amounts of groundwater are pumped to keep the mines from flooding, causing water tables to be lowered in these areas. Local groundwater flow areas are sometimes reversed around the mines because of this activity.

As a general policy, future development areas should be directed to ensure the protection and economical use of municipal and private water supplies. However, such sources should be routinely monitored and treated as necessary due to the vulnerability of this groundwater from contamination via the widespread solution channels. In addition, local officials should actively engage in pursuits to protect these invaluable water resources. Wellhead and springhead protection safeguarding public groundwater sources is also a particularly sound investment because protection is more effective and less expensive than cleaning a contaminated groundwater source, which may cost 30-40 times more than initial protection.

Local officials have long since understood the value of protecting their unique and important watersheds. Several former efforts and plans have begun to yield benefits to the Region. Most notable are the efforts underway in the Spring Creek Watershed. The ClearWater Conservancy is a nonprofit conservation group comprised of volunteers and a paid staff who have been advocating environmental stewardship within Centre County. The following presents some of their recent accomplishments and future plans that directly affect the region as reported on their website:

ClearWater Conservancy

Recent Accomplishments	Future Plans and Activities
• Developed recommendations for preserving the main stem and tributaries of Spring Creek through Phase I and Phase II of the Spring Creek Corridor Study. • Hosted the International Countryside Stewardship Exchange, which gave rise to the creation of the Spring Creek Watershed Community (a stakeholder group) and the Spring Creek Watershed Commission (elected officials from the fourteen Spring Creek municipalities). • Designed and set up the Water Resources Monitoring Project	• Begin development of a Watershed Plan for Spring Creek Watershed with the input and support from all fourteen municipalities within the watershed. • Restore the banks and increase the riparian buffer of Spring Creek and create a vegetated bio-swale to reduce stormwater runoff from the parking lot at the PA Military Museum site in Boalsburg. Develop and utilize the location as an educational and demonstration site. • Complete the new educational website for the Spring Creek

ClearWater Conservancy	
Recent Accomplishments	**Future Plans and Activities**
(WRMP), through the Spring Creek Watershed Community, to establish baseline stream conditions of Spring Creek and to make this information publicly available. • As part of the WRMP, established a searchable bibliographic database to consolidate information pertaining to water quality and quantity in the Spring Creek Watershed. • Designed and set up the Stormwater Monitoring Project, through the Spring Creek Watershed Community, to enable the assessment of non-point source pollution of Spring Creek and its tributaries over time.	Watershed Community. • Educate teachers and school age children through the Students-Streams-Community-Connections project of the Spring Creek Watershed Community. • Continue monitoring water resources of Spring Creek and its tributaries on a monthly basis and report to the community through the Water Resources Monitoring Project's annual report. • Continue stormwater sampling on Spring Creek and its tributaries and expand the efforts of the Stormwater Monitoring Project. • Strengthen government's environmental stewardship by working with municipal and county planning commissions. • Develop plans to protect priority sites in the Centre County Natural Heritage Inventory. • Implement the top priority recommendations of the Spring Creek Corridor Studies.

Each municipality from the Region should fully participate and support the actions of this Conservancy as they undertake the "next steps" towards protection of the Region's valuable groundwater resources. In addition, the municipalities should continuously report their respective activities to the general public through newsletters and official public recognition so as to stimulate grass-root interest and support.

Some of the specific recommendations related to groundwater protection of the Conservancy directly apply to the Region's municipalities and should be actively pursued:

1. ***With passage of the Act 167 Stormwater Management Plan for the Spring Creek Watershed, Bellefonte Borough and Benner, Spring and Walker Townships are obligated to implement the Plan's recommendations or risk loss of a variety of State funding. Each municipality has recently adopted suitable stormwater management regulations that incorporate those "best management practices" identified within the Plan.***

2. ***Regulate point source pollution through existing regulations particularly in Special Protection Waters. More discussion on this subject is contained on page III-13.***

3. ***Monitor water resources and stormwater through the Spring Creek Watershed Community.***

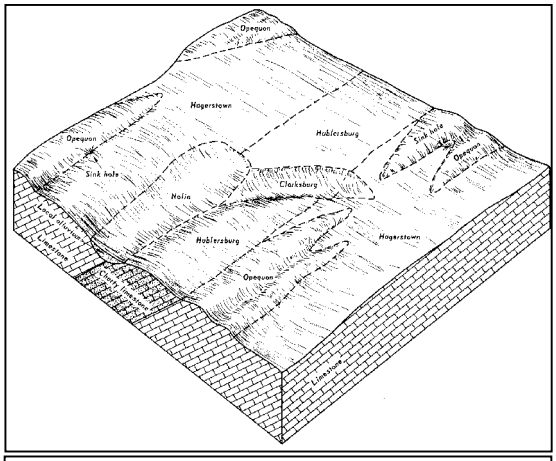
4. ***Adopt stream corridor overlay zoning in Bellefonte Borough and Spring and Benner Townships.***

5. ***Promote the use of riparian buffers as a means of protecting streamside cultural and ecological resources. More discussion of this subject is found on page III-15.***

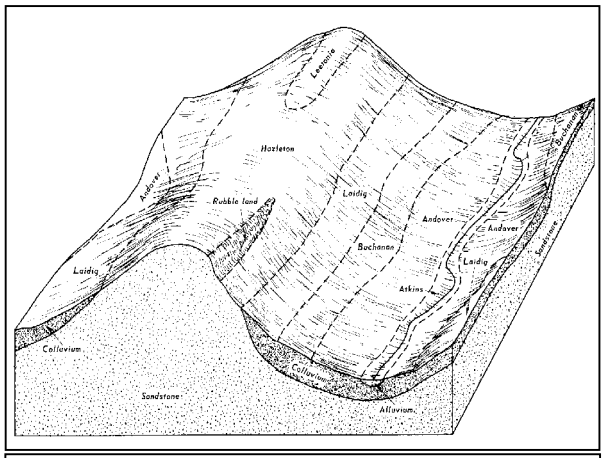
C. SOILS

The constant weathering of geologic formations produces various soil types. The capabilities and constraints exhibited by these soils are related to the geologic characteristics of the underlying rock and the local climatic conditions. A soils analysis is essential to planning for future land uses, which are best located on soils that are suitable and have complementary characteristics for specific land uses. For example, agricultural land uses are usually found where soils are level, well-drained and fertile. Residential land uses are suitably located where soils are fairly level and sufficiently above bedrock and the water table. The appropriate siting of development significantly reduces the costs associated with excavating a foundation, as well as locating and designing an on-lot sewage disposal system. Finally, industrial uses favor soils that are relatively flat and sturdy so as to withstand the heavy weights associated with the operation of large plants.

With its varied topographic and geologic foundation the Nittany Valley Region has a complex soils structure. About 100 different soil types can be found within the Region. Like with the geology the soils fall into two principal categories. The highlands are comprised of Hazelton, Ladig, Berks, Ungers, Buchanan, and Murrill soil families. The valley primarily consists of Hagerstown, Morrison, and Hublersburg soils associations.



Typical profile for "valley" soils



Typical profile for "ridge" soils

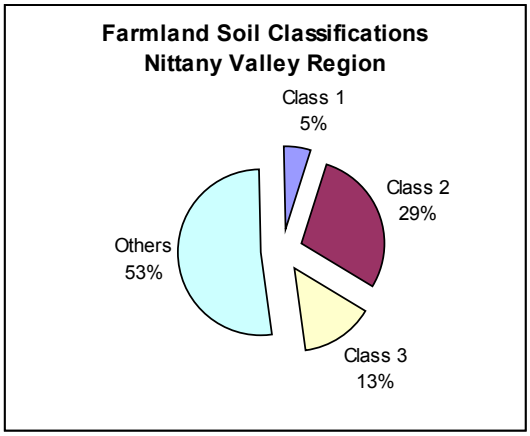
The above diagrams are photo reductions of those contained within the Centre County Soils Survey, August 1981.

PRIME FARMLAND

Section 604.3. of the Pennsylvania Municipalities Planning Code requires municipalities to develop zoning ordinances that "preserve prime agriculture and farmland considering topography, soil type and classification and present use."[3] The United States Department of Agriculture (USDA) rates all soil suitability for agricultural purposes and assigns a numerical rating from Class I to Class VII. ***Prime farmland*** soils are those soils with an agricultural rating of Class I or II. In addition, the USDA considers Class III soils to be of ***Statewide importance*** to

[3] PA Municipalities Planning Code, Act 247, as amended, Section 604.3.

agriculture. The USDA describes prime agricultural land as "the land that is best suited for producing food, feed, forage, fiber and oilseed crops." It possesses the soil quality, growing season and water supply needed to economically produce a sustained high yield of crops when it is treated and managed using acceptable farming methods. Prime farmlands are rich in chemical nutrients, have good permeability to air and water with few rocks, are well-drained but resistant to erosion, and have relatively flat topography. Prime farmlands produce the highest yields with minimal inputs of energy and economic resources, and farming them results in the least damage to the environment. The USDA encourages all levels of government and private individuals to effectively use these valuable resources to meet the nation's food and fiber needs.



The lowlands of the valley have considerable mass of prime farmlands. About 4124 and 21,785 acres are Class 1 & 2 prime agricultural soils, respectively. The foothills of the adjoining ridges tend to have more Class III soils of Statewide importance totaling some 10,212 acres. Unfortunately, the soils most suitable for agricultural purposes are also those most suitable for development, creating competition between these uses for these soils, and resulting in the loss and fragmentation of the most productive farmlands. Certainly some valuable farmlands have been lost within the Region but many remain. ***Prime farm soils and soils of Statewide importance should be protected from conversion to other uses through appropriate planning and zoning, including strengthening the Townships' agricultural zones and applying it to more of the Townships' farmlands.*** Information about various agricultural preservation programs is contained with Chapter IX of this Plan.

DEVELOPMENT CONSTRAINTS

Another important soils consideration relates to those soils that produce constraints for building development and the operation of on-lot utilities. ***Building development constraints*** can include a wide range of soil characteristics, including steep slopes, wetness, depth to bedrock, frost action, shrink-swell, low strength and cemented pans, and flooding. Other soil-related constraints become important if ***on-site sewage disposal systems*** are contemplated. Constraints associated with the installation and operation of these systems include steep slopes, wetness, flooding, slow percolation rates, poor filtration characteristics, and high secondary porosity due to the presence of fractures and solution channels. It is important to identify and map those soils that possess building development and on-site sewage disposal constraints so that future land uses can be kept away from these environmentally sensitive areas. The upland soils of the Region are generally severely restricted for building development and/or on-lot sewers. These steeply-sloped, thin and rocky soils tend to present difficulty for anything but rural use. The soils of the valley tend to have greater constraint on the use of on-lot sewers due to their susceptibility to groundwater contamination via solution channels and sinkholes. ***Future planning should avoid development in areas with severe soil constraints or be accompanied by strict siting standards in local zoning or subdivision and land development ordinances (SLDO).***

The following table lists the soil types and their characteristics found within Region:

SOILS TABLE

SOILS CHARACTERISTICS OF THE NITTANY VALLEY REGION

Soil Symbol	Soil Name	Slope	Agricultural Rating	Hydric	Severe Soil Limitations			
					On-lot Sewers	Dwellings	Roads	Severe Limitations*
AbB	Albrights silt loam	3-8%	2E		s			wt,sp
AcB	Albrights very stony silt loam	0-8%	6S		s			wt,sp
AnB	Andover channery loam	0-8%	4W	Y	s	s	s	wt,sp,f
AnC	Andover channery silt loam	8-15%	4W	Y	s	s	s	wt,sp,f
AoB	Andover very stony loam	8-15%	7S	Y	s	s	s	wt,sp,f
AoC	Andover very stony loam	8-15%	7S	Y	s	s	s	wt,sp,f
At	Atkins silt loam		3W	Y	s	s	s	wt, fl,sp,f
BMF	Berks and Weikert soils	steep	7E		s	s	s	s,d
BkB	Berks shaly silt loam	3-8%	2E		s			d
BkC	Berks shaly silt loam	8-15%	3E		s			d
BkD	Berks shaly silt loam	15-25%	4E		s	s	s	s,d
BlD	Berks very stony silt loam	8-25%	6S		s	s	s	s,d
BrB	Brinkerton silt loam	3-8%	4W	Y	s	s	s	wt,sp,f
BrC	Brinkerton silt loam	8-15%	4W	Y	s	s	s	wt,sp,f
BuB	Buchanan channery loam	3-8%	2E		s			wt,sp
BuC	Buchanan channery loam	8-15%	3E		s			wt,sp
BxB	Buchanan extremely stony loam	0-8%	7S		s	s		wt,sp,ls
BxD	Buchanan extremely stony loam	8-25%	7S		s	s	s	s,wt,sp,ls
Ch	Chagrin soils		1		s	s		fl
CkA	Clarksburg silt loam	0-3%	2W		s			wt,sp
CkB	Clarksburg silt loam	3-8%	2E		s			wt,sp
ClB	Clymer sandy loam	3-8%	2E					
ClC	Clymer sandy loam	8-15%	3E					
CvB	Clymer very stony sandy loam	0-8%	6S					
CvD	Clymer very stony sandy loam	8-25%	6S		s	s	s	s
Du	Dunning silty, clay loam		4W	Y	s	s	s	fl,sp,wt,f
ErB	Ernest channery silt loam	3-8%	2E		s			wt,sp
HSB	Hazleton extremely stony sandy loam	gently sloping	7S		s	s		ls
HSD	Hazleton extremely stony sandy loam	moderately steep	7S		s	s	s	s,ls
HTF	Hazleton-Dekalb association	very steep	7S		s	s	s	s,ls,d
HaA	Hagerstown silt loam	0-3%	1					
HaB	Hagerstown silt loam	3-8%	2E					
HaC	Hagerstown silt loam	8-15%	3E					
HcB	Hagerstown silty clay loam	3-8%	2E					
HcC	Hagerstown silty clay loam	8-15%	3E					
HcD	Hagerstown silty clay loam	15-25%	4E		s	s	s	s,sh
HhB	Hazleton channery sandy loam	3-8%	2E					
HhC	Hazleton channery sandy loam	8-15%	3E					
HuA	Hublersburg silt loam	0-3%	1					
HuB	Hublersburg silt loam	3-8%	2E					
HuC	Hublersburg silt loam	8-15%	3E					
HuD	Hublersburg silt loam	15-25%	4E		s	s	s	s,sh
LDF	Laidig extremely stony loam	steep	7S		s	s	s	s,ls,sp
LaB	Laidig channery loam	3-8%	2E		s			sp
LaC	Laidig channery loam	8-15%	3E		s			sp
LaD	Laidig channery loam	15-25%	4E		s	s	s	s,sp

SOILS TABLE

SOILS CHARACTERISTICS OF THE NITTANY VALLEY REGION

Soil Symbol	Soil Name	Slope	Agricultural Rating	Hydric	Severe Soil Limitations			
					On-lot Sewers	Dwellings	Roads	Severe Limitations*
LcB	Laidig extremely stony loam	0-8%	7S		s	s		sp,ls
LcD	Laidig extremely stony loam	8-25%	7S		s	s	s	s,sp,ls
LtB	Leetonia extremely stony loamy sand	0-12%	7S		s	s		ls,d
LvB	Leetonia sandy, variant	3-8%	3S					
LvC	Leetonia sand, variant	8-15%	4E					
Lx	Lindside soils		2W		s	s		fl,wt
MTF	Morrison very stony sandy loam	steep	7S		s	s	s	s
MaB	Marks silt loam	2-10%	4W	Y	s	s	s	wt,sp,d,f
MeB	Meckesville silt loam	3-8%	2E		s			sp
MeC	Meckesville silt loam	8-15%	3E		s			sp
MkB	Meckesville very stony silt loam	0-8%	6S		s			sp
Mm	Melvin silt loam		3W	Y	s	s	s	fl,wt,f
MnB	Millheim silt loam	2-8%	2E					
MnC	Millheim silt loam	8-15%	3E					
MnD	Millheim silt loam	15-25%	4E		s	s	s	s,sh
MoB	Monongahela silt loam	2-8%	2E		s			wt,sp
MrB	Morrison sandy loam	2-8%	2E					
MrC	Morrison sandy loam	8-15%	3E					
MrD	Morrison sandy loam	15-25%	4E		s	s	s	s
MsB	Morrison very stony sandy loam	0-8%	6S					
MsD	Morrison very stony sandy loam	8-25%	6S		s	s	s	s
MuA	Murrill channery silt loam	0-3%	1					
MuB	Murrill channery silt loam	3-8%	2E					
MuC	Murrill channery silt loam	8-15%	3E					
MuD	Murrill channery silt loam	15-25%	4E		s	s	s	s,sh
MvB	Murrill very stony silt loam	0-8%	6S					
MvD	Murrill very stony silt loam	8-25%	6S		s	s	s	s,sh
No	Nolin silt loam, local alluvium	0-5%	1			s		f
ORF	Opequon-Hagerstown complex	steep	6E & 7E		s	s	s	s,d,ssp,sh
OhB	Opequon-Hagerstown complex	3-8%	2E & 3E		s	s	s	d,ssp,sh
OhC	Opequon-Hagerstown complex	8-15%	3E & 4E		s	s	s	d,ssp,sh
OhD	Opequon-Hagerstown complex	15-25%	4E & 6E		s	s	s	s,d,l,ssp,sh
OxB	Opequon-Rock Outcrop complex	0-8%	3E		s	s	s	d,ssp,sh
OxD	Opequon-Rock Outcrop complex	8-25%	6E		s	s	s	s,d,ssp,sh
Ph	Philo loam		2W		s	s		fl,wt
Pk	Philo-Atkins very stony soils		2W & 3W	Y	s	s	s (Atkins)	fl,wt,sp,f
Po	Pope soils		2W		s	s		fl
Ru	Rubble Land		7S		s	s	s	s,ls
Sm	Strip Mines, very shaly substratum		7S		S	S	s	
URB	Urban Land-Hagerstown complex	gently sloping	2E		*too variable to rate; requires onsite investigation*			
UmB	Ungers channery loam	3-8%	2E					
UmC	Ungers channery loam	8-15%	3E					
UmD	Ungers channery loam	15-25%	4E		s	s	s	s
UnB	Ungers very stony loam	0-8%	6S					
WeC	Weikert shaly silt loam	5-15%	4E		s			d
WeD	Weikert shaly silt loam	15-25%	6E		s	s	s	s,d

SOILS TABLE								
SOILS CHARACTERISTICS OF THE NITTANY VALLEY REGION								
Soil Symbol	Soil Name	Slope	Agricultural Rating	Hydric	Severe Soil Limitations			
					On-lot Sewers	Dwellings	Roads	Severe Limitations*
WhB	Wharton silt loam	3-8%	2E		s		s	Wt,d, sp, f
WhC	Wharton silt loam	8-15%	3E		s		s	Wt, sp, f
w	Water				s	s	s	
* d – depth to bedrock / f – frost action / fl – flooding / l – low strength / ls – large stones / s – slope / sh – sinkhole hazard / sp – slow permeability / ssp – shrink-swell potential / wt – water table								

D. SURFACE WATERS

The way in which water moves through our environment has implications for land use planning. First, rivers, streams, creeks, runs, and their floodplains present hazards to development. Second, land areas adjacent to surface waters offer high quality habitat, conservation and recreational opportunities. Finally, the drainage basin within which surface waters flow is a basic geographic unit used to plan and design sanitary and storm sewers; systems that can make use of gravity-fed lines can reduce the costs of these types of utilities.

DRAINAGE BASINS

A drainage basin consists of the streams and associated floodplains that dispose of surface water from that area. Drainage basins are separated by ridgelines. As a "Headwaters Region" of the Chesapeake Bay, all of the water draining from the Nittany Valley Region eventually flows into the Susquehanna River and then the Chesapeake Bay. In addition all streams within the Region either originate within the Region or within adjoining areas of Centre County. The Region's major and minor drainage basins are identified on the *Natural Features Map*.

Spring Creek drains the western half of the Region including all of Bellefonte Borough, Benner Township and most of Spring Township. It includes minor drainage basins of **Buffalo Run**, and **Logan Branch**. Within the Region water flows in a northerly direction towards the north side of Bellefonte where the creek has created Pleasant View Gap through the Bald Eagle Mountain on its way to Bald Eagle Creek in adjoining Boggs Township. From here water flows to the northeast into the West Branch of the Susquehanna River near Lock Haven.

In the center of the Region **Nittany Creek** drains the northeast corner of Spring Township and the western edges of Marion and Walker Township. It flows in a northerly direction through Curtin Gap and also connects with Bald Eagle Creek.

The eastern reaches of the Region contain two smaller valleys. The northern valley includes the smaller watersheds of **Cedar and Lick Run** and **Diehls Hollow**. These watersheds, too, flow north and connect with Bald Eagle Creek. The southern valley **includes Little Fishing Creek** and Roaring Run which flow east into adjoining Clinton County before merging and connecting with Bald Eagle Creek near the town of Mill Hall.

HIGH QUALITY & EXCEPTIONAL VALUE WATERS

The Federal Clean Water Act of 1972 was passed to "restore and maintain the chemical, physical and biological integrity of the Nation's waters."[4] To implement this Federal mandate, the PA DEP passed the Pennsylvania Clean Streams Law and designated some 12,500 miles of rivers and streams as "special protection water," including **Exceptional Value Waters** and **High Quality Waters**.

High Quality Waters include streams or watersheds that have excellent waters and environmental or other features that require special water quality protection. High quality waters are to be protected as they exist; water quality can only be lowered if a discharge is a result of necessary social and economic development and all existing uses of the stream are protected.

Exceptional Value Waters include streams or watersheds that constitute outstanding national, state, regional, or local resources, such as waters of national, state, or county parks or forests; waters which are used or projected for use as a source of water supply; waters of wildlife refuges of state game lands; waters which have been characterized by the Pennsylvania Fish Commission as wilderness trout streams and other waters of substantial recreational or ecological significance. Exceptional value waters are to be protected at their existing quality because they have outstanding ecological and/or recreational values. The social and economic justification procedures do not apply. Water quality in exceptional value waters simply cannot be degraded."[5]

It is estimated that about 85% of the Region consists of High Quality and/or Exceptional Value waters. The following lists those watersheds that have special protection status from the State:

Watershed Name	Status	Municipality
Buffalo Run	Hi-Quality cold water fishery	Bellefonte, Benner, Spring
Cedar Run	Hi-Quality cold water fishery	Marion
Lick Run	Hi-Quality cold water fishery & trophy trout strem	Marion
Little Fishing Creek	Hi-Quality cold water fishery	Spring, Walker
Logan Branch	Hi-Quality cold water fishery	Bellefonte, Benner, Spring, Walker
Roaring Run	Exceptional Value	Walker
Spring Creek	Hi-Quality CWF	Bellefonte, Benner, Spring

Local officials should take active steps to preserve and protect these "sacred" resources from the ills of inappropriate land use and local activities that could threaten their integrity. It is noted that the Region has a "good" start in this effort. The previously completed Fishing Creek and Cedar Run Stormwater Management Plans and the recently-completed Spring Creek Stormwater Management Plan provide sound bases for implementing active steps towards watershed monitoring and protection. The ClearWater Conservancy (as described earlier on pages 7 & 8) has begun several

Benefits of High Quality Waters

1. Recreational values
2. Fisheries protection
3. Aesthetic/visual
4. Health and welfare

[4]Pennsylvania Department of Environmental Protection, *Local Protection of High Quality Streams* (Harrisburg, PA: June, 1981), p. 1.

[5] Pennsylvania Department of Environmental Protection, *Local Protection of High Quality Streams* (Harrisburg, PA: June, 1981), pg.3

Natural Features Map

Nittany Valley Region

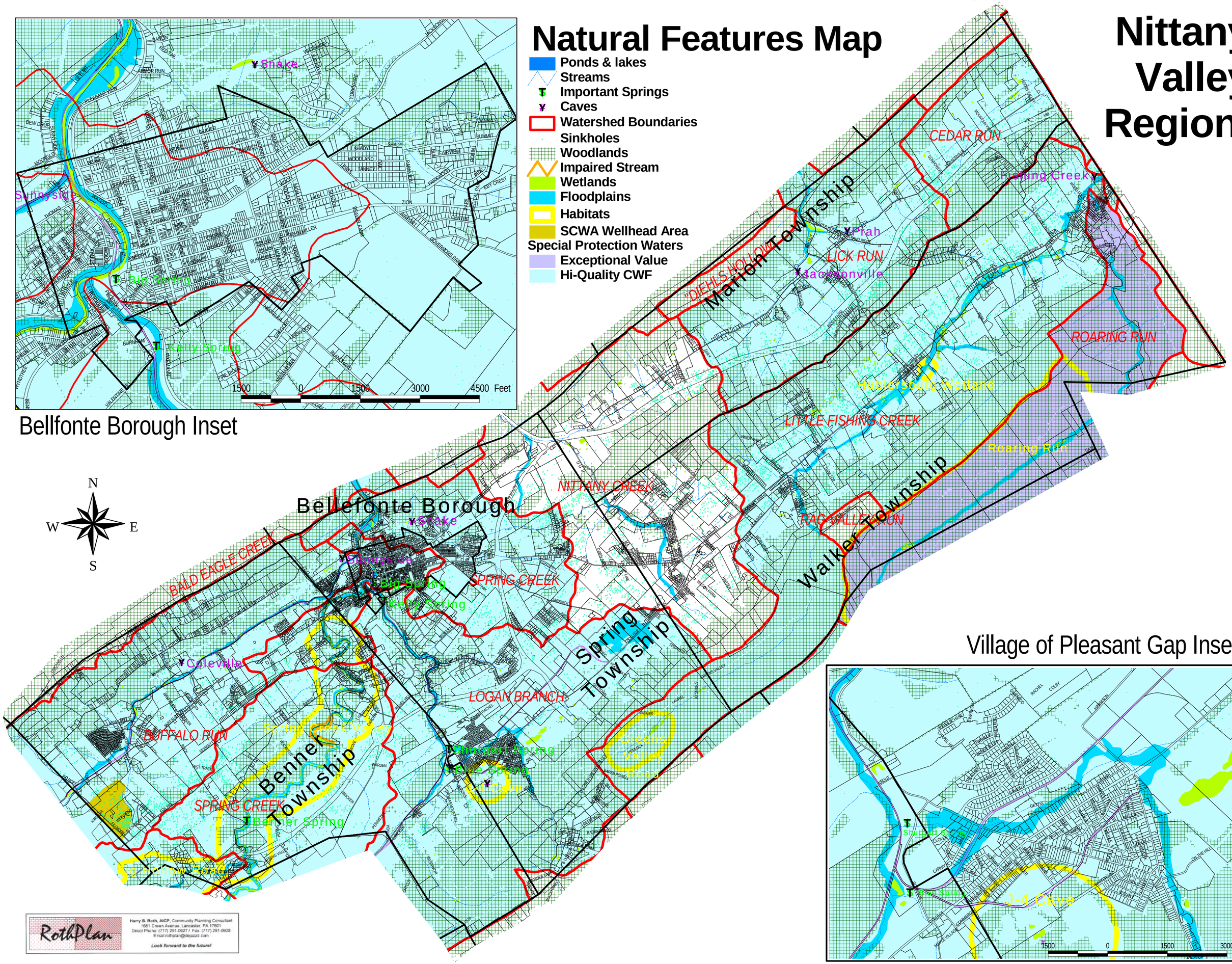
- Ponds & lakes
- Streams
- Important Springs
- Caves
- Watershed Boundaries
- Sinkholes
- Woodlands
- Impaired Stream
- Wetlands
- Floodplains
- Habitats
- SCWA Wellhead Area

Special Protection Waters

- Exceptional Value
- Hi-Quality CWF

Bellfonte Borough Inset

Village of Pleasant Gap Inset



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Look forward to the future!

projects to improve and protect water quality and build public support for such efforts. Local officials from the Region should regularly support these activities. In addition, Bellefonte Borough and Benner and Spring Townships have recently adopted suitable stormwater management ordinances using the Best Management Practices as outlined in the Spring Creek Watershed Stormwater Management Plan. More discussion on this subject will be provided on pages 29-30 of this Plan.

All municipalities should adopt waste handling and waste disposal reporting requirements as part of their zoning ordinances. Such zoning provisions should require prospective uses to demonstrate compliance with all applicable waste handling and disposal regulations at the local, state and Federal levels as applicable. For large-scale industries, concentrated feeding animal operations (CAFOs) and/or other uses that generate large waste volumes or hazardous wastes, the reporting of this information should be tied with the grant of a special exception or a conditional use so that expert testimony can be provided and scrutinized prior to approval of the use. For other less intensive uses the provision of this information should be prerequisite for granting a zoning permit and all subsequent activities should be required to comply with such handling and disposal techniques for continued use and occupancy. Should a use need to change its waste handling and disposal techniques, such changes should be reported to the respective municipality. The provision of this information can also be helpful to local fire companies who may have special procedures to follow for uses with hazardous materials and wastes.

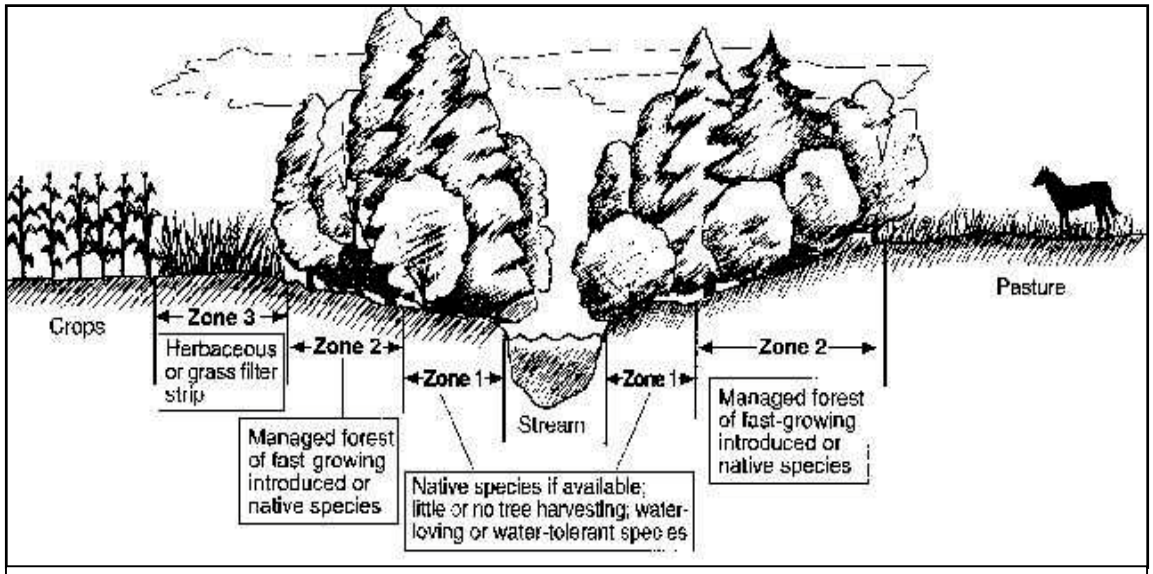
The PA DEP also provides a measure of protection to High Quality and Exceptional Value Waters by regulating the discharge of wastewater, and other point sources of pollution. However, nonpoint source pollution such as agricultural and other types of runoff is only partially regulated. Under Pennsylvania law, the regulation of land uses and activities which generate nonpoint source pollution is largely a municipal function. To avoid degradation of these waters, existing and potential future land uses and activities must be carefully scrutinized.

Water Quality Protection Measures

1. Riparian buffers
2. Streambank stabilization
3. Streamside fencing
4. Filter strips
5. Conservation plans
6. Development setbacks
7. Limitations on land uses

While protection of floodplains and wetlands are widely accepted land use management techniques, recent awareness of diminishing surface water quality suggests the need for more protection. Studies conducted by the U.S. Forest Service demonstrate that riparian buffers offer real advantages in the removal of harmful nutrients and sediment from storm water before it enters the stream. These same riparian buffers can increase the food supply and create interconnected natural systems of movement for local wildlife. Riparian buffers are areas adjoining streams where naturally successive vegetation is provided and protected. ***Each of the Region's municipalities should apply riparian buffer standards to developments that seek to locate within these valuable watersheds.***

It is estimated that 85% of all surface water occurs in smaller streams and creeks. Therefore, the inclination of society to focus upon water quality of larger streams, creeks, rivers, and bays is defective. It is vital that surface water quality of small stream headwaters and low-order tributaries becomes our priority. Without such measures, our higher order creeks and rivers are threatened by poor surface water quality. Surface water quality is a direct function of the interaction between water and the land and vegetation through which it



Typical cross-section of a riparian buffer along a stream in a rural or agricultural setting.

flows. The greatest interaction occurs within lower order streams. Within high order streams and rivers, water is principally contributed from tributaries rather than the adjoining streamside areas; therefore, the opportunity for water quality improvement is minimal. For example, no overhead tree canopy could possibly span the width of the Susquehanna River and reduce its summer water temperature. On the other hand, a well-designed riparian buffer along a low order stream can offer direct water quality benefit to the adjoining property owner and those located downstream. More information about this topic and a sample ordinance are contained with Chapter XI of this Plan.

IMPAIRED STREAMS

"The Department of Environmental Protection (DEP) has an ongoing program to assess the quality of waters in Pennsylvania and identify streams and other bodies of water that do not meet water quality standards as "impaired." Water quality standards are comprised of the uses that waters can support and goals established to protect those uses. Uses include, among other things, aquatic life, recreation, and drinking water, while the goals are numerical or narrative water quality criteria that express the in-stream levels of substances that must be achieved to support the uses. Periodic reports on the quality of waters in the Commonwealth are required under section 305(b) of the federal Clean Water Act.

"Section 303(d) of the Act requires states to list all impaired waters not supporting uses even after appropriate and required water pollution control technologies have been applied. For example, a waterbody impacted by a point source discharge that is not complying with its effluent limit would not be listed on the 303(d) list. The Department would correct the water impairment by taking a compliance action against the discharger. Waterbodies that still do not meet water quality standards after this additional evaluation, however, must be included on the 303(d) list of impaired waters. The 303(d) list includes the reason for impairment, which may be one or more point sources (like industrial or sewage discharges), or non-point sources (like abandoned mine lands or agricultural runoff).

"States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to the quality that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both

point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water. If states do not develop TMDLs, EPA is required by regulation to do so.

"A TMDL is designed to reduce pollutant loads to impaired waters and enable these waters to meet water quality standards. Pennsylvania has committed to developing TMDLs for all impaired waterbodies and will use both traditional and new approaches to correct water quality problems.[6]

Within the Region a short segment of Spring Creek has been identified on the PA DEP Section 303d list of impaired streams within Benner Township which is depicted on the Natural Features Map.

WETLANDS

Wetlands are areas that are regularly inundated or saturated long enough to produce the particular types of vegetation associated with ***swamps, bogs and marshes***. While there are several definitions of wetlands used by regulatory agencies, all definitions require the presence of hydrophytic plants (plants that grow in wet soils), hydric (wet and anaerobic) soils, and the presence of water at or near the surface at some part of the growing season.

Benefits of Wetlands

1. Provide food and habitats for an abundance of animal life.
2. Are breeding, spawning, feeding, cover, and nursery areas for fish.
3. Are important nesting, migrating and wintering areas for waterfowl.
4. Act as natural storage areas during floods and storms.
5. Act as groundwater recharge areas, particularly during droughts.
6. Purify ground and surface waters by filtering and assimilating pollutants.

Recently, much attention has been focused upon the importance of wetlands. All wetlands have value, although their value is highly variable. Wetlands support an abundance and diversity of life unrivaled by most types of environments. The many benefits wetlands provide are summarized in the above inset.

Wetlands within the Region have been identified using the U.S. Department of the Interior's National Wetlands Inventory, derived from high altitude aerial photograph interpretation of surfacial features commonly associated with wetlands. This inventory tends to identify the larger wetland areas only. These include a combination of scattered palestrine and riverine wetlands. Palestrine wetlands are ponds and small lakes, while riverine wetlands are associated with rivers, streams, runs, creeks, and brooks. Given the Region's topography with mountain ridges and karst valleys it is no surprise that few wetlands are found here. The steep side slopes disperse waters quickly down into the valley where the limestone soils and sinkholes provide for ready percolation into the groundwater. Nonetheless some scattered wetlands are identified along the Regions streams and as isolated freestanding ponds and swamps in the valleys.

The latest Soil Survey completed for the County by the Natural Resources Conservation Service identifies hydric soils which can also indicate the presence of wetland areas. The following hydric soils within the Region have been depicted with severe building and sewer constraints on the Soils & Geology Map contained earlier in this Chapter.

[6] http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/303d-report.htm, March 26, 2003

HYDRIC SOILS TABLE

HYDRIC SOILS CHARACTERISTICS OF THE NITTANY VALLEY REGION

Soil Symbol	Soil Name	Slope	Agricultural Rating	Hydric	Severe Soil Limitations			
					On-lot Sewers	Dwellings	Roads	Severe Limitations*
AnB	Andover channery loam	0-8%	4W	Y	s	s	s	wt,sp,f
AnC	Andover channery silt loam	8-15%	4W	Y	s	s	s	wt,sp,f
AoB	Andover very stony loam	8-15%	7S	Y	s	s	s	wt,sp,f
AoC	Andover very stony loam	8-15%	7S	Y	s	s	s	wt,sp,f
At	Atkins silt loam		3W	Y	s	s	s	wt, fl,sp,f
BrB	Brinkerton silt loam	3-8%	4W	Y	s	s	s	wt,sp,f
BrC	Brinkerton silt loam	8-15%	4W	Y	s	s	s	wt,sp,f
Du	Dunning silty, clay loam		4W	Y	s	s	s	fl,sp,wt,f
MaB	Marks silt loam	2-10%	4W	Y	s	s	s	wt,sp,d,f
Mm	Melvin silt loam		3W	Y	s	s	s	fl,wt,f
Pk	Philo-Atkins very stony soils		2W & 3W	Y	s	s	s (Atkins)	fl,wt,sp,f

* d – depth to bedrock / f – frost action / fl – flooding / l – low strength / ls – large stones / s – slope / sh – sinkhole hazard / sp – slow permeability / ssp – shrink-swell potential / wt – water table

A variety of laws have been passed to protect wetlands. Infill and development in larger wetlands are now regulated by the U.S. Environmental Protection Agency and subject to both State and Federal permitting processes. Careful local planning, education, and the incorporation of protective standards into local subdivision and land development ordinances could extend further protection to the Region's smaller wetlands as well as to land areas immediately surrounding wetlands. A requirement for an Environmental Impact Assessment (EIA) prior to any subdivision approval could identify potential adverse impacts as well as opportunities and mitigating measures intended to protect the resource. Such additional protection would further enhance the many benefits wetlands provide to the Region. Examples of such efforts could include any of those measures noted in the above inset.

Wetland Protection Measures

1. Modifications to road maintenance practices(e.g., salt and de-icing chemicals).
2. Homeowner education (e.g., application of yard chemicals).
3. Development setbacks.
4. Limitations on land uses.
5. Filter strips.
6. Environmental Impact Assessment.

Municipal officials should consider the adoption of various measures to protect the Region's wetlands, including modified road maintenance standards, an Environmental Impact Assessment requirement in their respective SLDO, land use and development limitations, and a homeowner educational program.

FLOODPLAINS

A floodplain is an area of land adjoining a water source, such as a river or stream, that is subject periodically to partial or complete inundation by the water source. The floodplain consists of the ***floodway*** and the ***floodway fringe***. The floodway is the stream channel plus an additional area that must be kept free of encroachments to avoid an increase in flood heights. The floodway fringe is the remaining portion of the floodplain within

Flooding in Phantom Lake

which encroachments must be limited. However, within this Region another type of floodplain also exists. Phantom Lake straddles College Avenue in eastern Spring Township. This lake appears during heavy storms and large snowmelts. It is the result of the valley's karst topography which collects water in this large closed depression.

Flooding can result in the loss of life and property, health and safety hazards and significant public expenditures for flood protection and relief. Floodplains also often contain valuable prime farmlands and wildlife habitats. Floodplain protection safeguards the public health, safety and welfare, while protecting natural resource values.

Benefits of Floodplain Protection

1. Protection of life, health and safety.
2. Protection of property.
3. Protection against surface water pollution.
4. Protection against soil, crop and wildlife habitat loss.
5. Reduces/eliminates need for public expenditures.

Flood hazard areas within the Region have been identified by the Federal Emergency Management Agency (FEMA). Local governments which regulate development and fill within flood hazard areas qualify to participate in the Federal Flood Insurance Program. Flood hazard areas have been identified for the Region's five municipalities, all of which participate in the Federal Program.

Federal floodplain mapping denotes estimated 100-year floodplain boundaries, areas within which there is the probability that flooding will occur once in 100 years. These areas are identified on the *Natural Features Map*. The presence of alluvial soils may also be used to identify additional areas subject to periodic inundation. The latest Soil Survey for the County identifies the following alluvial soil types for the Region and their respective characteristics:

ALLUVIAL SOILS TABLE

ALLUVIAL SOILS CHARACTERISTICS OF THE NITTANY VALLEY REGION

Soil Symbol	Soil Name	Slope	Agricultural Rating	Hydric	Severe Soil Limitations			
					On-lot Sewers	Dwellings	Roads	Severe Limitations*
At	Atkins silt loam		3W	Y	s	s	s	wt, fl,sp,f
Ch	Chagrin soils		1		s	s		fl
Lx	Lindside soils		2W		s	s		fl,wt
Mm	Melvin silt loam		3W	Y	s	s	s	fl,wt,f
No	Nolin silt loam, local alluvium	0-5%	1			s		f
Ph	Philo loam		2W		s	s		fl,wt
Pk	Philo-Atkins very stony soils		2W & 3W	Y	s	s	s (Atkins)	fl,wt,sp,f
Po	Pope soils		2W		s	s		fl

* d – depth to bedrock / f – frost action / fl – flooding / l – low strength / ls – large stones / s – slope / sh – sinkhole hazard / sp – slow permeability / ssp – shrink-swell potential / wt – water table

The delineation of alluvial soils generally provides wider floodplains than those identified by FEMA; this is an option for increased protection against flooding for the Region's municipalities. The Region's alluvial soils have been depicted with severe building and/or sewer limitations on the Soils and Geology Map contained earlier in this Chapter. Each of the Region's municipalities incorporate a Stream or Stream Valley Zone that generally prohibits development and fill within the 100 year floodplain. These requirements could be expanded to include alluvial soils and provide a higher level of floodplain protection. In addition some municipalities also include 500-year floodplains which are often also plotted on local FEMA maps. ***Each municipality should consider the use of alluvial soils and***

the 500-year floodplain to augment their flood hazard boundaries.

Also review of local ordinances suggest that some updating may be necessary to incorporate changes mandated at the Federal and State levels to remain eligible under the National Flood Insurance program. Local ordinances should be reviewed by the PA Department of Community & Economic Development (PA DCED) Floodplain Management Division for compliance with current state and federal requirements. Then, any updates should be accomplished accordingly.

STORM WATER MANAGEMENT

One of the most frequently described planning problems is the impact from storm water runoff. As an area develops, the patterns, volume and velocities of storm water runoff are likely to change. Individual developments produce marginal impacts; however, these impacts produce major cumulative problems unless measures are used to protect the capacity of watersheds to discharge surface water in a timely manner and at a safe rate. Storm water runoff can and should be managed. The benefits of storm water management are summarized in the adjacent inset.

Benefits of Storm Water Management

1. Reduces off-site and downstream flooding.
2. Reduces soil erosion, sediment loading and habitat loss.
3. Protects surface water quality.
4. Improves groundwater recharge.

Recognizing the need to resolve serious problems associated with flooding the Pennsylvania General Assembly enacted Act 167, the Pennsylvania Stormwater Management Act. This Act changed the way local stormwater management occurred by applying a watershed-based, comprehensive program of regional stormwater management. Act 167 requires all counties within Pennsylvania to prepare and adopt stormwater management plans for each of its watersheds, as designated by the Pennsylvania Department of Environmental Protection (DEP). These plans are to be prepared in consultation with municipalities within the watershed, working through a Watershed Plan Advisory Committee. The plans are to contain stormwater controls to manage stormwater runoff from proposed subdivision and land development applications. Once adopted, local municipalities are required to implement stormwater management ordinances that rely upon selected management techniques within 6 months or risk the loss of future State funding far a variety of projects and activities.

The County has recently completed the Spring Creek Watershed Stormwater Management Plan affecting the western half of the Region and its most populated areas. This watershed includes the sub-basins of Buffalo Run and Logan Branch within Bellefonte Borough and Benner and Spring Townships. This Watershed Plan was coordinated by the Spring Creek Watershed Commission comprised of one elected official from each of the watershed's 14 municipalities. In addition an appointed watershed Planning Advisory Committee and a Technical Advisory Committee were formed to offer citizen, interest group and expert technical assistance. This plan makes the following recommendations applicable to the municipalities within the Region:

1. ***The local municipalities should continue to support the efforts of the Spring Creek Watershed Commission by participating in the creation of***

- ***a watershed authority to oversee administration and enforcement of the Plan's technical standards, and maintain all stormwater infrastructure;***
- ***an expert arbitration panel to resolve disputes over specific project stormwater management proposals; and,***
- ***an educational program for municipal engineers and other design professionals to inform them of the special hydrologic and hydraulic processes associated with the watershed's unique karst topography.***

2. ***Local zoning ordinances should be reviewed and amended to reduce potential impacts upon the watershed. Particular attention should be applied to permitted lot coverages.*** The strategy of this plan suggests a different approach to satisfying this Plan recommendation. Rather than limiting permitted lot coverage as a matter of course within the Region, this Plan will seek to target urban land uses with greater lot coverages into compact growth areas and leave the rural countryside in a relatively undeveloped state. Therefore, greater attention to stormwater management will need to be applied to these compact growth areas when they are located within the karst topography of the Spring Creek Watershed or any other watershed. Conversely, less development pressure will be exerted in the country where nature can continue to manage water resources effectively. However, it will still be important that intensive agricultural and timbering practices be carefully managed and that rural occupations be required to demonstrate a means for waste handling and disposal in a manner that is safe and legal.

3. ***Sinkholes and closed depressions are abundant throughout the limestone valleys of the watershed and provide ready means for stormwater-borne contaminants to pollute the groundwater. Local municipalities must inventory and protect these features from development and land use practices that could pollute groundwaters.*** Within the Region are some 6283 known sinkholes generally located within the limestone valleys and adjoining side slopes. These known sinkholes blanket the Region and offer little relief for future development locations. This could suggest that future development areas be targeted outside of the Spring Creek and Logan Branch Watersheds and into the Nittany Creek watershed since it is not classified as a high-quality watershed. However, the Nittany Creek Watershed is also characterized by karst features within its valley and could present equal potential for groundwater contamination. There is no avoiding it! If groundwater protection is to be safeguarded, the Region will have to:

   - ***require rigorous site investigations for karst features as part of the preliminary subdivision and land development review process;***
   - ***employ strict siting standards that protect known sinkholes and closed depressions with development setbacks;***
   - ***incorporate flexible cluster-like designs that will enable developers to work-around these numerous features;***
   - ***restrict land uses with high potential for groundwater contamination from such areas;***
   - ***require reporting of materials and waste handing and disposal practices for uses that involve materials that could leak or leach into the groundwater; and,***
   - ***commit considerable administrative and enforcement efforts to accomplish the preceding tasks in a continuing manner.***

4. ***High quality farmland and woodlands should require hydrologic investigations prior to their rezoning for other land use activities, particularly in upland areas.*** By limiting future growth into compact growth areas that have been deliberately sized to serve projected growth, this Plan can dramatically reduce the conversion of farmlands and woodlands for development purposes.

5. ***Municipalities have adopted suitable stormwater management ordinances like the model ordinance contained in Appendix A of the Spring Creek Watershed Stormwater Management Plan.***

Aside from the Spring Creek Watershed, the **Fishing Creek Stormwater Management Plan** covers the sub-basins of Cedar and Roaring Runs and Little Fishing Creek primarily in Marion, Spring and Walker Townships. This Plan was prepared by Clinton County Conservation District with assistance from Centre County and adopted in March 1996. It's principal recommendations are as follows:

1. ***Runoff cannot be increased or concentrated onto adjoining properties without first evaluating impacts;***

2. ***Post development runoff rates cannot exceed peak pre-development runoff rates for the 2, 5, 10 and 25-year design storms. In specifies critical development areas, post development peak runoff rates cannot exceed the pre-development peak runoff rates for the 2-year storm;***

3. ***Stormwater detention facilities shall have a spillway to convey 100-year post development conditions and their embankments must have 1 foot of freeboard above the 100-year flow elevations;***

4. ***Drainage conveyances must safely convey runoff from the 25-year design storm with a minimum of 1-foot freeboard clearance below the lowest point of an above roadway. Within floodplains this standard increases to the 100-year storm;***

5. ***Storm sewers must safely convey post-development runoff from the 25-year design storm without surcharging inlets; and,***

6. ***Adequate erosion protection shall be provided along all open channels and at all points of discharge.***

To implement this Plan, Centre County adopted the accompanying stormwater management ordinance on behalf of its municipalities within the watershed. This ordinance remains in effect today for both Marion and Walker Townships.

Nittany Creek and Lick Run watersheds are within the Bald Eagle Watershed. There is no stormwater management planning underway for this watershed to date. Marion and Walker Township should rely upon Centre County for administration of stormwater management ordinances in these areas. This should continue until such time as more detailed stormwater management strategies can be derived from a future Bald Eagle Watershed Stormwater Management Plan.

E. IMPORTANT PLANT AND WILDLIFE HABITATS

As an area is converted from its natural to a man-made state, the delicate balance of the local ecosystem is often disrupted. This imbalance degrades or strains the environment's ability to support varied forms of plant and animal species. Consequently, species become ***threatened*** or ***endangered***.

State and Federal agencies have become increasingly concerned over the protection of local natural habitats as a means of protecting wildlife diversity. The protection of these habitats can also provide other benefits, as summarized in the adjacent inset. For these reasons, all levels of government and other conservation-oriented groups have become involved in the protection of these habitats.

Benefits of Habitat Protection

1. Protection of plant and wildlife diversity.
2. Protection of threatened and endangered species.
3. Protection of woodlands and linear corridors.
4. Provision of passive recreation opportunities.

NATURAL AREAS

Information for this section was obtained from the Centre County Natural Heritage Inventory. The Centre County Natural Heritage Inventory is a project of the Western Pennsylvania Conservancy (WPC), Clear Water Conservancy and the Centre County Planning Office. Through its partnership in the Pennsylvania Natural Diversity Inventory, the Western Pennsylvania Conservancy uses some 800 sources of information to map, describe and disseminate facts about important natural features.

The inventory includes animals, plants, habitats, and natural communities that are unique biological resources within the county. The end results provide a list of the most important biological sites, identify their living resources, and provide a map of their locations. Recommendations are included with the inventory on the management of the living resources present. The inventory produces a written report that contains maps of the locations of Natural Heritage Areas and a summary of the areas prioritized by significance.[7]

It is the policy of the PNDI not to release detailed site-specific information about significant natural features for general exposure to the public. This protects the feature from persons who become curious and attempt to locate and collect such features. Instead, PNDI provides generalized locations of known or historic natural features occurrences.

Using PNDI's criteria, it is unsurprising that the Region contains several important habitats. The following tabulates information about these sites which are keyed to their depiction on the Natural Features Map.

Important Natural Areas within the Region			
Co.Site No.	**Site Name**	**Municipality**	**Description/Notes**
28	Greens Valley Road	Spring	A good quality wetland community of high significance.
57	Roaring Run	Walker	A notable exceptional value watershed.
9	Big Hollow Road	Benner	A side- oats gramma grassland community that hosts several plant species of special concern within PA.
77	Spring Creek Valley	Benner & Spring	An exceptional landscape that contains several species and

[7] http://www.clearwaterconservancy.org/WSCWCNatHeritageInven.htm

Important Natural Areas within the Region			
Co.Site No.	**Site Name**	**Municipality**	**Description/Notes**
			communities that are rare within the state.
34	Hublersburg Wetland	Walker	A wetland of high significance hosting backwards sedge, a special concern plant.
35	J-4 Cave	Spring	A notable habitat for the northern long-eared bat, an animal of special concern within the state.

While it is policy not to release detailed information about these settings, the following presents a description of how the Spring Creek Valley and Big Hollow Road habitats relate to the Region's geology and topography.

"An interesting geologic formation stretches northeast and southwest across central Pennsylvania. While the ridge-tops of this area consist of erosion resistant Tuscarora sandstone typical of many locales, the valleys between are underlain by formations composed of alternating dolomite, limestone, shale and softer sandstone members. In adjacent areas, the limestone caves underlying the lowlands create subterranean refuge for globally rare animal species and important aquifers. Another geologic structure named the Gatesburg Formation rises to form a gentle dome with numerous recessed sections known for their unique soils and microclimates. The exposed bedrock along stream valleys provides habitat for numerous Pennsylvania species of special concern. Pockets of deep surface sands support several rare Pennsylvania natural community types."[8]

Natural Areas Protection Measures

1. Development and vegetation removal setbacks.
2. Modifications to road maintenance (e.g., snow and ice removal; salt and de-icing chemicals).
3. Limitations on land use.
4. Homeowner education (e.g., application of yard chemicals/removing plants).
5. Environmental Impact Assessments.

Many of these important natural areas are contained within other inventoried natural features that have combined to produce the pristine areas of the Region. Consequently these areas will be located outside of future urban development growth areas. Furthermore, techniques used to manage these other resources should assist in the protection of these habitats. However, rare and endangered plant and animal species must be preserved and protected from indiscriminate impact even in rural settings by using development review procedures intended to conserve habitats in which these species occur. ***A requirement for an Environmental Impact Assessment prior to any subdivision/land development approval should be applied to areas within these natural areas. These EIAs can be applied universally within rural areas or imposed as a special overlay zone within the designated areas. Required EIAs should require the identification of potential adverse impacts as well as opportunities and mitigating measures that could protect these areas amid development. EIAs should be prepared by qualified professional experts and reviewed by locally-appointed/reatinered experts, prior to development approval.***

PENNSYLVANIA STATE FORESTS

The Pennsylvania Department of Conservation and Natural Resources (DCNR) owns and maintains Bald Eagle State Forest within southern Spring and Walker Township. The Bald Eagle State Forest was named for the famous Indian Chief "Bald Eagle." This 3970-acre forest is divided among 4 properties located within the Region. However, the forest extends

[8] http://www.wpconline.org/conservation/naturalresource/currentfocus/nittanyvalley.htm

well beyond the Nittany Valley Region into Mifflin, Clinton and Union Counties and comprises some 195,624 acres.

"The Bald Eagle State Forest hosts all the major game species typically found in Pennsylvania, including deer, bear, wild turkey and other small game. There are thirteen streams within the Bald Eagle District totaling 47 miles that are stocked and fishable. Particularly noteworthy are Penns Creek and Fishing Creek. Along the Mifflin County section of Penns Creek the Pennsylvania Fish Commission has established a "catch and release" stretch of stream where year-round trout fishing is permitted. Near Fishing Creek and the village of Lamar in Clinton County the Federal Fish and Wildlife Service maintains a fish hatchery for stocking the surrounding area. Driving and walking for pleasure is a major outdoor recreational use of the forest. The District has 340 miles of drivable roads and about the same number of miles of trails. There are five designated scenic drives. The Mid-State Trail traverses the District running northeast from the Route 322 roadside rest at the Centre-Mifflin county line, through R. B. Winter State Park to the village of McElhattan, southeast of Lock Haven in Clinton County. There are 27 vistas within the Bald Eagle State Forest. They offer the forest user many and varied views of both the State owned and private land within and surrounding the District."[9]

"Over one-third of the Bald Eagle State Forest is in public watershed, making the proper management of this land very essential."[10]

PENNSYLVANIA STATE GAMELANDS

The Pennsylvania State Game Commission owns and operates two gamelands within the Region. State Gameland No. 295 contains 2120 acres and is located in the southeast corner of Walker Township. State Gameland No. 323 contains 1593 acres and is located straddling the border of Spring and Marion Townships along the Region's northern border. These areas offer settings for public hunting of small and large game during designated hunting seasons as well as year-round hiking and nature enjoyment.

WOODLANDS

Woodlands comprise approximately half of the area within the Nittany Valley Region and are largely concentrated in the upland ridges of Bald Eagle and Nittany Mountains and Sand Ridge. The side slopes tend to have more fragmentation amid pockets of farming and rural housing on large lots. It is no accident that the Region has high quality surface and groundwaters as forests play a major role in the protection of these waters. It is also no surprise that many of the Region's significant natural habitats also correspond to wooded areas as they offer wildlife cover and food supplies.

Recent amendments to the Pennsylvania Municipalities Planning Code (MPC) specifically enable local governments to protect significant woodland areas by preventing extensive development in those areas and/or engaging development review procedures that conserve these important natural features. However, the MPC also requires every municipality to permit forestry uses by right in every zone within the Commonwealth.

[9] http://www.dcnr.state.pa.us/forestry/stateforests/forests/baldeagle/baldeagleactivities.htm
[10] http://areas.wildernet.com/pages/area.cfm?areaID=PASFBE&CU_ID=1

Therefore each municipality must make these required changes within their respective Zoning Ordinance, even Bellefonte Borough as absurd as it may sound. Furthermore it is vital that each municipality develop and adopt sound forestry management regulations that can protect the sensitivity of wooded areas and adjoining neighbors from the deleterious impacts of uncontrolled logging uses and operations. More on this subject and a model forestry ordinance can be found in Chapter XI of this Plan.

Benefits of Woodlands Protection

1. Slows erosion by stabilizing steep slopes and stream banks through extensive root systems.
2. Aids in storm water management and replenishment of aquifers by promoting groundwater recharge.
3. Aids in purifying groundwater by filtering runoff and reducing sediment wash caused by erosion.
4. Provides important wildlife habitat areas, particularly when large, unbroken areas of forest cover or linkages to other blocks of woodland can be maintained.
5. Offers excellent passive recreation opportunities, such as hiking, horseback riding, photography, hunting, and camping.
6. Helps reduce the level of air pollution by absorbing airborne pollutants and producing beneficial carbon dioxide.
7. Moderates climatic conditions by providing wind-breaks and shade from direct sunlight.

Next, the concentrations of woodland deserve protection particularly in light of the Region's desire to protect its ground and surface waters. Reforestation and tree preservation requirements can require that a majority of existing trees in proposed subdivisions or land developments be maintained or replaced, except those whose removal is necessary for the proposed structures and required improvements.

The Region's municipalities, should consider the adoption of other protective measures for woodlands, such as limiting the removal of trees adjacent to streams, in steep sloped areas, and in or adjacent to identified Natural Areas. In addition, developers as well as woodlot managers should be encouraged to maintain established wildlife corridors in the form of linkages to other wooded areas. ***Municipal officials should consider the adoption of zoning and subdivision and land development standards limiting the removal of trees in sensitive areas, and encouraging the preservation of wildlife corridors.***

Woodland Protection Measures

1. Tree removal setbacks adjacent to streams.
2. Tree removal limitations in steep-sloped areas and in and near Natural Areas.
3. Maintenance of wildlife corridors.

CAVES

According to the publication entitled *Caves of Centre County, PA* (Feb. 1979) by the Mid-Appalachian Region of the National Speleological Society, the Region has several caves.

The **Prah Cave** is located about 1000 feet northwest of the intersection of Slaughterhouse and Jacksonville Roads in Marion Township. This horizontal cave is located within a quarry that was used to produce lime for cement used in the construction of US Route 80 between Milesburg and Lamar. The cave was discovered in 1967 and is about 1100 feet long. There are two other nearby caves in the southeast wall of the quarry that may have previously been part of Prah Cave.[11] The owners of this cave have obtained a PA DEP permit to renew mining activities at this site.

Jacksonville Cave is a water cave that is 40 feet in length. It is located on a Narehood

[11] *Caves of Centre County, PA* (Feb. 1979) by the Mid-Appalachian Region of the National Speleological Society, pg. 75.

quarry site about 1 mile west of Jacksonville. The entrance to this cave is located about 30 feet from the road to the quarry and is located in a small bluff. The entrance is 4 by 3 feet in size and leads to a 10 by 20 feet wide pool room about 20 feet inside the cave.[12]

J-4 Cave is the second longest cave within Centre County at 4350 feet. The cave is located upon the Bellefonte Lime/Graymont property in an abandoned quarry just southwest of the Village of Pleasant Gap. The cave is named after four explorers whose first names were "John" and collectively discovered this important cave on March 27, 1965. The cave covers about 220 vertical feet and is dry much of the time; therefore it is a very popular cave.

Wedding Cake formation within J-4 Cave
http://www.pitt.edu/AFShome/p/j/pjkst24/public/html/j4/Pictures/Wedding_Cake_Room

Its popularity lead to vandalism and poor relationships with the property owners. In 1974 four youth had to be rescued from the cave when their flashlight failed. After that the property owner sealed the cave's two entrances to reduce liability. After intensive negotiations Nittany Grotto gated the cave and required all users to sign a release from injury and damages associated with use of the cave. Nittany Grotto is a National Speleological Society-sponsored caving group based in State College. This group also sponsored clean-up projects of the cave to remove trash and graffiti.

At times of heavy runoff portions of the cave flood and can remain flooded for weeks or months; however, these waters will suddenly recede within a few days. This hydrologic behavior is poorly understood. At no times in the past has water completely closed the cave nor risen fast enough to trap users, but at times of flooding passage between the entrance and the rear of the cave may be limited to higher passages.[13]

Entrance to this cave is about 30 feet up the 150-foot-high southeast face of the quarry. Access can be difficult in winter months due to ice and all users should watch for falling rock from the unstable top edge of the quarry wall. Large amounts of poison ivy also grow at the base of the face. While the access may be difficult, once inside explorers will find one of the longest and most complex caves found within Centre County with many large rooms and varying passages. While some man-made damage has occurred to the cave's natural formations and decorations, many of these features are still impressive and beautiful. In addition the potential for new rooms and passages could await a determined explorer.[14]

Snake Cave is another horizontal cave located within a quarry. It is located in an abandoned quarry just north of Bellefonte Borough in Spring Township and has a length of 140 feet. The entrance to this cave is on a rock ledge 20 feet above the quarry floor and leads to a passage that slopes down to a small stream. Another passage leads back to the quarry face but it is blocked by fallen rock debris.[15]

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[12] Ibid, pg. 56.
[13] Ibid, pgs. 49-50.
[14] Ibid, pg. 55
[15] *Caves of Centre County, PA* (Feb. 1979) by the Mid-Appalachian Region of the National Speleological Society, pg. 100.

Sunnyside Quarry Caves are also located just outside and northwest of Bellefonte Borough in Spring Township. These 3 quarry caves use a cable ladder and have a combined length of 557 feet. These caves are located upon the property of the Warner Limestone Company. This mine contains high-grade chemical lime (specifically Valentine limestone) which justifies the expense of deep mining techniques. The area outside the cave entrance was once used for settling pond for lime dust from the kilns and the water pooled here had high measure of pH causing skin irritation on the feet and legs of early cave explorers who waded through it. Seepage from this pond has created flowstone and soda straw stalactites in great profusion.[16]

Coleville Caves are segments of what was probably once a single cave. Quarrying has left only 5 short passage fragments. The caves are located on the northwest wall of the second quarry west of an intermittent stream flowing down from Bald Eagle Mountain. This cave is located between Valley View Road and Buffalo Run just east of Upper Gyp Road. The caves are open cave with approximately 100 feet in length. A stream runs through 3 of the 5 segments before dipping into the underlying mine.[17]

The Pennsylvania Cave Protection Act was signed into law on November 21, 1990. It provides protection to caves, their mineral deposits and wildlife inhabitants from prescribed acts of destruction, defacing, unlawful entry, dumping, burning and disposal of wastes. ***The Region should educate the public about this Act and seek to incorporate these unique features within their resource and open space protection policies.***

F. HISTORIC SITES AND DISTRICTS

HISTORICAL SKETCH OF THE NITTANY VALLEY REGION – The following is an historical sketch of the Region and its important municipalities developed by Jacqueline Melander, Centre County Historical Society – February, 2003.

With an abundance of excellent quality iron ore and limestone, a supply of hardwood for making charcoal, and the fast moving waters of Spring Creek and its tributaries for power, the Nittany Valley Region became an important center for Centre County's iron-making in the nineteenth century. The cold-blast iron furnaces were primitive operations requiring huge amounts of timber to be transformed into charcoal as a fuel. Since one iron furnace was estimated to consume an acre of timber per day, many forests were depleted rapidly. This cleared land (with a limestone base) was also iron free and was found to make excellent farmland. Agriculture rapidly became a successful and profitable enterprise.

Bellefonte Borough's advantageous location on Spring Creek and near the principal water gap leading into the Nittany Valley favored the town's development as a center of industry and commerce. Iron interests promoted the town as the cultural, economic and political nucleus of central Pennsylvania for nearly one hundred years, rivaling places several times its size. The Big Spring was, according to local legend, the origin of the town's name — Beautiful Fountain — given by exiled French statesman Talleyrand when he visited the area in 1794-95. James Harris and James Dunlop laid Bellefonte out in a Philadelphia-style grid pattern with the main intersection widened into a market diamond. The County Courthouse became the diamond's architectural centerpoint. Early Georgian-style stone houses were built close together and close to the street.

[16] Ibid, pg. 108
[17] Ibid, pg. 26

Cultural Features Map

Nittany Valley Region

- # Historic Sites
- HARB District
- National Historic District

Archaeology Sites

- 1 - 2
- 3-5
- 6-9
- 10 - 17
- 18 - 43

Bellefonte Borough Inset

Village of Pleasant Gap Inset

Marion Township

Bellefonte Borough

Walker Township

Benner Township

Spring Township

N
W E
S

1 0 1 2 Miles

1500 0 1500 3000 Feet

RothPlan
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1681 Crown Avenue, Lancaster, PA 17601
Direct Phone: (717) 291-0927 / Fax: (717) 291-0928
Email rothplan@dejazzd.com
Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

Bellefonte grew in wealth, political prestige, and population, particularly during the 1860s to 1880s; its Victorian buildings represented some of the finest public, commercial and residential architecture built in central Pennsylvania. Bellefonte was for many years the pivot of central Pennsylvania politics. It was home to three Pennsylvania governors, with two others having had Bellefonte associations, an indication of the community's prominence.

Spring Township, named for the Big Spring which also gave its name to Bellefonte, was created in 1801, a year after the County was formed. John Dunlop put the Bellefonte Forge into operation on Logan Branch in 1797 and began construction of Logan Furnace a few miles further downstream. The two operations were expanded in 1814 and renamed the Valentine & Thomas Ironworks, for new owners originally from Chester County. In slightly more than a decade this combined operation was producing as much iron as all of the other county furnaces combined. Blue Spring, near the Spring Township community of Pleasant Gap, is the origin of Logan Branch. In 1829 Harvey Mann began an axe-making operation along Logan Branch at Boiling Springs. Iron from nearby furnaces and forges were within a mile either way of his factory, and Logan Branch supplied the water needed for trip hammers. In its heyday, the plant at Axemann made single and double bitted axes and employed 50 men, turning out 350 axes a day.

Village of Pleasant Gap - Once called Connelley's Gap and named for an early tavern keeper, the village of Pleasant Gap did not receive its official name until 1845 when a post office was established. Its mountain gap location, however, has served as a transportation route for more than 200 years. Native American paths, pack horse trails, and an early turnpike all crossed through this gap connecting Penns and Brush Valley with Nittany Valley. Nearby Blue Spring is the origin of Spring Creek's Logan Branch. A rich vein of limestone, an outcrop of the same high-grade limestone that is found along the Bald Eagle Mountain near Bellefonte, has been mined since 1905.

Benner Township was incorporated out of Spring Township in 1853. It lies west of Bellefonte and spans an area between Muncy Mountain and Nittany Mountain, with Valley View Road and Buffalo Run Road traversing the valley between the two mountains.
It was named for General Philip Benner who built an iron business along Spring Creek at Rock in 1793. Known as one of the richest and most influential of Pennsylvania's early ironmasters, Benner came to this wilderness area in 1793 with 100 ironworkers from Chester County. During the next seven years, he built two forges, a furnace, a rolling mill, nail factory, gristmill, and a sawmill. Benner shipped his high quality iron made at Rock to Pittsburgh, Baltimore, and New Orleans; in 1815 inventor Eli Whitney described it as "some of the best in the world."

Roopsburg -- A few miles south of Bellefonte on the Buffalo Run Road, Roopsburg has been an industrial location since 1795 when Daniel Turner established the Turner Iron Works, Spring Creek Forge, and grist and sawmills. Thirty years later, Jacob Roop built a small brewery, the only successful brewery to operate in Centre County in the 19th century. It remained in business until 1902. The large three-story brick Brockerhoff Mill was built in 1862 by Henry Brockerhoff and occupies the site of earlier mills.

Walker Township, founded in 1810 in the central part of the Nittany Valley, was named for Centre County Judge Jonathan H. Walker. Extending from the villages of Zion to the west and Nittany to the east, its largest community is Hublersburg. Scots-Irish and German settlers used the land mainly for farming, with timbering and the smelting of iron

at Hecla Furnace other important industries. The Central Railroad of Pennsylvania, traveling through Walker Township, linked Centre with Clinton County and the New York Central Railroad.

Hecla Furnace, built in 1820 by Isaac McKinney, used the water of Little Fishing Creek for power**.** Later the Central Railroad used the furnace's name to establish a park to serve as a resort for picnickers with a fine wooded area, a large dam providing water for bathing and boating, and a dance pavilion.

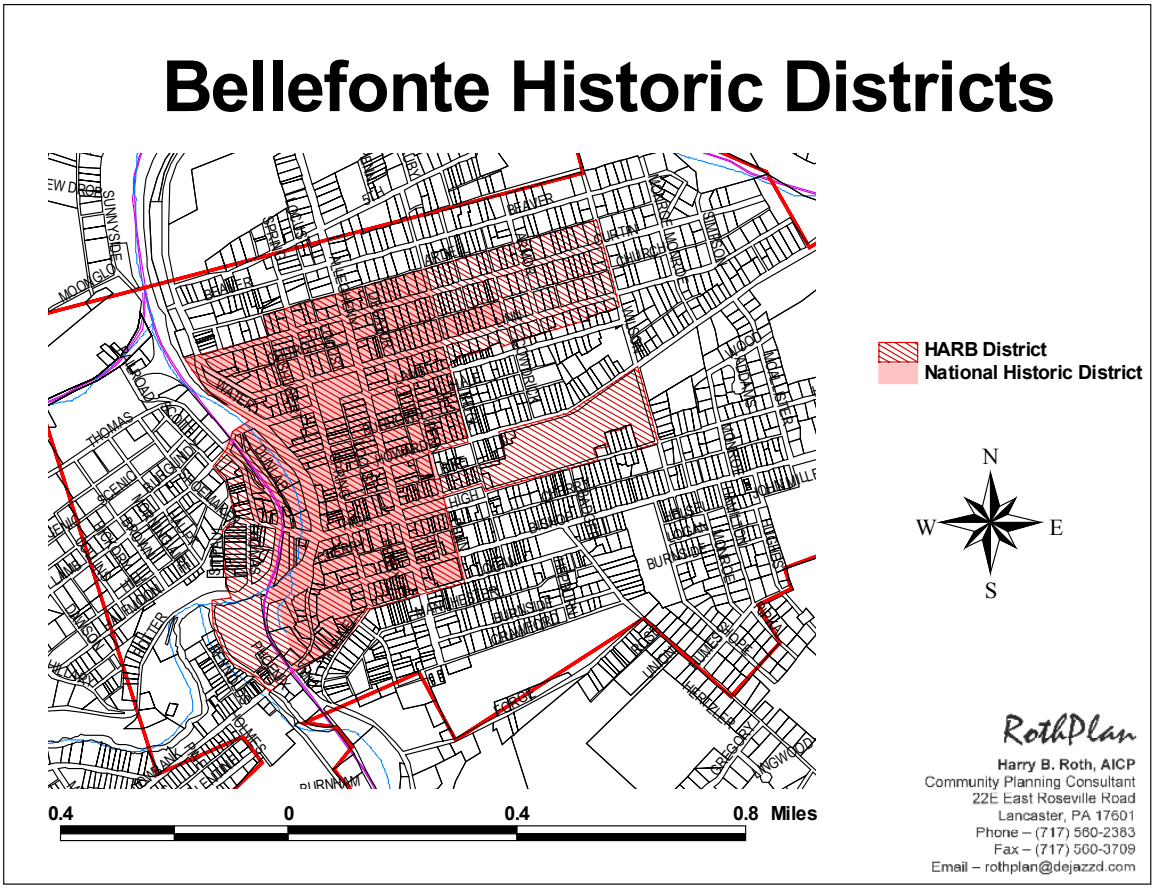
Hublersburg was the site of a mill as early as 1812. In 1830 it was laid out along a main road between Lock Haven and Bellefonte and named by Jacob Hubler. A hotel that was built for travelers using the early road system is still in operation.

Marion Township was formed in 1840 when Walker Township was divided into two parts along Sandy Ridge. The northern part between Sandy Ridge and Muncy Mountain was named Marion in honor of General Francis Marion, the Swamp Fox of the Revolutionary War. Jacksonville is the only village in the township. It was located at the intersecton of the main road through Howard Gap and along a 1790s road between Bellefonte and Lock Haven. The Township, once mined for iron ore, has been and continues to be a major source of limestone.

HISTORICAL SITES AND DISTRICTS OF THE NITTANY VALLEY REGION

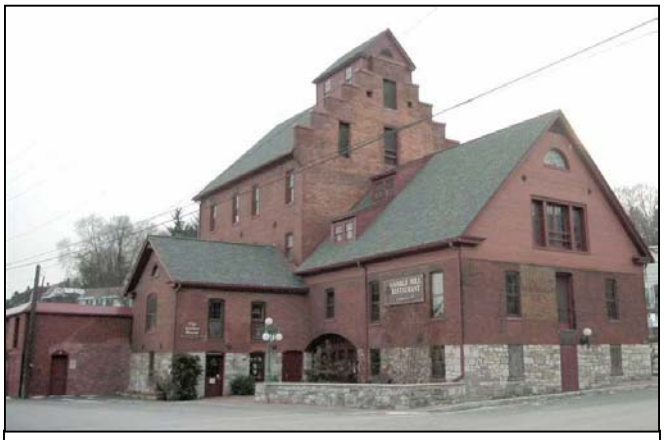
Bellefonte Borough has an active and widely-admired program of historic preservation. First it administers a local historic district under Pennsylvania Act 167-1961. Specifically this Act enables local governments to regulate the alteration, demolition or erection of structures within the the Borough's Historic District. Such District consists of an area with a significant concentration of historic structures as approved by the Pennsylvania Historical and Museum Commission (PHMC.) In this district a Historic Architectural Review Board (HARB) provides guidance to governing body decisions on proposed actions within these areas. The HARB district is depicted on the following map and the Cultural Features Map.

In Bellefonte the HARB consists of 7 members who meet the 2nd and 4th Mondays of each month at 8:30 a.m. in the Borough Building. Members include an architect, a real estate professional, the Borough's building officer, a local downtown business representative and 3 people interested in historic preservation. The Borough also has a full-time historic preservation specialist who receives applications and develops technical staff reports to the HARB and Borough Council for proposed activities within the HARB District. The HARB uses the US Department of Interior Design Standards for Rehabilitation when reviewing proposed alterations to any façade visible from a public right-of-way. These standards are applied on a case-by-case basis according to the time period of the historic site. Recommendations by the HARB are forwarded to Borough Council who has the final authority to approve/disapprove an application.



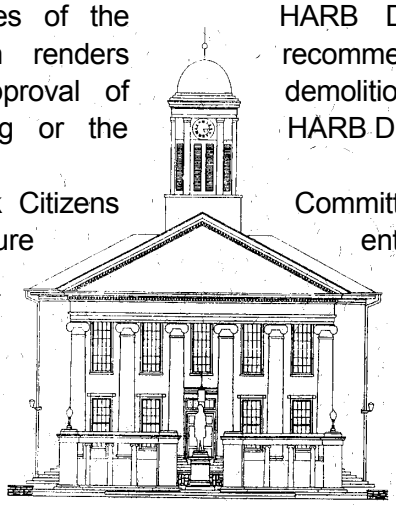
Within Bellefonte this program works exceedingly well. 99.9% of all applications are approved by the HARB and Borough Council with suitable design solutions. This approval rate testifies to the program's effectiveness at balancing protection of the integrity of the Borough's resources with meeting the capabilities and needs of local property owners. The Borough prides itself on devising solutions that well-represent the Borough's past with property owner's present.

In addition to the HARB District, Bellefonte Borough also has a National Register Historic District which encompasses a concentration of 18th and 19th century buildings associated with historic architecture, government, commerce, iron and industry and is also depicted on the Cultural Features Map. Within this District, local property owners are eligible for federal tax credits for the costs of rehabilitating historic sites according to the US Department of Interior Design Standards for Rehabilitation. Local staff believe that this District needs to be expanded to reflect the same boundaries of the HARB District and revise the District's areas of significance to include eligible 20th century buildings.



Gamble Mill, Bellefonte's first National Register historic site.

Demolitions within Bellefonte are closely monitored under a separate ordinance which applies to the entire Borough. Those seeking to demolish a structure must apply to Borough Council who will decide whether or not the demolition should occur. Borough Council can, at their discretion, refer demolition applications to the HARB, even if the site falls beyond the boundaries of the HARB District. Within the HARB District, the HARB again renders recommendations to Borough Council and only recommends approval of demolitions that would not adversely affect a significant building or the HARB District itself.



Finally, the Talleyrand Park Citizens Committee has prepared its 9th edition of an informative brochure entitled "Historical Walking Tour of Bellefonte." This 2002 publication provides a wealth of information to conduct a self-guided tour highlighting some 46 historic sites concentrated within the central area of the Borough. It depicts an historical atlas of surveyed properties and buildings dated 1874, a narrative historical sketch for the Borough, a brief description of each historical site and a comparative timeline for local and national historical events.

From the preceding description it is apparent that historic preservation efforts within Bellefonte are exceptional. The Borough should be proud of its commitment and continue to administer its effective programs to the benefit of current and future generations.

Beyond the Borough however, today, local officials have many resources to engage a meaningful program of historic preservation. During the 1970s, local volunteers conducted a preliminary historic sites inventory for Centre County. This inventory is on record with the PA Historical and Museum Commission in Harrisburg. It identified some 1877 sites within the Nittany Valley Region as divided among its municipalities as follows:

Municipality	No. of Inventoried Historic Sites
Bellefonte Borough	771
Benner Township	184
Marion Township	88
Spring Township	560
Walker Township	274
Region	1877

As part of this inventory and in the following years a few of the Region's historic sites have been evaluated for potential listing in the National Register of Historic Sites. This is important as sites listed on the Register or eligible for listing on the Register are afforded the same level of protection from potential government-funded or sponsored actions that could adversely affect such sites. The following tabulates those sites listed or eligible for listing on the National Register by municipality.

Historic Sites on or Eligible for the National Register (NR) of Historic Places					
Key No	**Site Name**	**Address**	**NR Status**	**Style**	**Year Built**
Bellefonte Borough					
001611	Bellefonte Academy	225 E Bishop St.	Listed	Queen Anne	1805
001612	Bellefonte Historic District		Listed		1775
001618	Centre County Courthouse	High St.	Listed	Greek Revival	1805
001627	Gamble Mill	Dunlap St. & Lamb St.	Listed		1894
001632	Miles-Humes House	203 N Allegheny St.	Listed	Georgian	1814
001635	McAllister-Beaver House	817 E Bishop St.	Listed	Greek Revival	1850
001648	South Ward School	Bishop St.	Listed	Italianate	1887
001649	Thomas, William, Homestead	266 N Thomas St.	Listed	Georgian	1785
001658	Brockerhoff Hotel	High & Allegheny St.	Listed	Italianate	1866
101680	Bellefonte Historic District Boundary Increase	Curtin, Wilson, Reynolds & N. Thomas Sts.	Eligible	Federal	1840
112496	Pennsylvania Match Company	Phoenix St.	Listed	No Style	1899
Benner Township					
001615	Brockerhoff Mill	Pa 550 & L.R. 14040	Listed		1862
057587	State Correctional Inst., Rockview Historic District	S.R. 64	Eligible	Classical Revival	1909
101661	Shuey Farmstead	1041 Benner Pike	Eligible		1850
101666	Grove Farmstead	1202 Shiloh Rd.	Eligible		1880
111520	Shugart House	West side T.R. 367 Southwest of Pleasant Gap	Eligible	Georgian	1790
Marion Township – None					
Spring Township					
001634	Logan Furnace Mansion	Rte. 144, 3mi. South of Bellefonte	Listed		1798
101658	Yarnell Residence	902 Axemann Rd.	Eligible		1920
101659	Valentine, G., Farmstead	909 Axemann Rd.	Eligible		1790
101660	Baird Farmstead	1039 Axemann Rd.	Eligible		1831
101667	Logan Furnace/Ault Farmstead	812 Axemann Rd.	Eligible		1798
101668	Valentine, A.S., Farmstead	598 Witherite Rd.	Eligible		1790
101669	Weaver-Jordon Farmstead	Weaver Hill Rd.	Eligible		1840
106421	Axeman Village	S.R. 144 No. of Irish Hollow Rd.	Eligible	Greek Revival	1820
108021	Bellefonte Forge House	4098 Axemann Rd.	Listed	Federal	1803
109953	Hoy, J., Farmstead	832 Jacksonville Rd.	Eligible	Federal	1848
109959	Curtin, R.C. & J., Property	550 Musser Ln.	Eligible		
Walker Township - None					

As can be seen, only about 1.4 percent of the inventoried sites within the Region have been listed, or determined to be eligible for listing, on the National Register. The vast majority of the Region's historic sites have an "undetermined" National Register status which means that they might be eligible.

An effective historic preservation program does not necessarily require a strict program of architectural control like that used in Bellefonte Borough. Some municipalities are not ready for such a rigorous approach and have adopted more voluntary approaches. First, they clearly designate historic sites and widely publicize their existence. Next, they adopt an "overlay zone" that requires a "waiting period," during which would-be developers and

property owners are encouraged to meet and "rub elbows" with local or County historic preservation experts, before they substantially alter or demolish an historic site.

Oftentimes, this meeting will give the experts a chance to present other suitable building options that are more consistent with the site's character and will enhance the property's value. In other instances, the waiting period gives the community the opportunity to devise other adaptive reuse options for buildings that are proposed for demolition. In either event, such worthwhile efforts require some commitment on the part of local municipalities to take the next step toward historic preservation.

Another intermediate approach to historic preservation is the Historic Conservation District. Often established as an overlay district, an Historic Conservation District is designed to preserve and enhance the character of a neighborhood or region by encouraging infill development and new construction that respects the context of the existing built environment and its appearance. New construction and demolition are the activities regulated most frequently in conservation districts. The municipal zoning officer usually handles administration.

The conservation district varies from the historic architecture review board district in that exterior change to existing buildings is usually not a regulated activity.

A conservation district could be an alternative to a historic district, in the sense that, it does not focus primarily on the historic architecture and its character-defining features but rather the cultural significance of an area. The emphasis is to preserve the physical character of an area i.e. the farmscapes of Nittany Valley or the village character of Jacksonville and Hublersburg.

Local officials are encouraged to consider the benefits of these voluntary approaches and gauge public reaction. Staff of the Centre County Historical Society can assist in these efforts. If response is favorable, local interested citizens should be deputized to continue the process and work with this organization. The following list some of the actions that can better incorporate historic preservation within the Region.

Successful historic preservation involves more than a mere compilation of data. Rather, it should recognize the importance of its historic defining features and indicate how those features relate to the future by:

1. ***Establishing realistic goals to implement suitable preservation guidelines and standards. Realistic goals should be established that are adopted with considerable public scrutiny and support (make sure that goals are achievable);***

2. ***Identifying individual resources and districts based on the survey that could be eligible for the National Register of Historic Places and apply for listing in the Register;***

3. ***Adding regulations into the zoning ordinance which will help achieve historic preservation goals, like the review of demolitions; design guidelines for infill construction; Historic Overlay Zones; incentives for adaptive reuse, rather***

than demolition, etc.;

4. ***Updating existing zoning regulations to resolve conflicts with historic preservation goals, like incompatible uses, excessive setbacks, required off-street parking, reduced lot coverage, etc.; and,***

5. ***Developing partnerships with community groups and organizations to facilitate a public education initiative about local history and the historic resources in the municipality.***[18]

F. ARCHAEOLOGICAL RESOURCES

The Cultural Features Map depicts a layer of data about archaeological sites. Specifically the Pennsylvania Historical Commission's Bureau for Historic Preservation conducted an inventory of archaeological sites within Centre County. Then the County was divided among 4-sqaure mile hexagons and the number of sites was recorded in each hexagon. This forms the basis if the data depicted on the Cultural Features Map. The Region has apparent archaeological significance; however, the actual location and descriptions of these features are not released to the general public.

The Bureau maintains an extensive inventory of archaeological resources across the Commonwealth and administers this inventory through the Pennsylvania Archaeological Site Survey (PASS). The PASS files contain over 18,500 identified archaeological sites within Pennsylvania. This inventory is being updated and added to on a continual basis as new resources are identified through survey projects, National Register listings, reports generated through the Section 106 and History Code compliance process and submissions from private property owners. The files are open to the public by appointment. Confidentiality restrictions apply to the PASS files to protect archaeological site locations.[19]

"The Commonwealth's Archaeology Program (CAP) was created to manage and protect archaeological resources that are affected by projects requiring only state permits and no other state or federal involvement. The CAP performs preliminary testing on identified significant archaeological sites that will be affected by state permitted projects prior to the loss of the site through new construction. CAP maintains a well-equipped archaeological laboratory and storage space where all artifacts recovered during field investigations at these state-permitted projects are processed and analyzed. Artifact data is managed by a computer database program where it is manipulated, analyzed, and ultimately used in the preparation of project reports."[20]

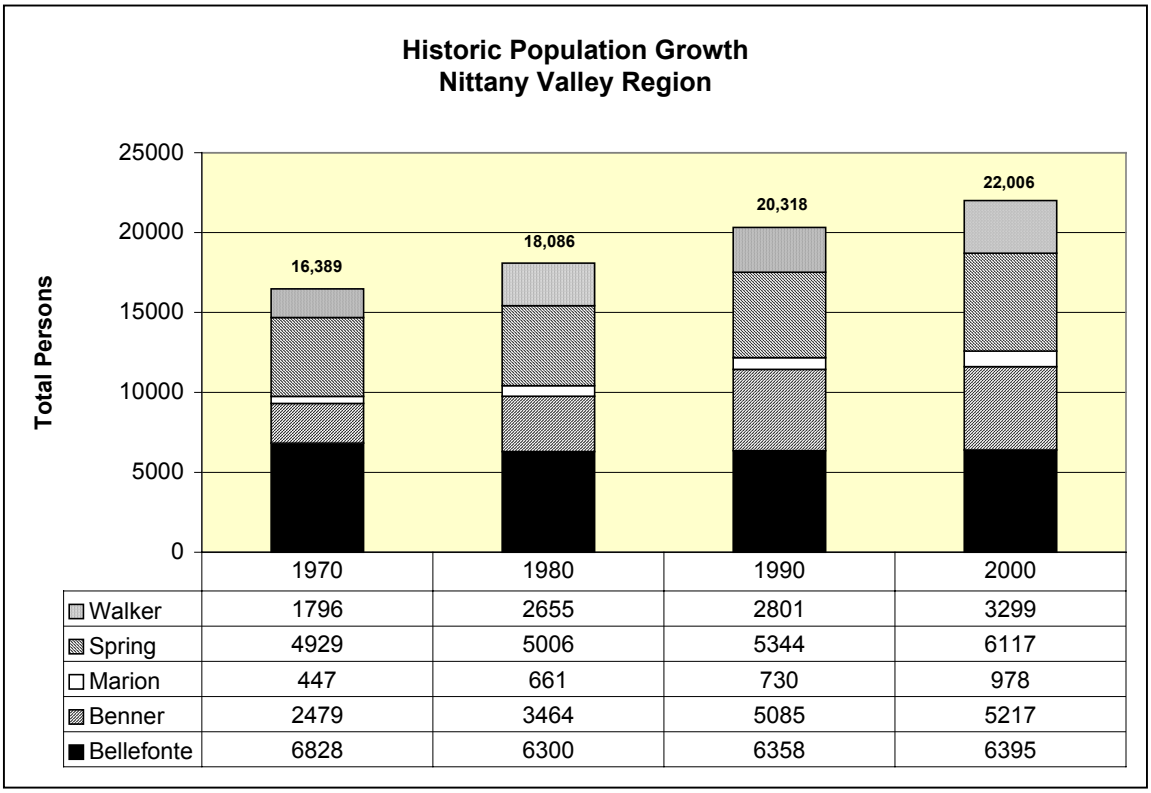
[18] Letter from Carol E. Wilson, Historic Preservation Specialist to Harry Roth
[19] http://www.phmc.state.pa.us/bhp/inventories/overview.asp?secid=25 (1/23/03)
[20] http://www.phmc.state.pa.us/bhp/cap/overview.asp?secid=25 (1/23/03)

IV. Demographics

The allocation of municipal resources must consider the population to be served. Population, housing and economic analyses are a principal component of any comprehensive plan. Obviously, the overall size of a population is related to the amount of land, manpower and services to be provided. In addition, particular groups within the population have different needs. This section will present past, current and expected population statistics in order to determine the Region's needs.

A. Historic Population Growth

The historical growth pattern of an area provides insight as to the growth that might be expected in the future. The following table lists the amount of population growth that has occurred over the last 30 years within each municipality of the Region.

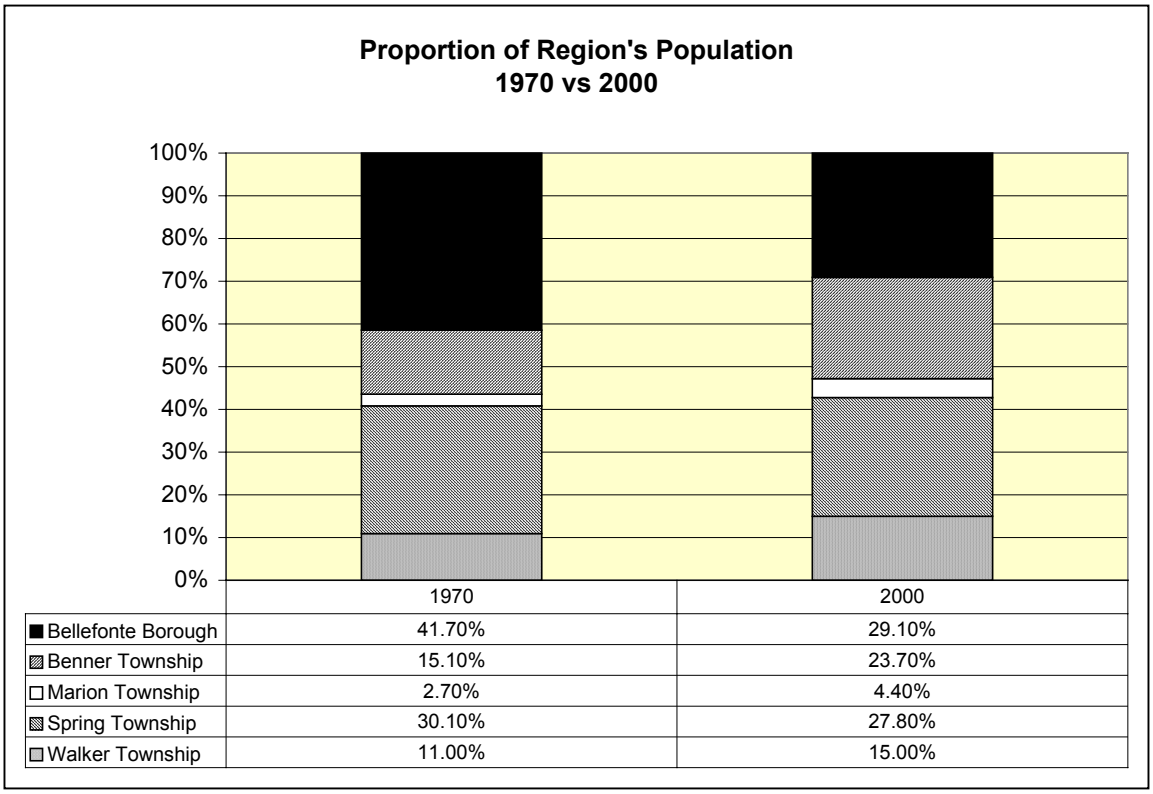


	1970	1980	1990	2000
Walker	1796	2655	2801	3299
Spring	4929	5006	5344	6117
Marion	447	661	730	978
Benner	2479	3464	5085	5217
Bellefonte	6828	6300	6358	6395

Note: The above graph includes inmates within the Rockview State Penitentiary as part of benner Township's population.

From the above graph, several trends are visualized. First, the Region has realized a fairly steady rate of growth since 1970. The 1980s saw slightly higher rates of growth which have since tapered off in the 1990s. Bellefonte Borough has at all times been the most populous municipality within the Region despite actually losing population during

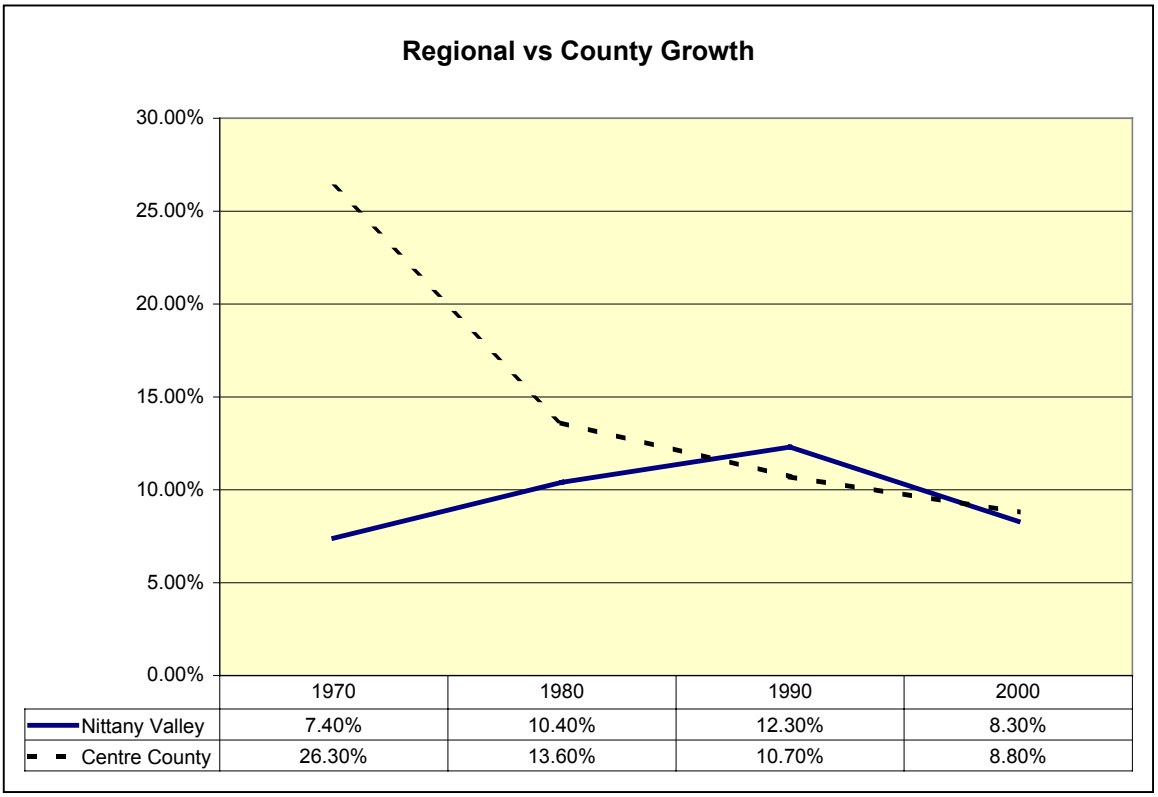
the 1970s and growing slowly since. Spring Township remains the most populous Township within the Region despite its rather low rate of growth over the last 30 years. Benner Township has experienced the most growth over the last 30 years adding 2738 people; Walker Township had the second highest growth rate adding 1503 more people. Marion is obviously the most rural area of the Region adding only 533 new residents which more than doubled their 1970 population.



	1970	2000
Bellefonte Borough	41.70%	29.10%
Benner Township	15.10%	23.70%
Marion Township	2.70%	4.40%
Spring Township	30.10%	27.80%
Walker Township	11.00%	15.00%

Another trend deals with the type of growth occurring within the Region. The last 30 years have witnessed increasing suburbanization across this country. The large-lot suburban developments begun in the mid-1900s have swept far and wide even within Centre County. The above table reveals this trend within the Nittany Valley Region as Bellefonte Borough's share of the Region's population has declined in favor of growth particularly within Benner and Walker Townships. Left unchecked these trends will threaten the rural character of the Region. This trend can also have consequences for the delivery of public services. When once the population Centre was considered Bellefonte, where a wide range of public facilities and services are offered, the outward shift of population into the country strain local officials' ability to provide similar levels of service within less dense suburban neighborhoods. Fortunately this Plan can reverse these trends by focusing growth and appropriate services into compact growth areas and thereby relieve pressures to develop outlying areas.

Next, a comparison of growth within Centre County and the Region can provide further insight into future expectations.

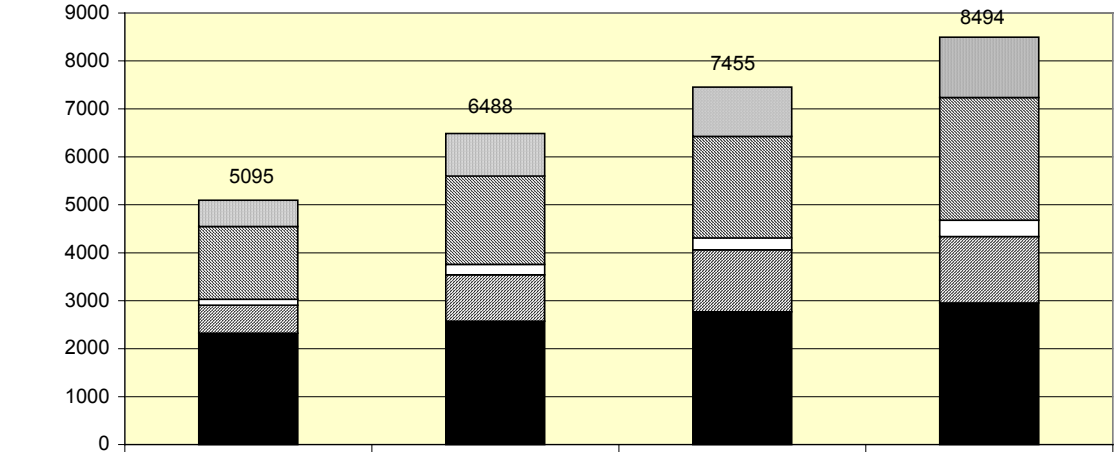


	1970	1980	1990	2000
Nittany Valley	7.40%	10.40%	12.30%	8.30%
Centre County	26.30%	13.60%	10.70%	8.80%

As the above graph reveals, since 1980 the Region has had rates of growth close to that experienced by the entire County. During the 1970s the Region did not share in the boom of development that was occurring elsewhere within the County. However, based upon the more recent trends it would appear that the Region's future will become increasingly consistent with development rates throughout the County unless major policy changes alter these trends. However, nothing within this Plan would suggest that the Nittany Valley Region will depart from serving its fair-share of Centre County's growth and development. To the contrary, the Plan specifically projects such growth and allocates it within the Region in an efficient, logical and environmentally-friendly manner.

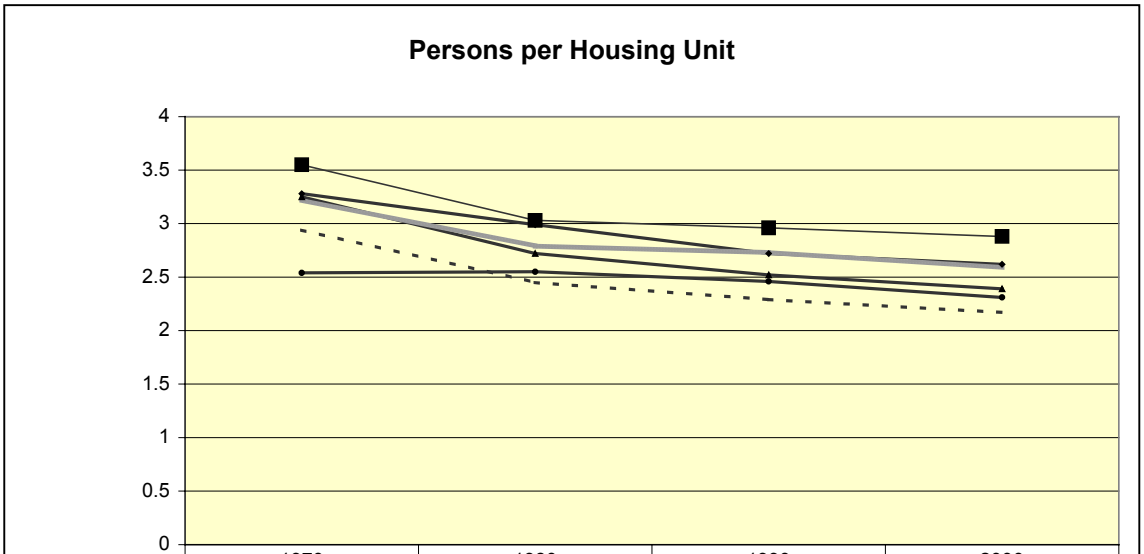
B. Historic Housing Growth

In addition to population growth, another important consideration when projecting how fast an area will grow relates to its number of housing units. The following table lists the number of housing units within each municipality since the US Census Bureau began reporting such information in 1970.



	1970	1980	1990	2000
Walker	548	888	1028	1257
Spring	1516	1843	2119	2559
Marion	126	218	247	339
Benner	582	968	1289	1386
Bellefonte	2323	2571	2772	2953

Unsurprisingly, the number of housing units exhibited similar growth trends as the population within the Region. However, the rate of housing growth is slightly greater than that of population. Between 1970 and 2000, the Region's population grew by 34.3%, while its number of housing units grew by 66.7%. This occurs because fewer people are living together, as family sizes have decreased and more people are living by



	1970	1980	1990	2000
Bellefonte	2.94	2.45	2.29	2.17
Benner	2.54	2.55	2.46	2.31
Marion	3.55	3.03	2.96	2.88
Spring	3.25	2.72	2.52	2.39
Walker	3.28	2.99	2.72	2.62
Region	3.22	2.79	2.73	2.59

themselves. This trend is true for each municipality within the Region since 1970. This trend has also occurred nationally for several decades. It is important to note that calculations of persons per household excluded the inmate population of the Rockview State prison in Benner Township.

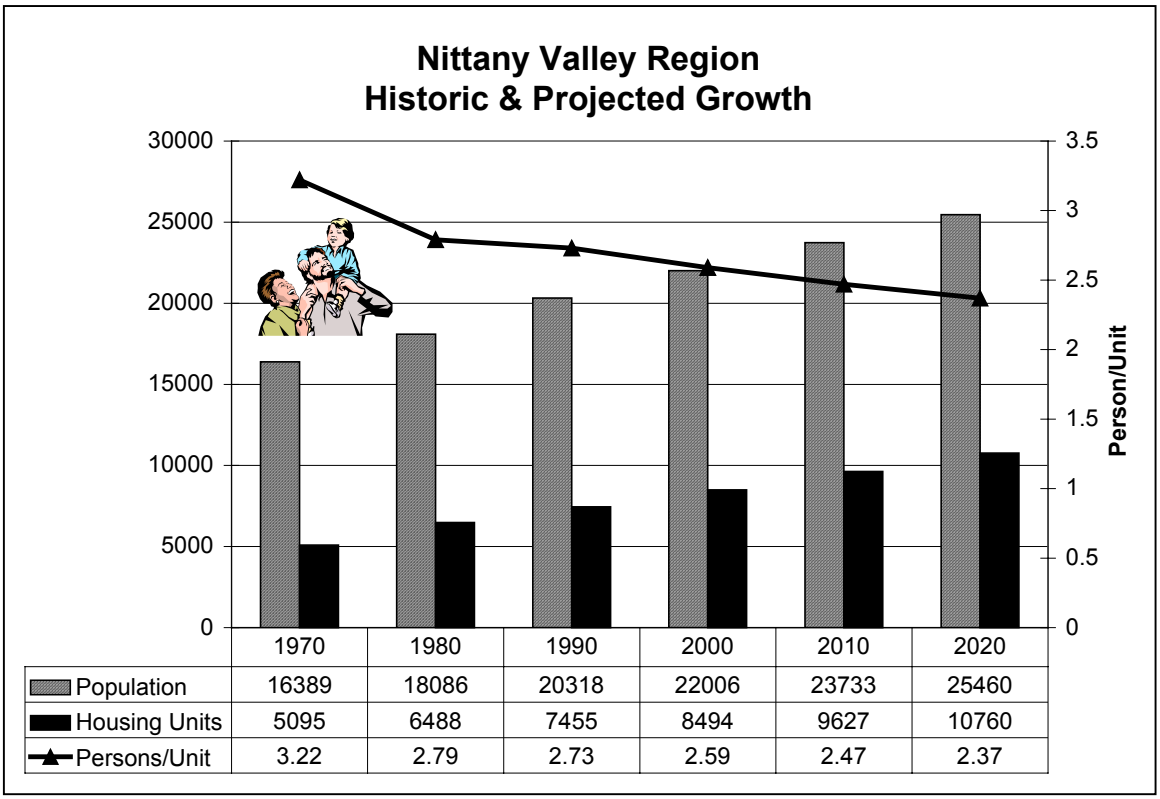
Bellefonte Borough and Spring Township have realized the greatest reduction in household size by about 26% percent, while the Region's collective decrease has been about 20%. It is important that population and housing projections for the Region take into account this trend so that adequate growth area can be assigned for projected new housing units.

C. Population & Housing Projections

Review of the population and housing trends for the Region over the last few decades reveals a somewhat uniform and steady rate of growth. This suggests that an arithmetic or linear extrapolation should produce reliable predictions of growth for the future if outside influences are not permitted to affect development within the Region. While this technique is considered one of the most basic of projection techniques, it also is one of the most powerful as it considers all of the factors that have affected past growth. For these reasons the linear projections for years 2010 and 2020 will be used to allocate the Region's resources through the balance of this Plan with one deviation.

The Rockview State prison has undergone a doubling of its population between 1970 and 2000 from roughly 1000 to just over 2000 inmates. While this growth has been reflected within the past population trends and graphs, the trend will not likely continue. According to the staff at the prison no expansion is foreseeable and unlikely; therefore, projections for Benner Township are based upon growth of the Township that has occurred outside of the prison. Then the year 2000 inmate population (2012 inmates) are added to each projected year 2010 and 2020 figure.

As can be seen in the graph on the next page, a "natural" growth curve extends for both the population and housing bars between the historic rate experienced in the past through the projected growth to the year 2020. Similarly, the descending line depicting the reducing average household size also follows a "normal" curve since the large reduction experienced during the 1970s. These traits typify projections that are realistic and reliable. The table below the graph depicts the results of the same projections performed for each of the Region's municipalities.



Municipality	2000	2010	2020
Bellefonte Borough Population	6395	6539	6683
Bellefonte Borough Housing	2953	3163	3373
Bellefonte Borough Persons/House	2.17	2.07	1.98
Benner Township Population	5217	5726	6235
Benner Township Housing	1386	1654	1922
Benner Township Person/House	2.31	2.10	2.09
Marion Township Population	978	1155	1332
Marion Township Housing	339	410	481
Marion Township Person/House	2.88	2.82	2.77
Spring Township Population	6117	6513	6909
Spring Township Housing	2559	2907	3255
Spring Township Person/House	2.39	2.24	2.12
Walker Township Population	3299	3800	4301
Walker Township Housing	1257	1493	1729
Walker Township Person/House	2.59	2.47	2.37

While the above table provides interesting information about how much population and housing growth would occur within each municipality within the Region if current planning policies were retained, this Comprehensive Plan can allocate the growth

throughout the Region to best "fit" expressed planning goals. Therefore, this Plan must focus upon the Region-wide projections, as listed below, rather than those presented for each municipality in the above table. In all likelihood, some of the municipalities will be planned for development that exceeds their projected growth, while others will receive less than that projected.

The following tabulates the net changes projected within the Region; these will become target figures for allocating resources to meet growth by decade:

Projected Net Changes Per Decade		
Year	**2000 to 2010**	**2000 to 2020**
Population	1727	3454
Housing	1133	2266
Persons/Unit	-0.08	-.18

D. Socio-Economic Characteristics

Age Profile							
Age Group	**Bellefonte Borough**	**Benner Township**	**Marion Township**	**Spring Township**	**Walker Township**	**Region**	**Centre County**
Under 5 years	401 (6.3%)	139 (2.7%)	111 (11.3%)	352 (5.8%)	199 (6.0%)	1202 (5.5%)	4.6%
5-9 years	386 (6.0%)	204 (3.9%)	93 (9.5%)	427 (7.0%)	250 (7.6%)	1360 (6.2%)	5.1%
10-14 years	360 (5.6%)	220 (4.2%)	68 (7.0%)	452 (7.4%)	264 (8.0%)	1364 (6.2%)	5.2%
15-19 years	343 (5.4%)	216 (4.1%)	49 (5.0%)	381 (6.2%)	196 (5.9%)	1185 (5.4%)	10.0%
20-24 years	464 (7.3%)	431 (8.3%)	50 (5.1%)	277 (4.5%)	161 (4.9%)	1383 (6.3%)	19.8%
25-64 years	3281 (51.3%)	3596 (68.9%)	525 (53.7%)	3450 (56.4%)	1857 (56.3%)	12,709 (57.8%)	44.8%
65+ years	1160 (18.1%)	411 (7.9%)	82 (8.4%)	778 (12.7%)	372 (11.3%)	2803 (12.7%)	10.4%
Median age	36.8	37.6	33.5	37.6	37.7	37.2	28.7

Comments: Overall, the Region's population has a median age 8.5 years older than that of Centre County. This comes as no surprise given the effect that the Penn State University has upon the age profile of the County's population. Interestingly, the Region seems immune from the "bubble" of college-aged persons evident within the County. This would suggest that little to no college-related housing is located within the Region. Unsurprisingly Bellefonte Borough has the greatest concentration of seniors well above the Regional and Countywide average. Benner Township has the largest cohort of young to middle-aged adults, undoubtedly a function of the state prison located within its bounds. Marion Township has an unusually large percentage of preschool and elementary school-aged children although the actual numbers are low due to its rural character. Aside from these noteworthy characteristics, the Region has a typical age profile that is consistent with its composition and location.

Gender Profile							
Gender	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region	Centre County
Male	2952 (46.2%)	3597 (68.9%)	507 (51.8)	2954 (48.3%)	1651 (50%)	11,661 (52.9%)	51.1%
Female	3443 (53.8%)	1620 (31.1%)	471 (48.2%)	3163 (51.7%)	1648 (50%)	10,345 (47.1%)	48.9%

Comments: The Region has a larger percentage of males than females which is likely the result of the State prison where most inmates are male.

Racial Composition & Hispanic/Latino Origin							
Race	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region	Centre County
White	6219 (97.2%)	3970 (76.1%)	972 (99.4%)	6030 (98.6%)	3268 (99.1%)	20,459 (93.0%)	91.4%
African American	58 (0.9%)	1035 (19.8%)	1 (0.1%)	15 (0.2%)	3 (0.1%)	1112 (5.1%)	2.6%
Native American	7 (0.1%)	12 (0.2%)	29 (0.2%)	4 (0.1%)	2 (0.1%)	54 (0.2%)	0.1%
Asian	30 (0.5%)	24 (0.5%)	-	10 (0.2%)	7 (0.2%)	71 (0.3%)	4.0%
Pacific Islander	7 (0.1%)	3 (0.1%)	-	6 (0.1%)	-	16 (-)	0.1%
Other	22 (0.3%)	149 (2.9%)	-	9 (0.1%)	4 (0.1%)	184 (0.8%)	0.7%
Bi-racial	52 (0.8%)	24 (0.5%)	3 (0.3%)	43 (0.7%)	15 (0.5%)	137 (0.6%)	1.1%
Hispanic/Latino	38 (0.6%)	183 (3.5%)	2 (0.2%)	28 (0.5%)	12 (0.4%)	263 (1.2%)	1.7%

Comments: With the exception of Benner Township each of the municipalities and the Region as a whole, has far less racial diversity than does Centre County. However, Benner Township has a much higher proportion of minorities (especially African Americans) and persons of Hispanic origin than do any of the other municipalities within the Region or the County as a whole. Presumably this high ratio of minorities results from the location of the State prison within the Township. Combined, the Region's minorities comprise 7% of the total population with African Americans accounting for just over 5%. 1.2% of the Region's residents are of Hispanic/Latino descent, less than that of the entire County.

Other Housing & Household Characteristics							
Other Characteristics	Bellefonte Borough	Benner Township	Marion Township	Spring Township	Walker Township	Region	Centre County
Group Quarters	315 (4.9%)	2012 (38.6%)	3 (0.3%)	46 (0.8%)	7 (0.2%)	2383 (10.8%)	10.9%
Family Households	1603 (57.3%)	932 (70.4%)	269 (83.5%)	1726 (70.3%)	972 (80.7%)	5502 (67.9%)	57.8%
Rental Units	1413 (50.5%)	138 (10.4%)	34 (10.6%)	576 (23.5%)	126 (10.5%)	2287 (28.2%)	39.8%
Vacant Units	157 (5.3%)	62 (4.5%)	17 (5.0%)	104 (4.0%)	52 (4.1%)	392 (4.6%)	7.2%

Comments: The location of the State prison within Benner Township causes the number of persons residing in group quarters to be unusually high within the Township but the Region is right in line with Countywide averages which are undoubtedly skewed by the high concentration of student housing associated with Penn State University. Bellefonte Borough too has a higher percentage of persons within group quarters as compared with the rest of the Region but only half that of the entire County.

The Region has a higher percentage of family households than does Centre County. Bellefonte has the lowest percentage of family households and the highest rate of rental housing. This suggests that the Borough is providing most of the Region's affordable housing stock. The housing vacancy rate is also highest within Bellefonte but only slightly above that for the entire Region and less than the County-wide average.

Education		
Area	**High School Diploma**	**4+ Year @ College**
Bellefonte Borough	84.5%	24.2%
Benner Township	71.8%	12.5%
Marion Township	81.1%	12.3%
Spring Township	86.7%	20.2%
Walker Township	87.9%	15.1%
Centre County	88.2%	36.3%
Pennsylvania	81.9%	22.4%

Comments: Centre County is much about education. It is no wonder that the County enjoys educational attainment rates considerably above the State and National averages. Only Benner Township has high school graduation rates considerably below the State averages, most likely due to its prison population who tend to be less educated. However, the proportion of college graduates within the Region is below the State average except in Bellefonte Borough. Unsurprisingly, the Countywide rate of college graduates is among the highest within the State and well above that within the Region.

Income				
Area	**Per Capita**	**Median Family**	**Median Household**	**Persons Below Poverty**
Bellefonte Borough	$18,659	$42,378	$33,216	824 (13.5%)
Benner Township	$17,665	$47,800	$42,083	69 (2.2%)
Marion Township	$15,153	$46,491	$41,985	42 (4.3%)
Spring Township	$18,896	$46,632	$39,042	480 (7.9%)
Walker Township	$19,130	$54,613	$48,835	199 (6.1%)
Centre County	$18,020	$50,577	$36,165	22,742 (18.8)

Comments: Walker Township is the only municipality within the region that has income characteristics above Centre County as a whole in each category. While the per capita income within Bellefonte Borough is fairly high, median family and household incomes are lessened by the smaller household sizes. Conversely, Marion Township's lower per capita incomes are offset with larger families and household sizes and incomes. Generally the Region has typical per capita incomes, lower family incomes and higher household incomes that Centre County as a whole. Bellefonte Borough has the lowest incomes while Walker Township enjoys the highest incomes. Poverty status statistics for Centre County include many college-enrolled students and therefore are misleading. The Statewide average for persons living in poverty is 11 %; therefore, only Bellefonte Borough exceeds this average within the Region. Special outreach opportunities and programs should be targeted within the Borough to assist these less fortunate individuals.

Employment Status & Commuting						
Area	**Total Labor Force (16 yrs +)**	**Employed**	**Unemployed**	**Carpooled**	**Public Transit**	**Average commute**
Bellefonte Borough	62.6%	58.8%	3.9%	13.5%	2.7%	21 mins.
Benner Township	40.2%	38.5%	1.7%	8.7%	-	20 mins.
Marion Township	73.1%	67.4%	5.7%	11.8%	-	30 mins.
Spring Township	69.5%	66.9%	2.6%	9.2%	0.1%	21 mins.
Walker Township	69.8%	67.3%	2.5%	11.0%	0.2%	27.6 mins.
Centre County	60.0%	56.7%	3.3%	11.6%	3.9%	19.6 mins.

Comments: The Region has a higher percentage of workers than does the County, except in Benner Township where the prison population keeps the labor force reduced. Unemployment is particularly high in Marion Township and higher than the County average in Bellefonte Borough. Carpooling is about average with the County with the more "developed" Townships having lower carpooling rates. Average daily commutes are longest in outlying Marion and Walker Townships and about average with the County elsewhere. Public transit use is mainly confined to Bellefonte Borough.

Civilian Labor Force						
Area	**Bellefonte Borough**	**Benner Township**	**Marion Township**	**Spring Township**	**Walker Township**	**Centre County**
Agriculture, forestry, fishing, hunting, mining	1.5%	1.5%	7.2	0.7	5.2	1.7
Construction	5.1%	7.4%	8.3	4.3	7.9	4.8
Manufacturing	17.5%	18.8%	18.4	17.6	18.9	10.6
Wholesale trade	0.5%	1.2%	2.3	2.6	2.3	1.3
Retail trade	16.6%	9.0%	7.2	12.4	10.1	10.5
Transportation, warehousing, utilities	2.0%	4.2%	6.8	5.3	4.8	3.1
Information	1.4%	2.4%	3.8	3.0	1.6	2.4
Finances, insurance, real estate	5.6%	6.3%	4.2	3.0	3.6	4.0
Professional, scientific, management, waste	7.3%	6.3%	3.4	5.5	4.1	7.5
Educational, health, social services	26.1%	29.5	23.7	31.6	28.0	36.2
Arts, entertainment, recreation, lodging, food	6.8%	6.5	2.1	4.1	3.8	10.8
Other services	4.6%	5.6	6.6	4.7	3.8	3.7
Public administration	5.0%	1.2	5.9	5.1	5.9	3.5

Comments: Like in Centre County as a whole, educational, health and social services represent the largest single sector of employment within the Region. Manufacturing is the second leading employer within the Region at a rate almost twice that of the Countywide average. Conversely the Region has fewer residents employed in arts, entertainment, lodging food service, professional and scientific activities. Many residents of Bellefonte Borough are employed in retail trade. Marion and Walker Townships have more residents employed in agricultural and natural conservation than the Region and County as a whole. Marion and Walker Township also have higher concentrations of construction workers who tend to favor rural home sites where on-site storage of equipment and supplies can occur; this may suggest the need for rural occupation regulations. Other than these differences the Region exhibits civilian labor force characteristics in line with Countywide averages.

Housing Condition			
Area	**Units Lacking Complete Plumbing**	**Units Lacking Complete Kitchen**	**Built Pre-1940**
Bellefonte Borough	36 (1.3%)	28 (1.0%)	1266 (42.9%)
Benner Township	7 (0.5%)	-	153 (11.0%)
Marion Township	-	-	59 (17.4%)
Spring Township	-	-	429 (16.8%)
Walker Township	4 (0.3%)	-	196 (15.6%)
Centre County	(0.5%)	(0.5%)	(17.4%)

Comments: Bellefonte Borough is the only municipality within the Region that has a ratio substandard dwelling units slightly higher than that of Centre County as a whole. As expected, Bellefonte Borough also has a higher percentage of homes built pre-1940 than any other municipality within the Region and higher than that of the County as a whole.

Housing Tenure & Vacancy				
Area	**Owner-occupied Units**	**Owner-occupied Vacancy Rate**	**Renter-occupied Units**	**Renter-occupied Vacancy Rate**
Bellefonte Borough	1383 (49.5%)	(1.6%)	1413 (50.5%)	(5.5%)
Benner Township	1186 (89.6%)	(0.6%)	138 (10.4%)	(8.6%)
Marion Township	288 (89.4%)	(0.3%)	34 (10.6%)	-
Spring Township	1880 (76.5%)	(1.5%)	576 (23.5%)	(4.0%)
Walker Township	1079 (89.5%)	(0.6%)	126 (10.5%)	(1.6%)
Centre County	(60.2%)	(1.2%)	(39.8%)	(3.7%)

Comments: Homeownership within the Region's Townships is nearly 90% except in Spring Township where it is over 76%. These rates greatly exceed those for Centre County. Bellefonte Borough has less homeownership than the Townships and the County as a whole. Owner-occupied vacancy vary on either side of the Countywide average with Bellefonte and Spring Township having the highest vacancy rates within the Region. The percentage of rental housing units is lower within the Region's Townships and higher within Bellefonte Borough when compared to Centre County. The Region has a surprisingly high rental vacancy rate when compared with Centre County; however, the actual number of vacant rental units (115) is small because of the limited rental housing stock within the Region. Bellefonte again has the most available vacant rental units within the Region.

Housing Costs		
Area	**Average Monthly Rental Costs**	**Average Owner-Occupied Housing Values**
Bellefonte Borough	$483	$98,000
Benner Township	$577	$111,900
Marion Township	$467	$110,400
Spring Township	$464	$96,700
Walker Township	$504	$104,200
Centre County	$565	$114,900
Comments: Within the Region, only Benner Township has have average gross monthly rents exceeding the Centre County average; Spring and Marion Township have rents about $100 less per month than the Countywide average. Spring Township and Bellefonte Borough have the lowest owner-occupied housing values while all of the Region's municipalities fall below averages Countywide.		

Housing Type					
Area	**Single-family Detached**	**Single-family Attached**	**Two-family**	**Multiple-family**	**Mobile Home**
Bellefonte Borough	1496 (50.7%)	251 (8.5%)	240 (8.1%)	957 (32.4%)	9 (0.3%)
Benner Township	865 ((62.4%)	19 (1.4%)	3 (0.2%)	18 (1.3%)	481 (34.7%)
Marion Township	289 (85.3%)	12 (3.5%)	4 (1.2%)	-	34 (10.0%)
Spring Township	2021 ((79.0%)	67 (2.6%)	149 (5.8%)	216 (8.4%)	106 (4.1%)
Walker Township	1008 (80.2%)	17 (1.4%)	34 (2.7%)	30 (2.4%)	168 (13.4%)
Region	5679 (66.9%)	366 (4.3%)	430 (5.1%)	1221 (14.4%)	798 (9.4%)
Centre County	(56.7%)	(5.4%)	(3.5%)	(26.7%)	(7.5%)
Comments: As can be seen, the Region exhibits a significant preference towards single-family detached housing despite Bellefonte Borough's greater housing diversity. This is not surprising given the Region's larger rural/suburban character adjoining the contrasting high-density areas surrounding State College. Nonetheless, the Region must provide for its fair share of a wide range of housing types; therefore, future residential growth areas must seek to attract a more balanced mix of housing including attached and multiple family units. Benner Township has a large stock of mobile homes that is over four times the Countywide average. Only Spring Township has a ratio of mobile homes that is less than the Countywide average. While this may suggest that the Region has met its fair share of mobile homes, current case law requires municipalities to treat freestanding mobile homes like any other single-family detached dwelling. Therefore any limits imposed upon mobile homes should be limited to development potential within mobile home parks. Also the Region must continue to readily accommodate mobile homes throughout the rural/suburban areas so as not to invite exclusionary zoning challenges.					

In order to avoid claims of exclusionary zoning practices and to reflect contemporary housing styles, it is recommended that the Region specifically plan to rely less upon single-family detached units in the future. In many instances municipalities use Countywide averages to project future housing type demands; however, Centre County is different from most counties. Its concentration of student housing creates an existing mix of unit types that would likely be difficult for outlying areas to achieve. Nonetheless, national housing trends suggest greater reliance on more dense/multi-family units and compact detached units. For these reasons it is recommended that the Region allocate future land use to meet the target growth in the following residential categories:

Target Projected New Housing Units by Structural Type				
Year	**Total**	**Target single-family detached**	**Target attached and duplex**	**Total multi-family**
2000	8494	6477 (76.3%)	796 (9.4%)	1221 (14.4%)
2000-2010	+1133 = 9627	+ 262 = 6739 (70%)	+648 = 1444 (15%)	+ 223 = 1444 (15%)
2000-2020	+2266 = 10,760	+1055 = 7532 (70%)	+ 818 = 1614 (15%)	+ 393 = 1614 (15%)

Methods to achieve this mix of future housing are presented in Chapter XI of this Plan.

V. Public Facilities

A. Public Schools

A high quality education is a widely-held objective for most of our society. Historically, school districts have forecast short-term future demands for school facilities, enabling them to program additional building expansion, construction, consolidations, and closures to meet forecasted demands. School facilities planning can have a direct effect on, as well as be affected by, the land use activities within an area. For instance, new or expanded schools may generate increased nearby residential development, and school closures may contribute to the de-population of communities. At the same time, long-range municipal land use planning may designate new growth areas at some distance from existing or planned school facilities. All of these issues underlie the importance of coordinating school district and municipal comprehensive planning processes to assure that existing and future schools and planned community growth occur hand-in-hand.

The Nittany Valley Region is served by the Bellefonte Area School District. School Board members serve 4-year terms. ***The Nittany Valley Region Public Facilities Map***, illustrates the location of the Region's public school sites. The remainder of this section will focus upon conditions at the public schools within the Region.

In addition to the normal academic curriculums offered by public schools across the State, the Bellefonte Area School District offers:

- District-operated learning disability classes;
- Intermediate Unit-operated classes;
- Itinerant classes for the visually and/or hearing impaired;
- A “gifted” program; and,
- Special education classes.

Furthermore, the Central Pennsylvania Institute offers 19 vocational programs within the District. These programs are offered as “half-day” curriculums over two to three years.

Presently, the School District employs the following grade format:

Public School Grade Format	
Elementary School	K-5
Middle School	6-8
High School	9-12

Middle School

High School

The following tabulates conditions at each of the School District's five school sites:

Summary of Bellefonte Area School District Facilities

School Name	Year Built	Renovation Dates	Site Size (acres)	Rated Structural Condition	Grades Housed	Rated Capacity	2002-2003 Enrollment
Bellefonte Elementary	1941	1964	3.1	Fair/poor	K-5	575	488
Benner Elementary	1961	2000 mobile addition	11.2	Fair/good	K–5	300	222
Pleasant Gap Elementary	1953	1974	25.7	Fair/good	K-5	350	265
Marion-Walker Elementary	1961	1999-2002 mobile additions	12.3	Fair/good	K-5	250	306
Bellefonte Middle School	1962	1999	20.7	Good	6-8	964	771
Bellefonte High School	1954	1971	27	Poor	9–12	1040	942

Source: School District

The Bellefonte Area School District has the same boundaries as the Nittany Valley Region; therefore, all of the schools are located within the Region. Each school is located at a separate location although the District's three largest schools (Bellefonte Elementary, Middle and High Schools) are all located within Bellefonte Borough.

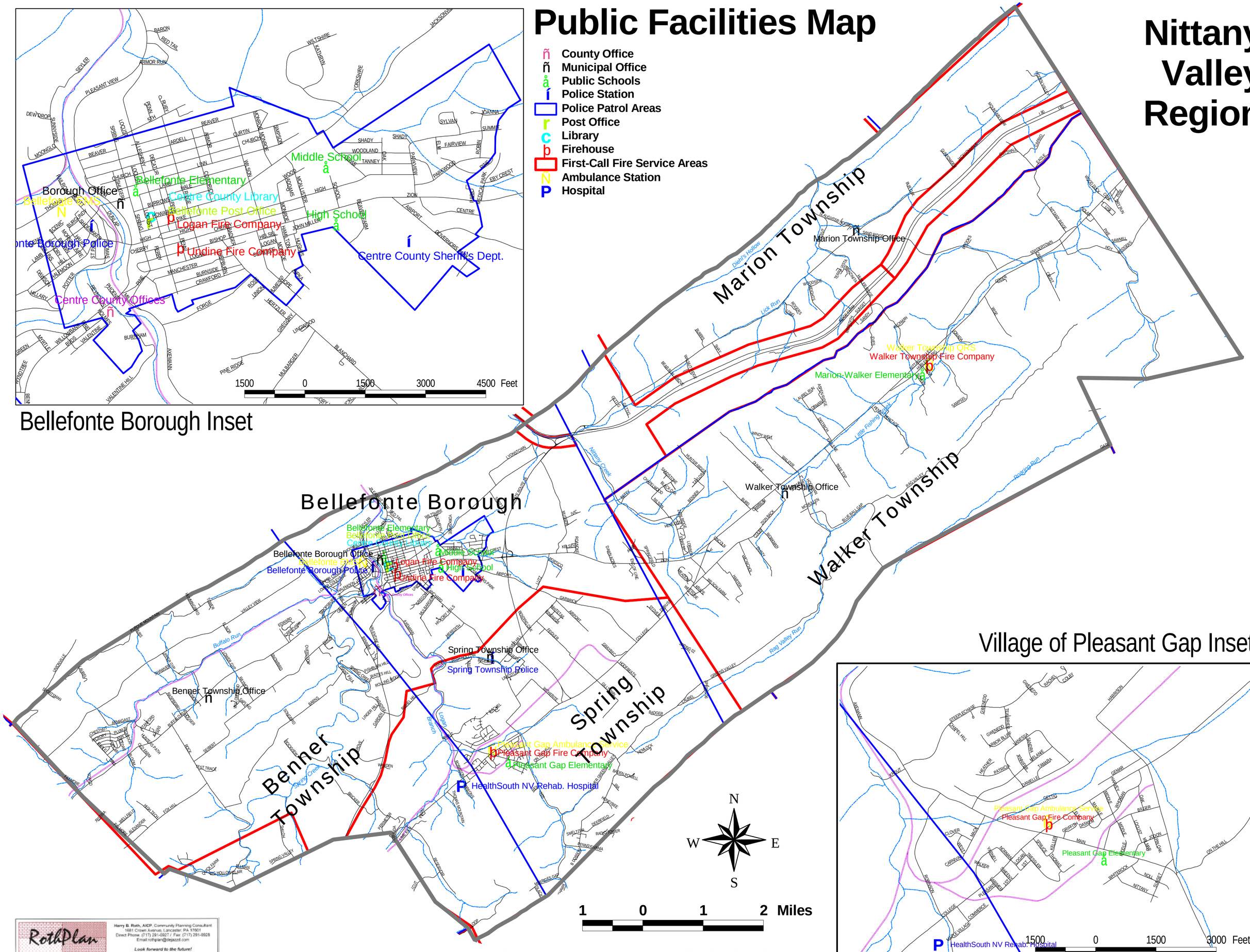
Four separate Elementary Schools serve the Region. First, the Bellefonte Elementary School is located in the southwest corner of Linn and Allegheny Streets within the Borough. This 3.1-acre site includes the oldest of the public school buildings which was built in 1941 and renovated in 1964. This facility is rated in "fair/poor" condition by District officials. This School generally serves students from Kindergarten through grade 5 from Bellefonte Borough and the northern 1/3 of Spring Township.

Second, the Benner Elementary School is located on the south side of Buffalo Run Road about ¼ mile east of the Crestview subdivision in Benner Township. This 11.2-acre site

Public Facilities Map

Nittany Valley Region

- County Office
- Municipal Office
- Public Schools
- Police Station
- Police Patrol Areas
- Post Office
- Library
- Firehouse
- First-Call Fire Service Areas
- Ambulance Station
- Hospital



Bellefonte Borough Inset

Village of Pleasant Gap Inset

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Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

contains a school originally constructed in 1961 to which a mobile addition was attached in year 2000. Its condition is described as "fair/good" by District officials and serves students from Kindergarten through grade 5 from Benner Township and some students from extreme northwest Spring Township. This school has a rated capacity of 300 students and a current enrollment of 222.

Spring Township too has its Pleasant Gap Elementary School located on the southwest side of Main Street west of Whiterock Road in the Village of Pleasant Gap. Here the 25.7-acre site houses a school built in 1953 and renovated in 1974; this facility is described as in "fair/good" condition by District officials. This Village-based school serves students from Kindergarten through grade 5 from the southern 2/3 of Spring Township and small bordering areas in Benner and Walker Townships. This school has a rated capacity of 350 students and a current enrollment of 265.

The Marion-Walker Elementary School is located on the north side of School House Lane in the Village of Hublersburg in Walker Township. This 12.3-acre site contains a school originally constructed in 1961 to which 2 mobile additions were attached in years 1999 and 2002. Its condition is described as "fair/good" by District officials and serves students from Kindergarten through grade 5 from Marion and walker Townships and a small are in northeast Spring Township. This school's rated capacity of 250 students is exceeded by its current enrollment of 306 students.

The Bellefonte Area Middle School is located between Wood and School Streets within the Borough. The Middle School was built in 1962 and renovated recently in 1999; its condition is described as "good." The Middle School site contains 20.7 acres and serves grades 6-8. The school building has a rated capacity of 964 as compared with its current enrollment of 771 students.

The Bellefonte Area High School is located south of School Street within the Borough. The high School was built in 1954 and renovated in 1971; its condition is described as "poor." The High School site contains 27 acres and serves grades 9-12. The school building has a rated capacity of 1040 as compared with its current enrollment of 942.

The following lists the residual capacity of the public schools that serve the Region:

Residual Capacity of Schools Serving Region			
School	**Rated Capacity**	**2002-2003 Enrollment**	**Residual Capacity**
Bellefonte Elementary	575	488	87
Benner Elementary	300	222	78
Pleasant Gap Elementary	350	265	85
Marion-Walker Elementary	250	306	*-56*
Middle School	964	771	193
High School	1040	942	98
		Total Residual Capacity	**485**

In the year 2000, the number of school-aged children within the Region totaled about 3,672 or 16.7% of the total population. Of these about 81.5 percent attended public school. Assuming a similar future ratio, the following tabulates the number of new school-aged students that are projected based upon population growth:

Year	Total Population	Total Children Ages 5-18	Total Children Attending Public School (Net additions since year 2000)
2000	22,006	3675	2995
2010	23,733	3963 (+288)	3230 (+235)
2020	25,460	4252 (+577)	3465 (+470)

As can be seen by comparing the total residual capacity listed for all of the Schools within the District (485) with the projected growth assigned to ages 5-18, the District appears to have sufficient overall capacity to accommodate proposed growth over the life of this plan. However, actual use of space within respective buildings can vary widely and reduce the effective capacity of any particular school site. Moreover, the opening of the I-99 highway could dramatically increase in-migration to the Region and add new students beyond the District's modest projections formulated by the Pennsylvania Economy League (PEL).

Like the Nittany Valley Region, the Bellefonte Area School District must plan for the future. The School District employs a strategic planning process that occurs every six years and evaluates all aspects of the delivery of public education service from physical needs, employment practices and educational performance. The current ongoing process is dated for years 2001-2007. The following summarizes the key components of this process:

Summary of the Bellefonte Area School District Strategic Plan 2001-2007

Mission Statement:

"It is the mission of the Bellefonte Area School District to educate all of our students in a learning environment that prepares them to meet life's challenges."

Objectives of the Strategic Planning Process

- An improvement of student achievement by 8% for both math and reading as measured at grades 5,8 and 11;
- A 25 percent increase in educational funding by competitive grants and private contributions;
- Completion of renovations to the High School or construction of a new High School with facilities for extra curricular activities;
- Begun renovations to or construction of at least two elementary schools;
- Maintained commitment towards "technology" such that all students and parents will have computer access at home or in the school after hours; and,
- Establish a process to evaluate residents satisfaction with District performance so that at least 2 years worth of data is available prior to initiation of the next planning process.

Strategies to Accomplish Objectives

- Utilize cutting-edge technologies to help our students and staff learn;
- Restructure schooling to insure that programs and services are aligned with applicable standards through effective assessment;
- Improve, expand and implement current delivery of remedial and support services;
- Continued pursuit of expanded sources for existing and new school programs;
- Employ innovative means to attract, train and retain the best qualified staff;
- Develop effective adult involvement in student education;
- Resolve and update facilities in accordance with Master Plan; and,
- Provide a school environment where all employees work towards mutual respect and trust among themselves, students, parents and the community.

As part of this process, the District is presently engaged in a public awareness/input campaign to determine its best course of action to expand and rehabilitate its aging facilities. Public meetings are being held for this purpose and pending the results of their outcome, a variety of solutions could be operationalized. Whatever the outcome, the District (like the municipalities within the Region) must continue to provide a level of service that keeps pace with the Region's fair-share of growth and development.

For this reason it is recommended that the Bellefonte Area School District closely monitor growth within the Region so as to proactively plan for facility expansion well in advance of actual demand for space. The School District could benefit from an improved process of residential development review. By learning of proposed developments early, the District can better prepare for needed school expansion and bus routing.

Bellefonte Borough and Spring Township should each revise its subdivision and land development application requirements so that adequate and timely notification to the School District is assured; Benner, Marion and Walker Townships should encourage the Centre County Planning Office to revise its Subdivision and Land Development Ordinance. Similarly, the School District should allocate manpower and resources so as to properly respond to such applications and provide meaningful feedback to the municipalities and their School Board.

Next, the District offers physical education and a variety of competitive interscholastic athletic programs. In addition, intramural recreation programs for the students are conducted "after-school." Finally the District financially supports the operations costs of YMCA-sponsored summer programs. Clearly, the School District has already contributed to the availability of parks and recreation facilities and programs within the Region to the benefit of all residents and municipalities. This represents savings in the amount of millions of dollars to local municipalities who would otherwise need to fulfill this need.

But it sounds as though there is room for improvement. A regional system of parks and programs that fully integrates public school district resources provides the greatest amenity along with the best return on investment. Often impediments to such a fully-integrated system revolve around questions concerning programming priority use of such facilities, liability and maintenance responsibilities. The resolution of these complex issues can appear daunting among educators and local officials without proper expert guidance.

To enhance these offerings and "work-out-the-details" it is recommended that the Region and School District create a new Regional Recreation Board (RRB). This RRB should include at least two voting members from each municipality/ school district who have demonstrated interest in parks and recreation.

One of the first assignments of the RRB should be to prepare and submit an application to PA DCNR for a 50% matching grant from the Keystone Recreation, Park and Conservation Fund to prepare a Regional Comprehensive Park, Recreation and Open Space Plan. With all of the municipalities and the school district represented, this plan is likely to be funded. This Plan could cost about $60,000, half of which would be the

responsibility of the Region to fund. The comprehensive methodology of these plans would fine-tune the way in which parks and recreation facilities and programs would be best managed on a cooperative regional basis. In the end, efficiencies of service and duplication avoidance more than offset the cost of these plans. The Region should take full advantage of this funding mechanism, and clearly establish mutually-beneficial recreation policies, practices and facilities. The next application cycle for this grant is likely to begin in July, 2003 with applications due back in October, 2003. More detailed information on parks and recreation is contained in Chapter VI of this Plan.

B. Police Protection

Police protection is an obvious public service benefiting residents and businesses. The traditional role of the police involves three functions: law enforcement, order maintenance, and community service. Law enforcement involves the application of legal sanctions, usually arrest, to persons who injure or deprive others of life or property. Order maintenance involves the handling of disputes, or of behavior which threatens to produce disputes. The third aspect of the police function, and the one most likely to occupy the major portion of an officer's time, varies from community to community according to tradition and local ordinances. These activities include such tasks as traffic control, rescue operations, animal control, and ambulance and first-aid services.

Police protection within the Nittany Valley Region is provided by a mix of two local and State police coverage. In addition, all emergency police calls are dispatched through the Centre County "911" program. The ***Public Facilities Map*** illustrates the location of the Region's police departments and their service areas which coincide with municipal boundaries.

BELLEFONTE BOROUGH POLICE DEPARTMENT

The following information was obtained from Chief Duane L. Dixon of the Bellefonte Borough Police Department via a mail-back survey.

This Department serves only Bellefonte Borough within the Nittany Valley Region. The Department is presently housed at 236 West Lamb Street, Bellefonte, PA 16823.

Bellefonte Police Station Facilities:

- Administration Room/Chief's Office;
- Detective/Sergeant's Office;
- Locker room;
- Interview room;
- Holding cell; and,
- Briefing room.

Currently, the Department consists of 9 full-time officers, 1 part-time officer, 1 full-time detective and 2 office assistants. The Department recently eliminated one full-time officer position due to budget problems.

The adjoining tabulates this Department's activities over the last four years for its entire patrol area.

Bellefonte Borough Police Department Activity

Year	Total Responses
1999	4209
2000	4270
2001	4268
2002	4307

The Borough's Department provides 21 hour per day patrol coverage in overlapping shifts. Early morning coverage lapses (4:00 A.M. to 7:00 A.M.) are covered by the PA State Police out of their Troop G Headquarters located on South Eagle Valley Road in Boggs Township. More discussion about this State Police Department is contained later in this Chapter. From the Department's shifts it would appear that there are generally two active patrols within the Borough except between 7:00 A.M. to 8:00 A.M. and 3:00 A.M. to 4:00 A.M. when only one patrol is active. The Pennsylvania State Police are only called in as back-up and for early morning patrol coverage. Emergency and non-emergency response times average 1 to 2 minutes.

Bellefonte Patrol Shifts	
Daytime	**Night-time**
7:00 A.M. to 5:00 P.M.	5:00 P.M. to 3:00 A.M.
8:00 A.M. to 6:00 P.M.	6:00 P.M. to 4:00 A.M.

The Department operates with 4 marked police vehicles, two of which have on-board computers. The Chief describes cooperation among the Region's emergency service providers as good. He believes that a increased funding/manpower and a joint department with Spring Township would improve police protection within the Region.

SPRING TOWNSHIP POLICE DEPARTMENT

The following information was obtained from Chief David King of the Spring Township Police Department via a mail-back survey.

This Department serves only Spring Township within the Nittany Valley Region. The department is presently housed at 1309 Blanchard Street, Bellefonte, PA 16823. The station includes five rooms and the Chief believes that additional storage is needed for files and equipment.

Spring Township
Police Station Facilities:

- Secretary/Receptionist room;
- Chief's Office;
- Patrol room;
- 2 storage rooms

Currently, the department consists of 6 full-time officers and 1 office assistant. The Borough's Department provides 20 hour per day patrol coverage in two 10-hour shifts. Early morning coverage lapses (3:00 A.M. to 7:00 A.M.) are covered by the PA State Police out of their Troop G Headquarters located on South Eagle Valley Road in Boggs Township. More discussion about this State Police Department is contained later in this Chapter.

Spring Township Police Patrol Shifts		
Days	**Daytime**	**Night-time**
Mon-Sat.	7:00 A.M. to 5:00 P.M.	5:00 P.M. to 3:00 A.M.
Sunday	8:00 A.M. to 6:00 P.M.	NA

During the week and on Saturday night there are generally two officers assigned per shift. Saturday and Sunday day shift usually consists of one officer. However; these manpower assignments are reduced by vacation, sick leave, personal days, holidays and training. Furthermore, the frequency of vehicle accidents on State roads and I-99 consume considerable patrol time otherwise available within the Township. In addition, complex investigations also reduce effective patrol assignments. The Chief opines that all of these

factors make the Department "unable to provide consistent coverage due to lack of manpower." The Pennsylvania State Police are only called in as back-up and for early morning patrol coverage. Emergency and non-emergency response times are usually less than 5 minutes but this is affected by the location of the patrol call relative to the request/incident.

The adjoining tabulates this Department's activities over the last three years for its entire patrol area.

Spring Township Police Department Activity			
Year	**Total Responses**	**Traffic Accident Responses**	**Serious Offenses**
1999	2384	606	388
2000	2368	620	304
2001	2524	697	233

The Department operates with 4 marked patrol police vehicles, one of which is a four-wheel drive vehicle for inclement weather. Three of the patrol vehicles are equipped with on-board computers. All units have 800mHz radios and VASCAR. The Department has purchased shotguns and patrol rifles with grant money. The Department's equipment enables basic tasks of law enforcement according to the Chief. The Chief describes cooperation among the Region's emergency service providers as good. He believes that a increased funding/manpower across municipal boundaries, acquisition of medical equipment, connection with a regional information system, increased public outreach and education and specialized officer training are the keys improved police protection within the Region. He also has trouble retaining staff due to relatively low wages within the region.

PENNSYLVANIA STATE POLICE

The following information was obtained from Lieutenant Jeffrey S. Watson of Troop G of the Pennsylvania State Police Department via mail-back survey.

This Troop of the Pennsylvania State Police serves 14 Townships, 5 Boroughs and 28 miles of I-80 within Centre County. Specifically within the Nittany Valley Region, this Troop provides primary police protection to Benner, Marion and Walker Townships, plus part-time and upon-request back-up to Bellefonte Borough (4:00 A.M. to 7:00 A.M.) and Spring Township (3:00 A.M. to 7:00 A.M.) The Region is divided among two patrol zones. Bellefonte, Benner and Spring are located in Patrol Zone 16 while Marion and Walker are situated in Patrol Zone 15. Patrol shifts run around-the-clock with the following schedule:

Pennsylvania State Police Shifts		
Day shift	**Evening Shift**	**Night Shift**
7:00 A.M. to 3:00 P.M.	3:00 P.M. to 11:00 P.M.	11:00 P.M. to 7:00 A.M.

Generally four troopers are assigned per shift. Presently this facility houses 21 full-time patrol officers, 8 supervisors, 5 full-time detectives, 6 office assistants 1 fire marshal and 1 accident reconstruction specialist. Manpower needs are assessed annually by the Pennsylvania State Police, Bureau of Research and Development, using a complex

equation that considers demographics, geography, crime patterns, and statistics and other factors.

The remodeled Troop G headquarters is located at 745 South Eagle valley Road in Boggs Township. The facility is due for a "review" but the State has decided to postpone this review to better understand the impact that the new I-99 will have on demand for police service and traffic accessibility. Response times vary widely across the Patrol Zones.

Finally, Lieutenant Watson believes that the State Police have the necessary manpower, equipment and resources to adequately serve the Region's needs. He believes that his agency and the municipalities within the Region cooperate "reasonably-well," despite a communication barrier resulting from different radio formats used by his agency and those of the local municipalities. New radios are expected in 2004 and this problem should improve.

FUTURE REGIONAL POLICE PROTECTION

The goals for this Plan specifically assemble into two distinct "camps" relating to regional police protection. Bellefonte Borough and Benner and Spring Townships welcome another chance to establish a regional police force (assuming it makes sense) while Marion and Walker Townships are perfectly content with their coverage by the PA State Police.

Fortunately, the other goals and community development objectives support this divergent approach. Clearly Bellefonte Borough's and Benner and Spring Townships' locations within Centre County suggest more rapid growth than do Marion and Walker Townships' remote settings. Regional police forces usually occur within areas that are growing.

As an area develops, local officials find themselves torn between retaining low levels of taxation, and providing for increasing levels of public facilities and services that are usually expected by the "newcomers." This often pits long-time residents of the community who want things to remain as they were against new residents who move from more urbanized locations, and are often surprised and disappointed by the relative lack of public services. At some point, the new residents usually outnumber the existing inhabitants and the political winds change. At that time, new officials are elected on platforms of better delivery of more services, and real ill-will within the community develops.

Local officials need to know and understand these pressures if they are to persevere through the transition. The question is not **if** better services and higher taxes result, but **when**! Fortunately, State programs exist to assist municipalities with these difficult studies and decisions and offer independent expert advice. Some of these programs are free, while others are offered in the form of peer-to-peer grants. In any event, these programs and grants can provide invaluable assistance to the open-minded elected official who is trying to "cut through" all of the local politics and emotion. ***For this reason, it is suggested that Bellefonte Borough, and Benner and Spring Townships participate in a regional police feasibility study under the PA DCED Regional Police Assistance Grant Program***. This program provides grants for a period of up to three years for the start-up of consolidated police departments. It helps to pay (up to $99,000) for a Regional Police

Chief salary and other related expenses. More information can be obtained from Dale Frye at 1-888-223-6837 or email dalfrye@state.pa.us.[1]

C. Fire Protection and Ambulance Service

Fire protection is a basic public safety service that is important to the Region. Obviously, fire protection is intended to minimize the loss of life and property due to fire and related hazards. The level of fire protection a community offers also affects the rate which area residents and business owners must pay for fire insurance. Three fire companies are located within the Nittany Valley Region. In addition to being responsible for their primary service areas, these companies provide reciprocal, mutual-aid assistance to each other and to other surrounding fire companies as needed. Mutual-aid assistance enables neighboring fire departments to supplement manpower and equipment, and thereby respond more effectively to multiple or major calls.

Ambulance service is an obvious lifesaving benefit. Emergency ambulance service involves the pick-up of patients at the scene of an accident or other medical emergency, and their transport to local medical care facilities for treatment. Ambulance service can also involve routine transport, which is the transport of patients from one medical facility to another, or to their home. Two ambulance companies are located within the Region.

The table on the following page summarizes fire protection and ambulance services within the Region, respectively.

[1] http://www.inventpa.com/default.asp?path=^community&prog=Regional+Police+Assistance+Grant+Program&cat=MUNICIPAL+SERVICES&bhcp=1

Summary Characteristics of Fire & Ambulance Companies Within the Nittany Valley Region

Company		Bellefonte Fire Dept.	Pleasant Gap Fire Co.	Walker Twp. Volunteer Fire Co.	Bellefonte EMS++	Pleasant Gap Ambulance Service	Howard Borough Fire Co. & QRS+
First Call Service Areas *Within the Region* (see *Public Facilities Map*)		***Bellefonte, northern Spring & western Marion Townships***	***Spring & Benner Townships***	***Walker & a portion of Marion Townships***	***Bellefonte, Benner, Marion, Spring,*** Boggs, Howard, Milesburg, Union & Unionville	***Benner, Spring & Walker***	***Marion Twp.*** Curtin, Howard & Liberty Twps & Howard Borough
Mutual-Aid Service Areas *Within the Region*		***Benner, Marion, Spring, Walker,*** Boggs, Milesburg, State College,Port Matilda & Philipsburg	Centre Hall, ***Bellefonte, Walker***, College, State College	***Bellefonte, Marion, Spring,*** Howard, Miles & Porter	***Walker***, Gregg, Hunter, Penn, Potter, Snow Shoe Borough & Twp.	***Bellefonte Borough***	***Walker Twp***. Boggs, Porter, & Union Twps. Milesburg & Unionville Boroughs
Station Locations *Within the Region* (see *Public Facilities Map*)		Logan Stattion – 120 E. Howard St. Bellefonte, PA Undine Station – 133 E. Bishop St. Bellefonte, PA	119 East College Ave. Pleasant Gap, PA***	2828 Zion Road Bellefonte, PA 16823*****	369 Phoenix Ave. Bellefonte, PA 16823	119 East College Ave. Pleasant Gap, PA***	341 Walnut Street Howard, PA
Average No. of Volunteers		75 full-time volunteers	45 full-time volunteers 8 fire police	43 part-time volunteers 7 fire police	5 full-time paid staff 4 part-time paid staff	24 part-time volunteers 1 full-time paid staff 10 part-time paid staff	40 part-time volunteers
1st Due Calls 1999-2001	**1999**	365	146	67	NA	445	160
	2000	375	113	60	NA	463	159
	2001	390	106	71	NA	521	148
Mutual-Aid Calls 1999-2001	**1999**	75	41	32	NA	30	33
	2000	85	56	12	NA	30	31
	2001	100	65	17	NA	13	31
Average Emergency Response Time*		4 mins.	4–5 mins.	4 mins.*****	2 mins.	2-3 mins.	4 mins.
Major Equipment		• 3 engines • 1 engine-rescue • 2 aerial trucks** • 1 tank truck • 2 brush vehicles	• '86 tanker • '91 engine • '91 engine/rescue • 94 ambulance • '96 ambulance • '97 rescue	• 1 engine • 1 engine/rescue • 1 tanker • 1 QRS unit • 1 rescue tool • 1 AED • 1 brush unit	• '02 Type 1 Medium-duty • '95 Type 1 Medium-duty • '93 Type 3 Medium-duty	• '94 Type III Ford Braun Ambulance**** • '98 Type III Ford Braun Ambulance • 2 Headstart FR2 AEDs • 2 X-Frame Stryker litters	• '79 & 00 Alf Engines • '80 Ford tanker • '82 Chevy rescue • '97 Ford Expedition QRS • air cascade system • other misc equipment

*Time that it takes the vehicle to leave the station.
**One aerial truck is presently out of service and is scheduled for replacement within next few months.
*** Chief Gary Royer believes that the firehouse is too small and that the Department is looking to build a new firehouse.
**** Establishing a committee to replace '94 ambulance.
***** Walker Township Volunteer Fire Company, Inc. is in the process of establishing a satellite station in the Zion area to reduce response times to populated areas.
+ Howard Borough Fire Company also provides quick response medical care.
++ Bellefonte is reverting to Basic Life Support.

FUTURE VOLUNTEER MANPOWER

Each of the fire and ambulance companies expressed a concern over declining numbers of volunteers. This is particularly true of “younger volunteers” who will become the next generation of emergency service providers. However, given the projected growth within the Region, future demands will rise and more manpower will be needed. Nationally, volunteerism is declining. The National Volunteer Fire Council reported that the number of volunteer firefighters dropped 12% since its record high in 1983. And, despite President Bush's call to public service after "9/11", the downward trend continues. This often forces mutual-aid responses from distant companies; this strategy may work in the short term, but will eventually overburden volunteers who will get frustrated and quit. The more you demand of a volunteer, the less you are likely to receive! Declining manpower response is most problematic during the day when many volunteers work outside of their first-due response area.

Presently, 3 separate fire companies serve the Nittany Valley Region with 120 full-time volunteers, 43 part-time volunteers and 15 volunteer fire police. A 1999 study conducted by the Pennsylvania Fire and Emergency Services Institute showed that most fire companies have between 11 and 20 active members. Consequently, the Nittany Valley Region’s average of 40 full-time members per company suggests that volunteerism is at a high level. Nonetheless, local fire officials have observed a decline in new membership and know that difficult times lie ahead. Furthermore, in light of the terrorist attacks committed against the United States on September 11, 2001, many experts argue that the capacity to respond to local emergency crises needs to be expanded. Fortunately, many citizens within our society have begun to acknowledge the important and life-saving roles volunteer firefighters, EMTs and local police officers provide.

To enlist more volunteer firefighters/EMTs, particularly during the daytime, it is recommended that the Region create a new Emergency Services Alliance of local officials (say, one from each municipality), the fire chiefs from each fire company and the ambulance chiefs from each ambulance company. The Alliance should seek to ensure that the following possible sources of daytime and other volunteers are put in place:

1. ***Recruit firefighters/EMTs who live within the Region and work for businesses located here;***

2. ***Recruit firefighters/EMTs who live outside of the Region, but work for businesses located here;***

3. ***Establish policies with local governments, businesses and industries that enable their employees to respond to daytime emergencies;***

4. ***Identify local volunteer firefighters/EMTs who may work for Centre County and State and Federal agencies, and establish policies for their release from work duties to respond to daytime emergencies within the Region;***

5. ***Design ongoing recruitment strategies for new resident volunteers and retention strategies for existing volunteers; and,***

6. ***Explore the offering of a "junior" firefighting curriculum within the public School Districts as a means of developing interest and expertise among potential future volunteers.***

7. ***Develop an internship program with the Pennsylvania State University.***

Prior to actual recruiting, the Alliance should complete the following evaluation process:

A. ***Determine the need by local fire/ambulance chiefs for more volunteers from any of the preceding sources within their respective companies;***

B. ***Establish policies within the Region's fire and ambulance companies that allow for nonresidents to become members of their respective companies;***

C. ***Identify those local and nonresident volunteers who work for companies within the Region who could potentially respond to daytime emergency calls;***

D. ***Determine the level of competence of potential volunteers and/or training needed to "run" with local companies;***

E. ***Establish ongoing working agreements with local businesses for the release of volunteer firefighters/EMTs during daytime emergencies;***

F. ***Require the potential "daytime" employee volunteer firefighter/EMTs to become an official member of the respective fire/ambulance company, so that they can be covered by the municipality's workmen's compensation insurance policy; and,***

G. ***Establish an ongoing mechanism that periodically reinitializes the recruitment process.***

Today, emergency services often involve specialized equipment and training. The Region's fire and ambulance companies already have an informal means of efficiently using the specialized skills and expertise of existing volunteers across the Region. ***The Emergency Services Alliance should also formalize a program to deliver specialized training to ensure a wide and uniform coverage of specialized skills and expertise throughout the Region***. In addition, the PA DCED's Shared Municipal Services Program offers matching grants for any two or more municipalities who jointly perform local government functions. Such grants have been awarded to fund paid administrators to over see the preceding recruitment and training activities. ***The Nittany Valley Region could benefit from the same type of position to carry out these same duties, as discussed in this section of the Plan.***

FUTURE FUND-RAISING

Like a lack of manpower, local volunteer fire and ambulance companies are plagued by rising costs associated with the need to purchase equipment and supplies. A 2001 study conducted by the Pennsylvania Fire and Emergency Services Institute provided information about the costs saved by the Commonwealth's volunteer fire companies. Essentially, they assumed that, in the absence of volunteer fire companies, paid companies would require:

"Typical Costs Associated with Fire Protection in Year 2001"
• One fire company serves each 10,000 population; • Each company requires 20 full-time paid firefighters; • Each firefighter would be paid $55,000, including benefits; • Each company would have an average annual operating budget of $50,000; • The cost of protective clothing/gear for each firefighter would total $5,688; • Each company would average 4 emergency vehicles at a cost of $275,000 per vehicle.

Using these assumptions, the Nittany Valley Region would incur the following costs:

"Estimated Costs of Providing Fire Protection Within the Nittany Valley Region in Year 2003"
• Nittany Valley Region population of 24,070 would require 2.4 fire companies; • $2,640,000 annual salaries of 48 paid firefighters; • $120,000 annual operating expenses of 2.4 fire companies; • $273,024 cost of protective clothing/gear; and, • $2,640,000 cost of emergency vehicles.

The following tabulates the amounts contributed by each municipality to their respective fire and ambulance companies in year 2002:

Summary of Municipal Contributions to Local Fire & Ambulance Companies

Municipality	Fire Companies	Ambulance Companies	Total Contribution
Bellefonte Borough	$98,136.74	$1,945.00	$100,081.74
Benner Township	$50,291.71	$3,211.22	$53,502.93
Marion Township	$12,012.60	0	$12,012.60
Spring Township	$98,000.00	$2,000.00	$100,000.00
Walker Township	$56,016.08	0	$56,016.08
Total Region	$314,457.13	$7156.22	$321,613.55

A comparison of the Region's 2002 known contribution to the local volunteer fire companies of $314,457.13 is about 11 percent of the annual expenses needed to man and operate a paid equivalent complement of fire companies. ***In order to offset the financial value of local volunteer efforts, each of the Region's estimated 8834 households would need to pay about $312 per year to cover operating expenses.*** These figures do not even consider the capital costs associated with protective

clothing/gear and emergency vehicles that would substantially increase monies needed. Also keep in mind that this analysis only relates to fire protection; volunteer ambulance services also provides for considerable cost savings. Undeniably, local volunteers have made, and continue to make, huge contributions to the safety and financial well-being of the Region. It is vital that their efforts continue!

Local officials and volunteers are aware of these difficulties. Yet, in many cases, an area's long-time residents usually financially support local fire and ambulance companies at an appropriate level. They have been historically educated about the value of local volunteer efforts. However, as the Region has grown and will continue to do so, many new residents have moved here from other, more urban, locations where paid fire-fighting and ambulance services are normal. These new residents are unaware of their reliance upon, and the plight of, local volunteer companies. Therefore, ***the Region must cultivate awareness among the newly-arrived residents of the need for their financial and manpower support to sustain volunteer firefighting and ambulance services.***

To accomplish this awareness, the local fire and ambulance chiefs must work with local municipalities on a regular and ongoing basis to mount an educational and media campaign. Such campaign must exceed the traditional general campaign that merely includes statements like the following:

- *"Local volunteer fire and ambulance campaigns depend entirely upon your donations";*
- *"Not a single tax dollar is used by local volunteer fire and ambulance companies."*

The new campaign should be more of an "in-your-face" effort that presents specific findings and presents hard, "credible" facts about the cost of delivering these services and the foreseeable equipment needs of the various companies. It should explain the benefits of new equipment and what it can mean to the Region. It should also portray the competent plans of the local companies in their attempts to ensure an adequate level of protection in the near and long-range future. Schedules for equipment replacements and upgrades should be accompanied with target financial goals to which the public can respond. Citizens should gain an understanding that local companies really need this equipment, and that they are not just "after" the newest and shiniest truck on the market.

To demonstrate these facts, the Region should (through the above-described Alliance) apply to the PA DCED for the preparation of a technical review, as part of its Shared Municipal Service Program, at no cost to the Region. This will require the preparation of a "Single Application for Assistance," a copy of which can be found online at www.esa.dced.state.pa.us***. The PA DCED will examine the adequacy of the Region's equipment to provide adequate service. Then, the results of these impartial and objective analyses should be used to program needed equipment purchases, and justify funding requests and pledge drives in the ongoing media and educational campaign. In addition, the results of the analysis can be used as justification for additional application to the PA DCED for 50/50 matching grants for other equipment needs, like communications and dry-hydrant programs.***

Other related facts that should be emphasized to the public include:

- Local volunteer fire and ambulance companies are responding to ever-increasing numbers of calls based upon the Region's growth with actual figures presented; and,
- Local volunteer fire and ambulance companies are responding to a wider variety of types of calls and that the amount of time spent per incident is also increasing.

As a byproduct of this campaign, the municipalities should annually, publicly present the names of those businesses and individuals who contribute to the various companies. This will publicly recognize those who offered support, and potentially impose peer pressure to others who have not contributed to these important efforts. An annual subscription program can simplify this process. In addition, some volunteer ambulance companies have begun to affix advertising logos on the sides of their vehicles for private sponsors who contribute substantial sums each year.

Even though local volunteer firefighters are described as strong-willed, determined and fiercely independent, most agree that difficult times lie ahead. Therefore, as a long-term strategy, ***local volunteer fire companies and municipal officials should begin to explore the partial and gradual use of other funding mechanisms (e.g., billing for responses, fire tax, etc.), so that these measures can be phased-in, in support of local volunteer efforts, rather than allowing for complete failure of the volunteer system which would then be replaced by a completely-paid force.***

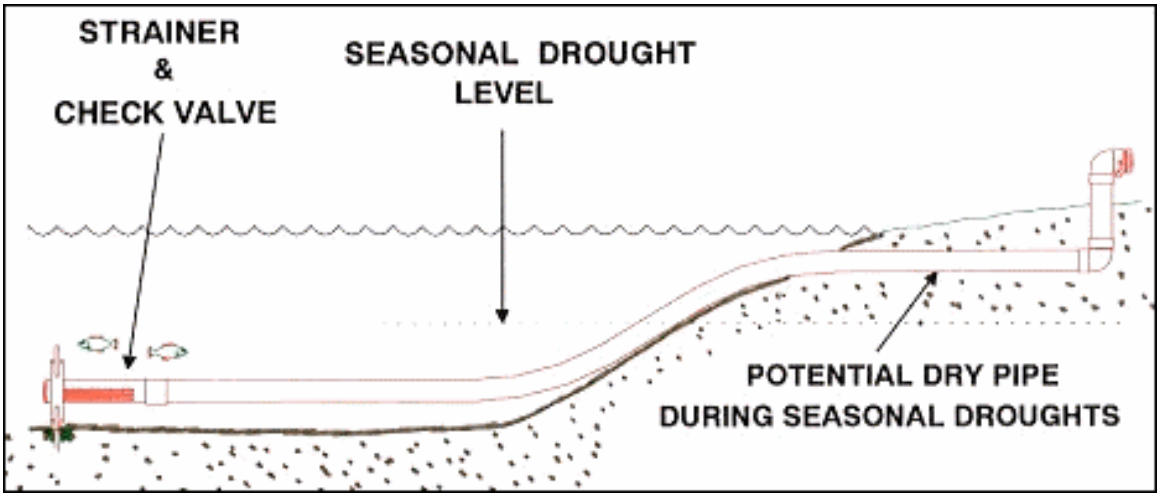
Other issues raised by local fire and ambulance companies that could improve emergency service to the Region include:

DRIVEWAY DESIGN AND ADDRESSING - ***As a means of improving emergency access and response, each municipality within the Region should adopt minimum driveway design standards that facilitate adequate emergency access and resist efforts to waive or vary from these safety-related standards. Such standards should require:***

- A minimum 10 foot-wide improved (paved or stone surface) cartway for single-use driveways and 16 feet for joint-use driveways;
- A paved apron connection with the public or private street that extends at least 25 feet off-of the road cartway and has a slope of no more than 8 percent;
- A minimum 12-foot high clear vertical path along the driveway between the road and all structures that is free of vegetation and other obstruction;
- A maximum driveway length of 600 feet for single–use driveways and 1000 feet for joint-use driveways; and,
- Posting of reflective road address number signs at all driveway entrances or turn-outs along joint-use driveways. On paved driveways reflective paint can be used upon the driveway apron to portray the street address number as an alternative to reflective sign posting.

In addition, the County's improving GIS mapping database can provide each fire and ambulance company with emergency response mapping that clearly depicts every property and its address. As this database continues to evolve in the coming years, such maps can depict actual driveway and structure locations and aerial photographs. This can greatly assist in emergency response in rural areas that are difficult to negotiate at street level.

DRY HYDRANT INSTALLATION ***– One Fire Chief expressed the need for better sources of water for firefighting within the rural areas of the Region. Dry hydrants are permanently mounted pipes that are located at local sources of water (ponds and streams) that firefighters can readily access during times of emergency. Typically these hydrants are located alongside an improved public street about 10 feet away from the cartway. They appear as 5" PVC pipes extending out of the ground with suitable tap fittings. From here the pipes travel underground into the water source where strainers are used to keep them clear of debris and silt. Installation of these hydrants costs about $750 to $1000 and can be less if volunteer or Township excavating can be used. The installation of these hydrants can affect a reduction in homeowner insurance rates. Easements from private property owners need to***



be negotiated and recorded so that future conveyances of the property preserve the water access. In addition, prior to installation a permit would be required from the Centre County Conservation District. The following presents that permit process as described by the District:

> *"The installation of a dry hydrant in a pond, lake, stream, or other body of water is regulated by the Commonwealth of Pennsylvania, through 25 PA Code Chapter 105, also known as the Dam Safety and Waterway Management Rules and Regulations. As such, a permit would be needed to install these devices. The Centre County Conservation District has a delegation agreement with the Department of Environmental Protection to issue certain types of stream permits, known as General Permits, in Centre County.*

"The installation of a Dry Hydrant could be done under GP-4, intake and outfall structures. To get overage under this general permit, you would need to fill out a registration form, and a few other associated forms, and send the package to our office. There is a $25.00 fee associated with our review of an Erosion and Sediment Control plan for General permits. There is one exception: If the water body where you want to install the hydrant is classified as Special Protection (High Quality or Exceptional Value) by 25 PA Code, Chapter 93, then the project would not qualify for a General Permit, and a Water Obstruction and Encroachment Permit would be needed from the Department of Environmental Protection Regional office. We have a page on our web site dedicated to explaining these permits, and there are also links to the forms. Please go to:

http://www.co.centre.pa.us/conservation/streampermits.htm"[2]

It is noted that Walker Township has recently received a permit to install two dry hydrants and Marion Township already has dry hydrants installed for use by the Howard Fire Co.

DEVELOPMENT REVIEW - One Fire Chief believes that a better system of development review should be engaged that provides local fire companies an opportunity to offer input on emergency-related design. Another believes that residents must be required to "post" their assigned street numbers to facilitate better property identification during emergency response. Specifically, concerns over public and private road widths, turning radii, cul-de-sac lengths, fire hydrant placement and fire lanes are all issues that should be considered before a final subdivision/land development plan is approved. Furthermore, changes to use and occupancy of existing buildings can have profound effect upon the types of materials and activities that take place within a building. These changes should be communicated to local fire companies so that they are optimally prepared to respond to emergencies. Spring Township already engages a development referral process to local Fire Chiefs but with no established standards. It is also noted that the nearby Centre Region has developed and proposed a fire protection ordinance that could be adapted for use within the Nittany Valley Region depending upon its specific requirements.

For all of these reasons it is recommended that the ESA develop minimum design standards for road width, turning radii, cul-de-sac length, hydrant placement and fire lanes based upon local needs and equipment. Then these standards should be incorporated into local zoning and subdivision/land development ordinances. Any applications for variances or waivers to these standards should require a referral to the local fire chief for input prior to the decision on the matter. Also it is recommended that each municipality develop zoning regulations that compel the reporting of materials and waste handing practices as part of any zoning permit or use and occupancy permit. Then copies of this information should be provided to the local fire companies to aid in their emergency preparedness and response.

[2] Feb. 25, 2003 email from James R. Coslo Jr., CET, Resource Conservation Supervisor, Centre County Conservation District

D. Municipal Government

This section provides a description of local government structure and function in the Region's five municipalities. The role of local officials, boards, commissions, authorities, committees, and staff are set forth to provide an understanding of the hierarchy of local decision-making, input into these decisions, and the role of citizen involvement.

BELLEFONTE BOROUGH

Office Address: 236 West Lamb Street, Bellefonte, PA 16823

Office Phone Number - (814) 355-1501

Office Fax Number - (814) 353-2315

Office Hours: Monday–Friday: 8:00 a.m.–4:30 p.m.

General Email Address: boro@bellefonte.net

Description of Office and Facilities: Current municipal building was originally built for the West Penn Power Company. The building contains 4000 sq. ft. of administrative offices a 1000 sq. ft. Council Chambers with public meeting room, the Police Department and the Public Works Department on the first floor with offices, garage and storage. The building is ADA compliant.

Municipal Staff: The Borough has a large staff of full-time and part-time employees as listed below:

Full-Time staff – 36 employees
Borough Manager
Assistant Borough Manager/Planning and Preservation
Zoning & Housing Codes Compliance Officer
Planning Preservation Officer
Administrative Assistant
Administrative Assistant Wage Tax Office
Public Works Superintendent
Assistant Public Works Superintendent
Mechanic
Electrician
Assistant Electrician
6 Refuse Crew
5 Road Department
3 Water Department
Wastewater Superintendent
Assistant Wastewater Superintendent
Wastewater Lab Technician
5 Wastewater Shift Operators
3 Wastewater Maintenance

Part-Time Staff – 7 employees
Finance Administrator
Utility Billing Administrator
1 Refuse Crew
Parks & Recreation Director
2 seasonal Parks & Recreation staff
1 Wastewater seasonal Maintenance

Mayor: The Mayor is an elected 4-year position who has a seat at the Council table and provides valuable input into the functions reviewed by the Council.

Borough Council: Borough Council is the elected governing body of the Borough. The 9-member Council meets on the 1st and 3rd Mondays of the month, in the Borough Building. Their public meetings begin at 8:00 p.m. which are preceded by work meetings at 6:00 p.m. They serve 4-year terms, review issues involved in operating the municipality, address resident concerns and set future policy standards, which are then followed through by Borough staff. The Council also has assignments on various functional committees.

Planning Commission: Members are appointed by Borough Council for 4-year terms. The 5 members meet in the Borough Building on the last Monday of each month beginning at 7:00 p.m. The Planning Commission is an advisory board to Borough Council on matters of land use and community development.

Zoning Hearing Board: Members are appointed by Borough Council for 5-year terms. The 5 members meet in the Borough Building on the 2nd Wednesday of each month at 7:00 p.m. The Board reviews and acts upon requests for zoning variances or special exceptions from property owners who want to build or use their properties, which do not follow the Zoning Ordinance.

Borough Authority: The Bellefonte Borough Authority owns the assets of the water and sewer systems. By agreement, the borough manages the water system's day-to-day operations. The sewer system is leased to and operated by the borough. Members are appointed for 5-year terms. The 7 members meet on an as needed basis.

Industrial Development Authority – This five-member board is committed to attracting capitol investment and maintaining a suitable economy. The members meet as needed.

Shade Tree Commission: Three borough residents, appointed by Borough Council for a 5-year term, are authorized to plant, remove, maintain and protect shade trees on all public rights-of-way located within Bellefonte Borough.

Civil Service Commission: Consists of three borough residents appointed by Borough Council to make rules and regulations providing for the examination of applicants for positions in the police force and as paid operators of fire apparatus and for promotions. The rules and regulations prescribe the minimum qualifications of all applicants to be examined and the passing grades

Airport Authority: Bellefonte Borough Council appoints three members to the Centre County Airport Authority. The purpose of this authority is to operate and maintain the Airline Terminal and associated vehicle parking at the University Park Airport, located in Benner Township. The Pennsylvania State University owns and operates the remainder of the airport.

Historical & Architectural Review Board: The purpose of this board is to make recommendation to borough council concerning proposed exterior building changes and new construction visible from a public right-of-way for properties located within the boundaries of the locally designated historic district. Comprised of 7 members appointed by borough council: one registered architect, one licensed real estate broker, one borough building official, one business person whose principal place of business is located in the HARB-regulated historic district, and three people with a knowledge of and interest in historic preservation.

Housing Board of Appeals: Members are appointed by Borough Council for 5-year terms. The 5 members meet in Borough Council Chambers at a date and time as requested. The Board has the jurisdiction to hear and decide appeals where it is alleged that there is error in any order, requirement, decision, or determination made by the Borough relative to building and housing codes.

Centre County Library Board: The Centre County Library Board consists of 9 members. Of these, two are appointed by Bellefonte Borough Council, three by the Centre County Commissioners, and one each by the Haines Township Supervisors and Philipsburg Borough Council. The final two are appointed by the Board of Trustees from nominations made among residents of Centre County. Board members serve a 3-year term and may serve 2 consecutive terms on the board. Board meetings are held in the John Miller Room of the Centre County Library Historical Museum, 203 North Allegheny Street, Bellefonte, PA on the third Thursday of each month.

BENNER TOWNSHIP

Office Address: 1224 Buffalo Run Road, Bellefonte, PA 16823

Office Phone Number - (814) 355-1419

Office Fax Number – (814) 355-1126

Office Hours: Monday though Friday 8:00 a.m. to 3:30 p.m.

Description of Office and Facilities: The current municipal building was first built as a maintenance building and meeting room in 1972. The Township office was added in 1987 and includes 3 offices. Meeting room has a capacity of 30.

Municipal Staff: The Township has the following paid staff:

Full-Time Staff	**Part-Time Staff**
Secretary/Treasurer	3 Road Crew
Zoning Officer	5 Summer Park & Recreation
4 Road Crew	Summer Recreation Director

Board of Supervisors: Board of Supervisors is the elected governing body of the Township. Each member serves six-year terms. The 3-member Board meets in the Municipal Building on the 1st and 3rd Mondays of each month, at 7:30 p.m.

Planning Commission: Members are appointed for 4-year terms. The 7 members meet in the Municipal Building on the 2nd and 4th Thursday of the month, at 7:00 p.m. The planning commission advises the Township Supervisors on matters of community planning, zoning and subdivision and land development.

Zoning Hearing Board: The 3 members are appointed for 3-year terms and meet as needed. They render decisions on applications for variances and special exceptions to the zoning ordinance.

Water Authority: This 6-member board serves 4-year terms and meets on the 2nd Monday of each month at the Township Office beginning at 6:30 p.m.

Agricultural Security Area Advisory Committee: This appointed five member Board meets on an as needed basis to recommend revisions to the Township Agricultural Security Area.

Spring, Benner, Walker Municipal Authority: This joint municipal authority has seven members who meet the 2nd and 4th Mondays of each month at 7:00 p.m. at the authority office at 170 Irish Hollow Road, Bellefonte, PA 16823. Their phone number is (814) 355-4778 and fax is (814) 355-1599. This authority oversees the inter-municipal sanitary sewer system.

MARION TOWNSHIP

Office Address: 4337 Jacksonville Road, Howard, PA 16841

Office Telephone: (814) 625-2061

Office Fax: (814) 625-9186

Office Hours: Tuesday through Thursday; 9:00 a.m.–3:00 p.m.

Description of Office and Facilities: The Township office contains one office and a meeting room.

Municipal Staff: Staff currently consists of several part-time positions including Township Zoning Officer, 5 Roadmasters, and a Secretary/Treasurer.

Board of Supervisors: Board of Supervisors are the elected governing body of the Township. Members are elected for 6-year terms and elected at staggered two-year intervals. The 3-member Board regularly meets at the Township Office on the 2nd Tuesday of every month at 7:30 p.m. Duties include governing and execution of legislative, executive and administrative powers to ensure sound fiscal management and to secure the health, safety and welfare of the citizens of the Township.

Planning Commission: Members are appointed for 5-year terms. The 5 members meet at the Township Office on the 1st Tuesday of the month at 7:30 p.m. unless there is no business to be transacted.

Zoning Hearing Board: The Board consists of 3 regular members, appointed to 6-year terms. The Board meets as needed. They render decisions on applications for variances and special exceptions to the zoning ordinance.

Park and Recreation Board: 1 Chairman meets the 3rd Tuesday of each month at 7:00 p.m. at the Township Office.

SPRING TOWNSHIP

Office Address: 1309 Blanchard street, Bellefonte, PA 16823

Office Phone: (814) 355-7543

Office Fax: (814) 355-2801

Office Hours: Monday–Friday; 8:00 a.m.–5:00 p.m.

Description of Office and Facilities: The Township's office building was originally constructed in 1968 and renovated in 1996. It includes 4000 square feet of conference room, meeting room, 5 offices and a police squad room. It is ADA compliant. In addition the Township has the following other buildings:

Building	Size	Year Built
Salt shed	1920 sq. ft.	1985
4-bay garage	3090 sq. ft.	1995
4-bay garage	1760 sq. ft.	1993
Police garage	1820 sq. ft.	1986
Old 3-bay garage	1672 sq. ft.	1972*

* Renovated in 1996

Municipal Staff: The Township has the following paid staff:

Full-time Staff - Supervisor's Secretary, Tax Clerk, Police Secretary, Zoning Officer and 4 Road Crew

Part-time Staff - Clerk

Board of Supervisors: Board of Supervisors is the elected governing body of the Township. Members are elected for 6-year terms The 3-member Board meets at the Township Office on the 1st Monday of each month at 7:00 p.m. Duties include governing and execution of legislative, executive and administrative powers to ensure sound fiscal management and to secure the health, safety and welfare of the citizens of the Township.

Planning Commission: Members are appointed for 4-year terms. The 7 members meet at the Township Office on the 3rd Monday of every month at 7:00 p.m. Duties include review of submitted subdivision and land development plans and overall community planning issues.

Zoning Hearing Board: The Board consists of 3 regular members, appointed to 3-year terms. The Board meets at the Township Office on an as-needed basis, to review hear requests for special exceptions and variances.

Spring, Benner, Walker Municipal Authority: This joint municipal authority has seven members who meet the 2nd and 4th Mondays of each month at 7:00 p.m. at the authority office at 170 Irish Hollow Road, Bellefonte, PA 16823. Their phone number is (814) 355-4778 and fax is (814) 355-1599. This authority oversees the inter-municipal sanitary sewer system.

Spring Township Water Authority: This authority oversees the operation of the Township's public water system. Its five-member board serves 4-year terms and meets the 4th Wednesday of each month at the Township office beginning at 7:00 p.m.

Park & Recreation Board: This advisory Board is comprised of 5 members who serve 4-year terms. They meet the 2nd Wednesday of each month at the Township Office beginning at 7:30 p.m. This board recommends park and recreation facilities and programs to the Board of Supervisors.

WALKER TOWNSHIP

Office Address: 816 Nittany Valley Drive, Bellefonte, PA 16823

Office Telephone: (814) 383-2859

Office Fax: (814) 383-2330

Office Hours: Monday through Thursday; 9:00 a.m.–3:00 p.m.

Description of Office and Facilities: The Township office was built in 1980 with approximately 7500 square feet. It contains three offices and two meeting rooms, the largest of which seat about 50 people. The Township also has a 3 bay salt shed and utility building.

Municipal Staff: Staff currently consists of one supervisor and one secretary.

Board of Supervisors: Board of Supervisors are the elected governing body of the Township. Members are elected for 6-year terms and elected at staggered two-year intervals. The 3-member Board regularly meets at the Township Office on the 1st Wednesday of every month at 7:00 p.m. Duties include governing and execution of legislative, executive and administrative powers to ensure sound fiscal management and to secure the health, safety and welfare of the citizens of the Township.

Planning Commission: Members are appointed for 6-year terms. The 7 members meet at the Township Office on the 4th Wednesday of the month at 7:00 p.m. unless there is no business to be transacted.

Zoning Hearing Board: The Board consists of 3 regular members, appointed to 3-year terms. The Board meets as needed. They render decisions on applications for variances and special exceptions to the zoning ordinance.

Park and Recreation Board: This appointed board consists of 7 members who serve 5-year terms. They meet on the 4th Tuesday of each month at the Township building beginning at 7:00 p.m. to recommend actions concerning the Township park.

E. CENTRE COUNTY LIBRARY & HISTORICAL MUSEUM

Location: 200 & 203 North Allegheny Street, Bellefonte, PA 16823 See the *Public Facilities Map*, for a graphic illustration of this location.

Phone: (814) 355-1516

Fax: (814) 355-2700

Website:
www.museumsusa.org/data/museums/PA/29112.htm

Primary Service Areas: The Centre County Library and Historical Museum is part of the Centre County Federation of Public Libraries. The mission of the Centre County Federation of Public Libraries is to provide the best library service to every resident of Centre County. The Federation was created in 1990 to improve library services through coordinated efforts among the public libraries in Centre County. It serves all municipalities within Centre County except State College Borough, and Patton, College, Harris and Ferguson Townships.

Hours of Operation –

- Mon. & Wed. - 9:00 a.m. to 8:00 p.m.
- Tues. & Thurs. – 8:30 a.m. to 8:00 p.m.
- Fri. & Sat. – 9:00 a.m. to 5 p.m.
- Sun. 1:00 p.m. to 5:00 p.m.

Personnel – This agency consists of one administrator, 4 professional librarians, 8 full-time assistants and 4 part-time assistants.

Facilities Inventory – 148,413 library materials, 11 computers for public use and 22 computers for staff use.

Major Problems – Lack of space in current building and lack of room for expansion. Aging plumbing and electrical systems.

2002 Regional Contributions –

Bellefonte Borough - $26,450
Benner Township - $2,600
Marion Township - $500
Spring Township - $12,000
Walker Township - $1,200
Total - $42,750*
*Represents 81% of total contributions received from Centre County municipalities in year 2002.

F. CENTRE COUNTY GOVERNMENT

Bellefonte as the County seat for Centre County, is home to many of the offices associated with county government. The Board of Commissioners oversees legislative functions of the County.

Address - Willowbank County Office Building, 420 Holmes Street, Bellefonte PA 16823-1488.

Hours – Monday through Friday, 8:30 a.m. to 5:00 p.m.

Telephone – (814) 355-6700

Fax – (814) 355-6980

TDD – (814) 355-6768

Website - http://county.centreconnect.org/default.asp

Departments: The following lists those departments of the Centre County Government as listed on its webpage:

Adult Services
Aging
Centre Crest
Children & Youth
Commissioners
Controller
Conservation District
Cooperative Extension
Coroner
Court Administration
Criminal Justice
District Attorney
District Justices
Elections
Emergency Communications/911
Emergency Services
Housing Authority
Human Resources
Maintenance
MH/MR/D&A
Planning
Prison
Probation and Parole
Prothonotary and Clerk of Courts
Public Defender
Recorder of Deeds
Records Management
Register of Wills & Clerk Orphans' Court
Sheriff
Tax Assessment
Tax Collection / Tax Claim
Transportation
Treasurer
Veterans' Affairs
Weights & Measures

G. NITTANY VALLEY REHABILITATION HOSPITAL

"Nittany Valley Rehabilitation Hospital is a modern, 85 bed acute rehabilitation hospital. It is located in the heart of scenic Central Pennsylvania, minutes away from State College, in Pleasant Gap, Pennsylvania. HealthSouth provides a seamless continuum of care and offers all levels of rehabilitation. Services and programs are offered in inpatient and outpatient settings.

"A wide variety of conditions are treated and managed in the following categories:

- Stroke Rehabilitation
- SAFE (Senior Assessment Fall Evaluation)
- Oncology Rehabilitation
- Lymphedema Treatment
- Comprehensive Day Rehabilitation
- Spinal Cord Injury Rehabilitation
- Pulmonary Rehabilitation and Ventilator Weaning

- Cardiac Rehabilitation
- Orthopedics and Neuromuscular Rehabilitation
- Amputee Clinic/Orthotic and Prosthetic Services
- Brain Injury Rehabilitation
- Arthritis Rehabilitation
- Neurological Disorders
- Pain Management
- WORKperfect (Industrial Case Management)

"The hospital operates six outpatient clinics in State College, Pleasant Gap, Bellefonte, Lewistown, Mifflintown, and Mill Hall.

"HEALTHSOUTH Nittany Valley Rehabilitation Hospital is a provider for Blue Cross, Medicare, Medicaid, HealthAmerica, Health Assurance, Geisinger Health Plan, Geisinger Health Plan Gold and other insurance plans."[3]

H. MOUNT NITTANY MEDICAL CENTER

"Mount Nittany Medical Center is a non-profit, 200-bed acute care facility that has served Centre County since 1902. The Hospital is dedicated to delivering high quality care and service to every patient, every day. Mount Nittany Medical Center is accredited by the Joint Commission on Accreditation of Healthcare Organizations and is licensed by the Pennsylvania Department of Health. With 960 employees and 185 physicians, it is one of the larger employers in Centre County.[4] The hospital is located at 1800 East Park Avenue in State College.

I. PROPOSED CENTRE COUNTY PRISON

The Centre County Board of Commissioners is presently in the process of developing a new County Prison to be situated on a 29-acre site located at the intersection of PA Route 150 (Benner Pike) and Paradise Road, in Benner Township. This new facility will have a capacity of 250-300 inmates and will replace the existing 78-inmate prison located adjoining the Courthouse in downtown Bellefonte Borough. The new prison will be a direct supervision facility with nine housing units and a building footprint of 110,000 square feet.

J. PROPOSED CENTRE COUNTY FIRE TRAINING FACILITY

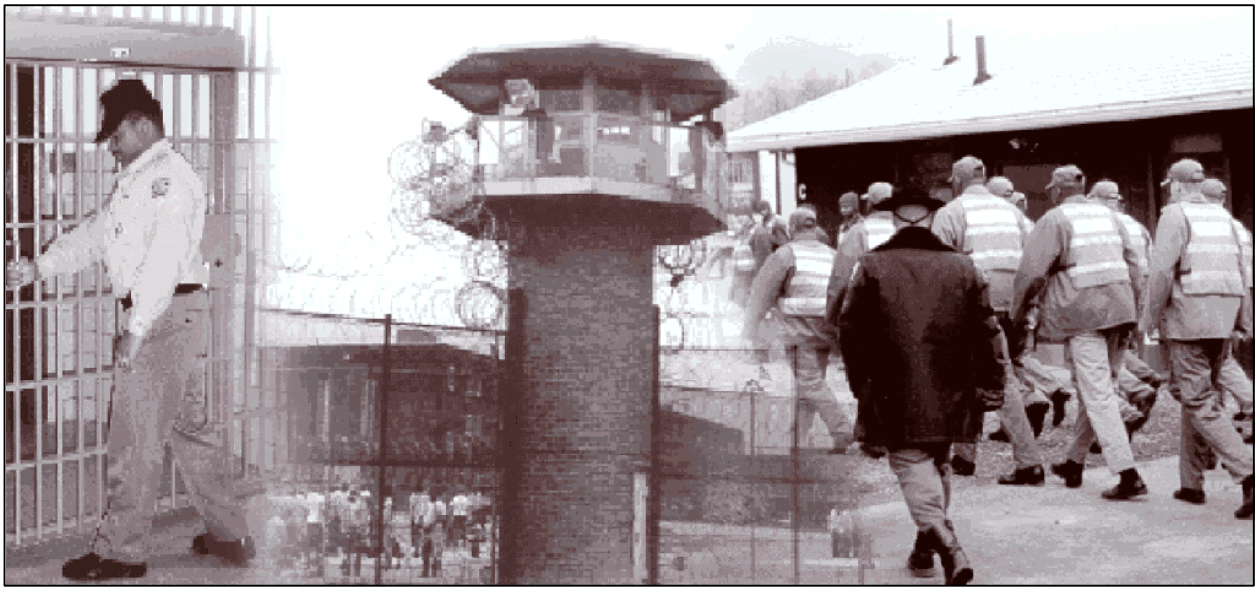
The Centre County Board of Commissioners is presently in the process of developing a new County Fire Training Facility to be situated on a 14-acre site located at the intersection of PA Route 150 (Benner Pike) and Paradise Road, in Benner Township. This new facility will have the following facilities:

- Burn building/tower
- Automobile extraction simulation area
- Automobile burn simulation area
- Hazmat & gas leak simulation area
- SCBA training area
- Roof simulator
- Building with 2 40-person classrooms
- Storage/shower/rest room
- Confined training maze

This site will be used to train local fire fighters from throughout Centre County.

[3] http://www.healthsouth.com/medinfo/home/app/frame?cntx=01&2=/facility/facilityservlet&pageType=1&functionkey=1&facilityid=030047-00
[4] http://www.cch1.org/body.cfm?id=13

K. STATE CORRECTIONAL INSTITUTION AT ROCKVIEW



SCI Rockview (Centre County, five miles from Bellefonte) was begun in 1912 and opened in 1915. Originally planned to replace Eastern and Western Penitentiaries, it became instead the branch prison for Western Penitentiary, housing lesser security risk prisoners, most of whom were employed in Rockview's extensive farm program outside the gates. It now is a medium-security institution for men. Contact information is as follows:[5]

Box A
Bellefonte, PA 16823-0820
(814) 355-4874

[5] http://www.cor.state.pa.us/Rock.html

VI. Parks & Recreation

The planning for both passive and active recreation opportunities is an important component of any comprehensive planning effort. Recreation planning seeks to determine the level of demand for recreation facilities and programs, and where needed parks and recreation facilities should be located. Finally, certain widely-used procedures for the acquisition of parklands via dedication/fee-in-lieu thereof subdivision requirements are only legally defensible if they seek to implement legitimate and logical recreation goals and objectives. For these various reasons, the following recreation analysis is offered.

A. Parks and Recreation Administration

Presently each of the individual municipalities and school district acquires, develops and programs their parks independent from one another. One of the most important goals of this Plan is to:

"Provide centralized park and recreation opportunities for the Region with a new regional recreation agency."

There has never been a better time to undertake park and recreation planning on a regional basis. Various State-funded programs can help the Region design, and operate a regional recreation agency fine-tuned to meet its specific needs. ***The Region should appoint a Regional Recreation Board (RRB) made up of at least one representative from each municipality, the YMCA of Bellefonte and school district (plus alternates) who have an understanding of the Region's recreation needs and resources. This RRB should then prepare and submit an application to the Pennsylvania Department of Conservation and Natural Resources for a "Peer-to-Peer" project.*** In this study, an expert will visit with local park and recreation providers to gain a thorough understanding of their operations and activities. A maximum grant amount of $7,500 is available for Peer-to-Peer projects. The community must provide at least a 10% local cash match. The total project cost cannot exceed $8,250. At the end of the peer project, a recommendation will be tailored to best manage the Region's recreation needs and resources. Often, another "circuit-rider grant" is suggested to help cover the costs of initializing a Regional paid park and recreation staff. This circuit-rider grant funds 100% of such expenses the first year, 75% the second, 50% the third, and 25% the fourth years. Additional information on this program and its application requirements can be found online at:

http://www.dcnr.state.pa.us/recreation/grants/manual/forms/PEERgeninfoscope.doc

B. Facilities Inventory

The first step in a recreation analysis is an inventory of existing recreation facilities serving the Region's residents. The inventory below lists the indoor facilities available at the Region's various public schools. The inventory on the following pages is a series of tables which lists all identified recreation sites and their improvements within the Nittany Valley Region. This inventory indicates the site name, the site's ownership and maintenance responsibilities, the site type, and its total recreation acreage. Following this is a specific list of recreation improvements at each site. This list is broken out under several major sub-headings, including playgrounds, fields and courts, picnic facilities, pools, trails, and support facilities. A final section at the bottom of the table allows for comments concerning a particular site, or the listing of any additional improvements.

The *Parks Map* utilizes the information from the inventory to illustrate the geographic distribution of all recreation sites within the Nittany Valley Region, including their types, and service radii for public-owned facilities.

INDOOR FACILITIES INVENTORY

SITE NAME	**High School**	**Middle School**	**YMCA of Bellefonte**	**Bellefonte Elementary**	**Benner Elementary School**	**Pleasant Gap Elementary School**	**Marion – Walker Elementary School**
SITE TYPE	Community	Community	Community	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Gymnasium	1	2	35x82'				
Full Basketball Court	1	1	In gym	1			
Swimming Pool			3 lanes by 32.5'				
Locker Rooms	2	2	3				
Weight Room	1	1	2 free weight machines				
Wrestling Room	1						
Multipurpose Room			25x30'	1	1	1	1
Auditorium (no. of seats)	756	660		1000			
Music Room	1	1		1			
Gymnastics Room (equipment)		1	Equipment used in gym				
Library	1	1		1	1	1	1
Meeting Room	2	2	Several small	1			
Dark Room	1						
Computer Lab	2	1	3 stations	2	1	1	1
Industrial Arts	2	2					
			Child care Kitchen Lobby				

Parks Map

Nittany Valley Region

Railroads

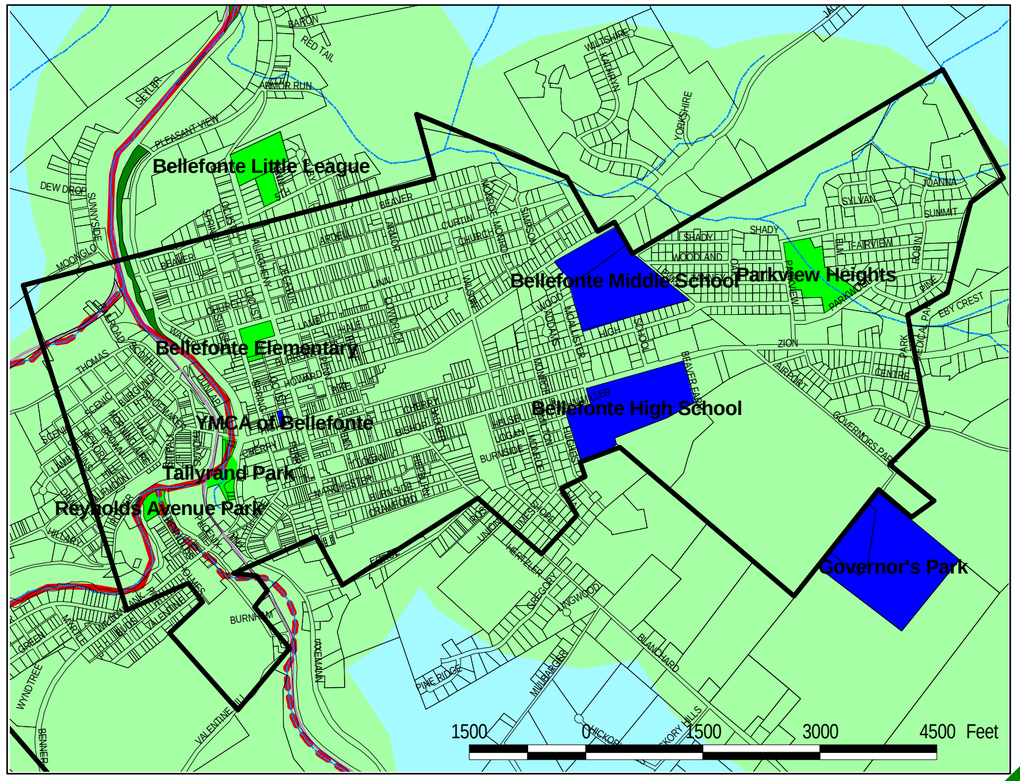
Local Parks

- Community Park
- Neighborhood Park
- Neighborhood Park Service Areas
- Community Park Service Areas
- Proposed Neighborhood Park Area

Proposed Greenways

- Spring Creek Corridor
- Buffalo Run
- Logan Branch
- Mackey Run Spur
- Big Hollow Link

Regional Parks



Bellefonte Borough Inset

Marion Township

Jonas Earlie Park

PA State Gamelands No. 323

PA Gamelands No. 295

Marion/Walker Elementary

Bellefonte Borough

Walker Township

Walker Township Community Park

Springfield Subdivision

Bellefonte Little League

Governor's Park

Area Youth Soccer Fields

Buffalo Run

Buffalo Run Farm Estates

Logan Branch

Benner Elementary

Spring Twp Municipal Park

Softball Fields

Spring Township

Bald Eagle State Forest

Benner Twp Municipal Park

Fisherman's Paradise

Pleasant Hills Park

Gettig's Little League Field

Pleasant Gap Fish Hatchery

Pleasant Gap Elementary

Buffalo Run Community Park

Big Hollow Link

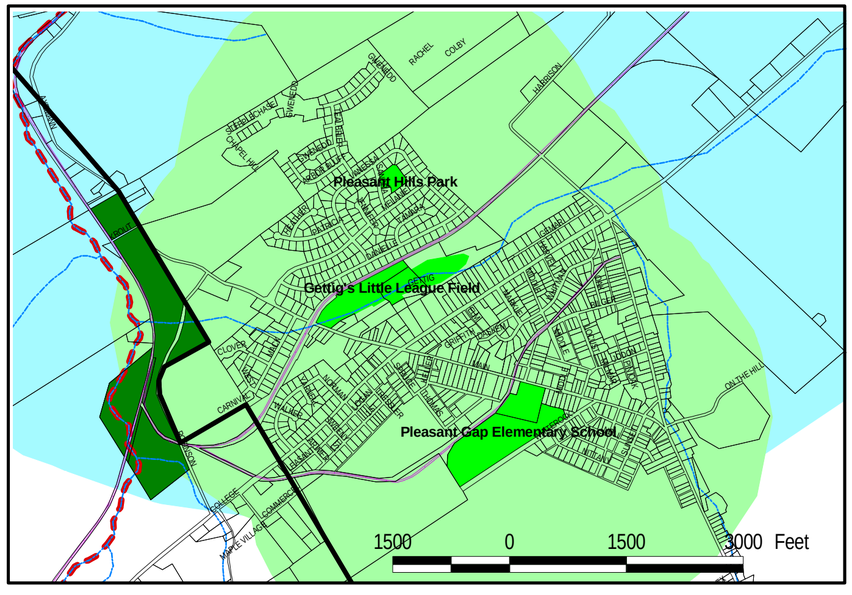
Benner Township

Mackey Run Spur

N W E S

1 0 1 2 Miles

Village of Pleasant Gap Inset



RothPlan

Harry B. Roth, AICP, Community Planning Consultant
1681 Crown Avenue, Lancaster, PA 17601
Direct Phone: (717) 291-0927 / Fax: (717) 291-0928
Email:rothplan@dejazzd.com

Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

FACILITIES INVENTORY

BACKGROU	SITE NAME	Bald Eagle State Forest	State Game Lands Nos. 295 & 323	Fisherman's Paradise
	OWNERSHIP & MAINTENANCE	Commonwealth of PA	Commonwealth of PA	PA Fish & Boat Comm.
	SITE TYPE	Regional	Regional	Regional
	TOTAL ACREAGE (DEVELOPED)	2,072 ac. (within Region)	3287 ac.	298.5 ac.
PLAYGROUNDS	Swing Sets			
	Sliding Boards			
	Climbing Equipment			
	Merry Go-Rounds			
	Seesaws			
	Sand Boxes			
	Rocking Toys			
	Big Toys			
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields			
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)			
	Tennis Courts			
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
PICNIC	Pavilions			
	Total Picnic Tables (in pavilion)			
	Barbecue Pits & Grills			
	Benches			
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces			
	Rest Rooms			
	Water Fountains			
	Snack Bar			
	Waste Receptacles			
	Bike Rack			
	Signs			
Other/Comments		• 47 miles trout stream • scenic drives • Mid-State Trail	• hunting/natural area	educational center

FACILITIES INVENTORY

BACKGRO	SITE NAME	Bellefonte Middle School	Bellefonte High School	Buffalo Run Community Park
	OWNERSHIP & MAINTENANCE	School District	School District	Benner Township
	SITE TYPE	Community	Community	Community
	TOTAL ACREAGE (DEVELOPED)	20.7 ac.	27 ac.	20.3 ac.
PLAYGROUNDS	Swing Sets			x
	Sliding Boards			
	Climbing Equipment			
	Merry Go-Rounds			
	Seesaws			
	Sand Boxes			
	Rocking Toys			
	Big Toys			1 / wood chip surface
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields	1 baseball/2 softball	1 baseball	2 baseball w/backstops
	Soccer/Hockey Fields	1 soccer		
	Football Fields		1 stadium	
	Basketball Courts (hoops)			
	Tennis Courts		4	
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
PICNIC	Pavilions			2
	Total Picnic Tables (in pavilion)			
	Barbecue Pits & Grills			
	Benches			x
TRAILS	Walking/Exercise Trails (length)			Proposed with bridges
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces			gravel
	Rest Rooms			Porta-potty
	Water Fountains			
	Snack Bar			
	Waste Receptacles			x
	Bike Rack			
	Signs			1
Other/Comments		See indoor inventory	See indoor inventory	1 multi-purpose athletic field storage shed horseshoe pits

FACILITIES INVENTORY

BACKGROUN	SITE NAME	Governor's Park	Jonas Panik Park	Spring Township Municipal Park & Softball Fields
	OWNERSHIP & MAINTENANCE	Bellefonte Borough	Marion Township	Spring Township*
	SITE TYPE	Community	Community	Community
	TOTAL ACREAGE (DEVELOPED)	43.8 ac.	15.6 ac.	10.9 combined
PLAYGROUNDS	Swing Sets	X		x
	Sliding Boards	X		
	Climbing Equipment	X		x
	Merry Go-Rounds	X		
	Seesaws	X		x
	Sand Boxes			
	Rocking Toys			
	Big Toys			1
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields	1 baseball with backstop	1 little league / 2 dugouts	2 softball lighted with dugouts
	Soccer/Hockey Fields	2		
	Football Fields			
	Basketball Courts (hoops)			
	Tennis Courts	2		
	Volleyball Courts	1		sand
	Bleachers			x
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions	10 (810 capacity)	1	x
	Total Picnic Tables (in pavilion)		8	6
	Barbecue Pits & Grills			
	Benches			
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces	x	50	x
	Rest Rooms	4		
	Water Fountains			x
	Snack Bar		1	
	Waste Receptacles	x	2	x
	Bike Rack			
	Signs	1	2	
Other/Comments		Kepler pool with poolhouse Proposed skateboard park shed	Proposed lights and fencing Proposed big toy with surfaces Proposed AYSO soccer field Open play area Wooded area	Open play area Grandstand Pitchers area

*The Spring Township Softball Field Park is leased from a private landowner for $1/year.

FACILITIES INVENTORY

BACKGRO	SITE NAME	Walker Township Community Park*	Area Youth Soccer Org.	Bellefonte Elementary
	OWNERSHIP & MAINTENANCE	Walker Township	AYSO	School District
	SITE TYPE	Community	Neighborhood	Neighborhood
	TOTAL ACREAGE (DEVELOPED)	15 ac.	6 ac.	3.1
PLAYGROUNDS	Swing Sets	2		
	Sliding Boards	1 double		1
	Climbing Equipment			1
	Merry Go-Rounds			
	Seesaws			1
	Sand Boxes			
	Rocking Toys			
	Big Toys	2 with shredded rubber surfaces		
	Hopscotch			1
	Four-Square			1
FIELDS & COURTS	Baseball/Softball Fields	2 little league / 1 tee-ball		
	Soccer/Hockey Fields	2 soccer	2 competition / 1 practice	
	Football Fields			
	Basketball Courts (hoops)	2		1
	Tennis Courts	2		
	Volleyball Courts	1 sand		
	Bleachers			
	Track			
	Media Booth			
	Scoreboard	2		
PICNIC	Pavilions	2		
	Total Picnic Tables (in pavilion)	40		
	Barbecue Pits & Grills			
	Benches			
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces	paved	x	
	Rest Rooms	2 (ADA)		
	Water Fountains	1		1
	Snack Bar	1		
	Waste Receptacles			
	Bike Rack			1
	Signs			
Other/Comments		Memorial tribute		Open play area with backstop for soccer and youth baseball

*Many of the improvements listed for this park are proposed.

FACILITIES INVENTORY

BACKGRO	SITE NAME	Bellefonte Little League	Benner Elementary School	Benner Township Mun. Park
	OWNERSHIP & MAINTENANCE	Borough/Private	School District	Benner Township
	SITE TYPE	Neighborhood	Neighborhood	Neighborhood
	TOTAL ACREAGE (DEVELOPED)	8.5	11.2	10.2
PLAYGROUNDS	Swing Sets		3	4
	Sliding Boards		1	
	Climbing Equipment		1	
	Merry Go-Rounds		1	
	Seesaws		1	
	Sand box			1
	Rocking Toys			
	Big Toys			
	Kickball			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields	2 baseball with backstops		1 with backstop
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)		2	1
	Tennis Courts			
	Volleyball Courts			
	Bleachers	x		
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions			1
	Total Picnic Tables (in pavilion)			(12)
	Barbecue Pits & Grills			
	Benches			3
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces	x		x
	Rest Rooms	x		Porta-potty
	Water Fountains			1
	Snack Bar			Soda machine
	Waste Receptacles	x		
	Bike Rack			
	Signs	x		
Other/Comments		dugouts	Open play area with backstop for soccer and youth baseball	Township office

FACILITIES INVENTORY

BACKGRO	SITE NAME	Burnham Farm Estates	Gettig's Little League Field	Marion/Walker Elem.
	OWNERSHIP & MAINTENANCE	Private	Private	School District
	SITE TYPE	Neighborhood	Neighborhood	Neighborhood
	TOTAL ACREAGE (DEVELOPED)	2.35	20.6	12.3
PLAYGROUNDS	Swing Sets		x	3
	Sliding Boards			1
	Climbing Equipment			3
	Merry Go-Rounds			
	Seesaws			1
	Sand Boxes			
	Rocking Toys			
	Big Toys			
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields		3 baseball with backstops	
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)	1		1
	Tennis Courts			
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions	1		
	Total Picnic Tables (in pavilion)	4	scattered	
	Barbecue Pits & Grills			
	Benches			
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces		x	
	Rest Rooms		2	
	Water Fountains		1	
	Snack Bar		1	
	Waste Receptacles		x	
	Bike Rack			
	Signs			
Other/Comments		Horseshoe pit Bocce ball	dugouts	Open play area for soccer and youth baseball

FACILITIES INVENTORY

BACKGRO	SITE NAME	Parkview Heights	Pleasant Gap Elementary	Pleasant Hills Park
	OWNERSHIP & MAINTENANCE	Borough/Private	School District	Private
	SITE TYPE	Neighborhood	Neighborhood	Neighborhood
	TOTAL ACREAGE (DEVELOPED)	10.4	25.7	1.8
PLAYGROUNDS	Swing Sets	x	4	x
	Sliding Boards		1	
	Climbing Equipment		1	x
	Merry Go-Rounds			
	Seesaws			
	Dodge Ball			
	Rocking Toys			
	Big Toys			
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields	1	1 proposed	
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)		2	1
	Tennis Courts			
	Volleyball Courts		proposed	
	Bleachers			
	Multi-purpose field		proposed	
	Media Booth			
	Scoreboard			
PICNIC	Pavilions		proposed	1
	Total Picnic Tables (in pavilion)			
	Barbecue Pits & Grills			
	Benches		proposed	
TRAILS	Walking/Exercise Trails (length)		proposed	
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces	x	proposed	
	Rest Rooms	x		
	Water Fountains			
	Snack Bar	x		
	Waste Receptacles	x	proposed	
	Bike Rack			
	Signs			
Other/Comments		Picnic playground	Open play area with backstop for soccer and youth baseball Proposed horseshoe pits	

FACILITIES INVENTORY

BACKGRO	SITE NAME	Reynolds Avenue Park	Springfield Subdivision Park	Tallyrand Park
	OWNERSHIP & MAINTENANCE	Bellefonte Borough	Private	Bellefonte Borough
	SITE TYPE	Neighborhood	Neighborhood	Neighborhood / Linear
	TOTAL ACREAGE (DEVELOPED)	1.9	5.2	3.5 combined
PLAYGROUNDS	Swing Sets	x		
	Sliding Boards			
	Climbing Equipment			
	Merry Go-Rounds			
	Seesaws			
	Sand Boxes			
	Rocking Toys			x
	Big Toys		1	1
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields		1	
	Soccer/Hockey Fields		1	
	Football Fields			
	Basketball Courts (hoops)	1		
	Tennis Courts			
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions			gazebo
	Total Picnic Tables (in pavilion)			
	Barbecue Pits & Grills			
	Benches			24
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces			
	Rest Rooms			2
	Water Fountains			1
	Snack Bar			
	Waste Receptacles			x
	Bike Rack			
	Signs			
Other/Comments		Temporary dog walking park	Trail to nearby woodlot	2 historic RR cars; sculpture garden; 2 foot bridges; monument; fish feeder; mill race with cover & fountain; train station visitor center.

FACILITIES INVENTORY

BACKGRO	SITE NAME	Krauss	Spring Creek Nature Park	Pleasant Gap Rail Trail
	OWNERSHIP & MAINTENANCE	Bellefonte Borough	Spring Township	Spring Township
	SITE TYPE	Linear	Linear	Linear
	TOTAL ACREAGE (DEVELOPED)	unknown	15	Unknown
PLAYGROUNDS	Swing Sets			
	Sliding Boards			
	Climbing Equipment			
	Merry Go-Rounds			
	Seesaws			
	Sand Boxes			
	Rocking Toys			
	Big Toys			
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields			
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)			
	Tennis Courts			
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions			
	Total Picnic Tables (in pavilion)	2		
	Barbecue Pits & Grills			
	Benches	2	x	
TRAILS	Walking/Exercise Trails (length)		x	
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces		x	
	Rest Rooms			
	Water Fountains			
	Snack Bar			
	Waste Receptacles	x		
	Bike Rack			
	Signs		x	
Other/Comments		Proposed rail trail	Streamside trail	Streamside trail

FACILITIES INVENTORY

BACKGRO	SITE NAME	Mid-State Trail	Pleasant Gap Fish Hatchery	YMCA of Bellefonte
	OWNERSHIP & MAINTENANCE		PA Fish & Boat Comm.	Private
	SITE TYPE	Linear	Regional	Community
	TOTAL ACREAGE (DEVELOPED)		44.7	0.2
PLAYGROUNDS	Swing Sets			
	Sliding Boards			
	Climbing Equipment			
	Merry Go-Rounds			
	Seesaws			
	Sand Boxes			
	Rocking Toys			
	Big Toys			
	Hopscotch			
	Four-Square			
FIELDS & COURTS	Baseball/Softball Fields			
	Soccer/Hockey Fields			
	Football Fields			
	Basketball Courts (hoops)			
	Tennis Courts			
	Volleyball Courts			
	Bleachers			
	Track			
	Media Booth			
	Scoreboard			
PICNIC	Pavilions			
	Total Picnic Tables (in pavilion)			
	Barbecue Pits & Grills			
	Benches			
TRAILS	Walking/Exercise Trails (length)			
	Biking Trails (length)			
	Fitness Trails (no. of stations)			
	Measured Path			
SUPPORT	Parking Spaces			
	Rest Rooms			
	Water Fountains			
	Snack Bar			
	Waste Receptacles			
	Bike Rack			
	Signs			
Other/Comments			Educational center	

C. Spatial Park Analysis

With a complete inventory of parks, it becomes possible to analyze the level of park service available within the Nittany Valley Region. Within this analysis, every publicly-owned park and/or recreation facility (Township, Borough, and School District) is identified. In some cases, privately-owned sites are included if they are typically available for public use. Then, its size and service area is evaluated in relation to its intended service population. Conversely, this analysis also identifies those areas of the Region that lack close, convenient, and safe access to public parkland. Typically, these evaluations are based upon prescribed standards for park size per 1,000 persons being served and also for predetermined service radii. The National Recreation and Park Association (NRPA) generally assigns such standards for various park types. It is these standards that will be applied to evaluate the allocation and spatial distribution of Region's park system.

Regional parks generally contain 200± acres and are typically located within a one hour driving time from the population being served. These parks are generally located throughout a large metropolitan region, and can accommodate a wide variety of recreational activities. Often, these parks are owned and operated by the State and Federal government, and in the case of Pennsylvania, many State Game Lands are included in this category. Regional parks usually have a natural orientation with hiking, camping, and picnicking facilities. Other "activity-oriented" facilities, as well as significant historic or archaeological resources, might also be included.

Within Centre County, several public organizations and private enterprises are involved with the provision of regional recreation facilities. Within the Nittany Valley Region are five regional parks. The following table lists regional parks within the Nittany Valley Region:

Facility	Acres	Ownership
Bald Eagle State Forest	2072	Commonwealth of PA
Fishermans Paradise	298.5	PA Fish & Boat Commission
Pleasant Gap Fish Hatchery	44.7	PA Fish & Boat Commission
PA State Gamelands Nos. 295 & 323	3287	PA State Game Commission
Total	**5702.2**	

Because the size and cost usually associated with regional parks transcend the responsibilities of local government, this Plan does not recommend any specific actions associated with the acquisition and development of more regional parks. Instead, this Plan will focus upon the remaining park types within the Region beginning with community parks.

Community parks usually contain 20± acres and are intended to serve a population within a 2 mile-service radius. They should be sized at the rate of 5 to 8 acres for 1,000 persons served. These parks generally involve a fairly high level of improvement with multiple sets of athletic fields and courts. Sometimes swimming pools and indoor recreation centers are situated on these community-wide parks. Larger school sites

(usually middle, and high schools) have the facilities to qualify as community-based parks, and represent valuable recreation resources that can significantly enhance the level of recreation services offered to a given area. Finally, sometimes smaller specialized facilities (like the YMCA of Bellefonte) qualify as community parks due to their use by a larger service area than that of a neighborhood park. The table below lists all publicly-owned community parks.

Community Parks Within the Nittany Valley Region		
Park Name	**Municipality**	**Acreage**
Bellefonte Middle School	Bellefonte Borough	20.7
Bellefonte High School	Bellefonte Borough	27
Buffalo Run Community Park	Benner Township	20.3 ac.
Governor's Park	Bellefonte Borough	43.8
Jonas Panik Park	Marion Township	15.6
Spring Township Municipal Park & Softball Fields	Spring Township	10.9
Walker Township Community Park	Walker Township	15
YMAC of Bellefonte	Bellefonte Borough	0.2
Total Community Park Acreage within the Region		**153.5 ac.**

The Parks Map illustrates the locations and configurations of all community parks within the Region. Additionally, a two-mile service radius was drawn around the perimeter of each park to determine its respective service areas. The areas shaded in light blue illustrate those portions of the Region located within the existing two-mile service boundaries. The highest concentration of these larger parks is found within close proximity of the more densely populated areas of the Region in and around Bellefonte Borough. However, each of the Townships have also provided for one community park whose service areas extend into outlying areas of the Region.

Given its elongated configuration, it would seem impractical to provide for community park service area coverage throughout the Region. Instead, this Plan will distinguish between "urban growth areas" in which a full range of public facilities and services will be focused (including parklands), and rural areas where lesser amenities will be delivered. Therefore, it is important that future residential growth areas be targeted to areas where community parklands exist or will be provided.

Next, local officials need to know how much additional community parkland is needed to meet future demand. Based upon the NRPA guideline of 5 to 8 acres of community parkland for each 1,000 residents and the population projections provided in Chapter IV of this Plan, the table below illustrates the community parkland area needed to adequately serve the Region now and in the future:

Existing & Projected Community Parkland Needed Within the Region					
Year	Population	NRPA-Recommended Acres		Existing Acres	Surplus/ Deficiency
		5 ac. per 1000 persons	8 ac. per 1000 persons		
2000	22,006	110	176	153.5	+43.5 to –22.5
2010	23,733	118.7	189.9	153.5	+34.8 to –36.4
2020	25,460	127.3	203.7	153.5	+26.2 to –50.2

From the preceding table, it appears that the Region has previously provided for about 7 acres of community parkland per 1000 population which falls between the minimum accepted range as suggested by the NRPA. If no additional community parkland is acquired over the next twenty years, this ratio will drop to about 6 acres of community parkland per 1000 population; a ratio still above the NRPA minimum. The goals for this Plan do not emphasize the need for additional community park acreage. Rather local officials appear to be more interested in developing and improving these existing parks at a much higher level. This is a valid position as community parks should provide for the greatest level of variety and improvement of all of the local parks.

None of the seven community parks inventoried within this plan offer the variety and level of improvement befitting a high-quality community park. Some come close but additional amenities are needed. Only Walker Township's plans for improvements approach this level on their relatively small park. Of particular absence are outdoor athletic courts (basketball, tennis and volleyball). Community parks should offer multiple sets of athletic courts and fields along with generous playgrounds and picnicking facilities. It would seem appropriate that the RRB focus its revenues and attention to a campaign of improvement at these feature parks as a priority. ***The following lists a "typical" community park schedule of improvements and their respective costs for a 25 to 30 acre site:***

"Typical" Recommended Community Park Improvements	Estimated Cost
1. master site plan;	$35,000
2. 2 6-table picnic pavilions/tables/BBQ grills/waste receptacles;	$16,200
3. 2 lighted competition multi-purpose (soccer/baseball) athletic fields;	$196,000
4. 1 modular playground with safety surfaces;	$30,000
5. a looping trail with 10-foot wide asphalt surface (about 1 mi.);	$176,800
6. a 50-space parking lot;	$47,850
7. 2 bike racks;	$1,000
8. 2 lighted basketball courts;	$102,400
9. 2 lighted tennis courts;	$82,100
10. 2 lighted sand volleyball courts;	$42,400
11. park & trail signs and maps;	$10,000
12. rest rooms and drinking fountains;	$46,800
13. landscaping and shade trees;	$30,000
14. contingency, bonding, and design costs (20% of improvement costs)	$156,310
Total Improvement Costs	***$972,850***

Another goal of this Plan is to "initiate efforts towards providing a community recreation center with competitive swimming facilities." This is a major step that requires very careful feasibility and market demand analysis. This type of facility can cost millions and requires

considerable public support to be financially successful. ***To initiate this effort it is recommended that the RRB undertake a feasibility study. The study should be completed by an interdisciplinary consulting team that is qualified to provide the Region with an in-depth analysis, detailed recommendations and a plan for future action. At a minimum, the consulting team should complete the following tasks to form a recommendation:***

- ***determine the demand/need in the Region using a significant public input process;***
- ***analyze alternate sites;***
- ***develop a conceptual design;***
- ***estimate both the capital construction and operating expenses;***
- ***project and describe all potential revenues and other available financing sources;***
- ***describe recreation programming and facility use proposed; and,***
- ***specify all staffing requirements.***

As can be seen, this is large project that requires considerable specialized expertise. In turn these projects are expensive. Fortunately these types of projects have become popular across the State and considerable grant funding has been available to Region's that can demonstrate a serious need for and commitment to achieving such facilities. ***The RRB should apply to the PA DCNR Community Conservation Partnerships Program for a community grant to conduct this study. Their website describes this program as follows:***

> *"Community Grants are awarded to municipalities for recreation, park and conservation projects. These include the rehabilitation and development of parks and recreation facilities; acquisition of land for park and conservation purposes; and technical assistance for feasibility studies, trails studies, and site development planning. Grants require a 50 percent match except for some technical assistance grants and projects eligible as small community projects. The small community development projects provide a municipal applicant with a population of 5000 or less with an alternate method of funding for rehabilitation and development of minor indoor and basic outdoor park, recreation and conservation areas and facilities. The initial $20,000 or less in grant funding provided must be used to purchase materials only and approved professional design fees. Additional grant funds of up to $20,000 may be provided matching the municipal applicant's local cash or non-cash contribution to the project. The additional $20,000 may be used to cover all other eligible costs and other costs such as labor and/or equipment. The maximum grant under this project type is $40,000."*[1]

Neighborhood parks are the third park type advocated by recreation experts. These parks are generally between 1 and 20 acres in size and meant to serve a population of 2,000 to 10,000. The recommended service area for these parks is a one-quarter to one-half mile radius. As implied by the name, these parks are intended to provide close-to-home areas for limited athletic activities, playgrounds, and passive pursuits. The NRPA recommends that one to two acres of publicly-owned land be devoted to neighborhood parks for each 1,000 residents.

[1] http://www.dcnr.state.pa.us/grants.htm (April 10, 2003)

The following tabulates all neighborhood parks by municipality within the Region:

Neighborhood Parks Within the Nittany Valley Region	
Park Name	**Acreage**
Bellefonte Borough	***18.9***
Bellefonte Elementary School	3.1
Parkview Heights	10.4
Reynolds Avenue Park	1.9
Tallyrand Park	3.5
Benner Township	***21.4***
Benner Elementary School	11.2
Benner Township Municipal Park	10.2
Marion Township - None	***0***
Spring Township	***65.0***
Area Youth Soccer Organization Fields	6.0
Bellefonte Little League Fields	8.5
Burnham Farm Estates	2.4
Gettig's Little League Field	20.6
Pleasant Gap Elementary School	25.7
Pleasant Hills Park	1.8
Walker Township	***17.5***
Marion / Walker Elementary School	12.3
Springfield Subdivision	5.2
Nittany Valley Region	***122.8***

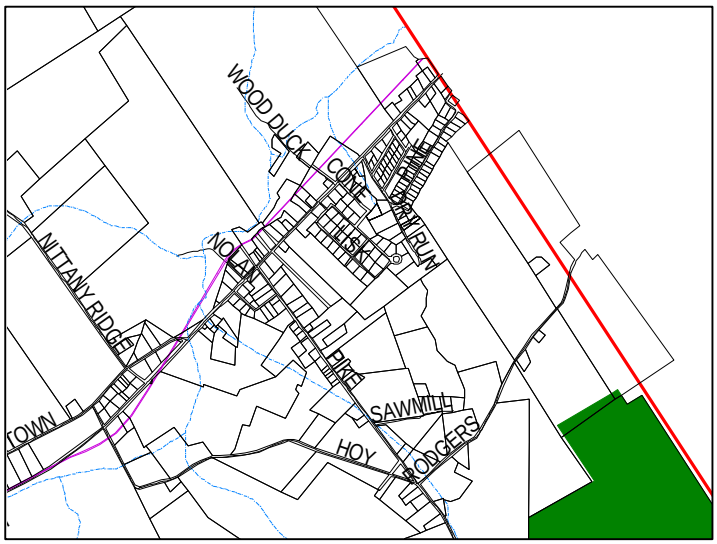
The Parks Map identifies the locations and configurations of all neighborhood parks in the Region. Like community parks, a service radius was drawn around the perimeter of each neighborhood park to determine its service area. The NRPA recommends a maximum one-half mile service radius. In addition, the same ½ mile service radius was mapped around existing community parks as these facilities too can serve neighborhood park needs of nearby residents. The neighborhood park service areas are shaded in light green on the Parks Map.

Like for community parks, local officials need to know how much additional neighborhood parkland is needed to meet future demand. Based upon the population projections for the Region as a whole, the table below illustrates the neighborhood parkland area needed to adequately serve projected growth:

Existing & Projected Neighborhood Parkland Needed Within the Region					
Year	Population	NRPA-Recommended Acres		Existing Acres	Projected Surplus
		1 ac. per 1000 persons	2 ac. per 1000 persons		
2000	22,006	22.0	44.0	122.8	+38.6 to +20.9
2010	23,733	23.7	47.4	122.8	+36.3 to +16.3
2020	25,460	25.5	51.0	122.8	+34 to +11.7

From an acreage standpoint the Region has an abundance of neighborhood parkland now and in the projected future. However, its distribution does not cover all existing neighborhoods as suggested by NRPA standards. ***Hence the Region should add neighborhood parklands to the following neighborhood that lies beyond ½ mile from an existing park.***

Nittany - This neighborhood is located along the eastern Walker Township border. Today this neighborhood contains about 340 dwelling with about 880 residents. At the NRPA recommended 2 acres per 1000 population, ***this neighborhood should have an existing park with about 1.8 acres***. Depending upon the future developments planned here this park may need to be expanded as growth occurs.



In addition, once future residential growth areas have been identified, specific recommendations will be offered to ensure adequate service to planned growth areas.

Again, parks comprise more than land; improvements are equally important. The facilities located within the Region's neighborhood parks are somewhat similar and limited. Many have the same list of facilities suggesting unparalleled baseball popularity. Neighborhood parks should feature facilities in high demand, so if baseball continues to dominate local recreation preferences, then everything is fine. However, many municipalities are finding that the traditional "pastimes" of old are giving way to different activities. ***The Region should periodically gauge recreation preferences among all age groups and ensure that the, then, current preferences are accommodated by local park improvements. In addition, the Region should add more variety to its neighborhood parks. The following lists a "typical" schedule of improvements for a more diverse neighborhood park.***

"Typical" Neighborhood Park Improvements	Estimated Cost
1. a multi-purpose (soccer/baseball) athletic field;	$48,000
2. a modular playground with safety surfaces;	$30,000
3. 6-table picnic pavilion/tables/BBQ grills/waste receptacles;	$8,100
4. 20-space parking lot;	$19,140
5. 2 basketball courts;	$75,200
6. 1 sand volleyball court;	$8,000
7. 8 park benches;	$4,000
8. bike rack;	$500
9. landscaping and shade trees;	$16,000
10. park sign;	$4,000
11. contingency, bonding, and design costs (20% of improvement costs)	$42,588
Total Improvement Costs	***$255,528***

Linear parks are also gaining in popularity throughout the nation as less and less open space remains within developing areas. A recently completed study entitled the Nittany and Bald Eagle Greenways Plan (2002) highlights the many opportunities to develop linear parks within large parts of the Region and in the adjoining Bald Eagle Creek watershed. This plan comprehensively studied these opportunities and applied a hierarchical greenway structure that identifies the following features within the Nittany Valley Region.

- **Spring Creek Corridor** - a major greenway corridor along the Spring and Bald Eagle Creeks originating in the south at Boalsburg and connecting to Blanchard and Clinton County to the north. This continuous corridor crosses much of Benner Township and the northwest corners of Bellefonte Borough and Spring Township. The major corridors have regional significance and connect the most important destinations or "hubs." Within the Region this corridor includes over 10 miles of proposed greenway that should be located, designed and maintained to offer conservation, education, recreation, transportation, water quality and tourism functions;

- **Buffalo Run and Logan Branch** - two minor corridors that follow Buffalo Run and Logan Branch, respectively that converge with the major corridor in Bellefonte which is identified as one of the major "hubs" along the greenway. Minor corridors follow significant tributaries of the major corridor and offer access to important wetlands, high quality waters and historic settings that reveal the heritage of the area. The Logan Branch corridor runs about 5.4 miles from Bellefonte to the Pleasant Gap Fish Hatchery and on to the headwaters. The Buffalo Run corridor runs almost 9 miles between Bellefonte, Coleville and Waddle;

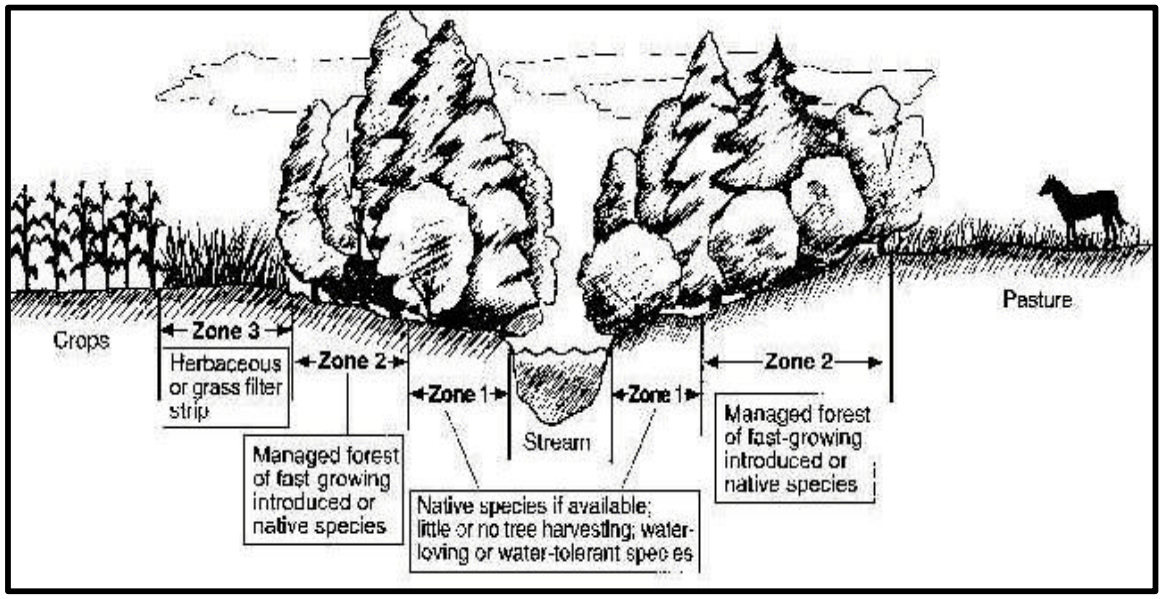
- **Big Hollow Link** - off of the Spring Creek corridor that runs 3.2 miles through Benner and College Township and parallels Buffalo Run and Barns and Fox Hill Roads north of the University Park Airport; and,

- **Gap Run Spur** off of the Logan Branch that follows PA Route 144 between Pleasant Gap and the Mid-State Trail located on Nittany Mountain.

The proposed greenways involve large areas within the Region and County encompassing a variety of landscapes and settings. These different settings suggest differing strategies for acquisition, development and public access. Ironically, the more undeveloped an area, the more difficult it can be to acquire and provide public access to the proposed greenway.

In most instances the identification of proposed greenways corresponds to stream corridors and their associated floodplains and wetlands. While protection of floodplains and wetlands are widely accepted land use management techniques, recent awareness of diminishing surface water quality suggests the need for more protection. Studies conducted by the U.S. Forest Service demonstrate that 60-to-95-foot wide riparian buffers offer real advantages in the removal of harmful nutrients and sediment from storm water before it enters the stream. These same riparian buffers can increase the food supply and create interconnected natural systems of movement for local wildlife. Riparian buffers are areas adjoining streams where naturally successive vegetation is provided and protected.

Local officials should promote the use of riparian buffers, especially along these



designated greenways as well as other streams within the Region's high-quality and exceptional value watersheds as found in Chapter III of this Plan.

Within conservation settings, natural conditions have combined to prevent the land's use for agricultural and/or development purposes. Steep slopes are most often the limiting features that prevent their use, and often lead to mature woodlands. Here, little attention is necessary. The wooded setting's inherent ability to yield good surface water quality has been widely proven and accepted. However, should development or disturbance threaten these natural settings, some regulatory oversight should be imposed.

The harvesting of timber is a likely activity here. It is important that such harvesting be done in a manner that does not damage the riparian buffer. Furthermore, it is equally important that any harvesting practices employed not overwhelm the buffer's ability to filter out erosive sediments. No dragging of trees across streams, and no unimproved vehicular crossing should be permitted.

Potential developments within conservation settings should be regulated by zoning to keep overall intensity to a minimum. Furthermore, some flexibility should be offered regarding structural placement and vehicular access, so that the riparian buffers can be accomplished without depriving the landowner "reasonable use" of the property. Finally, woodland preservation requirements can go a long way toward preserving important, mature tree cover, thereby improving adjoining surface water quality.

Agricultural activities are a leading culprit of poor surface water quality. Unfortunately, within these areas, local zoning regulations (most particularly their nonconforming use provisions) will defeat any regulatory measures aimed at requiring riparian buffers, unless all agricultural expansions require the obtainment of a special exception or a conditional use. Instead, it will likely be necessary to educate farmers and their neighbors as to their benefits. It will also be necessary to employ other available administrative tools.

For example, before any farmer should be eligible to receive payment for farmland preservation easements, or before a farmer can transfer any development rights (TDR), he/she should be required to establish riparian buffers on affected properties. Required NRCS Conservation Plans should also be fitted to include riparian buffers. Tax assessment officials should be required to reduce assessed values of lands within riparian buffers. Farmers should also be educated about the Federal income tax deductions that are made available to property owners who place conservation easements upon their properties for riparian buffers. The USDA Natural Resources and Conservation Service offers its Conservation Reserve Enhancement Program (CREP). This program seeks to enroll some 100,000 acres across the Commonwealth. ***Landowners adjoining streams are offered annual rental payments for installation and proper management of streamside buffers. The program is proposed to continue for 10-15 years. In addition to the rental payments, landowners are eligible for 100% cost share reimbursement for installation of suitable vegetation within these buffers.***

> *"The average cost of the conservation reserve program nationwide is about $43 per acre per year. However the actual amount farmers will be paid to participate in CREP is highly variable, since it is largely related to local land rental rates. The methodology for determining the total amount to be paid to farmers considers the following: base rental rate, cost of installation of conservation practices, annual maintenance costs and any special incentives. The base rental rate is the average dry land cash rental rate based on the three predominant soil types of the land. The Department of Agriculture maintains this information on a county by county basis for the entire country. The Federal government will pay for up to 50 percent of the cost of installing the conservation practices on the land (e.g. planting trees and grass). The Federal government will also pay a nominal annual maintenance fee (generally $5 per acre). Finally, the Federal government may make special one-time or annual incentive payments to encourage participation in the program. For example, the Federal government pays a 20 percent annual bonus above the rental payment for certain high priority practices such as installation of filter strips and riparian buffers. States and other program participants may provide other funding to further encourage participation in the program.[2]"*

[2] *http://www.fsa.usda.gov/dafp/cepd/crepqnas.htm*

Enrollment in this program remains open until the State's 100,000-acre goals are achieved. ***Township officials should mount a campaign to inform local landowners who abut these creeks. Program experts should be invited to explain the benefits of these programs.***

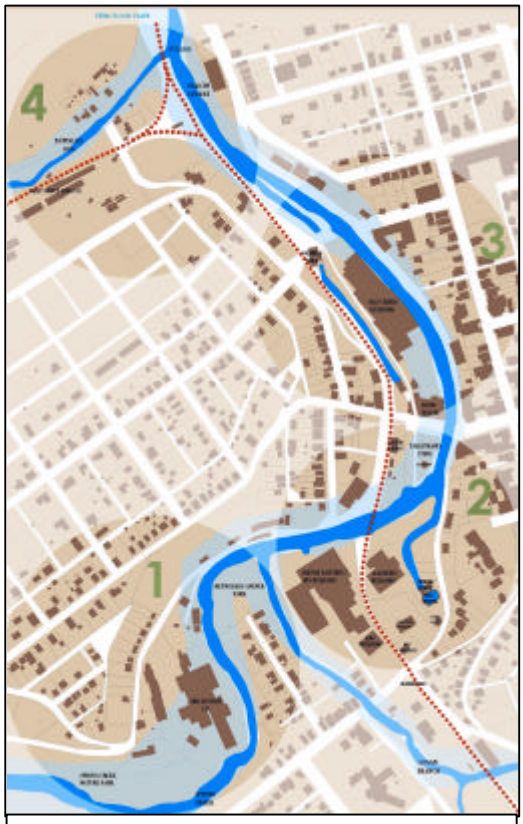
Most of the success stories surrounding riparian buffers within Central Pennsylvania have been the results of dedicated volunteers from conservation and sporting groups. Local anglers have made it their mission to rehabilitate and save stream habitats for fishing purposes. The Region, too, shares in these dedicated groups. ***These captive groups should be educated about the benefits of riparian buffers and energized into action. These "neighbors" can probably best effect the peer pressure to convince local landowners to get involved.*** A "hip-boot-brigade" should be formed from local sportsmen who should regularly travel up the waterways and meet with adjoining landowners, and describe the benefits and programs of riparian buffers. ***Another powerful ally are the Region's youth. Environmental studies classes can develop pilot riparian buffers at visible school and park locations; these focused successes enable the benefits of these buffers to be experienced first-hand by the general public. The School District should develop and regularly offer a streamside riparian buffer workshop as part of its curriculum, for students to learn "first-hand" about how man can co-exist with nature. Local and School District officials should cooperate on a number of these pilot projects at visible locations throughout the Region. Then, as succeses mount, they should be featured in local newsletter and media articles that widen awareness and attention about their use and benefits. Such projects represent excellent candidates for Growing Greener grants from the State. Once momentum is achieved, other civic groups are likely to get involved.***

Finally, intensive livestock operations should only gain zoning approval if riparian buffers are employed on the site. Historically, barns and feedlots were placed adjacent to a spring or tributary so that the farmer did not have to transport needed water from a great distance. This practice today leads to massive erosion due to livestock trampling and machinery movements; such erosion often directly feeds adjoining streams and tributaries. It is impractical to suggest that these barns and feedlots be eliminated or moved. ***Rather, it will be necessary to construct catchment basins at stream outfall locations, where these sediment-laden waters can be collected, settled and gradually released into a stream segment with riparian buffers. Additionally, streamside fencing in pastures and the use of improved livestock crossings will also help to improve surface water quality.*** Without question, the agricultural setting offers the greatest challenge to successful implementation of this program, but, it also promises the most dramatic results.

Society generally universally accepts water quality as a priority. Residents enjoy access to a nearby lapping stream where children can explore the wonders of nature and wildlife. ***In developed settings, current planning and zoning techniques offer practical implementation of riparian buffers. Floodplain, wetland, steep slope, woodland preservation, mandatory dedication, and clustering provisions can all combine to encourage and enforce important natural amenity and public access. Local officials***

should offer real incentives along with regulations so that the development community can become a partner, rather than an adversary, in the provision of these important riparian buffers and greenways. However, the retrofitting of greenways and riparian buffers amid highly developed settings (eg. Bellefonte) can be difficult to impractical in many instances. Detailed feasibility analysis often precedes difficult design challenges. Fortunately, the Borough has already undertaken this study with positive conclusions.

Bellefonte's acclaimed Waterfront Restoration and Redevelopment Plan conducted detailed feasibility study and preliminary master site planning. This ambitious project divided the Borough's Waterfront into 4 segments for planning and revitalization efforts. A brief overview of each segment and its proposed use from, upstream to downstream, is as follows:



Source: Bellefonte Waterfront Restoration and Redevelopment, page 1.

- **<u>Upstream Connections Area</u>** – This segment begins with the proposed 15-acre Spring Creek Nature Park in adjoining Spring Township. This park is principally planned for passive use with a streamside soft-surface trail through woodlands and wildflower meadows. Trailhead parking, a handicapped fishing platform and a future nature center are also envisioned. From the park a narrower pedestrian greenway follows and crosses the creek along several industries as it enters Bellefonte Borough. Once in the Borough the trail encircles the Reynolds Avenue Park, then crosses Logan Branch following the creek along the north side of the "Match Factory." From here the trail enters the 2nd Segment of the Waterfront as follows:

- **<u>Tallyrand Park/Match Factory</u>** – This segment begins along the northern edge of the "Match Factory" site where trail splits in two directions with the western segment paralleling the railroad across Spring Creek via a new pedestrian bridge. The eastern trail roughly bisects the Big Spring site in a northeast alignment, crossing the spring outflow twice on its way to another crossing of Spring Creek. This site features the Big Spring, Glass House, Garden Club flower display, Carousel, and the Sculpture Park. Once across Spring Creek, both trails converge on Tallyrand Park and provide ready access to its many feature attractions (eg. interactive fountain, water wheel, children's play area, gazebo, gardens, millrace, railroad cars, memorial monument and etc.) On the north end of Tallyrand Park the trail converts to a bike and pedestrian greenway after crossing West High Street. Next it enters segment 3 as follows:

- **<u>High to Lamb Street Area</u>** – This segment depicts two alternate trail alignments. Alignment A follows the west side of the Cerro Building adjoining the "enhanced" Mill Raceway which is to be enhanced and stabilized with tree plantings. From here elevated walkways would offer access to the second story of the Cerro Building in which potential adaptive reuses could feature offices, a farmer's market, a roof garden and/or a transportation museum. At the northern edge of this alignment the trail adjoins the Gamble Mill Historic site. Alignment B follows the eastern edge of this site along Spring Creek which is also to be fitted with stream habitat enhancements. Access to the first floor of the Cerro Building would occur at grade. On the north end of this segment both alternate trail alignments converge through Krauss Park.

- **<u>Sunnyside/Graymont</u>** – The final segment of this plan focuses upon the linkage of the greenway anchored along Spring Creek with one proposed along Buffalo Run. Here again two possible trail alignments are proposed; however, their differences are minor. Generally this area proposes a bike/pedestrian trail along the south side of Buffalo Run that crosses Upper Coleville Road and "hugs" the creek on the north side of the "redeveloped" Graymont industrial site. The trail crosses the existing railroad spur and heads upstream along the Spring Creek for a short distance before crossing Spring Creek and connecting with the greenway trail described in above segment 3.

The preceding summary is but a glimpse of the specific recommendations contained within the Bellefonte Waterfront Restoration and Redevelopment plan. Full copies of the plan are available at the Borough Office.

It is clear that Bellefonte Borough has aggressively "taken the next step" in accomplishing the lofty recommendations within the Nittany and Bald Eagle Greenways Plan. It is important that this Comprehensive Plan incorporate these specific greenway/redevelopment strategies. In addition, the other Townships in the Region can gain insight into the next steps towards implementation of the Nittany and Bald Eagle Greenways Plan by understanding Bellefonte's Waterfront Plan.

Local officials within the Region should seek ways to protect and incorporate these valuable resources within the Region's overall park and open space system and programs. Previously and presently several of the Region's municipalities have taken pro-active steps in the creation of these greenways, especially along the Spring Creek corridor. The plotting of a potential greenways/rail-trails/linear parks on a map is but the beginning point to a lengthy and potentially difficult process. Many pitfalls can "derail" this process and prevent project completion. Nonetheless, these trails have become one of society's popular priorities and therefore, funding for feasibility studies is readily available.

For this reason, it is recommended that the RRB and Centre County make a joint application under the Pennsylvania Recreational Trails Program. The PA DCNR offers an 80%-State to 20%-local matching grant for such studies under its Community Conservation Program. According to their staff, these grants are usually undertaken in three successive phases as follows:

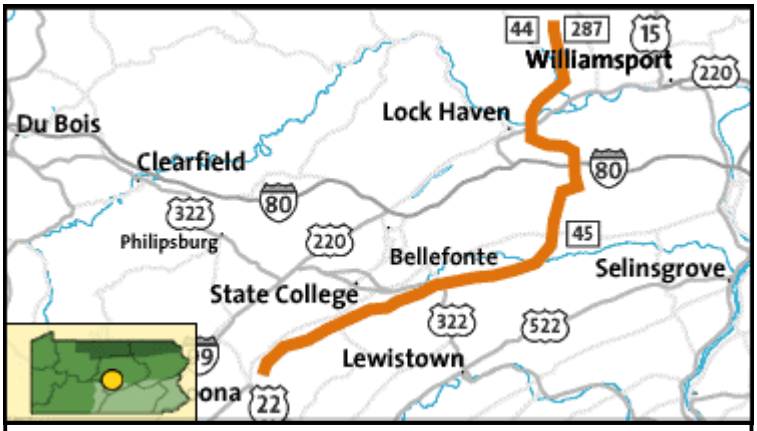
<u>Phase 1 - Trail Feasibility</u> – Determine overall feasibility of trail by analyzing a variety of natural and cultural conditions, anticipated modes, frequency and duration of use, opportunities and threats to trail development, development options and an implementation plan. Some of the information contained within this Plan and the Nittany and Bald Eagle Greenways Plan would be directly applicable to this effort. This should reduce the cost of such a study. In addition, this plan should specifically include master plans for the various needed trail segments and their improvements (e.g., bridges, signs, street crossings, trail retaining wall, floodproofed walkways, etc.)

<u>Phase 2 - Trail Acquisition</u> – Based upon expected use and level of improvement, identify various techniques for access to the trail from outright purchase of rights-of-way to securing use easements. Matching grants for actual acquisition based upon professional appraisal standards and verified by state certified general real estate appraisers, plus related expenses (e.g., appraisals, environmental assessments, boundary surveys, title searches, title insurance and settlement costs).

<u>Phase 3 - Trail Development</u> – Design and installation of surfaces, bridges, underpasses, retaining wall, trail maps and signs. Construction materials and activities must be publicly advertised, bid and awarded in accordance with applicable laws.

More information about the State grant program can be found at the following website:

http://www.dcnr.state.pa.us/recreation/grants/rectrails.htm



Source: http://www.fallinpa.com/fallinpa/multiDayHikes.jsp?section=midState

In addition the Region contains an important existing trail. "The **<u>Mid State Trail</u>** system (MST) is a long distance hiking trail and its side trails in central Pennsylvania. The current northern end is at the West Rim Trail on Bohen Run north of Blackwell and the southern end is a junction with Green Ridge Hiking Trail in Maryland at the Mason-Dixon line. The MST is almost entirely on public land: state forests, game lands and parks. It links or traverses a token roadside rest (Penn DOT), a covered bridge built in 1879, Huntingdon and Broad Top RR grade, two scout camps, two fire towers, three state forest wild areas, five state forests, four state game lands, four state forest picnic areas, eight state parks and eight state forest natural areas, as well as Stone Valley Recreation Area, the Lower Trail, and the Woolrich Factory Outlet Store. The Frankstown to Burnt Cabins Indian Path is crossed and the Great Island Indian Path is followed in part by MST.

Source: http://www.fallinpa.com/fallinpa/multiDayHikes.jsp?section=midState

Source: same as above photo.

"Intermediate access from paved roads is available from PA 326 near Hewitt, Beans Cove Road, PA 326 in Rainsburg Gap, SR 1004 in Everett, SR 1005 in Snake Spring Valley, PA 36, PA 164, PA 866 at Williamsburg, US 22, PA 26, US 322, PA 45, PA 192, Sugar Valley Narrows Road, PA 880, PA 150, PA 44, SR 4001 and PA 414. There are a host of unpaved roads that also provide access in season. See Map & Guide set.

"The MST is marked with rectangular orange blazes on the main trail and blue blazes on side trails. Double blazes are used to mark turns. Avoid red blazed horse and bike trails which intersect MST in Bald Eagle and Tiadaghton Forests. Principle features of the MST are its many views, side trails and fragile illusion of isolation and wilderness. The narrow ridges afford views and provide an illusion of remoteness and solitude in the second most industrialzed state in the nation, yet the MST is rarely more than 2 kilometers from the nearest road. The level of usage is still low and if you hike alone you may meet more bears than people. Thus its recognition as "The Wildest Trail in Pennsylvania".[3] Within the Region the Mid-State Trail can be accessed along PA Route 144 about ¾ of a mile south of the Village of Pleasant Gap. ***This Plan will respect the integrity of this "wilderness" trail by isolating it from planned intensive urban land uses.***

D. Mandatory Dedication (or fee-in-lieu thereof) of Recreation Land

Mandatory dedication of parkland has become a standard technique for local park systems to keep pace with growth since it was enabled by the Pennsylvania Municipalities Planning Code in the late 1980s. To date, none of the municipalities within the Region have taken advantage of this technique to acquire parkland or generate revenues for park improvements. It is testament to the resourcefulness of the Region's municipalities that they have been able to acquire the current park system without this approach. Given the recreation-related goals of this plan and the NRPPA standards for

[3] http://www.kta-hike.org/mid.htm (April 10, 2003)

park service, it is imperative that each municipality "tap" new developments for lands and/or funds to be developed into parks.

In order to adopt mandatory dedication standards, municipalities must undertake some background analysis so as to identify "reasonable" standards that relate to the need for parkland. Using the Region's demographics, land values and parkland needs it is possible to calculate mandatory dedication standards and their related fees-in-lieu-thereof. The following will provide a basis for such calculations:

The NRPA's recommended minimum standards for local parklands is listed below:

NRPA Local Park Acreage Standards	
Park Type	**Minimum Acres Needed per 1,000 Population**
Community Park	5 to 8 acres
Neighborhood Park	1 –2 acres
	6 -10 acres

To date, the Region has provided local parklands at a rate of about 12.3 acres per 1000 population, exceeding the NRPA standards listed above. All of this existing parkland has been derived from sources other than the mandatory dedication regulations. For this reason, this Plan will only calculate needed parklands on the higher of the NRPA standards – namely 10 acres per 1,000 people. To derive a per unit or per lot standard, the 1,000 population is divided by the average household size (year 2000) reported for each municipality as follows:

Mandatory Parkland Dedication Calculations			
Municipality	**2000 Average Household Size**	**No. of Dwellings per 1,000 Population**	**Required Park Acres per Dwelling Unit**
Bellefonte	2.17	461	.022 acres
Benner	2.31	433	.023 acres
Marion	2.88	347	.029acres
Spring	2.39	418	.024 acres
Walker	2.59	386	.026 acres
Region	***2.59***	***386***	***.026 acres***

As an alternative to parkland dedication, municipalities can accept a fee-in-lieu of parkland dedication. This approach can only be used in those instances where the developer and municipality agree on the amount of the fee-in-lieu. In addition, such funds cannot be used merely to maintain existing facilities, but must be used to:

1. purchase new parkland;
2. purchase new equipment for new or existing parks; and/or,
3. make improvements to existing parks that will serve existing residents and those of the proposed development.

According to requirements within the Municipalities Planning Code, amounts of the fees-in-lieu should be derived from the following approach:

An appraiser should be retained by the municipality to analyze recent real estate transactions and derive estimates of fair market value. Such estimates can be based upon all properties within the municipality, or on a neighborhood basis. It is important that the appraiser be informed of the development features (e.g., utilities, zoning, curbs, sidewalks, etc.) common to such lands, so that accurate real estate comparisons can be identified. Once these estimates are derived, they should be periodically updated to reflect the ever-changing value of land.

When disputes between the developer and municipality occur, both the developer and municipality should select an appraiser who, in turn, should jointly select a third appraiser. This third appraiser should then determine the fair market value of the land.

Funds collected under this approach must be used to provide for recreation facilities that are accessible to residents of the proposed development. In determining accessibility to the park, local officials should be guided by the respective park service areas as listed in this Plan.

To estimate the value of fees-in-lieu of parkland dedication an average value of $40,000 per acre will be used to account for the value of improved residentially-zoned land within the Region. The following lists estimated values for fees-in-lieu of parkland dedication by municipality.

Suggested Mandatory Parkland Dedication/Fees-In-Lieu Standards		
Municipality	**Required Park Acres per Dwelling Unit**	**Fee-In-Lieu of Parkland**
Bellefonte	.022 acres	$880 per unit
Benner	.023 acres	$920 per unit
Marion	.029acres	$1160 per unit
Spring	.024 acres	$960 per unit
Walker	.026 acres	$1040
Region	***.026 acres @ $40,000/ ac.=***	***$1040 per unit***

By applying these above figures to the Region's projected growth as described in Chapter III, the following dedicated acres and/or fees-in-lieu can be collected to meet increasing park demand generated by growth:

Projected Dedicated Parklands or Fees-In-Lieu-Thereof 2000 to 2010			
Time Period	**Projected New Dwellings**	**Projected Dedicated Parklands**	**Projected Fees-In-Lieu of Parkland Dedication**
2000-2010	1133	29.5 acres	$1,180,000
2000-2020	2266	58.9 acres	$2,356,000

As can be seen, the value of mandatory dedication/fee-in-lieu-thereof standards is about 2.3 million dollars across the Region through the year 2020. For all these reasons (2.3 million of them), it is vital that Bellefonte Borough and Spring Township adopt mandatory dedication standards within their Subdivision and Land Development Ordinances and that Centre County apply similar provisions within the County Subdivision and Land Development Ordinance on behalf of Benner, Marion and Walker Townships.

The revenues/parklands acquired through this process should be used across the Region as detailed in this Chapter and recommended in the upcoming peer-to-peer study. The RRB should oversee such spending on an ongoing basis. In coming years, the calculations contained in this section should be updated so as to allow for parkland/ revenues to keep pace with changing demographics and land values.

VII. Existing Land Use

For a land use plan to be practical, it must accurately inventory existing land uses and development characteristics. Then, with proper analysis, future land use schemes can reflect reality, and avoid the creation of nonconforming uses when implemented through zoning regulations. To determine existing land uses, two sources were consulted. First, the Centre County Planning Office has prepared a land use GIS map coverage which blends tax parcel record information with land cover features as derived from aerial photograph interpretation. Specifically, tax parcel data is used within "developed" areas while land cover data is used in outlying rural areas. This land cover data can "split" larger properties into several uses. For example, a farm with a house will depict the house as one use, and the farmland as another; this gives a truer picture of uses in outlying rural areas. Conversely, within Bellefonte Borough, the County's tax parcel information was used to determine land use. Here, the tax records list predominate land uses on the property, which is also more accurate than aerial photo interpretation when analyzing a "built" environment. Then, this GIS data was field verified by the County Planning Office staff during 2000. Finally the consultant too verified existing conditions via a windshield survey conducted in June, 2003 and noted only a few corrections. Regionally, the existing land use pattern includes a very wide range of uses and settings that are depicted on the ***Existing Land Use Map.*** The following tabulates land area devoted to various existing land use categories as identified within the County's GIS data.

Existing Land Use Acreage by Municipality*

Category	Bellefonte	Benner	Marion	Spring	Walker	Region
Forest	113	8262	8509	7267	16,537	**40,586 (56%)**
Agriculture	106	6559	4098	5871	6280	**22,914 (31.6%)**
Residential	473	931	446	1166	900	**3916 (5.4%)**
Vacant Land	97	1003	216	1118	146	**2580 (3.6%)**
Transportation	26	450	2	24	2	**504 (0.7%)**
Public/Semi	74	295	17	79	26	**491 (0.6%)**
Industrial	23	66	262	128	6	**485 (0.6%)**
Commercial	56	124	21	154	48	**403 (0.6%)**
Recreation	37	31	52	76	70	**266 (0.4%)**
Water	10	112	3	62	6	**193 (0.3%)**
Utility	1	61	2	38	9	**111 (0.2%)**
Vacant Building	10	4	NA	7	NA	**21 (0%)**
Communications	0.1	1	1	1	1	**4.1 (0%)**

*Acreages are approximate

Existing Land Use & Adjacent Planning

Nittany Valley Region

Existing Land Use
- Forest/Conservation
- Agriculture
- Water
- Recreation
- Public / Semi-Public
- Single-Family Res.
- 2-4 Family Res.
- 5+ Family Res.
- Retail Commercial
- Commercial Service
- Heavy Commercial
- Light Industrial
- Heavy Industrial
- Mining / Quarry
- Transportation / Parking
- Vacant
- Utilities
- *1-30* Pipeline Development

- Gaslines

Powerlines
- 46 KV line
- 115 KV line
- 230 KV line
- Substations

Adjacent Planning
- Agriculture
- Conervation, Forest, Open Space
- Low Residential
- Mixed Use
- Public

Bellefonte Borough Inset

Village of Pleasant Gap Inset

Liberty Twp.
Porter Twp.
Howard Twp.
Logan Twp.
Miles Twp.
Boggs Twp.
Gregg Twp.
Union Twp.
Patton Twp.
College Twp.
Potter Twp.

Marion Township
Walker Township
Spring Township
Benner Township
Bellefonte Borough

N
W E
S

1 0 1 2 Miles

1500 0 1500 3000 Feet

The information depicted on this map was provided by the Centre County Planning Department.

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Look forward to the future!

Forest/Conservation

As expected, the steep side slopes and foothills of Bald Eagle and Nittany Mountains are largely wooded, with only scattered rural residences and cabins on large lots. Sand Ridge and the creek-sides of Spring Creek and Logan Branch are also largely wooded which undoubtedly contribute to their excellent surface water quality. Many of the lots in this area are uncharacteristically deep when compared with other residences; this suggests that these lots may be used to harvest firewood and for hunting cabins. In addition, some of these lots are located away from any public road and appear land-locked; these lots would not be permitted under today's subdivision regulations. Benner Township's Valley View Road has been developed with many rural residences employing flag-lot designs; none of the other Townships appear to have permitted this type of rural development. This land use category includes brush-land, evergreen, hardwood, mixed, and wetland forests. Some 40,586 acres, or 56%, of the Region's total land area is within woodlands. All four townships share in a large measure of woodlands. New changes to State law require each municipality to permit forestry uses by right within each zone; more discussion regarding this topic is presented in Chapter XI of this Plan.

Agriculture

Farming is the second largest category of land use within the Region. About 22,914 acres comprise this use or about 31.6% of the total land area. Each of the Region's four Townships have abundant farmlands within the low-lying limestone valleys of the Region's landscape. Walker and Marion Townships also have "plain-sect" farmers. Crop farming is the principal activity with corn, beans and trees. Livestock farming was also observed to a significant but lesser extent with dairy cows dominating these operations and one large hog operation; these are all family-run farms. Large pastures create a bucolic setting throughout the Nittany Valley. The Region appears devoid of large-scale concentrated feeding animal operations and commercial produce operations. Also there are relatively few farm occupations observed in the Region.

Panoramic photograph of 4 farms located on the north side of Jacksonville Road in Marion Township.

Water

Water features comprise about 193 acres, most of which are located within Benner and Spring Townships. The Spring Creek Corridor is the largest feature within this category with several

quarry pits in Spring Township also prominently visible. The Region's karst and porous valley topography does not produce abundant surface water lakes and ponds. However, when the surface features are removed, like in a quarry, then underlying materials can collect standing water that would have otherwise been buried below the fertile farmlands and fractured upper levels of bedrock. In the upland areas, the steep slopes carry surface water quickly out of the hills into the valley where it follows infrequent streams and creeks or percolates to the groundwater through the limestone soils and geology.

Pleasant View Park in Pleasant Hills

Recreation

Some 266 acres have been identified as recreation areas. These include many of those sites already inventoried in Chapter VI plus several private facilities like golf courses, driving ranges, campgrounds, shooting ranges and miniature golf. Many of the Region's larger regional recreation resources are contained within lands that are mapped in this Chapter as Forest/Conservation. Others are included in lands that have been identified as public/semi-public.

Public / Semi-Public

Within the Region public and nonprofit uses comprise 491 acres or about 0.6% percent of the total land area. It is important to note that the larger State Forest and Gamelands are not listed within this category as they are principally in forest cover. This category focuses upon smaller community-based facilities and many numerous governmental uses such as post offices, firehouses, EMT stations, police stations, the County courthouse, County offices, nursing care campuses, armories, libraries, clubhouses for civic and fraternal organizations, public schools, municipal offices and maintenance sheds, churches, cemeteries, and rectories, State fish hatcheries, and properties held by the Rockview prison, and the Pennsylvania State University.

Centre County Courthouse in Bellefonte

Residential

Almost 3916 acres of land within the Region contain residential uses; this represents about 5.4% of the total land area. Given the way the County records its tax parcel data, this category includes all of the detached nonfarm and farm dwellings residences within the Region plus the

attached row homes and duplexes which are mostly located within Bellefonte Borough. Densities within this category range from rural to 10 dwelling units per acre within the Borough. Clearly, most of the homes located within the rural landscape are vastly different than those located within the older neighborhoods of the Borough. The GIS data presents categories of residential land use based upon the number of units contained on a particular site and while this information is helpful, it must be refined to reflect the character of the neighborhood along with individual home sites. For this reason this Chapter will present information on the character of various forms of residential development rather than its overall site density.

Rural Residential - Rural home sites are generally larger than one-acre and often have a deep driveway; however, at the crossroad villages and along the Region's major local roads homes can be located close together and nearer the road. In short development within the rural areas varies widely except within several of the more recent subdivisions that have more uniform layouts and appearances. Each township has considerable scattered "strip" roadside housing throughout its rural landscape. This rural housing also contains many home and rural occupations that provide for close-to-home employment opportunities. Generally rural homes are well-kept aside from an occasional mini-junkyard and the outdoor storage associated with a contractor's rural occupation. Sidewalks are not provided within these settings.

Suburban and Single-Family Residential – The neighborhoods within the Borough, the Village of Pleasant Gap and within the newer "suburbs" of the Region also vary considerably. Within Bellefonte Borough suburban style homes on ¼ acre lots with spacious front-yard driveways can be found at the eastern periphery like those in the adjoining photograph.

Suburban-style home along E. High St.

However in the older sections of the Borough another distinct pattern emerges. When Bellefonte was first laid out, the plan relied on a traditional "grid" pattern of development. As part of the grid pattern design concept, streets were generally set apart by the same distance. The main street pattern is further divided by the use of alleys running between the main streets. As lots were platted, their depths, running from the main street back to the alley, were the same length; about 200 feet. Therefore, the difference among the various densities within the Borough is largely determined by lot widths that typically range from about 25 feet for duplexes up to about 90 feet for detached homes, but can go as high as 200 feet for the Borough's largest historic homes. Certainly, some variations exist, but most of the Borough adheres to this traditional development pattern. In some of the alleys (eg. Cherry, Logan, and Lamb) the deeper lots have been further subdivided to produce two lots with depths of only 100 feet. Obviously this doubles the density on these blocks.

To get a more defined sense of the characteristics of the Region's varied residential neighborhoods, the GIS data was used and on-site measurements were taken. Specifically, various "typical" residential uses were sampled and analyzed to determine relevant residential site traits. The locations of such settings are noted to verify their suitability. Because zoning requirements are generally expressed by minimum required standards, within each particular setting, traits that would be shared by most of the properties were noted. These traits often represent a low common denominator among the properties within the setting, so as not to suggest design standards that would create zoning nonconformity. The table below presents the results of this analysis.

"TYPICAL" DESIGN CHARACTERISTICS OF SINGLE FAMILY RESIDENCES						
Location & (Unit Type)	**Min. Lot Size**	**Min. Lot Width**	**Front Setback***	**Side setback**	**Parking Location**	**Sidewalks**
Bellefonte Borough						
West Lamb (SFD)	10,000 sf	50 ft.	20 ft.	3 ft.	Side or rear drives	none
East Curtin (SFD)	12,000 sf	60 ft.	50 ft.	10 ft.	alleys & on-street	yes
East Curtin (2FD)	5,000 sf	25 ft.	25 ft.	2 ft.		yes
Curtin (SFD)	15,000 sf	75 ft.	25 ft.	2 ft.		yes
East Linn (SFD)	18,000 sf	90 ft.	50 ft.	15 ft.		yes
East Lamb (SFD)	5,000 sf.	25 ft.	1 ft. build to sidewalk.	3 ft.	On-street	yes
East High (SFD)	12,000	80 ft.	55 ft.	10 ft.	On-street / front drives	none
Cherry Street (above garage)	2000 sf	20 ft.	0 ft. on alley	0 ft.	In garage	none
Benner Township						
Edward Dr. (SFD)	15,000 sf	100 ft.	50 ft.	6 ft.	Front drives & garages	none
Seibert Rd. (SFD)	33,000 sf	110 ft.	90 ft.	30 ft.		
Marion Township						
Jacksonville (SFD)	15,000 sf	70 ft.	20 ft.	6 ft.	Variable & along street	none
Jacksonville (2FD)	22,000	100 ft.	20 ft.	6 ft.	Variable & along street	none
Sunset Rd (SFD)	1+ ac.	150 ft.	100 ft.	50 ft.	Front & side drives	none
Spring Township						
White Rock Ave. (SFD)	9000 sf	60 ft.	35 ft.	25 ft.	Variable	none
Main Street	12,000 sf	60 ft.	25 ft.	20 ft.	variable	west side only
Pleasant Hills (SFD)	10,000 sf	85 ft.	40 ft.	10 ft.	Front drives & garages	macadam
Steeplechase (SFD)	10,000 sf	80 ft.	40 ft.	10 ft.	Front drives & garages	one side only
Limestone Dr. (SFD)	20,000 sf	110 ft.	80 ft.	15 ft.	Front drives & garages	none
Walker Township						
Laurel Run Rd (SFD)	1+ ac.	200 ft.	50 ft.	45 ft.	Front & side drives	none
Hublersburg (SFD & 2FD)	13,000 sf	75 ft.	15 ft.	20 ft.	Variable / off-street only	none
Myers St. (SFD)	20,000 sf	120 ft.	45 ft.	20 ft.	Front drives & garages	none
Zion Ridge Road (SFD)	11,000 sf	90 ft.	50 ft.	15 ft.	Front drives & garages	none
*Front yard setbacks measured from the edge of the cartway to the closest point of the front façade.						

Spacious lot along Linn Street / 2-Family dwelling along Curtin Street / Rowhomes along Lamb Street
Bellefonte Borough's varied neighborhood streetscapes

Edward Dr. / Benner Twp.

Jacksonville / Marion Twp.

Hublersburg / Walker Twp.

Pleasant Hills *Steeplechase* *Limestone Drive*
Spring Township's suburban neighborhoods

Multi-Family Residential

Aside from only a handful of sites, Bellefonte Borough and Spring Township provide the Regions stock of multiple family housing. These range from nursing and convalescent homes to garden apartments, townhouses and upper level apartments in Bellefonte's downtown. According to the US Census Bureau the Region had 1221 multi family housing units in the year 2000 comprising 14.4 percent of its total housing stock. However, it is important to understand that mobile home parks are **not** included within this category.

Municipality	Multi-family units
Bellefonte Borough	957 (78.4%)
Benner Township	18 (1.4%)
Marion Township	0
Spring Township	216 (17.7%)
Walker Township	30 (2.5%)
Regional Totals	**1221 (100%)**

Pleasant Hills in Spring Twp.

Like for single family dwellings, various multi-family dwelling developments were sampled and measured to determine typical design characteristics of these neighborhoods as follows:

"TYPICAL" DESIGN CHARACTERISTICS OF MULTI-FAMILY RESIDENCES					
Location & (Unit Type)	**Lot Size**	**Lot Width**	**Front Setback***	**Side setback**	**Parking Location**
Bellefonte Borough					
Scenic Street (Townhouses)	1,2 ac.	18'/unit	20 ft.	15 ft. ends	Front of unit
Park Place (Townhouses)	1.5 ac.	20'/unit	25 ft.	NA	Front garages w/ shared drives
Spring Township					
Pleasant Hills Apartments (3 story)	9.7 ac.	NA	50 ft.	30 ft.	Parking lots
Eby Crest Court (1-story townhouses that look like motel units)	15.8 ac.	30'/unit	3 ft.	NA	Front of unit & carports
Spring Brae Townhouses	2.9 ac.	18'/unit	10 ft.	5 ft. ends	Parking lots
*Front yard setback measured between the cartway and the closest point of the front facade.					

Eby Crest Court *Park Place* *Spring Brea* *Scenic Street*

Mobile Home Parks

Although the County GIS data does not specifically identify mobile home parks, these unique uses require special attention. Four mobile home parks can be found within the Region. These sites differ from mobile homes that are located on separate lots as they are considered single family detached residences. The largest is Continental Courts in Benner Township with some 417 dwelling units is located in the extreme western reach of the Region. On the opposite end of the Region in Walker Township is another large mobile home park called Woodland Park; while this park is technically mobile homes placed on individual lots, it resembles a mobile home park in design and function. Third a small park is located off of Benner Pike just north of Valentine Hill Road in Benner Township. Finally the Meadows Estate in Marion Township is another small park located at the end of Sunset Drive. The following lists the design standards of the two large parks:

"TYPICAL" DESIGN CHARACTERISTICS OF MOBILE HOME PARKS							
Location	**Min. Rd. width**	**Min. Lot Width**	**Front Setback**	**Side Setback**	**Rear Setback**	**Parking Location**	**Sidewalks**
Continental Court (Plum St.)	40 ft.	75 ft.	30 ft.	15 ft.	10 ft.	Front pads 2 cars wide	none
Nittany Village (Chestnut St.)	60 ft.	75 ft.	50 ft.	20 ft.	10 ft.	Front pads	none

Continental Courts in Benner Township

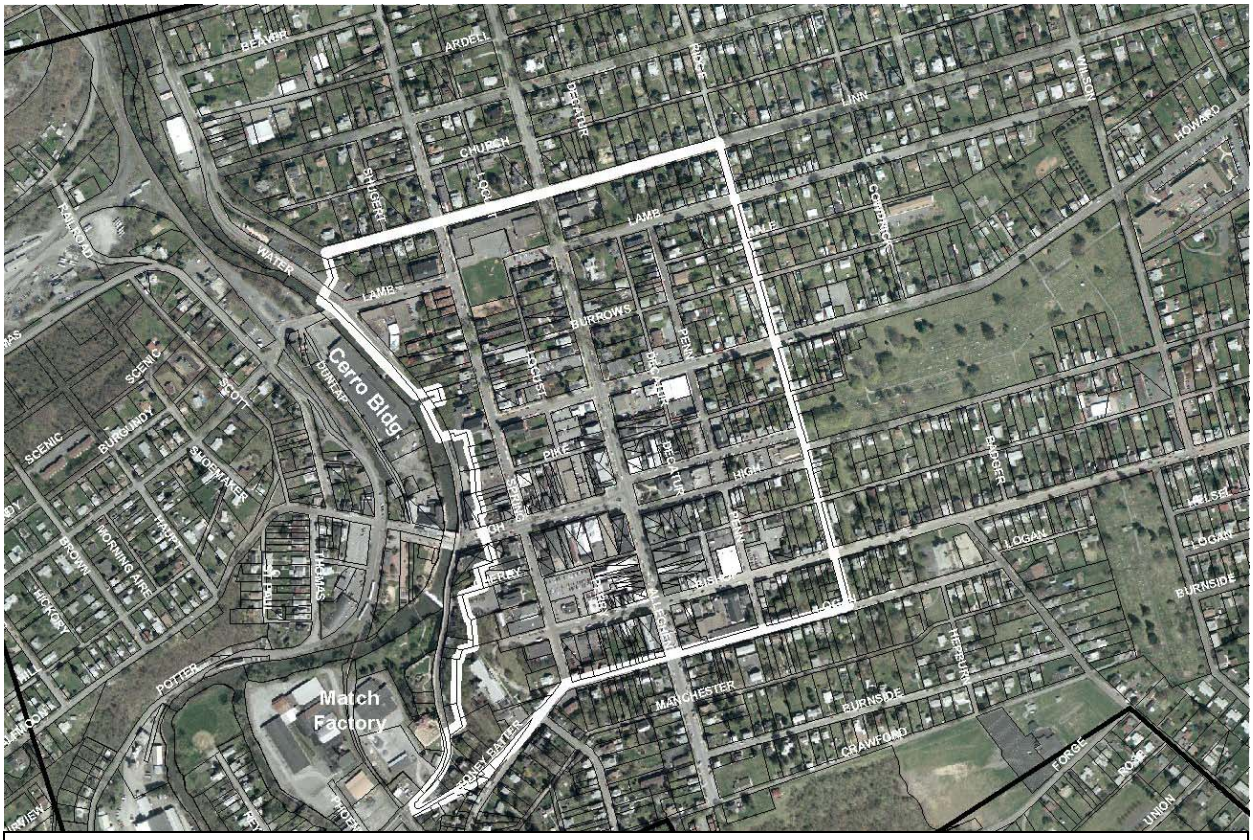
Woodland Park in Walker Township

Commercial

About 403 acres within the Region are devoted to commercial use; this represents over 1/2 of 1% of the total land area. While Bellefonte Borough has only 56 acres of commercial use, it still provides the bulk of retail commercial goods and services within the Nittany Valley Region. It also offers the greatest variety of commercial uses within its defined central business district (CBD). The County GIS data divides commercial land uses among retail, service and heavy categories. Retail uses involve the sale of goods to the public (Food, hardware, clothing, media, electronics and etc.). Retail services involve the retail delivery of assistance to the general public (eg. barber and beauty, insurance, real estate, medicine, and etc.) Heavy commercial uses involve large-scale retail goods to the general public (eg. auto, boat, truck, mobile home sales and services, building material sales, and etc.). Like for residential development this Chapter will describe the character of various commercial settings rather than a listing of individual uses; this analysis of the setting will better assist in the formulation of suitable future land use management strategies at given commercial locations.

Bellefonte's Central Business District (CBD)

Downtown Bellefonte Borough is a special place. It hustles and bustles with tremendous vitality. Pedestrians line the sidewalks and await the passage of considerable vehicular traffic that also shares this active space. A generous mixture of commercial storefronts, offices, studios, barbers, salons, services, theatres, repair shops, restaurants, and lodging combine with numerous public/civic uses like government offices, the post office, the library, Borough Hall, the County Courthouse, schools and churches to create a thriving hub of commerce and social service. Bellefonte's stock and mixture of commercial and civic uses within its CBD rival and often exceed larger cities with many times its population and market.



Downtown Bellefonte

But the CBD is more than a home to its businesses and civic uses. Many people also choose to live here. Numerous freestanding and attached housing units are co-mingled within the CBD. In addition, the massive above-grade floor space available within the 5-story buildings here offers considerable opportunity for upper level apartments. The County's GIS data depicts many of the properties within the CBD as possessing more than 5 dwelling units in addition to a principal commercial business. Again this success is the envy of local officials from many larger cities.

But a successful CBD is also more than a collection of uses. It must reflect an identity and character; again Bellefonte's CBD is loaded! Fifteen-feet-wide sidewalks traverse all of the CBD's streets and storefronts have established build-to-lines to create a uniform and cohesive streetscape design. Contributing elements also include entrance canopies (both hard and soft)

historic light fixtures with decorative banners, decorative waste cans, benches and thematic directional signs. Prominent monuments offer nodes of interest and nostalgia while mature shade trees offer visual and thermal relief amid this intensively developed setting.

Architecture also plays a key role in Bellefonte's success. Clearly the Borough has undertaken an effective campaign of historic preservation. Its Victorian architecture is well documented and largely intact. Business owners have largely embraced historic treatments for their facades. The 5-story buildings of brick and masonry construction are both impressive and sound. These buildings seemingly testify to the Borough's "staying-power" as an activity hub within the Region and Centre County. The overall layout of the downtown also takes full advantage of its rolling terrain by placing the "town-square" at a prominent high-spot that can be seen from every vantage of its converging streets and sidewalks.

The Centre County Courthouse located prominently in Bellefonte's CBD.

A view of N. Allegheny Street from the town-square in Bellefonte's CBD.

Pedestrian access and travel are an obvious priority in the CBD. Abundant sidewalks traverse the entire area and provide ready adjoining access to street level storefronts and offices. Painted crosswalks at major intersections offer notice of this priority to passing motorists. Similarly, painted sidewalks line alleyways that connect the streetscape with adjoining satellite parking lots. Overhead utility lines have been confined to alleys reducing visual clutter and business signs are generally limited to flat wall signs with a few wall projecting signs. All signs reflect a pedestrian scale and orientation.

But Bellefonte's success in retaining commercial vitality has been its ability and eagerness to adapt. The above aerial photograph depicts the CBD as a very intensively developed space. Little open space remains and the "nooks-and-crannies" that result from urban lotting and building have been efficiently used for scattered parking lots. The location and scale of these scattered lots suggest an overall centralized management of the issue rather than a collection of independent businesses each providing some parking. It is difficult to imagine a more efficient assemblage of parking lots in this area short of a multi-level parking garage. On-street parallel parking lines the streets and "head-in" parking is located around the town-square.

Two exciting proposed projects should also further enliven downtown Bellefonte. The "Match Factory" project is underway and will add about 50,000 square feet of retail floor space and

another 50,000 square feet of office space; this site is labeled in the southwest corner of the aerial found on page VII-7. The Cerro Building is another future project that is part of Bellefonte's plans to improve its "Waterfront" along the Spring Creek Corridor. Specifically, this Cerro building is slated for adaptive reuse as offices, a farmers market and a museum.

From aerial photograph and GIS mapping interpretation plus on-site verification it would appear that the CBD is roughly defined within the following boundaries. (north – Linn Street; east – Ridge Street; south – Logan Street; and, west – Thomas Street.)

Shopping Center Commercial

Bellefonte's Bishop/Zion Road (PA Route 550) corridor has an important concentration of commercial stores and services that serve the Borough and the Region. Here are the uses that meet the Region's residents' "day-to-day" needs. Retail uses in this vicinity include several grocers, hardware, pharmacy, banks, auto parts and tires, rentals, gas, fast-food, beverage

Shopping Center development that serves the Region's day-to-day commercial needs.

distributor, photomat, laundromat and convenience stores. Services include offices for a media firm, attorneys, realtors, physicians, dentists, chiropractors and optometrists. As the above aerial illustrates, these uses are arranged in a traditional shopping center configuration characteristic to developments of the 1960s and 70s. While these centers offer shared amenity for parking, access, signs, off-street loading and stormwater management, they offer little amenity in design and beautification. Nonetheless, this concentration is critical to the Region's commercial self-sufficiency. Many other Boroughs have long since lost these types of important uses to more contemporary suburban competitors. To the east of this area is a strip of highway

commercial uses that extends from the Borough about 1 mile past the PA Route 26 Bypass interchange; this area will likely gain importance and additional uses with the completion of the Route I-99 and its adjoining interchange.

Highway Commercial

Any Region of this size and development history is bound to have some highway commercial development. For many years this was the preferred design for new commerce as residents ventured out into the suburbs and countryside. Several concentrations of highway commercial uses are found in Bellefonte Borough, and each of the Townships. Except for several small mini-malls, these uses were typically built with minimal design amenity and most are "laid-out" with their longest lot axis parallel to the adjoining road. Off-street parking is located in the front yard and accessed by one or two access drives. Most uses are designed as freestanding lots with separate signs and driveways. Curbs with defined points of access are infrequent as are landscaped strips and internal parking lot landscaping. Off-street loading spaces are not apparent and screening of outdoor storage areas is rare. Newer uses tend to have better designs but these are the exceptions within any given locale.

Bellefonte's Water Street / Willowbank Road (PA Route 150) corridor is lined with several businesses that exhibit strip commercial character. These uses include several gas stations and convenience stores, a clinic and a sports outfitter. This pattern extends to the north into Spring Township along Pleasant View Boulevard and includes auto sales and service, a furniture showroom, shed sales, fast-food restaurants and stands, a flower stand, a bait and tackle shop, gas station, a building contractor yard and a welder.

Benner Pike (PA Route 150) in Benner Township also has a concentration of highway commercial uses located about ½ mile north of the US Route 99 interchange. Here can be found retail sales of gas, bedding, vacuum cleaners, fast-food, landscape materials, automobiles and parts, home furnishings, antiques, gifts and furniture. Retails services include insurance, tourism and chiropractic offices.

College Avenue (PA Route 26) in Benner and Spring Townships has a fragmented corridor of strip commercial development that extends from just west of, to just east of, the Village of Pleasant Gap. Retail uses in this area include auto sales and service, gas stations, convenience stores, fast-food and sit-down restaurants, a fireplace shop, a craft shop, lawn furniture, taverns, pet shops, tires, office equipment, pool and spa contractor and lawn and garden supplies. Commercial services are a clinic, bank, pest control, self storage units, bakery, insurance, truck and trailer rental, salons and various offices.

College Ave. in the Village of Pleasant Gap

Main Street / Axemann Road (PA Route 144) also has a number of scattered commercial uses that extend from the Village of Pleasant Gap north towards Bellefonte. These uses tend to be heavier commercial activities that are co-mingled amid other adjoining industries. Typical uses include auto service and salvage, contractors storage yards and workshops, a cable TV office, trucking and shipping contractors and a fuel distribution site.

Zion (PA routes 64 & 550) Within this area of Walker Township is a small node of highway commercial uses located at this intersection of these major roads. Here are located a convenience store, gas station, bank, denture shop, butcher, carpet cleaner and tavern.

Village of Nittany (PA Route 550) Located in extreme eastern Walker Township are another collection of highway commercial uses including a drive-in restaurant, tavern, butcher, auto service, antique shop and a fuel distribution site.

Route 26 / I-80 Interchange This location straddling the Marion and Spring Township lines include two gas stations, a motorcycle shop, contractor yard and offices.

Aside from the above-described concentrations of highway commercial use are additional scattered freestanding uses along the Region's major and minor roads.

Industrial / Mining /Quarry

About 485 acres within the Region are devoted to industrial use; this represents about 0.6% of the total land area. Each municipality has some industrial development.

Major industrial areas within Bellefonte Borough

Unquestionably, mining operations currently dominate the Region's industrial activity. The Region's several quarries have processing facilities that are listed as industrial uses apart from the actual active quarry and mine pits that are specifically identified. However, older industries in and just outside of Bellefonte are also important. In addition Benner and Spring Townships have a newer industrial park that is being developed with higher quality uses and better designs than that characterized within older sections of the Borough and at the quarry processing plants.

Cerro Metals, Inc site

Within the Region the Graymont Lime Company operates the largest industrial land use generally straddling Thomas Road in the northeast corner of the Borough and extending into adjoining Spring and Benner Township. This location has direct rail access and is largely separated from the populated areas of the Borough by grade and thick woodland cover. This intensively used area is a heavy industrial use. Further south along the west side of Spring Creek is the SMS Sutton site; this heavy industry also sits lower than the adjoining neighborhoods.

Penn Eagle Industrial Park

Finally along the southern edge of the Borough begins the Cerro Metals plant that is principally sandwiched between Axemann Road and Logan Branch in Spring Township. This older site has a utilitarian mechanized appearance that dominates its surroundings. The size of the buildings coupled with the narrow configuration of the site leaves little opportunity for off-street parking/loading let alone landscaping. Some portions of this building are also in need of repair and maintenance.

Conversely, the Penn Eagle Industrial Park located on the east side of Benner Pike about ½ mile north of the Route I-99 interchange and extending east into adjoining Spring Township, appears to be growing. Here contemporary industrial buildings are arranged in a small pleasant campus-like setting. Uses include corporate offices, research and development, tractor sales, door manufacturing, woodworking, plaster and drywall contractor and offices. Considerable development potential remains around Rolling Ridge Road, an internal road that loops around the rear of the existing developed lots.

Restek Corp. in Penn Eagle Ind. Park

Similarly, Spring Township too has the makings of a small industrial park that is beginning to emerge on the south side of Route I-99 just west of its intersection with the PA Route 26 Bypass. Here the County's vocational and technical trade school and the Supelco Chromatography facilities foretell of future industrial use in this vicinity. About ½ mile to the north along Blanchard Street is the Leg Tem Pres facility and to the south about ½ mile along Harrison Road is Beavertown Block Company.

Marion and Walker Township's industries are widely scattered and include an occasional sawmill, contractor storage yard, auto salvage yard, well driller and other rural occupations. Walker Township's largest industry is the Ritenour Manufacturing located on Heckl Road in Mingoville.

The Region has several large-scale quarry/mining operations. The Graymont Lime Company is located in northcentral Benner Township along the south side of Valley View Road. Their processing facility is located with vehicular access onto Upper Gyp Road. Another Graymont Lime Company property is located just east on the south side of Valley View Road. This use extends into Bellefonte Borough and has vehicular access onto Thomas Street/Coleville Road.

The largest concentration of quarry activity is located straddling College Avenue just east of Pleasant Gap. Here the Graymont Lime Company and the Centre Lime & Stone Company have multiple active operations. Processing for these uses occurs along Graybec Road, a private street that connects on the north side of College Avenue. This hub of quarry uses is conveniently located at the end of the PA Route 26 Bypass which affords ready highway access throughout the Region, Centre County and beyond.

The hub of quarry operations for the Graymont Lime Company and the Centre Lime & Stone Company located in Spring Township at the terminus interchange of the PA Route 26 Bypass

At the other end of the PA route 26 Bypass in Marion Township is the Curtin Gap Quarry. This facility and a smaller site located just west of Jacksonville on the north side of Jacksonville Road is owned by the Hanson Corporation. Processing for this site is located on the east side of Forest Avenue with convenient nearby highway access onto the PA Route 26 Bypass and US Route 80; however, local road access at this interchange is scheduled to be removed with the installation of a new "high-speed interchange" in the coming years. A few other small quarry pits and strip mines are located within the rural portions of Marion Township.

Transportation / Parking

About 504 acres are devoted to the lands related to the Region's transportation network and freestanding parking lots. These areas do not include actual road or railroad rights-of-way but include road maintenace lots and sheds and park and ride lots. The largest properties within this classification are for the Region's two airports. More information about these is contained within Chapter XI (Transportation) of this Plan.

Vacant

Some vacant sites are recorded by the County's GIS data. Some of these sites are void of buildings and structures while others have structures that are unoccupied. It would appear that many these areas are under transition from agricultural use to development. In all some 2600 acres are listed as vacant or 3.6% of the Region's total land area.

Pipeline Developments

In planning for future land uses, and calculating acreage needed to accommodate projected growth, it is important to know the location and types of developments within the Region that have been approved for development, but have not yet been fully developed. This information will also ensure that future planned uses are consistent or compatible with those already approved for construction. The following lists, by municipality, that development which has been approved and not yet constructed:

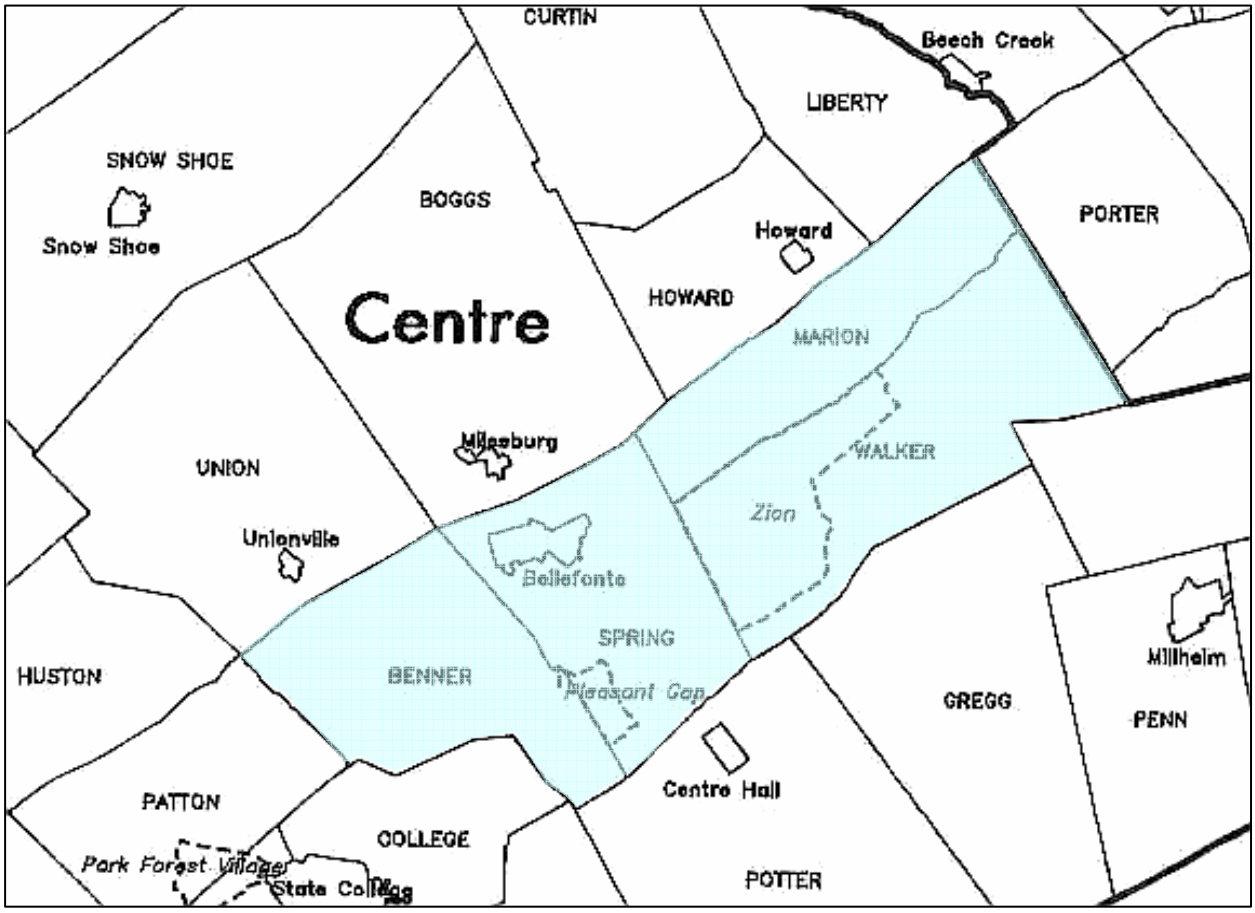
PIPELINE DEVELOPMENT PROJECTS		
Development Name	**Map No.**	**Uses Yet To Be Built**
Bellefonte Borough		
Match Factory	1	50,000 sf of professional offices & 50,000 sf of retail
Parkview Heights	2	57 single family detached
Talleyrand Park	3	Park expansion/demolition retail building
Sanderson, Menna & Boone	4	1 single family detached
Benner Township		
Fleetwood Farms	5	5 single family detached
Hampton Hills	6	89 single family detached
Fillmore Farms	7	412 single family detached
Graymont Lime Co.	8	12 acres of limestone mining
Burnham Farm Estates	9	commercial offices
Victorian Village	10	8 residential lots
Paradise Hills	11	8 single family detached
Centre Co. Fire Training Facility	12	County fire training facility
Centre Co. Prison	13	County prison

PIPELINE DEVELOPMENT PROJECTS		
Development Name	**Map No.**	**Uses Yet To Be Built**
Marion Township		
Hickory Knob	31	17 single family lots
Meadows East	32	13 single family lots
Nittany Ridge	33	7 single family lots
Woods at Sand Ridge	14	52 single family lots
Spring Township		
Burnham Farm estates	15	92 single family dwellings; 54 townhouses; 51 duplexes; and, 4 commercial lots
Victorian Village	16	8 multi-family lots
Penn Eagle Industrial Park	17	15 industrial lots
Steeplechase	18	100 single family lots
Pleasant Hills Apartments	19	40 multi-family dwellings
Stonehenge (Phase 5)	20	8 single family lots
Springfield (Phase 5)	21	18 single family lots
Brockerhoff Estates	22	30 single-family lots
Larue	23	20 townhouses
Terra Sylvan	24	20 townhouses
Rosewood	25	78 townhouses
Walker Township		
Woods at Sand Ridge	26	single family detached
Springfield (Phase 5)	27	single family detached
Forest Heights (Phase 2)	28	singe family detached
Stony Pointe	29	single family detached and duplexes
Madison Court	30	single family detached
Hickory Knob	31	17 single family lots

The map numbers for each of these pipeline projects has been depicted on the Existing Land Use Map.

VIII. Adjacent & Regional Planning

The preparation of any comprehensive plan must always consider and, if possible, complement the planning policies in effect in adjoining communities. The highest level of consideration could include a cooperative planning effort of several adjoining municipalities, such as that of this Regional study. At a minimum such effort should seek to coordinate land use activities across municipal boundaries to assure compatibility and function. This Chapter presents this analysis and findings of general consistency with the stated planning policies of Centre County for the Region.



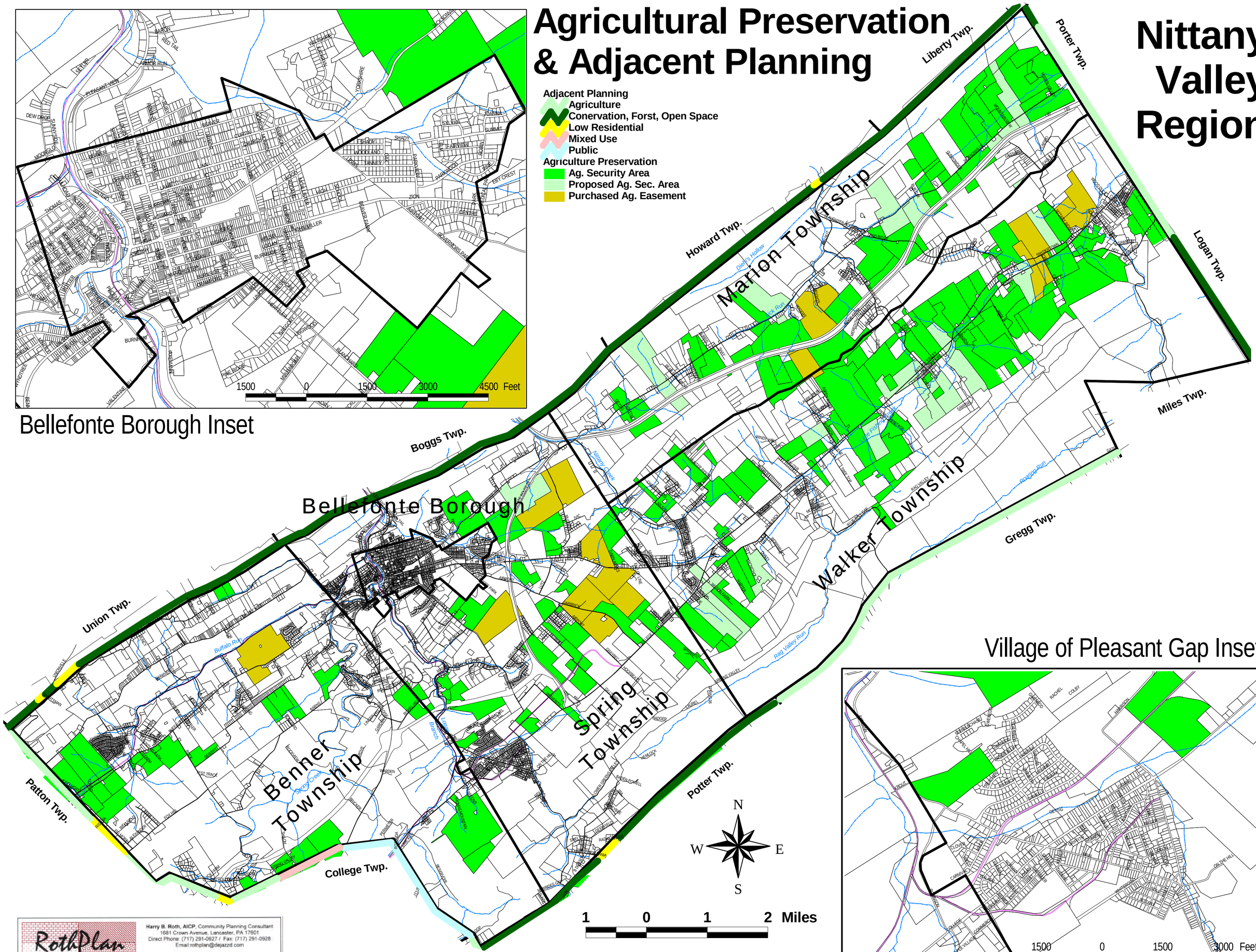
The Region's boundaries are man-made. Along the northeastern boundary the Region abuts Porter and Logan Townships in adjoining Clinton County. To the southeast are Miles, Gregg and Potter Townships in Centre County. Southwest of the Region are Harris, College and Patton Townships in Centre County. To the northwest are Huston, Union, Boggs, Howard, and Liberty Townships, also in Centre County. The Agricultural Preservation and Adjacent Planning Map, on the following page, depicts the planned land uses in municipalities that adjoin the Region. As can be seen, many adjoining areas too recognize the rural/natural features of the Region. The following is a brief summary of those land uses planned for each municipality bordering the Region.

Agricultural Preservation & Adjacent Planning

Nittany Valley Region

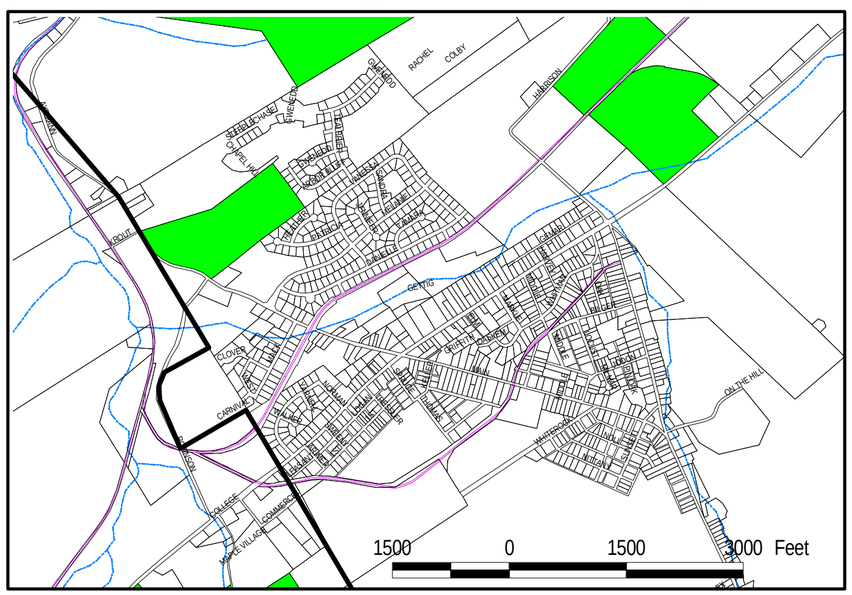
Adjacent Planning
- Agriculture
- Conervation, Forst, Open Space
- Low Residential
- Mixed Use
- Public

Agriculture Preservation
- Ag. Security Area
- Proposed Ag. Sec. Area
- Purchased Ag. Easement



Bellefonte Borough Inset

Village of Pleasant Gap Inset



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Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

A. Municipalities Adjoining the Region

Porter Township (Clinton County) – Adjoining Marion and Walker Township along the Region's northeastern border is Porter Township in Clinton County. The Township has no comprehensive plan but instead relies upon the Clinton County Comprehensive Plan. According to County staff this is a policy plan with no land use designations. Therefore, the Porter Township Zoning Map was consulted for the identification of likely adjoining land uses. This border is comprised of the Agricultural Zone with 1 acre lots required for dwellings and the Conservation Zone with its 10-acre minimum lot size.

Logan Township (Clinton County) – Adjoining Walker Township along the Region's northeastern border is Logan Township in Clinton County. The Township has no comprehensive plan but instead relies upon the Clinton County Comprehensive Plan. According to County staff this is a policy plan with no land use designations. Therefore, the Clinton County Zoning Map was consulted for the identification of likely adjoining land uses. This border is comprised of the Rural Forest Zone with 1 acre lots required for dwellings and devoted to the conservation of and the Conservation Zone with its 10-acre minimum lot size.

Miles Township (Centre County) – Adjoining the southeastern edge of Walker Township and the Region is Miles Township. Presently there is no comprehensive plan in effect within this Township. Consequently there is no official policy of land use here and this Plan will attempt to pan for land uses that are generally compatible with existing land uses along this border. It is noted that this Township is in the initial phases of development of a Penns Valley Region Comprehensive Plan.

Gregg Township (Centre County) – Adjoining southeast Walker Township and the Region is Gregg Township. The Township Comprehensive Plan was prepared by Local Government Research and adopted on September 19, 1979. Here the Future Land Use Plan depicts only one adjoining land use category – Agricultural Residential. This is the least intensive of thrree categories and anticipates preserved agriculture and conserved natural features amid 2-acre single-family detached dwellings that rely upon on-lot utilities. It is noted that this Township is in the initial phases of development of a Penns Valley Region Comprehensive Plan.

Potter Township (Centre County) – Adjoining the southern border of the Region along Benner, Spring and walker Townships is Potter Township. The Potter Township Comprehensive Plan was prepared by the Centre County Planning Office and was adopted in September, 1982 and amended in 1994. Within adjoining Potter Township future land uses are planned in the Forest category with one exception. A small node of Rural Residential straddles PA Route 144 and is planned for single family detached homes on 1-acre minimum lots. The Forest category calls for maintenance of the forest uses. It is noted that this Township is in the initial phases of development of a Penns Valley Region Comprehensive Plan.

College and Patton Townships (Centre County) – The southwestern border of Benner Township and the Region adjoins an area of College and Patton Townships. Both of these Townships participated in the Centre Region Comprehensive Plan that is dated June, 2000. The Future Land Use Plan identifies four different land use categories abutting the Nittany Valley Region. First much of the common boundary between Benner and College Townships reflect the State Correctional Institution at Rockview. Just northwest of the prison is a node of Mixed Use that straddles Shiloh Road and appears premised upon the proposed new US Route I-99 interchange located in Benner

Township. Mixed Use areas are suitable for high-density residences, commerce and office developments.

Much of the remaining border between these two Regions are planned for Agricultural use relying upon effective agricultural zoning, and preservation easements.

Two small areas are planned for Residential use in both Patton and College Townships. The smallest in College Township is located beyond the Plan's "Regional Growth Boundary" and is presumably merely a reflection of existing use rather than a plan for development. The second is larger and lies north of Fox Hill Road and is within the Regional Growth Boundary; however, the Plan offers no specific densities for this area or category.

Union Township (Centre County) – The northwestern edge of Benner Township adjoins Union Township. The Township Comprehensive Plan was prepared by Richard C. Sutter and Associates, Inc. and was adopted in November, 2001. It depicts areas adjoining the Region as primarily devoted to Conservation use. Only a handful of existing residences are shown straddling Unionville Road. Conservation area are generally unsuitable for development due to natural limitations (eg. slopes, aquifer recharge, wetlands sinkholes and etc.

Boggs Township (Centre County) – Spring Township's northwestern border and Marion Township's extreme northwestern tip abuts Boggs Township. The Boggs Township Comprehensive Plan was prepared by Cummings & Smith, Inc. and the draft is dated 2001. It plans for Forest Preservation land uses next to the Region recognizing the landscape's steep slopes, environmental constraints and lack of community infrastructure. A small node of Village Residential extends south from Milesburg along the east side of Pleasant View Road, but this neighborhood stops short of Spring Township by about ¼ mile.

Howard Township (Centre County) - Howard Township adjoins Marion Township along the Region's western boundary. The Howard Township Comprehensive Plan was prepared by the Centre County Planning Commission in 1973. It depicts three different planned land uses adjoining the Region. First areas west of PA Route 26 are depicted as planned Open Space. A small strip of Low Density Residential is shown along the west side of Route 26. East of this, the Plan calls for Recreation use. This land use scheme is part of a regional allocation of land use among the Inter-Valley Region.

Liberty Township (Centre County) - Liberty Township adjoins Marion Township along the Region's northwestern tip. The Liberty Township Comprehensive Plan was prepared by the Centre County Planning Commission in May 1967. The Plan depicts the entire length with Marion Township as devoted to Open Space use. This category intends to recognize the wide expanses of open space as one of the areas most valuable resources and promote active and passive recreation opportunities. Within this category limited developments are permitted so long as they do not detract from the "openness and naturalness" of the area.

B. Centre County Comprehensive Plan

The Centre County Planning Office (CCPO) is in the midst of a several-year comprehensive planning process for the entire County. This important project is being conducted by staff and certified planning trainers to devise a deliberate and meaningful future for the County.

Fortunately, the County's draft goals for its Comprehensive Plan very closely align with the goals expressed by local officials for the Nittany Valley Region. Hence it is very likely that the County' future land use scheme will closely reflect the recommendations advanced by the Nittany Valley Region. If such County scheme is finished prior to adoption of the Nittany Valley Region Comprehensive Plan, additional analysis will be provided.

In addition this Plan employs much Geographic Information System (GIS) data that has been compiled and refined by the Centre County Planning Department. Therefore, the existing data used in this Plan and the new data created will be in a format that can be readily used and updated as part of the County' GIS database.

Finally, the staff of the Centre County Planning Department has been directly involved in the preparation of this Plan by providing information, reviewing draft text and maps and offering guidance through meeting discourse. All of these characteristics of this planning process should help to keep the results of this Nittany Valley Region's Comprehensive Plan congruous with the County's overall planning program and policies.

C. PENNSYLVANIA AGRICULTURAL SECURITY AREA

Act 43 of the Commonwealth of Pennsylvania was passed in 1981 to allow municipalities to establish Agricultural Security Areas (ASA) to promote more permanent and viable farming operations over the long run by strengthening the farming community's sense of security in land use and right to farm. Individual landowners petition the Township to create an ASA. Each parcel must be at least 10 acres in size and the entire ASA must be at least 250 acres. By establishing an ASA, farmers who want to farm benefit as follows:

1. The Township Supervisors agree to support agriculture by not passing local ordinances that restrict normal farming operations or structures;

2. The condemnation of farmland by a government in the agricultural security area must first be approved by the State Agricultural Lands Condemnation Approval Board to determine if alternative sites are available for condemnation;

3. The farmland preservation options offered by the Centre County Agricultural Land Preservation Board are available to qualified farm owners in an agricultural security area. For example, only a farm owner in an agricultural security area may be eligible to receive cash for permanently preserving the farm with a conservation easement; and,

4. Hazardous waste and low-level radioactive waste disposal areas cannot be sited.

Each landowner decides if they want to participate in the program. The farms that make up the 250-acre minimum do not have to be adjacent to one another but do have to be in the same Township. The agricultural security area does not stop development nor restrict farmers in any way; only Township zoning laws regulate what land can be developed.

The following tabulates areas currently within Agricultural Security Areas of the Region:

Municipality	Acres in Agricultural Security Area
Benner Township	2,205
Marion Township	4,430
Spring Township	3,225
Walker Township	6,881
Region-wide	16,741

D. PENNSYLVANIA AGRICULTURAL EASEMENT PURCHASE PROGRAM

In 1988, the State of Pennsylvania established an Agricultural Easement Purchase program (3 P.S. 914.1 et. seq.) pursuant to which the State purchases agricultural conservation easements to permanently insure that land remains in agricultural use. Each county establishes a point system to prioritize applications. Over the past 14 years, Center County has contributed $886,987 towards the purchase of farmland development rights. This contribution has leveraged $5,644,147, $203,000 and $99,116 in State, Federal and private funding sources, respectively. In 2003 Centre County's allocation of $163,243 has leveraged another $526,732 in State funds. To date the agency has preserved 25 farms covering more than 8,000 acres. The following lists those farms with paid farmland conservation easements within the Region as depicted on the Agricultural Preservation and Adjacent Planning Map.

Municipality	Acres under Conservation Easement
Benner Township	239.7
Marion Township	343.8
Spring Township	1,084.9
Walker Township	517.0
Region-wide	2,185.4

IX. Public Utilities

The Nittany Valley Region has a long history of public utilities. Several of the Region's systems date back more than a century. But unlike these original systems that served small tightly-knit communities, today's systems extend well beyond the confines of compact neighborhoods and across open countryside. This configuration is much about the suburban migration of residences experienced over the last half century but is also greatly determined by State policies that have forced an extension of public sewers to outlying villages with concentrations of malfunctioning on-lot sewage disposal systems. The Nittany Valley Region has unfortunately been subject to these patterns and has a network of public utilities that already defy compact efficiency. Nonetheless local officials are committed to reversing this trend to the extent practicable in the hopes that staged growth can be targeted within existing service areas and away from valuable outlying natural and cultural features.

It is further the goal of this plan to present a unified and coordinated set of utility planning policies that can translate across municipal and authority boundaries. This statement of policy will be more of a grand overall strategy that can identify areas to be served and projected demands and guide the more detailed and operational designs required to carry-out utility construction and service. Utility planning contained herein will also abide by the overall community development goals established for this Comprehensive Plan rather than the more narrow goals usually associated with detailed utility planning and engineering. More simply stated this plan will not allow for utility planning to dictate overall community form, but will be an important consideration among all of the Region's resources and needs.

But before the specifics of this Chapter are presented, one final conclusion deserves discussion from the outset. The Region sits at a crossroads with regard to long-range public utilities planning. Several of the Region's larger utility systems (particularly in Bellefonte Borough) require major upgrades and improvements to serve long range growth. While there may be sufficient capacity to meet the incremental needs for the next few years and even a decade, pressures are mounting for a "re-thinking" of policies. DEP is pressuring for system-wide changes and remedial improvements. Add to this the vulnerable nature of public utilities to acts of terrorism and it becomes important to plan not only to serve the everyday needs of residents, but do so in times of emergency with more back-up contingencies than in the past. Now all systems are affected and unless all join together, serious inefficiencies will result.

In the past, various authorities and municipalities have embarked on former public utility projects cooperatively and successfully. However, the particular priorities in one place and time don't often align with those in another place at the same time. In turn conflict results and lost opportunities to work together escalate into mistrust and ill-will. This is reality and it exists within the Region. However, all utility providers are confronted with the need to expand and operationalize emergency contingency plans. This presents common ground where former differences of opinion can give way to committed leadership and stewardship.

Those in crisis usually form long-lasting bonds when they work together to overcome adversity. This is exactly what the Nittany Valley Region will need in the near future.

It is recommended that the local officials from the Region conduct one or more long-range public utilities planning (and peace) summits. These summits should be attended by local officials and experts who have a complete knowledge of their respective public utilities systems and needs. In addition the same individuals from adjoining municipalities beyond the Nittany Valley Region should also be invited if they have the potential to offer solutions to local needs. County officials and planners should be invited to assist in the regional coordination of resources and help to keep the focus on a region-wide perspective. Finally, State officials should also be in attendance to offer technical advice on the available technologies and programs that could help to implement regional solutions. State officials and staff can also inform the participants of applicable rules and regulations. And finally, all officials should publicly commit to the outcomes of the process on behalf of their governmental agencies so that all leave the summit with similar expectations.

In preparation for the summit each utility provider should prepare a list of specific needs that will help them manage their long-range future. Accurate maps of system components should be developed at a large scale for public display and discussion. The Region may also want to hire a professional facilitator with expertise in mediation and conflict resolution to keep the process on track, productive and relatively calm. This process may take some time to complete, but if done with diligence could save the Region millions of dollars. It should also cement cooperation that will enable all municipalities to confront the future with confidence that they have committed allies.

A. PUBLIC SEWER SERVICE

Presently public sewer service is provided within the Nittany Valley Region by two agencies; however, a third system is due to come on-line in the near future. Bellefonte Borough (BB) provides for sewage collection, and treatment for all of those properties located within the Borough and treatment for most of the rest of the Region. The Spring-Benner-Walker Joint Authority (SBWJA) oversees a sewage collection system that conveys effluent to the Bellefonte Treatment wastewater plant for treatment and discharge from Benner, Spring and Walker Townships. However, an ongoing Act 537 Plan update proposes the construction and use of a small package treatment plant to be located just east of Hublersburg to provide for remedial service in that area. A proposed East Nittany Valley Joint Municipal Authority (ENVJMA) is pursuing service in the vicinity of the Village of Nittany in the eastern edge of Walker Township; this authority will serve not only Walker Township, Centre County, but Lamar and Porter Townships in Clinton County. Effluent collected in this system will be conveyed to treatment facilities located in Lock Haven, Clinton County. Marion Township currently has no public sewer service.

Bellefonte Borough (BB) – Bellefonte Borough owns and operates its sewage collection, treatment and disposal system for all areas of the Borough. In addition, the Borough provides for the treatment and discharge of effluent collected by the Spring- Benner-Walker Joint Authority (SBWJA) since 1982 as described in the following section of this Chapter. This facility also currently accepts sludge on a County-wide basis; however, a proposed University Area Joint Authority upgrade will soon also enable that facility to accept sludge. The system is administered by the Bellefonte Borough Council which meets the first and

Public Sewer

Nittany Valley Region

- Treatment Plant
- Pump Station

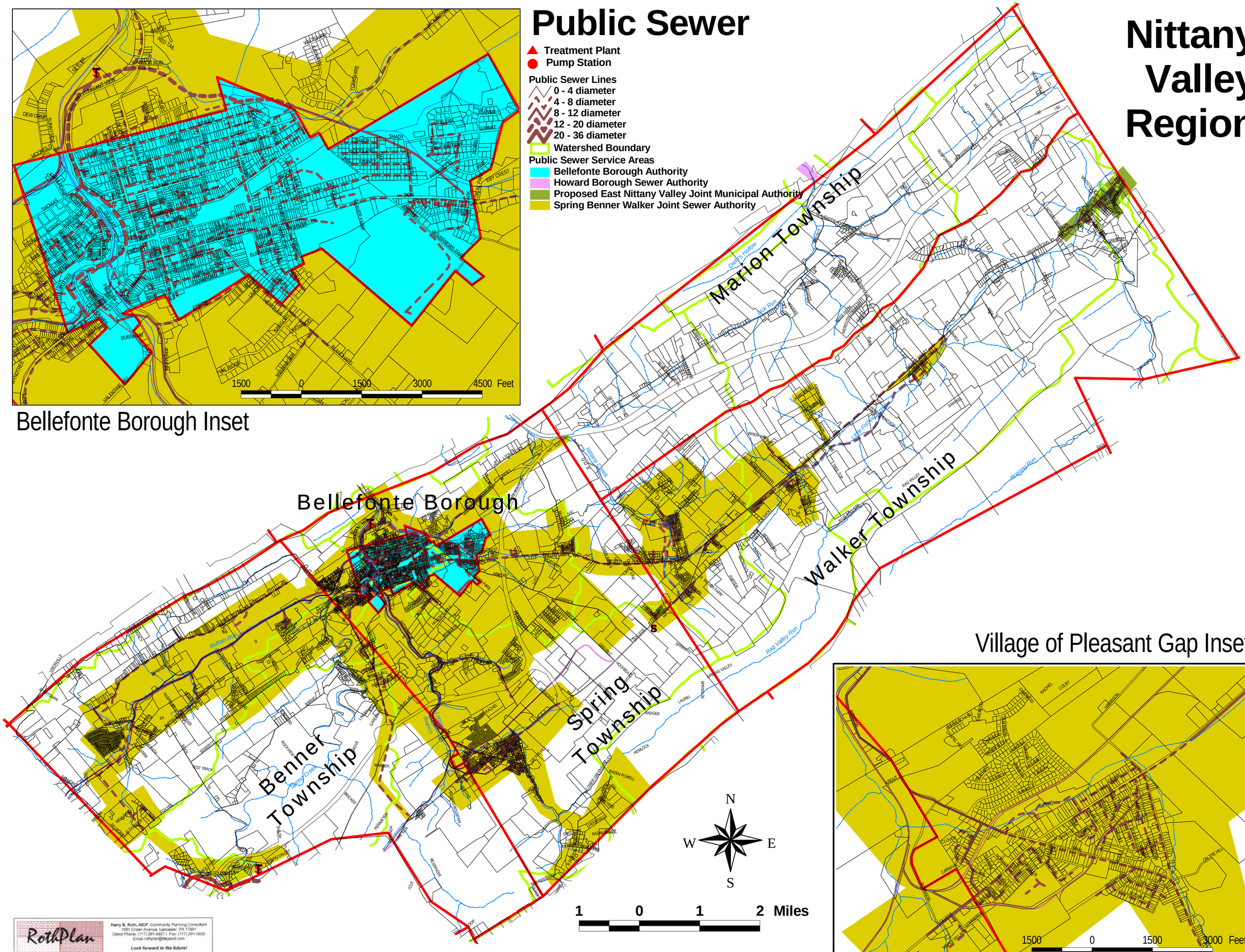
Public Sewer Lines

- 0 - 4 diameter
- 4 - 8 diameter
- 8 - 12 diameter
- 12 - 20 diameter
- 20 - 36 diameter
- Watershed Boundary

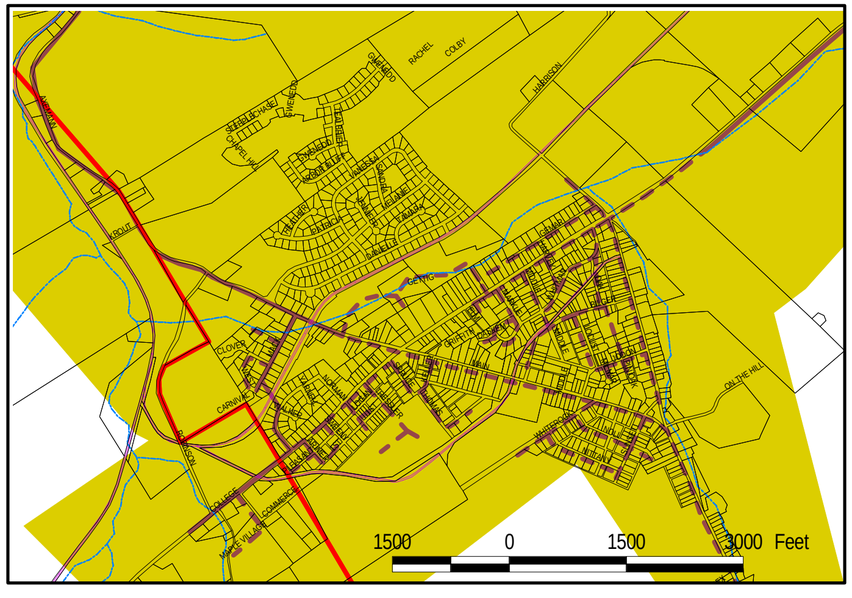
Public Sewer Service Areas

- Bellefonte Borough Authority
- Howard Borough Sewer Authority
- Proposed East Nittany Valley Joint Municipal Authority
- Spring Benner Walker Joint Sewer Authority

Bellefonte Borough Inset



Village of Pleasant Gap Inset



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The information depicted on this map was provided by the Centre County Planning Department.

third Monday of each month at 8:00 p.m. in the Bellefonte Municipal Building. The nine members of the Borough Council serve four-year terms and are elected by local citizens.

The Bellefonte Borough wastewater treatment plant is actually located on the north side of Pleasant View Boulevard in Spring Township. It adjoins and outfalls into the Spring Creek. An original treatment plant was constructed in 1939 and upgraded in 1968 to offer tertiary treatment of effluent. In the late 1980s a new treatment plant was constructed on the same site which added a nutrient removal process. Service was also expanded in 1990 to treat waste generated at the State Correctional Institution at Rockview.

"The treatment processes at Bellefonte's treatment plant are extremely effective. Pollutant removal rates for conventional pollutants average 97% to 99%. This includes biological treatment for BOD and ammonia nitrogen removal, clarification and filtration for suspended solids removal, and chemical addition for phosphorous removal. Disinfection for bacteria control is achieved through chlorination.

"Total treatment capacity is currently permitted at 3.22 MGD. Current plant flows average about 2.5 MGD. Reserve capacity is 0.72 MGD. Of the remaining 0.62 MGD capacity, Bellefonte needs very little because, there is little room for growth and development within the Borough. Most of this reserve capacity will be offered for sale to Spring-Benner-Walker Joint Authority.[1]

The sewer collection system within Bellefonte Borough is comprised of all gravity lines and is described with adequate capacity to serve the Borough's existing customer base and its limited development potential with one exception. A recently completed study suggests that the Spring Creek Interceptor is at, or near its full capacity. This interceptor conveys about 85% of the system's total flow to the treatment plant, including flows from the SBWJA. The Borough is currently exploring two options to solve this problem and entering negotiations with the Spring Benner walker Joint Authority to financially assist in this endeavor. One would replace the interceptor and the second would involve the construction of a relief sewer to handle some of the interceptor flow.[2]

The following lists approximate numbers of customers and their respective sewage flows by land use category:

Year 2002 Public Sewage Generated (BB)			
Land Use	**No. of Customers**	**Total Gallons Generated per Day (gpd)**	**Generation / Customer**
Residential	2,890	1,140,720 gpd	395 gpd
Commercial	475	217,280 gpd	457 gpd
Industrial	3	67,100 gpd	22,367 gpd
Public	7	57,034 gpd	8148 gpd
Total	3,375	1,482,134 gpd	439 gpd

Spring-Benner-Walker Joint Authority (SBWJA) – The SBWJA was preceded by the Spring Township Authority which originated in 1977. In the early 1980s Benner and Walker Townships joined the authority to extend public sewers to areas of concentrated malfunctioning on-lot sewage disposal systems. Today the Authority is governed by a nine

[1] Public Sewerage Service Survey completed by Tom Smith, July 15, 2003, pg.2.
[2] Ibid.

member board who each serve 5-year terms and meet on the 2nd and 4th Mondays of each month at 7:00 p.m. at 170 Irish Hollow Road in Spring Township. The Authority is currently in the process of updating its Official Sewage Plan (Act 537 Plan) which was last adopted in 1998.

The SBWJA system is presently a collection and conveyance system only. It relies upon the Bellefonte Wastewater treatment plant for treatment and discharge. Today the SBWJA reserves 42 percent of the treatment plant capacity or about 1.2 MGD. Current daily flows average approximately 1 MGD. As part of the ongoing Act 537 Plan update, the SBWJA has proposed the construction of a new sewage treatment plant in the vicinity of Village of Hublersburg in Walker Township. Current thinking suggests that it would be a stream discharge plant located near the Walker Township Fire Company site and would be sized only to serve the remedial needs of the areas malfunctioning on-lot sewers, the largest of which is the Marion/Walker Elementary School.

According to the draft Official Sewage Facilities Plan (under consideration for adoption by each municipality) the existing sewer collection system is in good condition with no significant infiltration and inflow problems, surcharging or hydraulic overloading. The various lines are constructed of PVC pipe and are between 1 and 23 years old. The SBWJA is dependent upon Bellefonte Boroughs' Logan Branch and Spring Creek interceptors which are nearing capacity and the SBWJA and Bellefonte Borough are entering negotiations to remedy these limitations. Overall the system contains the following components:

150 miles of gravity sewer lines;
18 miles of force mains
13 pumping stations
1750 manholes
1 pre-treatment facility for S.C. I. Rockview

The following lists approximate numbers of customers and their respective sewage flows by land use category:

Year 2002 Public Sewage Generated (SBWJA)			
Land Use	**No. of Customers**	**Total Gallons Generated per Day (gpd)**	**Generation / Customer**
Residential	3,000	800,000 gpd	267 gpd
Commercial	300	150,000 gpd	500 gpd
Industrial	50	45,000 gpd	900 gpd
Public	5	5000 gpd	1000 gpd
Total	3,355	1.0 MGD	298 gpd

The Official Sewage Plan update currently underway for the SBWJA focuses upon the need to provide public sewers to a number of neighborhoods that are experiencing malfunctioning on-lot sewage systems. These neighborhoods have already been identified on the Public Sewer Map as within planned public sewer service areas. The following provides a description of the number of existing dwelling units contained within each of these "remedial" sewer service neighborhoods for which public sewer capacity must be reserved immediately:

Needed Remedial Public Sewer Neighborhoods (SBWMJA)		
Neighborhood Name	**Number of Units**	**Expected Sewage Flows (250 gpd/unit)**
Spring Township		
Lyonstown Area	23	5,750
Sunnyside Area	25	6,250
Airport Road Area	71	17,750
Greens Valley Area	100	25,000
Benner Township		
Upper Seibert Road Area	100	25,000
Walnut Grove Area	30	7,500
Shiloh Road Area	15	3,750
Walker Township		
Zion/Ridgecrest Area	221	55,250
Hublersburg Area	46	11,500
Total For All Areas	**631**	**157,750**

These projected flows will compound the Region's needed sewage treatment capacity as they are replacing on-lot systems of dwelling units already in place. The flows generated by these remedial connection will all but deplete the SBWJA reserve capacity at the Bellefonte Borough treatment plant; this will require an additional allocation of treatment capacity to accommodate the planned growth that is projected to occur within Spring, Benner and Walker Townships.

In addition, due to its remote location, the Village of Hublersburg is proposed to be served by a new package treatment plant in the proposed Act 537 Plan update. Specifically an upflow sludge blanket filtration package plant is to be located just east of the village with outfall into Little Fishing Creek. This plant is planned to serve 61 EDUs with an expected average daily flow of 15,250 gpd. Given the limited treatment capacity of this proposed new package plant, future development should not be targeted in this area.

Eastern Nittany Valley Joint Municipal Authority (ENVJMA) – The extreme eastern edge of Walker Township (Village on Nittany) is served by the ENVJMA. The ENVJMA is an agency comprised by three members each from Walker Township, Centre County and Porter and Lamar Townships, Clinton County. Each member serves 5-year terms at the appointment of the respective Township Officials and meetings are held at 216 Spring Run Road in Mill Hall, Clinton County.

The ENVJMA was created to serve the existing developed villages and developed corridors that were experiencing malfunctioning on-lot systems and/or relying upon holding tanks along PA Route 64 within the three Townships. Overall the proposed system is to collect effluent within the three Townships using a series of gravity, force main and low-pressure grinder pump lines. Then sewage will be conveyed along PA Route 64 into the Mill Hall Borough (Clinton County) sewer system where it will be pumped onward to the wastewater treatment plant located within the City of Lock Haven with outfall into Bald Eagle Creek.

The total effluent to be conveyed by the ENVJMA system through the year 2017 is projected at an average daily flow of 400,000 gpd.[3] The treatment plant in Lock Haven has residual

[3] Act 537 Update for Sanitary Sewage Facilities for Porter and Lamar Townships, Clinton County and Walker Township, Centre County in Pennsylvania. Gwin Engineers, Inc. September, 1997. Pg.2

treatment capacity within its 3.75 MGD permitted discharge rate, except during periods of heavy rain when hydraulic overloading occurs. However, the City has constructed a first-flush holding basin that is used to collect the initial surge of stormwater for treatment and discharge after peak flows subside. This is expected to allow for adequate reserve capacity to meet the needs of the ENVJMA initially and through 2017 (the 20-year design time frame approved by the 1997 Act 537 Plan).[4]

Upon activation, Walker Township expects to initially generate about 50,000 gpd of sewage effluent into this system from about 240 existing properties to be connected. Future growth is calculated to add another 52 new units in this vicinity through the year 2017 at a rate of 275 gpd; this equates to future flows of 14,300 gpd and a total combined flow of about 64,300 gpd attributed to Walker Township. ***The Act 537 Plan recommends that these future EDUs be reserved for "in-fill" types of developments along system lines rather for reserved speculative developments that would require further sewer line extensions.[5] This suggests that future land uses be similarly limited as part of this Comprehensive Plan in this vicinity.***

"Water flow conservation should be required for all new development as both residential and industrial/commercial. Heavy water using industries should be discouraged unless in-plant recycling of water and wastewater can be done to reduce the water use and sewage flow requirements of an industry."[6]

Initial plans to serve the Village of Nittany within Walker Township include the following components:

- 16,250 feet of gravity sewer lines;
- 4,800 feet of force main sewer lines;
- 1 pump station; and,
- 44 low-pressure grinder pumps.

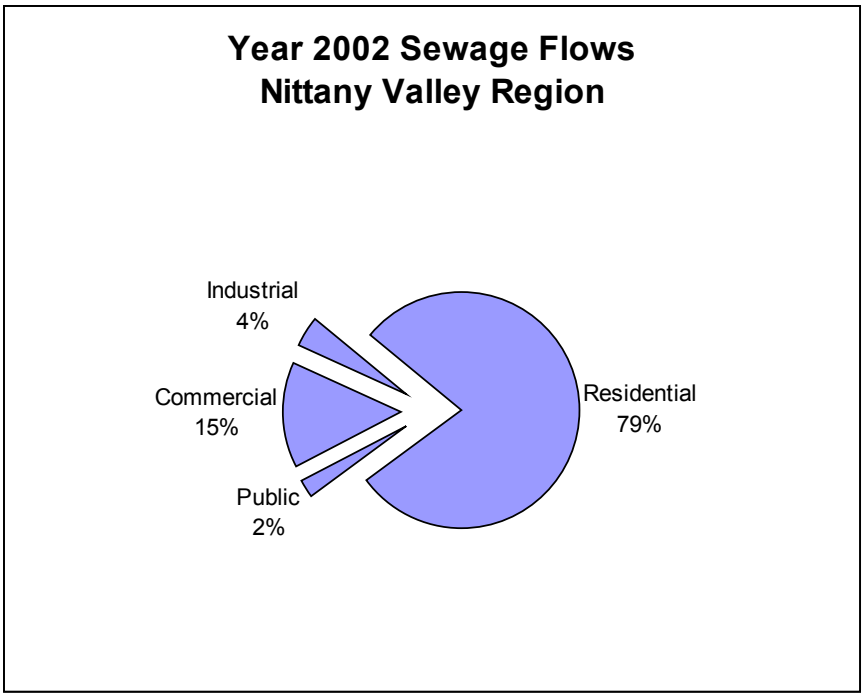
Specifically, the westernmost edge of the system begins at the intersection of Hoy Road and PA Route 64 and heads east by gravity about 2000 feet to the proposed Nittany Pump Station. From here a force main extends to just east of PA Route 445 where the line converts to a gravity line and extends into adjoining Porter Township. Low pressure grinder pumps are used to connect to the main sewer lines along the north side of PA Route 64 and to the west of the Nittany Pump Station.

FUTURE PUBLIC SEWER NEEDS

The overall regional goals of this plan are quite clear that additional public utilities will be provided to serve compact future growth areas and "reign-in" the scattering of public utility lines that threatens to overtake rural areas. To project future sewage flows it is first important to understand current flow conditions within the Region. The following tabulates reported sewage flows combined throughout the Region's three public sewage systems. It is important to note that the expected initial flows from Walker Township to the ENVJMA have been included in this calculation of existing flows because of their pending timeframe and their, then, immediate activation. All flows to the ENVJMA are assumed to be attributed to residential uses.

[4] Ibid. Pg. III-4
[5] Ibid. Pg. IV-3
[6] Ibid. Pg. IV-4

Year 2002 Public Sewage Generated (Region-wide)			
Land Use	**No. of Customers**	**Total Gallons Generated per Day (gpd)**	**Generation / Customer**
Residential	6,130	1,990,720 gpd	325 gpd
Commercial	775	367,280 gpd	474 gpd
Industrial	53	112,100 gpd	2, 115 gpd
Public	12	62,034 gpd	5170 gpd
Total	6,970	2,532,134 gpd	363 gpd



As can be seen, existing flows total over 2.5 MGD. Residential flows account for nearly 80 percent at about 325 gpd per dwelling unit. The Region's commercial uses generate the second largest flows accounting for 15 percent at 474 gpd per use. Industry generates about 4 percent of the Region's sewage flows at 2,115 gpd per use and public uses generate 2 percent at 5170 gpd per use. Overall all uses generate about 363 gpd per equivalent dwelling unit (edu).

To project future sewage flows several assumptions must be made as follows:

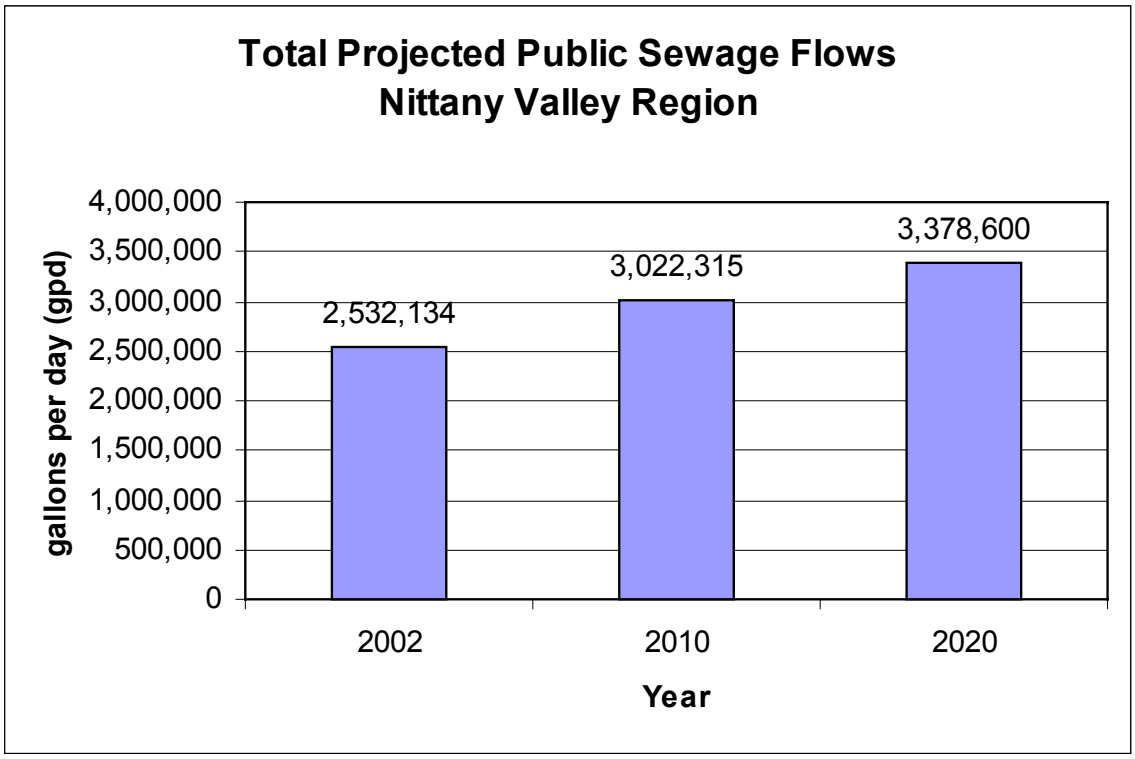
1. As presented in Chapter IV of this Plan (Demographics) the Region will grow by 1727 persons per decade between 2000 and 2020;
2. As presented in Chapter IV of this Plan (Demographics) the Region will grow by 1133 housing units per decade between 2000 and 2020;
3. In response to goals of this plan that call for targeting growth into public utility service areas, the ratio of new residential uses within with public sewer service will increase from 70% in 2002 to 80%;
4. The current ratio of flows for residential, commercial, industrial and public uses will be maintained in the future; and,
5. The average daily flow generated per new dwelling unit is 325 gallons.

With these assumptions it becomes possible to project the amount of public sewage capacity needed to accommodate future growth. The following table presents this information:

Projected Public Sewage Flows 2002 to 2020 Attributed to New Growth				
Year	**Projected new dwelling units served by public sewer (80%) of total**	**Projected sewer flows from new residences (325 gpd/unit)**	**Projected nonresidential flows (21% of total growth)**	**Projected total flows**
2002	NA	1,990,720 gpd (existing)	541,414 gpd (existing)	2,532,134 gpd
2010	725*	235,625 gpd	49,481 gpd	2,817,240 gpd
2020	1631**	530,075 gpd	111,316 gpd	3,173,525 gpd

*This figure represents 8 years of growth beginning in the year 2002.
** This figure represents 18 years of growth beginning in the year 2002.

In addition, the Official Sewage Plan update currently underway for the SBWJMA identifies nine neighborhoods within which malfunctioning on-lot sewage systems require remedial public sewer line extensions. In all, these areas have some 631 existing dwelling units that are expected to generate 205,075 gpd. These neighborhoods have already been identified on the Public Sewer Map as within planned public sewer service areas and are slated to receive public sewers by the year 2010. Therefore, the following illustrates the projected sewage flows for all uses during the timeframes of this Plan:



The Nittany Valley Region is projected to generate about 3.38 MGD of public sewage effluent by the year 2020. Of this, 64,300 gpd will be generated in the Village of Nittany in extreme eastern Walker Township and conveyed to the City of Lock Haven treatment plant. ***Accordingly the Bellefonte Borough wastewater treatment plant will likely exceed its permitted capacity of 3.22 MGD in year 2017-2018 if growth occurs steadily throughout the period. Obviously growth doesn't occur with such predictability and it takes considerable time to expand a sewage treatment plant or develop other treatment alternatives. For this reason it is recommended that the Region initiate a long-range public sewage treatment strategy with some urgency and commit to implement its findings sometime by the mid 2010s.***

B. PUBLIC WATER

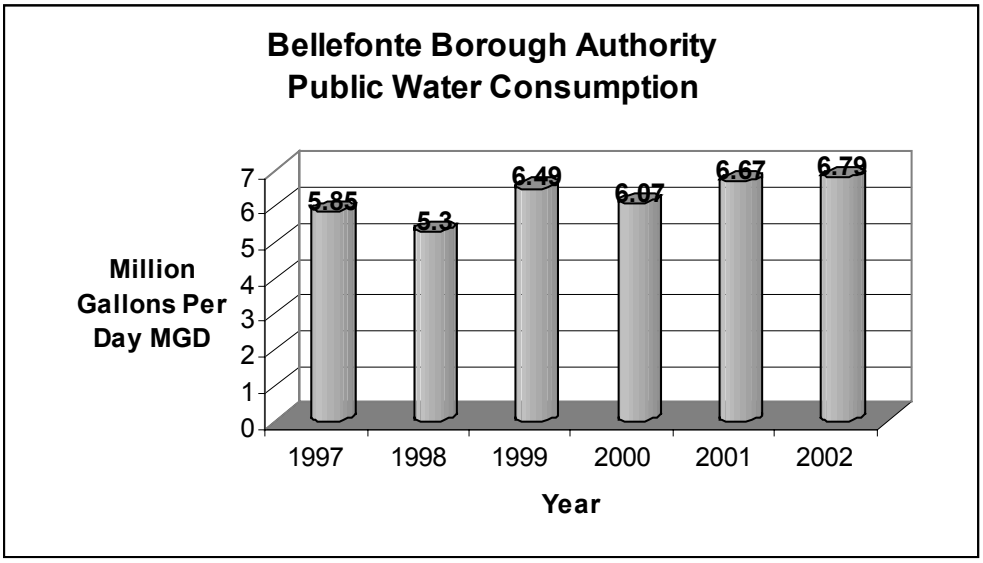
Today public water service is provided within the Nittany Valley Region by eight different agencies. The Bellefonte Borough Authority provides the largest system in terms of total number of users and gallons consumed. The Walker Township Water Association has the largest service area that sprawls straddling PA Route 64. A description of each system is provided as follows.

Bellefonte Borough Authority (BBA) – The Bellefonte Borough Authority was created in 1935 through a lease-back agreement. Over the past 40 years the BBA has incrementally extended service into adjoining Townships upon specific request. Today the BBA is an operating authority governed by a 7-member board who are appointed to 5-year terms by the Borough Council. This Authority Board meets twice each month on the 1st and 3rd Tuesdays at 7:30 p.m. at the Bellefonte Borough Building located at 236 West Lamb Street. The Authority determines policies for the water system while the Borough staff conducts the actual day-to-day operation of the system components under a management agreement.

This system serves the entire Borough plus the neighborhoods of Coleville, Nittany Terrace and Brockerhoff Heights in Spring Township, the Benner Pike in Benner and Spring Townships, and the Centre County Solid Waste sites located in College Township. Until recently the system also served the Corning Plant located in College Township with about 2 MGD; however, this facility recently closed. These water service areas are depicted on the Public Water Map.

Recent estimates suggest that Big Spring yields 18 MGD to Bellefonte's public water system

As described in Chapter III, the BBA's source is the Big Spring located within the Borough to the west of Water Street just downstream of the confluence of Spring Creek and Logan Branch. This Spring produces one of the highest yields within Pennsylvania and has recently been monitored to yield 18 MGD. While this spring has abundant yield, the BBA is amid a controversy with the DEP regarding its permitted rate of withdrawal. At issue is the overall permitted withdrawal allocation permit from DEP. Essentially, DEP has estimated the number of gallons that should be used by the BBA based upon standard per person multipliers (60-70 gpd/person) with a 20% buffer. These estimates have determined that the BBA's withdrawal should be no more than 5 MGD and has only approved that rate. However, the BBA's actual usage is usually between 5 and 7 MGD. The following graphs actual usage over the last six years.



In the past, Borough officials have prided themselves on their public water quality, and abundance at little to no costs. The Borough was largely formed because of its clean and abundant source of public water. Over the years policies and expectations have entrenched a mentality that water within the Borough is a fundamental right. The simple mechanics of the system have enabled the Borough to operate without water meters and at very low costs. However, in response to DEP pressure that is beginning to change. The Borough has recently installed meter pits along primary water lines at the outside edges of the Borough. These meter pits enable the Borough to install a portable water meter and periodically gauge bulk water use in the adjoining Townships. The DEP is also applying pressure for the BBA to install individual water meters for each customer. The BBA is also undertaking a program of water line leak detection and repair/replacement, has doubled its normal billing rates and has performed repairs to its pump houses. These "catch-up" measures are aimed at avoiding DEP fines and consent orders.

This Big Spring site includes the covered spring and the Big Spring pump house with 3 pumps with a combined pumping capacity of 7.34 MGD; although actual use of this line is more like 4.5 MGD. A second set of pumps provide water to the Corning line which formerly served the industry of the same name but now provides service along Benner Pike and into College Township. This line formerly conveyed about 2 MGD. A third gravity line connects the Big Spring source with a separate line that extends into Milesburg Borough downstream along Spring Creek. This line conveys some 1.64 MGD to Milesburg Borough with about 1 MGD allocated to the Coca Cola Danone America industry; this line operates under a separate water allocation permit from DEP.

Despite all of these various demands, overflow from the spring is deposited into the Spring Creek Race which flows along the west side of Water Street through Bellefonte's Waterfront District. Chlorine and fluoride are injected into the public water at the Big Spring and Corning pump houses; no filtration is needed due to the purity of the water from the spring. Three small booster pumps help to normalize pressure throughout the system within the vicinities of Coleville, Zion and Halfmoon Hill.

The system's distribution lines are generally about a century old; while no actual ages are known the staff estimates their age at 100 years. Most of the lines are cast iron and

Public Water

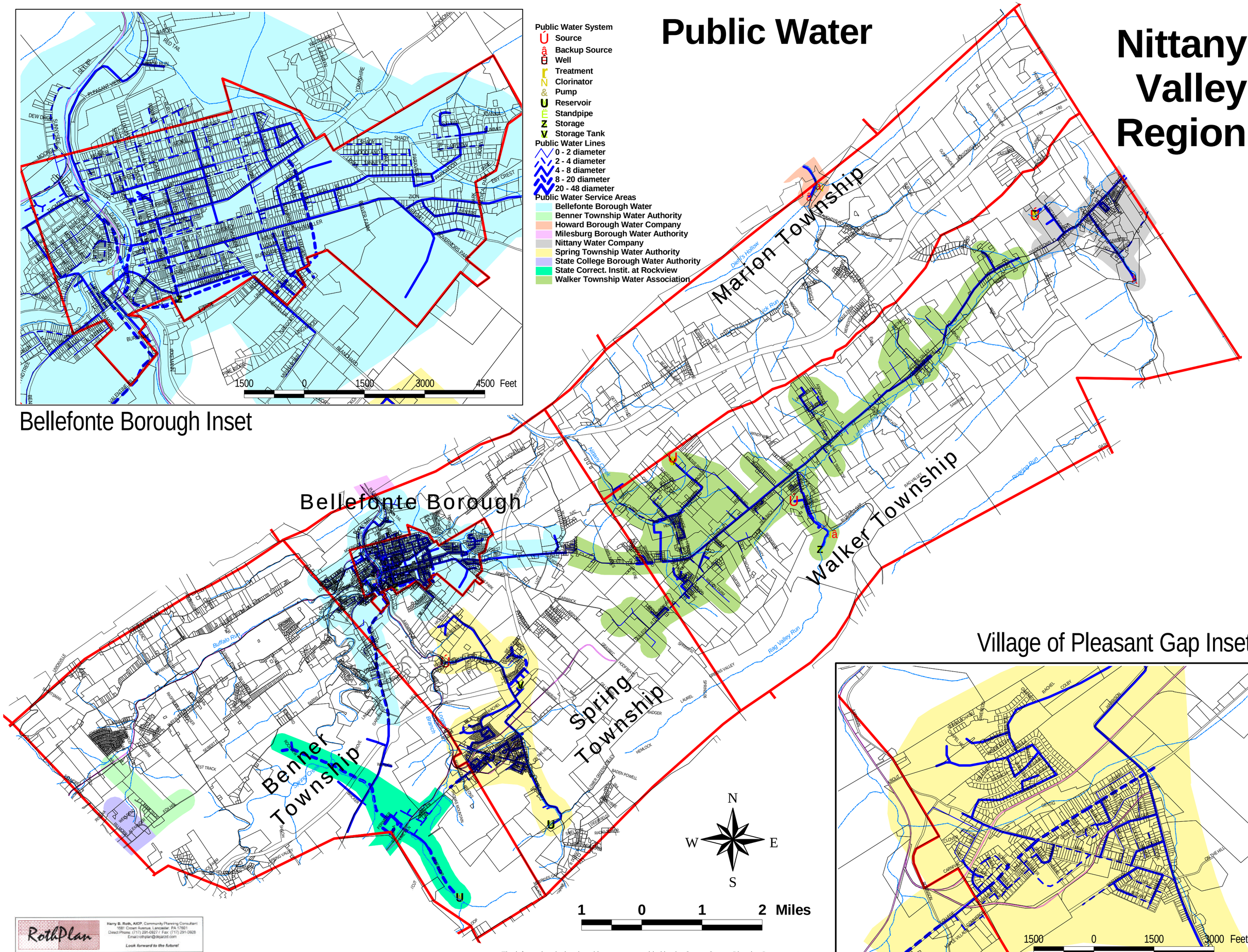
Nittany Valley Region

Public Water System
- Source
- Backup Source
- Well
- Treatment
- Clorinator
- Pump
- Reservoir
- Standpipe
- Storage
- Storage Tank

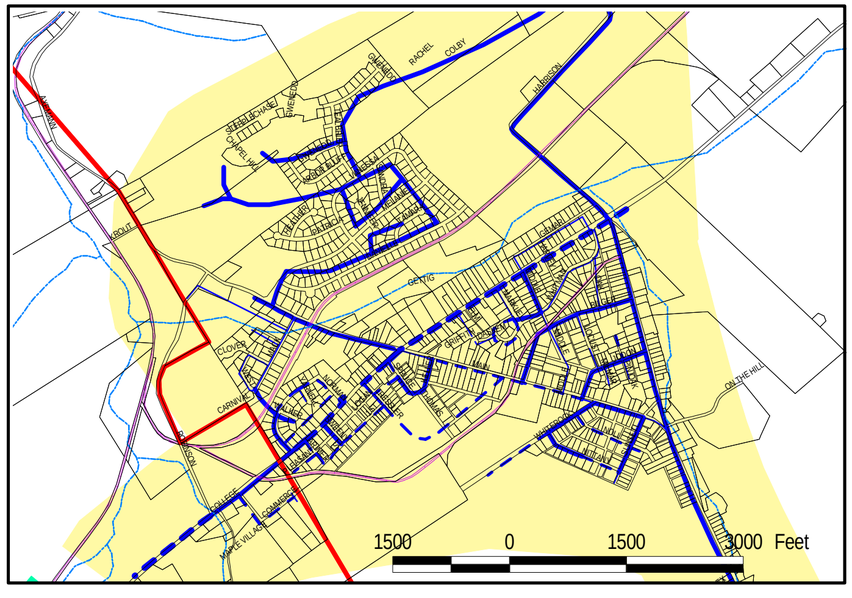
Public Water Lines
- 0 - 2 diameter
- 2 - 4 diameter
- 4 - 8 diameter
- 8 - 20 diameter
- 20 - 48 diameter

Public Water Service Areas
- Bellefonte Borough Water
- Benner Township Water Authority
- Howard Borough Water Company
- Milesburg Borough Water Authority
- Nittany Water Company
- Spring Township Water Authority
- State College Borough Water Authority
- State Correct. Instit. at Rockview
- Walker Township Water Association

Bellefonte Borough Inset



Village of Pleasant Gap Inset



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The information depicted on this map was provided by the Centre County Planning Department.

despite their age are in "pretty good shape." Local staff explain that the chemistry of the water from Big Spring prevents corrosion and mineral deposits usually associated with lines of this age. While the pipes run clear, many of the junctions installed are leaky and this causes the Borough to lose significant flow. These leaky junctions may be the culprit that causes the Borough's water consumption to be so high. Lines to newer neighborhoods include some PVC pipes. The system has about 45 miles of water lines.

Presently the BBA has three separate water storage facilities. First a 300,000-gallon concrete reservoir is located at a high point north of the intersection of Crawford Lane and South Allegheny Street. A second 750,000-gallon standpipe is located near Hughes Street. Finally a 2 million-gallon storage tank at the Corning site in nearby College Township brings the BBA's combined storage capacity to 3,050,000 gallons. Under the Federal Safe Water Drinking Act, DEP is negotiating with the Borough to increase this capacity to equal at least one day's average use or about 4 million gallons. The BBA is exploring alternatives including back-up sources and inter-connects with adjoining water systems that could be used during times of system emergency. Also the DEP has suggested that if the BBA were to install individual use water meters; they might not require additional storage capacity at this time.

Clearly, the BBA has important issues that will affect the future configuration and operation of this system. Usage costs will likely increase, as system improvements are required by the DEP. The BBA should look beyond the Borough's bounds for solutions to these problems. Fortunately, one thing is almost certain, the Big Spring will continue to flow with clean and abundant groundwater.

Year 2002 Public Water Consumption Rate (BBA)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	3,597	2,313,075 gpd	643 gpd
Commercial*	650	431,909 gpd	2,250 gpd
Industrial**	3	669,386 gpd	233,130 gpd
Public	7	40,783 gpd	5,826 gpd
Total	4,258	3,455,153 gpd	811 gpd

* These figures assume the same rate of daily usage for metered and non-metered customers.
** These figures are reduced by 2 MGD to reflect the departure of the Corning Plant.

Benner Township Water Authority (BTWA) – The Benner Township Water Authority was formed sometime in 1992-93; however, actual service did not commence until the year 2000. This conveyance-only system serves a small area located in western central Benner Township, including the University Park Airport, Air National Guard, Airport Industrial Park and the Continental Court mobile home park. The Authority is comprised of 5 members who are appointed by the Benner Township Board of Supervisors and serve 3-year terms. The Authority meets the 2nd Monday of each month at 6:30 p.m. at the Benner Township Municipal Building. The mission of this agency is to collect sufficient funds to extend public water within Benner Township apart from those areas served by Bellefonte Borough.

This system's source is the Alexander Wellfield of the State College Water Authority located north of Alexander Drive in Benner Township. This well field a rated capacity of 3.8 million gallons per day (MGD); however, actual current use totals about 375,000 gallons per day (gpd) by BTWA. The actual usage by land use type is listed under the State College Borough Water Authority since they own the source and lines serving this area.

The BTWA is also negotiating with the College Township Water Authority to extend service into Benner Township to serve as back-up to the State Correctional Institution at Rockview Water Company (SCIRWC) and as primary service to the proposed new Centre County Prison.

Howard Borough Water Company (HBWC) – The Howard Borough Water Company was formed in 1893 from various springs and streams running off of Bald Eagle Mountain south of Howard Borough into Egypt and Diehl Hollow Reservoir. Since 1983, three new wells have been activated to service the area and in the 1990s major improvements to the system were completed. The HBWC serves all of Howard Borough and portions of Howard and Marion Township. The Company only serves a few properties in the vicinity of one well located along Slaughterhouse Road in extreme northern Marion Township. The Company estimates that Marion Township consumes 0.1% of its system capacity.

Three wells within Howard Borough supply the system with a combined yield of 273,600 gpd. Each well is treated with sodium hypochlorite and "Aqua-Mag." Current demands total 63,100 gpd. A 120,000 gallon storage tank is located at 250 Lakeview Drive in Howard Borough; this tank serves the entire system and offers about 2-day reserve capacity. The distribution system ranges from 1 to 12 inch diameter lines and the water mains are described as "old and in need of replacement." The following tabulates recorded demand by land use type within the entire HBWC system during 2002:

Year 2002 Public Water Consumption Rate (HBWC)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	352	54,586 gpd	155 gpd
Commercial	16	3,900 gpd	244 gpd
Industrial	1	100 gpd	100 gpd
Public	1	1000 gpd	1000 gpd
Total	370	59,586 gpd	161 gpd

Nittany Water Company, Inc. (NWCI) – The Nittany Water Company is privately owned and therefore has no Board, nor regularly scheduled meetings. The NWCI was first created in 1949 and relied upon the Roaring Run as its first source of water. The Company serves the eastern edge of Walker Township in Centre County and the western edge of Porter Township in adjoining Clinton County. Today the company relies upon one well located on Nittany Ridge that has a potential yield of 300 gallons per minute or 432,000 gpd. Water is chlorinated and pumped into a 300,000-gallon storage tank also located on Nittany Ridge. Seven miles of distribution lines run along PA Route 64 and Snydertown Road. Line diameters range between 2 to 12 inches. The following presents the water consumption rates recorded by the NWCI:

Year 2002 Public Water Consumption Rate (NWCI			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	578	NA	NA
Commercial	8	NA	NA
Industrial	0	0	0
Public	0	0	0
Total	586	80,817 gpd	138 gpd

Spring Township Water Authority (STWA) – The Spring Township Water Authority principally serves customers within Spring Township but also extends into a small area in adjoining Benner Township just west of Pleasant Gap. The Authority consists of 5 members who are appointed by the Spring Township Board of Supervisors and meet the 4th Wednesday of each month at the Spring Township Municipal Building at 7:00 p.m.

While the STWA was first incorporated in 1967, its predecessor agency, the Pleasant Gap Water Company, provided public water to the Village of Pleasant Gap beginning in 1910. Today water is supplied to the system from Axemann Spring, Bruss Spring and Lonebarger's Well No. 1. However that is planned to change sometime in 2004 when a new production well is to be activated and will replace these existing sources.

This new well is the result of several years of study by the STWA and ongoing negotiation with the Pennsylvania Department of Environmental Protection as to the Authority's compliance with a state regulation known as the "Surface Water Treatment Rule". Specifically, sources of public water that are shown to be influenced by surface waters are required to be treated for various contaminants and pathogens. The STWA's current sources have been tested and shown to be directly influenced by surface water and would therefore be subject to costly treatment processes.

As an alternative the STWA has tested and proposed a new well as the sole source for its public water supply which is not influenced by surface water flows and thereby avoids the need for the costly treatment. Specifically the Carles Well is slated to come on-line in 2004. It is located off of Mountain View Lane, a private lane that connects with Mulbarger Lane just south of Bellefonte Borough. This well has been permitted by the Susquehanna River Basin Commission to produce up to 1.4 million gallons per day. ***Now that the STWA has selected this well as its sole source for public water supply, it should implement a wellhead protection program to preserve its water quality.***

With activation of this new well, chlorination treatment facilities will be installed at the well and will then be connected to the existing system main located along Blanchard Street to supply the distribution system. Presently the STWA is considering several storage alternatives for this new system configuration, but in the short run will continue to rely upon several existing facilities.

Today the STWA has a gross water storage capacity of 1.27 million gallons. Two 500,000-gallon steel standpipes serve as primary storage for finished water for the system and are located on the north side of Whiterite Road. A 220,000 gallon concrete raw water reservoir is located in Pleasant Gap as is another 50,000-gallon finished water reservoir, both on the east side of PA Route 144 south of the Village.

The STWA distribution system consists of cast and ductile iron pipe up to 12 inches in diameter; however, the majority of the system is 8 to 12 inch ductile iron pipe installed in the late 1980s. The STWA's standard specification for water line extensions require the installation of ductile iron pipe for transmission/distribution and "K" type copper tubing for service connections. Maximum line pressure in the Village of Pleasant Gap is approximately 80 psi.[7]

[7] Water System Feasibility Study, Spring Township Water Authority, Uni-Tec Consulting Engineers, Inc. October 31, 1999, pg. 13

In the year 2002, the following tabulates the consumption rates of public water through the STWA system by land use types:

Year 2002 Public Water Consumption Rate (STWA)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	1166	251,819 gpd	216 gpd
Commercial	24	6,414 gpd	267 gpd
Industrial	5	33,514 gpd	6703 gpd
Public	9	59,169 gpd	6574 gpd
Total	1204	350,916 gpd	291 gpd

The STWA has undertaken a feasibility study to determine, among other things, its projected demands through the year 2020. After applying multiple projection methodologies it settled upon the following projected demands:

STWA Projected Water Consumption			
Year	**Average Daily Demand**	**Maximum Day Demand**	**Peak Flow Demand**
2000	300,000 gpd	570,000 gpd	1.2 MGD
2010	410,000 gpd	780,000gpd	1.32 MGD
2020	520,000 gpd	1 MGD	1.44 MGD

State College Borough Water Authority (SCBWA) – The State College Borough Water Authority has a small portion of its system located within western central Benner Township. It was created in 1896, and chartered in 1940. In 1998 service was extended into Benner Township. The Authority meets on the 3rd Thursday of each month at 4:00 p.m. at 1201 West Branch Avenue in State College.

Wellfield 6 of the SCBWA is located on the north side of Fox Hill Road in Benner Township and has a rated capacity of 4.7 MGD. Fluoride and chlorine treatments occur at the well site and the average daily pumping rate in 2003 was 325,000 gpd. A 1.8 million gallon tank located east of the Valley Vista exit of US Route 322 in adjoining College Township provides for water storage for areas served within Benner Township. Distribution lines range from 8 to 20 inch diameter ductile iron pipe.

The following lists recorded usage by the SCBWA within Benner Township during 2002:

Year 2002 Public Water Consumption Rate (SCBWA)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	418*	61,959 gpd	148 gpd
Commercial	4	1,992 gpd	498 gpd
Industrial	1	1,126 gpd	1,126 gpd
Public	2	3,732 gpd	1,866 gpd
Total	425	68,809 gpd	162 gpd

* 417 units located within the Continental Court mobile home park.

State Correctional Institution at Rockview Water System (SCIRWS) – The SCIRWS serves southeastern and central Benner Township. The system originated in the 1930s but was comprehensively updated in the 1950s with various ongoing improvements occurring as late as 1997 with the completion of the water filtration plant at McBride Gap. While its

principal function is to serve the correctional facility it also incidentally serves some 28 homes (most notably the Village of Peru) and the Pennsylvania Drivers Training Center along its system lines. This system is technically not a public authority so no formal agency, other than the administration of the correctional facility, oversees its design and operation.

This system has 3 sources of water. First the McBride Gap Reservoir located on Nittany Mountain has a safe yield of 750,000 gpd; however, this yield generally drops to about 400,000 gpd during the drier months of August to October. A second source, the Benner Springs located near the Benner Springs Fish Hatchery, is used only in emergencies due to its status as a "groundwater source under direct influence of surface water." This source has a rated capacity of 5.76 MGD. The third source is an interconnect with the Bellefonte Water System Corning line located near PA Route 150; this tap has never been tested for its safe yield. Finally, the Benner Township Water Authority is also negotiating with the College Township Water Authority to extend service into Benner Township to serve as back-up to the State Correctional Institution at Rockview Water Company (SCIRWC) and primary service to the proposed new Centre County Prison.

As mentioned above the McBride Gap water filtration plant was installed in 1997. Its treatment processes include flocculation, settling, filtration with chlorine disinfectant. The operational capacity of the plant is 1.2 MGD but its permitted capacity is 999,000 gpd. Current demand on the system averages approximately 570,000 gpd. The McBride Gap Reservoir on Nittany Mountain has a raw water storage capacity of about 15 million gallons. Below the McBride Gap water filtration plant on Nittany Mountain is a 750,000 gallon finished water storage tank. Another 1.5 million gallon finished water storage tank is also located west of PA Route 150 on the S.C.I. Rockview Orchard. The systems distribution lines are mainly 6 to 12 inch diameter ductile iron pipe; however, some 6 inch diameter threaded steel and PVC lines are contained within the S.C.I. Rockview compound.

In the year 2002, the following tabulates the consumption rates of public water through the SCIRWS system by land use types:

Year 2002 Public Water Consumption Rate (SCIRWS)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	28	3,088 gpd	110 gpd
Commercial	0	0	0
Industrial	0	0	0
Public	1	164 gpd	164 gpd
Institutional	1	554,197 gpd	554,197 gpd
Total	30	557,449 gpd	18,582 gpd

Staff of the S.C.I. Rockview believe that this system will not be expanded or extended to meet the needs of community growth beyond that occurring within their facility.

Walker Township Water Association (WTWA) – The WTWA has a sprawling water distribution system that serves principally Walker Township but extends into adjoining Marion and Spring Townships. The Authority is governed by a seven-member board who each serve 3-year terms. They meet the second Tuesday of each month at the Walker Township Municipal Building at 7:30 P.M. The system was placed into operation in November of 1958. Originally the system served 124 customers and this figure has increased to over 1000 presently.

The WTWA has two source wells with combined yields of approximately 500 gpm or 720,000 gpd. The first well is located at the end of Benner Road near the Marion Township border. The second well is located behind the Walker Township Municipal Building off of Hecla Road. The pumping capacities of these wells have been permitted by the PA DEP at 800 gpm or 1.152 MGD. One of the wells is treated with chlorine gas and the other with hyper-chlorine for disinfectant purposes.

The system relies upon two storage tanks one of which can hold 225,000 and the other which holds 500,000. The Authority is also working to provide an additional 250,000 gallon water storage tank. As of June, 2003 the average daily demand was 392,333 gpd; therefore the current water storage capacity represents about 1.8 days reserve capacity and with the new tank would increase to almost 2.5 days.

Today the system comprises some 50 miles of distribution lines which are constructed of either transite pipe or PVC plastic. The line sizes range between 1 ½ inches to 12 inches in diameter. In the year 2002, the following tabulates the consumption rates of public water through the WTWA system by land use types:

Year 2002 Public Water Consumption Rate (WTWA)			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	930	134,778 gpd	145 gpd
Commercial	34	12,471 gpd	367 gpd
Industrial	2	595 gpd	298 gpd
Public	60	219,980 gpd	3,666 gpd
Total	1026	367,825 gpd	359 gpd

With this existing consumption, the WTWA has about 784,000 gpd of residual source water capacity.

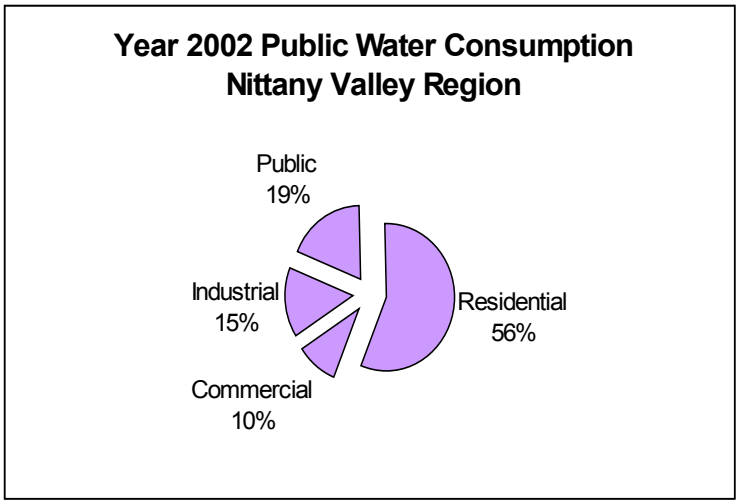
FUTURE PUBLIC WATER NEEDS

To project future public water demands it is first important to understand current consumption within the Region. The following tabulates reported public water demands combined throughout the Region's eight public water systems. It is important to note that the reported demands for the Bellefonte Borough Authority exclude the 2 MGD that went to the former Corning industry; now that this use is abandoned, overall demand within that system is reduced accordingly.

Year 2002 Public Water Consumed (Region-wide)*			
Land Use	**No. of Customers**	**Total Gallons Consumed per Day (gpd)**	**Consumption / Customer**
Residential	6386	2,554,106 gpd	400 gpd
Commercial	720	453,890 gpd	630 gpd
Industrial	11	704,621 gpd	64,056 gpd
Public	79	877,861 gpd	11,112 gpd
Total	7196	4,590,478 gpd	638 gpd

* The above figures include half of the totals recorded within the Nittany Water Company since that company also serves areas within adjoining Porter Township, Clinton County.

As can be seen, existing flows total almost 4.6 MGD. Residential flows account for 56 percent at 400 gpd per dwelling unit. The Region's public uses generate the second largest demands accounting for 19 percent of which the State Correctional Institution at Rockview consumes almost two-thirds. Industry uses about 15 percent of the Region's public water with the largest volume per edu at 11,112 gpd. Commercial uses represent 10 percent of total public water consumed at 630 gpd per edu. Overall uses consume about 638 gpd per equivalent dwelling unit (edu).



To project future public water demands several assumptions must be made as follows:

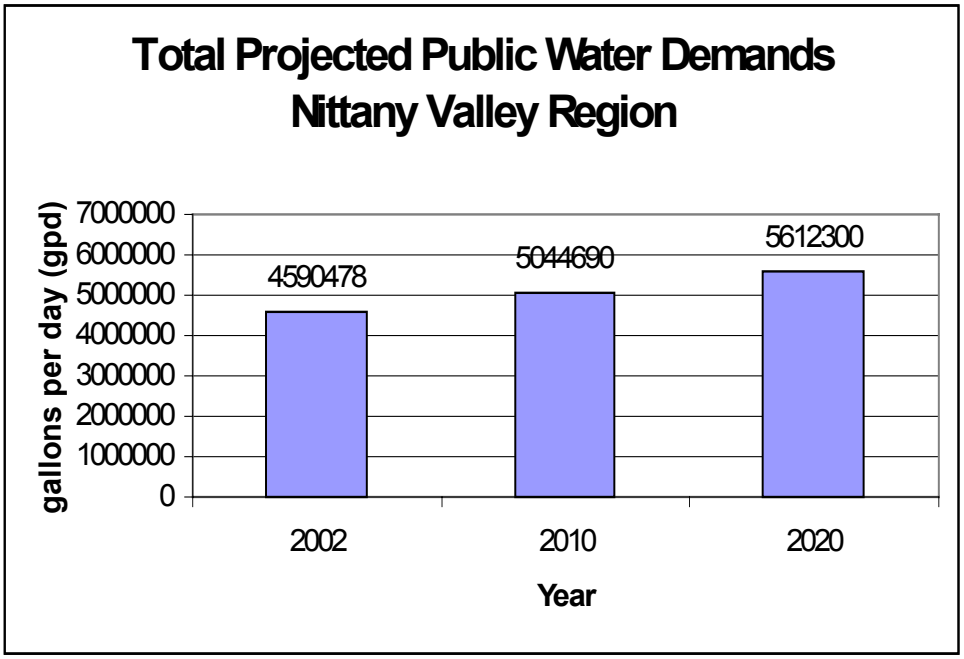
1. As presented in Chapter IV of this Plan (Demographics) the Region will grow by 1727 persons per decade between 2000 and 2020;
2. As presented in Chapter IV of this Plan (Demographics) the Region will grow by 1133 housing units per decade between 2000 and 2020;
3. In response to goals of this plan that call for targeting growth into public utility service areas, the ratio of new residential uses with public water service will increase from 73% in 2002 to 80% ;
4. The current ratio of flows for residential, commercial, industrial and public uses will be maintained in the future; and,
5. The average daily consumption per new dwelling unit is 350 gallons (this figure is 50 gpd less than the actual usage in 2002; however, the current usage is skewed too high because of the system leakage issues relating to the Bellefonte Borough Authority system. Since the Borough has little residential development acreage left, most of the new connections will occur beyond the BBA service area whose average daily public water consumption rates are much lower per edu. 350 gpd is also a standard multiplier used by the PA DEP when calculating demand per household.

With these assumptions it becomes possible to project the amount of public water capacity needed to accommodate future growth. The following table presents this information:

Projected Public Water Demands 2002 to 2020 Attributed to New Growth				
Year	**Projected new dwelling units served by public water (80%) of total**	**Projected water demands from new residences (350 gpd/unit)**	**Projected nonresidential demands (44% of total growth)**	**Projected total demands**
2002	NA	2,554,106 gpd (existing)	2,036,372 gpd (existing)	4,590,478 gpd
2010	725*	253,750 gpd	200,462 gpd	5,044,690 gpd
2020	1631*	570,850 gpd	450,972 gpd	5,612,300 gpd

*This figure represents 8 years of growth beginning in the year 2002.
** This figure represents 18 years of growth beginning in the year 2002.

The following illustrates the projected public water demands for all uses during the timeframes of this Plan:



Therefore, the Nittany Valley Region is projected to consume about 1.02 MGD more public water by the year 2020 than in the year 2002.

The following summarizes the public water consumption versus capacity of the various public water systems on the Region:

Public Water Demand vs. Capacity (Year 2002)			
System	**Existing Capacity**	**Existing Consumption**	**Residual Capacity**
BBA	18 MGD	8.43 MGD	9.57MGD[1]
BTWA	See SCBWA		
HBWC[2]	NA	NA	NA
NWCI	0.432 MGD	0.081 MGD	0.18 MGD[3]
STWA	1.4 MGD	0.35 MGD	1.05 MGD
SCBWA	4.7 MGD	0.07 MGD	Unknown[4]
SCIRWS	1 MGD	0.57 MGD	0[5]
WTWA	0.72 MGD	0.37 MGD	0.35 MGD
Totals	**26.3 MGD**	**9.9 MGD**	**1.58[6] to 16.4[7] MGD**

[1] This figure represents the actual measured yield of the Big Spring less current consumption; however, current limitations imposed upon the BBA from the PA DEP cause the system to have no available residual capacity for new connections beyond its current service area.
[2] The service provided by the HBWC is limited to a few properties within Marion Township are located along lines that connect with the system's older wells. The goals established for this Plan do not suggest extension of any public utilities into Marion Township to serve new growth and development.
[3] This figure represents half of the residual capacity of the NWCI since this system also serves Porter Township in Clinton County.
[4] The SCBWA has considerable residual capacity within its regional water system; however, it is impossible to gauge how much would be made available to the Nittany Valley Region at this time.
[5] The SCIRWS is a privately owned system whose policies prevent the extension of service areas for new growth and development.
[6] This figure represents the known available permitted capacity in year 2002.
[7] This figure represents the potential available capacity based upon the physical characteristics of sources that could be achieved through negotiation among various providers and increased permitted withdrawal by PA DEP.

As can be seen in the above table, there is an abundance of water supply available to the Region. Operationally, new growth can be targeted almost anywhere within the Region except in Marion Township. While this may seem like an advantage, it suggests a land use pattern that conflicts with the goals of this plan to reign-in sprawling utility service areas and suburbs. While public water may be readily available throughout much of the Region, this Plan must look to redirect future growth in a different more-compact pattern. Then local officials must firmly resist proposals that would extend current water service areas outside of the plan's designated growth areas.

In addition, the uncertainty of water availability from the BBA resulting from DEP mandates has sent many others in search of alternatives. This has caused considerable complexity and inefficiency among the various participants that could be avoided by a large regional interconnect. As described earlier in this Chapter, now is the time for the leaders within the Region to come together and solve these problems through meaningful negotiation and conciliation. This represents the greatest challenge and opportunity thus far within this comprehensive planning process.

C. SOLID WASTE DISPOSAL

In recent years, the management and handling of solid waste has become increasingly sophisticated, as the amount of refuse generated has increased. As a result of these conditions, and in accordance with the Pennsylvania Solid Waste Management Act of 1980 (Act 100) and the Pennsylvania Municipal Waste Planning Recycling and Waste Reduction Act of 1988 (Act 101), a comprehensive and up-to-date Countywide municipal waste management plan was prepared. The Centre County Solid waste Management Plan was adopted by the Centre County Board of Commissioners and ratified by the County's municipalities in 1995, and approved by the PA DEP in 1996.

In preparing the Plan, the Centre County Solid Waste Authority (CCSWA) was guided by its goal to provide for a comprehensive and integrated system of waste management and recycling. The Plan is intended to provide guidelines for the safe and proper storage, collection, transport, processing, and disposal of municipal waste generated within the County.

With two exceptions all waste generated within Centre County passes through the CCSWA's Transfer Station within College Township. This site also includes a recycling processing center and an interpretive facility which is used to educate students from across the County and within the Nittany Valley Region. Waste collected and transferred from this facility is disposed of at the Shade Township landfill in Somerset County. Haulers operating in the extreme eastern edge of Centre County are permitted to transport waste directly to the Wayne Township Landfill in Clinton County. Haulers operating in the extreme western edge of Centre County are permitted to transport waste directly to the Green Tree Landfill in Elk County.

In 1998 and 2003 goals for recycling of waste were established by the United States Environmental Protection Agency and Pennsylvania at 25% and 35% percent, respectively. On both occasions the County surpassed these governmental goals. Today recycling is estimated at about 57%. The County offers curbside recycling in larger more populated municipalities within the Region (e.g. Bellefonte Borough) and has distributed 100 drop-off

recycling bins throughout the County. For the most part these recycling bins are emptied on an on-call basis.

Solid waste collection and disposal varies within the Nittany Valley Region. In **Bellefonte Borough**, employees conduct weekly curbside collections using 2 trucks with 3-man crews per truck. Routes are operated Monday through Friday during normal working hours and collected waste is delivered to the Centre County Solid Waste Authority's transfer station located in nearby College Township. In addition the CCSWA conducts curbside pick-up of recyclables which is scheduled on the same day as trash pick-up by Borough employees.

Benner Township prohibits on-site burning and dumping and does not require residents to employ particular refuse haulers. The Township does not operate any collection of solid waste or recyclables. The CCSWA provides a recycling bin placed at the Township Office where residents can recycle on a voluntary basis. Another bin is also placed at the State Correctional Institution at Rockview. The CCSWA collects recycled materials from these on an on-call basis which is is about once per week. Some private haulers also offer various recycling services and at least one farmer accepts recycled newspaper for livestock bedding.

Marion Township has ordinances prohibiting the burning of trash, and on-site waste dumping. They have also leveraged state laws against dumping for enforcement purposes. The CCSWA provides a recycling bin placed at Weights Lane where residents can recycle on a voluntary basis. The CCSWA collects recycled materials from these on an on-call basis which varies seasonally. There is another recycling station located at the Township Building in Jacksonville which is operated by the B.E. Newman, Inc.

Spring Township has mandatory trash collection and recycling ordinances. Local staff estimates compliance at about 90 percent. The Township has identified six licensed trash haulers and each property owner must select form one of the approved haulers. Licensed haulers must collect trash and recyclables.

Walker Township has an ordinance that requires that all domestic, commercial and industrial refuse generated within the Township must be disposed of at properly authorized sites. The Township does not license haulers and residents are free to choose who they use so long as the waste ends up at an authorized disposal site. The CCSWA provides a recycling collection bin at the Township Office where citizens can voluntarily recycle. This bin is emptied on an on-call basis which varies seasonally. The CCSWA is also actively working with Township officials in identifying and prosecuting persons who illegally dump waste within the Township. At least one farmer accepts recycled newspaper for livestock bedding. The Township has no burning ordinance.

Under Chapter 15 of the PA Municipal Waste Planning, Recycling and Waste Reduction Act, Municipalities with a population of at least 5000 and a density exceeding 300 persons per square mile are required to "establish and implement a source-separation and collection program for recyclable materials. Such determinations are based upon the most recent decennial census conducted by the US Census Bureau. Today Bellefonte Borough exceeds these standards and has suitable recycling programs in effect. In addition, Spring Township has voluntarily adopted a mandatory recycling ordinance despite being under the population thresholds. However, depending upon the rate of growth that occurs within Benner Township, it is conceivable that these thresholds may be exceeded. Once the populations of Benner Township exceeds 8550 it will be required to implement a recycling

program. ***Benner Township should begin to consider these responsibilities in anticipation of the release of the year 2010 decennial census.***

D. OTHER UTILITIES

Aside from the public sewer and water utilities described earlier in this section, several other utility companies have major rights-of way that pass through the Region.

Allegheny Power

Allegheny Power utility lines pass through the Nittany Valley Region. The rights-of-way (ROW) associated with these overhead electric powerlines have distinct implications for future land use and proposed activities. ***Potential land developers and residents living near ROWs should use the PA One Call System at 800-242-1776 to contact representatives of the various utility companies with regard to any proposed projects.*** The locations of the ROWs are plotted on the *Existing Land Use Map* contained in Chapter VII of this Plan.

A 230 Kilovolt transmission line crosses southeast Benner and northwest Spring Township on its way between the Shingletown and Milesburg substations. This right-of-way is typically 100 feet wide although local variations occur.

Several other 46 Kilovolt sub-transmission lines "criss-cross" each municipality within the Region between local substations. These each typically have 50-feet-wide rights-of-way although local variations occur.

All of these rights-of-way are obtained through agreements with private landowners or by permits. The Company's standard right-of-way agreements state:

"Grantors agree not to construct any buildings, swimming pools or other structures under or create any hazard to interfere with full and proper use of said electric system."

Texas Eastern Transmission, LP

Texas Eastern Transmission, LP has an two adjoining natural gas pipelines that are 24 inches in diameter that run through Spring Township on the north side of Weaver Hill Road to the Boggs Township line. A meter station on Weaver Hill Road combines these two lines into one 24-inch diameter pipeline that extends south from Weaver Hill Road into Potter Township. Areas with the two adjoining pipelines have a right-of-way about 75 feet wide with 25 feet on the east and west sides of the pipelines and 25 feet separating the two pipelines. Areas with one pipeline have a right-of-way about 50 feet wide with 25 feet on the east and west side of the pipeline. Texas Eastern has acquired additional right-of-way width along the one pipeline section for future potential extension of another pipeline; however, at this time no plans are confirmed. Rights-of-way are obtained through the acquisition of private easements. The following describes those design and construction guidelines associated with this ROW:

1.0 PURPOSE

1.1 This guideline presents the requirements for construction in the vicinity of a Duke Energy Gas Transmission(herein referred to as Company) pipeline(s) or pipeline right-of-way. These requirements are general in nature whereby specific circumstances may necessitate special considerations. The following areas are addressed.

1.0 Purpose

2.0 Company Notifications
3.0 General Requirements
4.0 Excavation and Blasting
5.0 Utility and Foreign Line Crossings

1.2 If any of the conditions stated in this document can not be satisfied, the Company representative shall be advised immediately.

2.0 COMPANY NOTIFICATIONS

2.1 The Company considers it essential that developers and contractors know the exact location and depth of the Company's pipeline(s) and requires that the pipeline(s) be shown on the contractor's plans.

2.2 The Company will field locate and stake its pipeline(s) at selected points in accordance with state and local requirements at no cost to the developer or contractor. However, the cost to excavate the pipeline and restore surface improvements (e.g., pavement, landscaping, sidewalks) shall be the responsibility of the developer or contractor. Note: A Company representative must be present during the excavation to expose the pipeline.

2.3 Copies of any proposed plans or drawings for road crossings within the pipeline right-of-way shall be submitted to the Company for review at least 30 days prior to the commencement of work.

2.4 The Company shall be given at least three (3) working days advance notice prior to the actual commencement of any work or excavation over or near its pipeline right-of-way so that the Company may locate its pipeline(s) and have a field representative present during excavation or construction activities.

2.5 In addition to complying with the above Company requirements, developers, contractors, utility companies, and landowners shall comply with the provisions of all state and/or local one-call regulations relating to excavation and demolition work in the vicinity of underground facilities.

3.0 GENERAL REQUIREMENTS

3.1 No buildings, structures or other obstruction may be erected within, above or below the pipeline right-of-way. If requested, the Company will furnish pipeline easement information which describes the pipeline right-of-way width.

3.2 Wire fencing and decorative fencing that can be easily removed and replaced may cross the pipeline right-of-way at or near right angles.

3.3 Planting of trees is not permitted on the pipeline right-of-way.

3.4 Planting of shrubs, bushes or other plants associated with landscaping on the pipeline right-of-way is subject to Company approval and shall not exceed 4 feet in height.

3.5 No drainage swells and no reductions in grade are permitted on the pipeline right-of-way. Limited additional fill may be deposited with prior written approval from the Company.

3.6 A Company representative must give prior approval for heavy equipment to cross the Company pipeline(s) at any location. Minimum cover and other requirements will be determined by the Company on an individual basis.

3.7 Parking areas should be planned so as to avoid covering the pipeline right-of-way if possible.

3.8 No roads, foreign lines, or utilities may be installed parallel to the pipeline within the pipeline right-of-way.

3.9 All foreign lines, roads, electrical cables and other utilities must cross the pipeline right-of-way at an angle as near to 90-degrees as practical.

3.9 If, in the sole judgement of the Company, the utility's, owner's and/or developer's proposed plans necessitate the installation of casing pipe and/or other alterations to protect the Company's pipeline(s), the utility, owner and/or developer shall pay the Company the estimated cost prior to the Company beginning the alterations. Once the actual costs have been incurred and tabulated by the Company, the Company and the utility, owner and/or developer shall settle any cost variances.

4.0 EXCAVATION AND BLASTING

4.1 Excavation operations shall be performed in accordance with the guidelines set forth below.

4.1.1 When a contractor excavates near Company pipelines, the Company representative must be on site at all times to locate the pipeline(s), to determine the depth of cover before and during the excavation (see Section 2.4) and to witness the excavation and backfilling operations. The contractor shall not perform any excavation, crossing, backfilling or construction operations unless the Company representative is on site. **The Company representative shall have full authority to stop the work if it is determined that the work is being performed in an unsafe manner.**

4.1.2 Excavation by a third party backhoe or other mechanical equipment shall not be permitted within the Company pipeline right-of-way until an excavation plan has been reviewed and approved by

the Company representative. The excavation plan may be a written document produced by the contractor or a verbal discussion between the contractor and the Company representative. As a minimum, the excavation plan shall include but not be limited to the following:

- *Backhoe set-up position in relationship to the pipeline*
- *Need for benching to level backhoe*
- *Required excavation depth and length*
- *Sloping and shoring requirements*
- *Ingress/egress ramp locations*
- *Minimum clearance requirements for mechanical equipment*
- *Verify bar has been welded onto backhoe bucket teeth and side cutters have been removed*
- *Pipeline location and depth*
- *Spoil pile location*
- *Compliance with OSHA regulations*

4.1.3. No mechanical excavation equipment shall be used within 6" of the pipeline(s). Hand shovels shall be used to push the dirt directly above the pipeline(s) into the ditch.

4.1.4 Federal regulations require that the Company's pipe be inspected whenever it is exposed. OSHA regulations pertaining to excavations must therefore be met to ensure the safety of the Company representative who must enter the excavation.

4.2 Blasting operations shall be performed in accordance with the guidelines set forth below.

4.2.1 The Company shall be advised of any blasting proposed within 200 feet (500 feet for large scale quarry-type blasting) of its facilities. No blasting is permitted within the pipeline right-of-way, and no blasting shall occur outside the pipeline right-of-way if the Company determines that such blasting may be detrimental to its facilities.

4.2.2 The Company reserves the right to require that the party responsible for blasting furnish a detailed blasting plan at least three (3) working days prior to blasting to allow for evaluation and to make arrangements for witnessing the blasting operation. Blasting codes shall be followed in all cases.

5.0 UTILITY & FOREIGN LINE CROSSINGS

5.1 All buried foreign lines must be installed as noted below and as stated in Section 3.9, as appropriate.

5.1.1 Foreign lines must be installed below the Company's pipeline(s) with a minimum of 12" of clearance except as noted in Section 5.1.2. Additional separation may be required in marshy areas or other areas where the 12" of clearance would have a potential to cause future problems.

5.1.2 Foreign lines may be installed above the Company's pipeline(s) with prior approval from the Company representative. All such lines shall be installed with a minimum of 12" of clearance. The Company will not be responsible for any damage or required repairs which are caused by the Company's operating and maintenance activities when foreign lines are installed above the pipeline(s). Protective measures such as a concrete encasement, ditch marking tape, and/ or above ground markers may be required as deemed necessary by the Company representative.

5.1.3 Suitable backfill shall be placed between the foreign line and the Company's pipeline(s).

5.1.4 All metallic foreign lines must have test leads (two No. 12 THW black insulated solid copper wires) attached at the point of crossing for corrosion control monitoring. Test wires shall be routed underground and terminated at a point specified by the Company.

5.2 The following requirements shall be met forfiber optic cables which encroach upon the pipeline right-of-way.

5.2.1 The fiber optic cable shall be installed in a rigid non-metallic conduit or covered in 6-8" of concrete which has been colored with an orange dye extending across the entire pipeline right-of-way.

5.2.2 The fiber optic cable must be installed a minimum of 12" below the Company's pipeline(s) across the entire width of the pipeline right-of-way, unless approved by the Company representative.

5.2.3 Orange warning tape must be buried a minimum of 18" directly above the fiber optic cable across the entire width of the pipeline right-of-way, where practical.

5.2.4 The fiber optic cable crossing must be clearly and permanently marked with identification signs on both sides of the pipeline right-of-way.

5.3 The information listed below shall be furnished to the Company for all proposed electrical cables which will encroach upon the pipeline right-of-way. Specific installation requirements for cables carrying less than 600 volts shall be determined by the Company on a case by case basis. Cables which carry 600 volts or greater shall adhere to the installation requirements described in Section 4.4.

- Number, spacing and voltage of cables
- Line loading and phase relationship of cables

- Grounding system
- Position of cables and load facilities relative to pipeline(s)

5.4 The following installation requirements shall be met for electrical cables carrying over 600 volts but less than 7,600 volts. The Company will determine the installation procedures for electrical lines carrying voltages over 7,600 volts on a case by case basis.

5.4.1 The electrical cable shall be installed in a rigid non-metallic conduit covered in a minimum thickness of 2" of concrete which has been colored with a red dye extending across the entire pipeline right-of-way.

5.4.2 The electrical cable must be installed a minimum of 12" below the Company's pipeline(s) across the entire width of the pipeline right-of-way,unless approved by the Company representative.

5.4.3 The neutral wires shall be externally spirally wound and grounded on each side of the pipeline right-of-way.

5.4.4 Red warning tape must be buried a minimum of 18" directly above the electric cable across the entire width of the pipeline right-of-way, where practical.

5.4.5 The electric cable crossing must be clearly and permanently marked with identification signs on both sides of the pipeline right-of-way.

5.5 Overhead power line and telephone line installations shall be reviewed by the Company on an individual basis. As a minimum requirement, overhead lines shall be installed with a minimum clearance of 25 feet above the grade of the pipeline right-of-way. The installation of poles will not be permitted on the pipeline right-of-way.

Telecommunications Technology

One of the goals articulated for this Plan is as follows:

"Explore the development of telecommunications technology (including broadband) as a means of serving economic development."

Presently the Region lacks broadband Internet capabilities and local officials are convinced that the provision of these would enhance the Region's position for economic development.

Presently a debate is occurring before the Pennsylvania legislature that would affect this issue. At issue is the status of the telecommunications industry's noncompliance with certain provisions of Chapter 30 of the Public Utility Code. "In 1993 the Pennsylvania General Assembly enacted Chapter 30 of the Public Utility Code that, in essence, deregulated local telephone service. Under Chapter 30, incumbent local telephone service providers already doing business in the state were allowed to earn unlimited profits, with the understanding that consumers were supposed to get something back in return. One return was to allow competitor local telephone service providers to enter the market, that would ostensibly lead to lower prices. Another return was to be that the increased profit would be reinvested in the building of a high-speed digital broadband network through out our Commonwealth. This high-speed broadband network was to be deployed in rural and urban areas alike, and was to position Pennsylvania ahead of the country as a leader of advanced telecommunications systems. Ideally the outcome would be job creation in the telecommunications sector and other industries that could take advantage of this high-speed Internet access. Instead, the ability to earn unlimited profits led to increasing attention to the bottom line. In order to earn more profit, cost cuts such as the elimination of jobs and the closing of telephone service facilities were put in place. The result for consumers has been declining service. Also, as many know, we haven't seen the deployment of broadband service in many areas of the state." [8]

[8] http://www.ccjustice.org/pages/issues_telecom_chap30a.html, Sept. 2, 2003

Two House Bills are under consideration to resolve this issue. First is House Bill 30 which provides for a reduced coverage commitment from the industry in the deployment of broadband technology to from complete statewide coverage to about 70 percent of the State. On the other side is House Bill 1669 which seeks greater broadband coverage across the Commonwealth along with a shorter horizon date for its installation. Obviously, the outcome of this debate is likely to affect the rate of broadband deployment and for this reason local officials are urged to join their voices to the cause. Copies of both Bills can be viewed and downloaded at the following website:

http://www.legis.state.pa.us/WU01/LI/BI/billroom.htm

"In addition, the Key-Net Alliance is a cooperative venture between the Commonwealth of Pennsylvania and Adelphia Business Solutions. The Keystone Communication Project consolidated purchase of telecommunications services from 22 separate vendors to a single contract for government service. This initiative is moving all state facilities to a new public network developed by Adelphia Business Solutions and its partners to provide voice, data, video, basic digital transport, and Internet services using advanced technology.

"Because advanced telecommunications services are vital if our communities are going to grow and thrive in today's information-based economy, Adelphia Business Solutions and the Commonwealth have created the Key-Net Alliance to ensure state government's investments in technology not only enhance state agencies but also to make our communities themselves better. Adelphia Business Solutions has committed seed money for Key-Net Alliance projects that will match local, state and federal dollars. The Key-Net Alliance projects will bring strategic advantages to schools, businesses, hospitals, and local governments in underserved rural and urban communities so that they may compete in today's global economy.

"The information provided below is a first step in competing for Key-Net Alliance projects. This information is important, but not the only information considered in awarding projects. The Commonwealth has mandated not only that priority will be given to underserved and disadvantaged communities, but also that investments should be made in a strategic and cost-efficient manner. It must be emphasized that various other factors may also be considered.

In order to become an applicant for Key-Net Alliance funding, an applicant must first submit a pre-application Letter of Intent."[9] A copy of this application letter can be obtained at the following website:

http://www.oit.state.pa.us/key-net/cwp/view.asp?a=3&Q=138442&key_netNav=|

Bellefonte Borough should prepare this pre-application letter on behalf of the Nittany Valley Region and follow-up with the necessary information to determine eligibility for this program.

[9] http://www.oit.state.pa.us/key-net/cwp/view.asp?a=3&Q=138442&key_netNav=|, Sept. 3,2003

X. Transportation

Mobility has become one of the most sought-after qualities of life of this century. The widespread use and development of automobiles, trucks and their road networks have enabled motorists to travel independently with great flexibility as to origins and destinations. Only recently, with increased congestion, has society begun to realize that the extensive use of the automobile may, in fact, be threatening both mobility and safety. This realization has led to efforts to better understand the relationship between transportation planning and land use planning, and has created renewed interest in alternative modes of transport.

This chapter will inventory the Region's transportation system, beginning by categorizing roadway functional classifications, as determined by the PA Department of Transportation (PA DOT) and Centre County Planning Commission, describing roadway design standards, and presenting available traffic volume data and accident locations according to PADOT records. A brief discussion of regional traffic impacts is followed by a description of alternative modes of transport and railway access. All of this data is then analyzed and applied to the Region's development objectives and other available plan information to form the basis for the chapter's recommendations on future transportation needs, land use scenarios and implementation strategies. Such information should also be useful in reviewing traffic studies associated with proposed developments; ***each municipality should adopt comprehensive traffic impact study regulations within their subdivision and land development ordinances.***

A. ROADWAY CLASSIFICATIONS AND DESIGN STANDARDS

Functional classification of roadways refers to a system by which roads are described in terms of their utility. Theoretically, roads provide two separate functions. First, roads provide for mobility—the ability to go from one place to the next. Second, roads provide a measure of access to adjoining properties. Transportation experts use these two roadway characteristics to determine a road's functional classification.

The diagram on the following page depicts the relationship between roadway mobility and roadway land access for each of the three general road types. Roads that provide for greater mobility provide for reduced land access, and vice versa: the diagram on the following page illustrates this relationship. This important relationship should always be considered when allocating future land uses along existing or planned roads. These road types can be further subdivided into any number of different categories, depending upon the complexity of the roadway network. However, for the purpose of this study, the Region's roadway network can be described as consisting of four classes namely Interstates and freeways, arterials, collectors, and local roads. The roads within the Region are classified and identified on the ***Transportation Map***.

Roads & Routes Map

Nittany Valley Region

Bellefonte Borough Inset

Village of Pleasant Gap Inset

Marion Township

Walker Township

Bellefonte Borough

Spring Township

Benner Township

Shop Track

1500 0 1500 3000 4500 Feet

1500 0 1500 3000 Feet

1 0 1 2 Miles

N W E S

RothPlan

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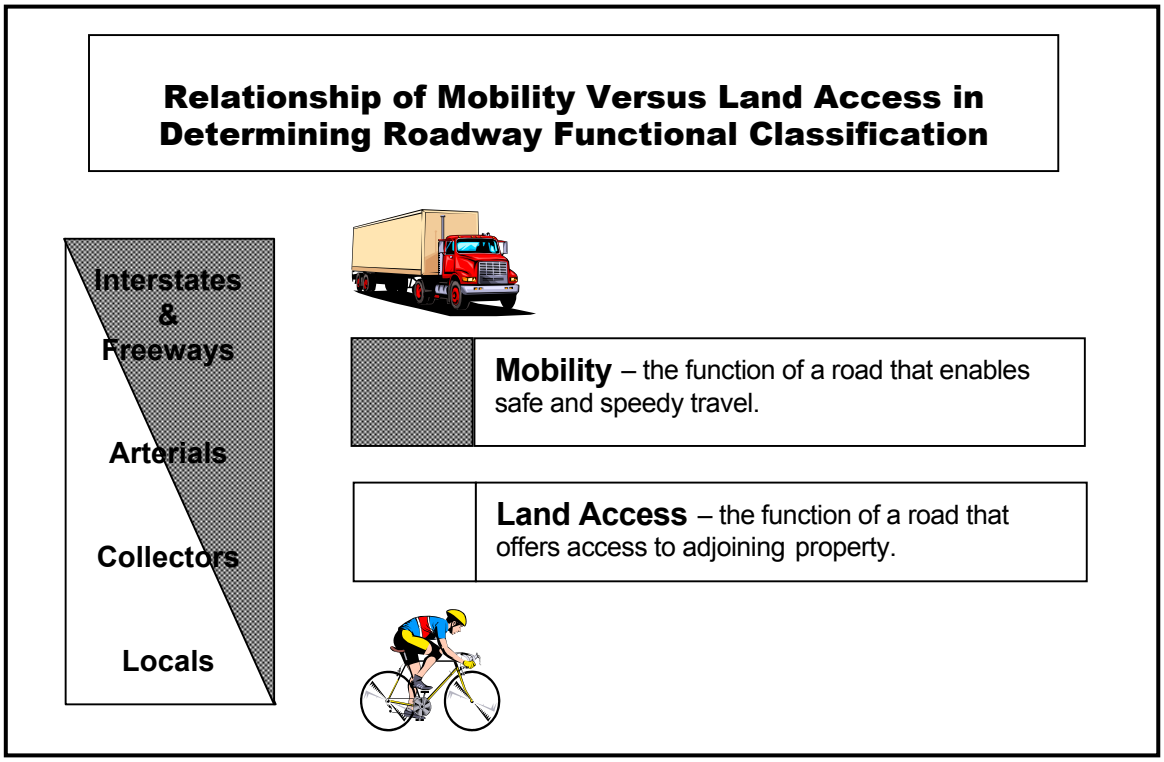
Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.



INTERSTATES & FREEWAYS

Interstates and freeways are intended to provide for the greatest mobility with no land access. Hence, individual driveway intersections with freeways should not occur. Freeways are often part of the Nation's Interstate system that conveys traffic across the country and were developed as a strategic advantage to transport military equipment and troops in defense of the country. These roads have controlled points of access and the highest traffic volumes that flow relatively continuously and are less prone to peak hour congestion, except in highly urbanized stretches.

Within the Region **Interstate Route 80** passes through the entire length of Marion Township and the northeast corner of Spring Township. This is one of the nation's most important east-west highways that stretches from New York City to San Francisco. A proposed **Interstate Route 99** also traverses the Region through Benner and Spring Townships. Today the partially completed segment of the future I-99 Corridor is known as the US-220 corridor and includes the Bellefonte Bypass; however, this name will change when the entire alignment of the highway is finished by year 2007. The I-99 corridor will run along I-80 and US 220 to US 15 North to I-86 in New York and to the PA Turnpike (I-76) in Bedford County on the south.

More important to the Nittany Valley Region is the access this new highway will provide to the Centre Region and State College Borough. This could dramatically promote both residential and business migration into the Nittany Valley Region. It should also relieve acute congestion on local roads associated with "football Saturdays" at Penn State. Maintenance of these roads is funded by the Federal government and implemented by the PA Department of Transportation. The following sets forth suitable design standards associated with these highways:

INTERSTATE / FREEWAY ROAD DESIGN STANDARDS

Source: Guidelines for the Design of Local Roads and Streets, PA Dept. of Transportation, Bureau of Design

Design Standards	No. of Lanes and Width	Shoulder Widths	Vertical clearance	Median Width	Parking Lanes	Design Speed (mph)
Desirable	Unlimited x 12 ft.	12 ft both sides	16.5 ft.	60 ft.	None	55-65
Minimum	4 x 12 ft.	10 ft on right; 4 ft on median		10 ft.		50

The following table lists the design characteristics of the Region's Interstate and freeway roads:

INTERSTATE / FREEWAY ROADWAY CHARACTERISTICS

Road Name	Route No.	Municipality	Est. ADT (2001)	No. Lanes	Cartway Width	Shoulders L/R	MPH
Interstate Route 80	I-80	Spring & Marion	23,460	4	48	4'/10'	65
US Route 220 / Bellefonte Bypass (proposed I-99)	US-220	Benner & Spring	6,500	4	48	4'/10'	55

One of the most important considerations when planning for land use today is proximity to highway access and congestion avoidance. Interchanges of the nation's highway system represent valuable locations for economic development that often transcend the local economy. For this reason, it is important to identify such interchanges in advance of undertaking an allocation of the Region's future commercial and industrial growth areas.

Today the Nittany Valley Region contains **Interchange 161 of Interstate Route 80** that connects with PA Route 26 / Jacksonville Road straddling the border between Marion and Spring Township. Westbound traffic exits and enters on the north side of the Interstate in Marion Township, while eastbound vehicles exit and enter to the south in Spring Township. However, all of this is planned to change when a **new "high-speed interchange"** will be installed prior to 2007 that will connect the Proposed Interstate Route I-99 with existing Interstate Route I-80. This high-speed interchange will have no connection with local roads and will merely enable traffic to move from one interstate highway to the other; therefore, this interchange affords only highway visibility from an economic development standpoint. PA Route 26 / Jacksonville Road will be grade separated from this interchange with an underpass.

As part of this plan a new **Local Access Interchange** is to be constructed just under 3.5 miles to the east along I-80. This new interchange will be located in Marion Township and create a short new road that will run north/south between the interchange and the PA Route 26/Jacksonville Road corridor. The introduction of this new interchange will introduce

Transportation Map

Nittany Valley Region

Road Classification
- Interstate / Freeway
- Arterial
- Collector
- Local

Accident Intersections
- # 3 - 4
- # 5 - 6 & Crash Cluster Site
- # 7 - 9
- Crash Cluster Roads

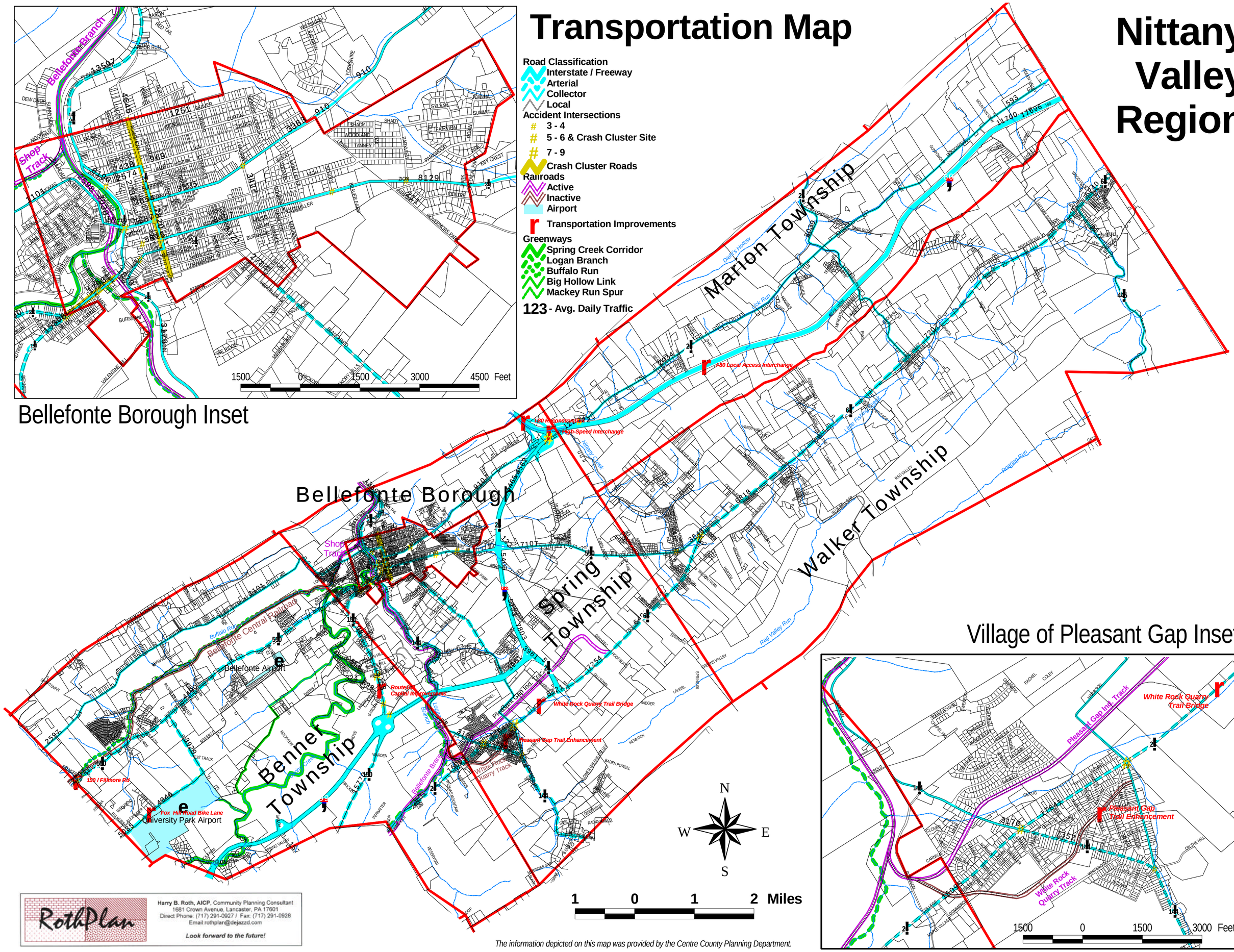
Railroads
- Active
- Inactive
- Airport

r Transportation Improvements

Greenways
- Spring Creek Corridor
- Logan Branch
- Buffalo Run
- Big Hollow Link
- Mackey Run Spur

123 - Avg. Daily Traffic

Bellefonte Borough Inset



Village of Pleasant Gap Inset

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Look forward to the future!

The information depicted on this map was provided by the Centre County Planning Department.

pressures for development that are contrary to the Region's overall community development objective to preserve Marion Township's rural character. Suddenly, local officials will need to exercise greater restraint in resisting new proposals for growth and development if the Township's rural way of life is to be maintained. This Plan will advance these policies and suggest strategies to defend its rural character.

Another existing important interchange along the US-220 corridor is located just east of **Bellefonte Borough at PA Route 550**. As traffic increases along this new interstate highway, this interchange will also be likely subject to intense development pressures. Unlike the new local access interchange in Marion Township, this location suggests advantages for development because of the proximity to population and other infrastructure. Today this interchange is relatively free of development except for a few houses and an occasional business. Local officials hope to promote a high-quality interchange development here that would act as a "gateway" to Bellefonte Borough by selecting appropriate uses and offering density incentives for the use site and building designs to compliment the Borough's historic character. In addition, locals believe that the addition of a center turning lane along PA Route 550 into Bellefonte is imminent.

Another interchange of I-99 and the **Benner Pike (PA Route 150)** is situated in eastern Benner Township. This interchange is placed upon land acquired from the State Correctional Institution at Rockview. Consequently, this interchange is largely surrounded by publicly owned land that will inhibit its development. Furthermore, the County is constructing its new prison and fire training center just southeast of this interchange. However, it would appear that the stretch of Benner Pike north towards Bellefonte will likely experience increased development pressure as a result of this interchange.

A fourth interchange for **North Harrison Road** occurs to the north of the Village of Pleasant Gap. This is not a full interchange in that traffic can only enter and exit here from points to the south and west of the interchange (towards the Centre Region). Several important industries and the County's vocational technical school abut this interchange.

A fifth interchange occurs at **Shiloh Road** in western Benner Township. This interchange provides convenient access to the Nittany Mall located to the south in adjoining College Township. Local officials intend to target future commercial development in this area to compliment this prominent location and its existing customer base.

Finally a spur interchange presently exists along the US-220 corridor that intersects with **East College Avenue (PA Route 26)** just east of the Village of Pleasant Gap. This connection improves vehicular access to southern Spring Township and nearby Walker Township. More importantly, this interchange provides ready access to the many heavy trucks that transport materials from the Region's nearby limestone quarries. While some development at this interchange would be appropriate, it should not impede the considerable quarry truck traffic that originates here on its way throughout the County and beyond. While long-range corridor studies conducted by the State have considered the extension of a new

route from this interchange across Nittany Mountain and on to US Route 322 on Seven Mountains, local officials from the Nittany Valley Region strenuously oppose this alignment for environmental and economic reasons.

ARTERIALS

Arterial roads also emphasize greater mobility than land access and individual driveway cuts should occur very rarely except in outlying rural areas. Arterials generally convey between 10,000 and 25,000 average daily trips (ADT) for distances greater than one mile. Arterials often connect urban centers with outlying communities and employment or shopping centers. Consequently, arterials are often primary mass transit routes that connect with "downtown" areas of nearby communities. The Region's location at the "hub of activity" within Centre County has caused it to be developed with several important arterials that serve not only the Nittany Valley but other nearby areas. PA Routes 26, 64, 550 and 150 provide for vehicular movement in a northeast/southwest direction through the Region. PA Route 144 crosses the Region in a more north/south direction. Rock and Fox Hill Roads serve the University Park Airport. The following sets forth design standards associated with arterial roads suitable for the Region:

ARTERIAL ROAD DESIGN STANDARDS

Source: Guidelines for the Design of Local Roads and Streets, PA Dept. of Transportation, Bureau of Design

Design Standards	No. of Lanes and Width	Shoulder Widths	Vertical Clearance	Median Width	Parking Lanes*	Design Speed (mph)
Desirable	5 x 12 ft.	10 ft on right; 4 ft on median	16.5 ft.	18 ft.	12 ft each when provided	60
Minimum	2 x 11 ft.	8 ft on right; 4 ft on median		0 ft.	10 ft each when provided	40

*limited to downtown locations

The following table summarizes the characteristics of the Region's arterial roads:

ARTERIAL ROADWAY CHARACTERISTICS

Road Name	Route No.	Municipality	Est. ADT (2001)	No. Lanes	Cartway Width	Shoulders L/R	MPH
E. College Ave.	SR26	Benner	16,100	2	22-24'	5'/5'	45
E. College Ave	SR26	Spring	16,100	2	22-24'	5'/5'	45
W. College Ave.	SR26	Spring	16,100-17,600	2	22-24'	5'/5'	45
Benner Pike	SR150	Benner	15,200-15,800	2-3	24-30'	6'/6'	55
Willowbank St.	SR150	Bellefonte	17,900	2	38'	6'/6'	45
N & S Water St.	SR150	Bellefonte	8,200-17,900	2	23-26'	2'/2'	35
Pleasant View Blvd.	SR150 / 144	Spring	13,600	2	22-24'	6'/6'	45
Blanchard Street	T-430	Spring	3000	2	24	2'/2'	25-40
N. Harrison Rd.	T-941	Spring	2,500	2	20	2'/2'	25
Main St.	SR144	Spring	3,200-7,400	2-3	24-30'	curbs	25
Buffalo Run Rd.	SR550	Benner	2,700-4,500	2	20-22'	2'/2'	40

ARTERIAL ROADWAY CHARACTERISTICS							
Road Name	Route No.	Municipality	Est. ADT (2001)	No. Lanes	Cartway Width	Shoulders L/R	MPH
Rock Rd.	T-376	Benner	3,900	2	20'	2'/2'	30-40
Fox Hill Rd.	SR3005	Benner	4,900	2	20'	2'/2'	35-45
E. College Ave.	SR64	Spring	6,500-7,300	2	20-21'	8'/8'	45
Nittany Valley Dr.	SR64	Walker	6,500-7,200	2	21-23'	8'/8'	45-55
Source: Orth-Rodgers Associates, Inc.							

Based upon a comparison of the minimum arterial road design standards and the existing characteristics of the Region's arterial roads, the following list identified deficiencies that should be incorporated into the Region's future transportation improvements "wishlist:":

NEEDED IMPROVEMENTS TO ARTERIAL ROADS				
Road Name	Route No.	Municipality	Cartway improvements	Shoulder Improvements
ARTERIAL ROADS				
E. College Ave.	SR26	Benner	NA	Add 3' to each shoulder
E. College Ave.	SR26	Spring	NA	Add 3' to each shoulder
W. College Ave.	SR26	Spring	NA	Add 3' to each shoulder
Benner Pike	SR150	Benner	NA	Add 2' to each shoulder
Willowbank St.	SR150	Bellefonte	NA	Add 2' to right shoulder
N & S Water St.	SR150	Bellefonte	NA	Add 2' to right shoulder & 2' to median
Pleasant View Blvd.	SR150 / 144	Spring	NA	Add 2' to each shoulder
Blanchard Street	T-430	Spring	NA	Add 6' to each shoulder
N. Harrison Rd.	T-941	Spring	Add 2' to cartway	Add 6' to each shoulder
Buffalo Run Rd.	SR550	Benner	Add 2' to cartway	Add 6' to each shoulder
Rock Rd.	T-376	Benner	Add 2' to cartway	Add 6' to each shoulder
Fox Hill Rd.	SR3005	Benner	Add 2' to cartway	Add 6' to each shoulder
E. College Ave.	SR64	Spring	Add 2' to cartway	Add horse & buggy signs
Nittany Valley Dr.	SR64	Walker	Add 1' to cartway	Add horse & buggy signs

COLLECTOR ROADS

Collector roads provide for medium length travel distances (generally less than one mile) and convey between 1,500 and 10,000 ADT. Collectors also provide land access to major land uses such as regional shopping centers, large industrial parks, major subdivisions, and community-wide schools and recreation facilities. Collectors primarily serve motorists between local streets and community-wide activity centers or arterial roads. These streets can serve as the main circulation roads within large residential neighborhoods. Trip lengths tend to be shorter in "developed" neighborhoods, like that of a borough, due to the presence

of nearby destinations or higher order roads. However, within the rural areas of the Region these roads travel greater distances.

Three of the Region's collector roads radiate from downtown Bellefonte in four directions along PA Route 144 South, PA Route 550 East and West and Jacksonville Road. The Hubler Ridge Road/PA Route 26 corridor also serves as a collector road extending north from PA Route 64 in Walker Township through Marion Township and into the Bald Eagle Region of the County. The following sets forth design standards for collector roads suitable for the Region:

COLLECTOR ROAD DESIGN STANDARDS

Source: Guidelines for the Design of Local Roads and Streets, PA Dept of Transportation, Bureau of Design

Design Standards	No. of Lanes and Width	Shoulder Widths	Vertical Clearance	Median Width	Parking Lanes	Design Speed (mph)
Desirable	5 x 12 ft.	10 ft on right; 4 ft on median	14.5 ft.	16 ft.	10 ft each when provided	60
Minimum	2 x 10 ft.	8 ft on right; 4 ft on median		2 ft. when provided	8 ft each when provided	40

The following table summarizes the characteristics of the Region's collector roadways:

COLLECTOR ROADWAY CHARACTERISTICS

Road Name	Route No.	Municipality	Est. ADT (2001)	No. Lanes	Cartway Width	Shoulders L/R	MPH
Axemann Road	SR144	Spring	3200	2	20'	2'/2'	25
Pine Street	SR144	Bellefonte	5,600	2	36'	3'/3'	25
N. Allegheny St.	SR144	Bellefonte	7,400-7,800	2	38-49'	Curbs	25
West Linn St.	SR144	Bellefonte	7,400	2	18'	Curbs	25
S. Harrison Rd.	T-941	Spring	1900	2	20'	Curbs	25
Bishop St.	SR550	Bellefonte	8,500	2	36-40'	Curbs	25
Zion Rd.	SR550	Spring/Walker	3,600-8,100	2	20-24	6'/6'	55
Howard St.	SR1008	Bellefonte	3,400-3,700	2	21-40'	2'/2'	25
Jacksonville Rd.	T-958	Spring	900	2	24'	2'/2'	35
Jacksonville Rd.	SR26	Marion	2000	2	20'	3'/3'	45
Hubler Ridge Rd.	SR1010	Marion & Walker	600	2	22'	3'/3'	45
N. Potter St.	SR3006	Bellefonte	NA	NA	NA	NA	NA
Upper Coleville Rd.	SR3006	Spring	1,100	2	16-24'	4'/curb	25
Valley View Rd.	SR3006	Benner	1,100	2	14-16'	2'/2'	35
Pike Rd.	SR445	Walker	700	2	20'	2'/2'	45

Source: Orth-Rodgers Associates, Inc.

Based upon a comparison of the minimum collector road design standards and the existing characteristics of the Region's collector roads, the following lists identified deficiencies that

should be incorporated into the Region's future transportation improvements "wishlist:":

NEEDED IMPROVEMENTS TO COLLECTOR ROADS				
Road Name	**Route No.**	**Municipality**	**Cartway improvements**	**Shoulder Improvements**
Axemann Road	SR144	Spring	NA	Add 6' to each shoulder
Pine Street	SR144	Bellefonte	NA	Add 5' to each shoulder
West Linn St.	SR144	Bellefonte	Add 2' to cartway*	NA
Willowbank St.	SR150	Bellefonte	NA	Add 2' to each shoulder
N & S Water St.	SR150	Bellefonte	NA	Add 6' to each shoulder
Zion Rd.	SR550	Spring/Walker	NA	Add 2' to each shoulder
Howard St.	SR1008	Bellefonte	NA	Add 6' to each shoulder
Jacksonville Rd.	T-958	Spring	NA	Add 6' to each shoulder
Jacksonville Rd.	SR26	Marion	NA	Add 5' to each shoulder
Hubler Ridge Rd.	SR1010	Marion/Walker	NA	Add 5' to each shoulder
Upper Coleville Rd.	SR3006	Spring	Add 4' to cartway	Add 4' to each shoulder
Valley View Rd.	SR3006	Benner	Add 4' to 6' to cartway	Add 6' to each shoulder
Pike Rd.	SR445	Walker	NA	Add 6' to each shoulder

* Deemed impractical

LOCAL ROADS

Local roads are intended to provide immediate access to adjoining land uses. These roads are generally short and narrow, and comprise the bulk of road area within urban areas like the Region. Local roads are intended to only provide for transportation within a particular neighborhood, or to one of the other road types already described.

The following describes the design standards for local streets suitable for the Region:

LOCAL ROAD DESIGN STANDARDS

Source: Guidelines for the Design of Local Roads and Streets, PA Dept. of Transportation, Bureau of Design

Design Standards	No. of Lanes and Width	Shoulder Widths	Vertical Clearance	Median Width	Parking Lanes*	Design Speed (mph)
Desirable	2 x 12 ft.	10 ft on right	14.5 ft.	None	10 ft each	30
Minimum	2 x 10 ft.	6 ft on right			8 ft each	20

All of the Region's roads that are not classified as collectors are considered local roads. ***Local officials should compare existing local road conditions with the above standards and initiate a campaign of local road improvement in those areas experiencing greatest traffic flow and/or accident frequency.***

In addition, developers along local roads should be required to improve local road frontage according to such local standards as part of the land development process. The Region should develop standard road design criteria that can be used to ensure seamless road corridors as one moves form one municipality to the next.

As important as road design, is land use access. As discussed earlier in this Chapter, an effective conveyor of traffic cannot provide for unlimited land access. Each driveway or roadway intersection introduces conflicting traffic movements that reduce a road's ability to convey traffic quickly and safely. ***Therefore, new connections to the arterial and collector road system should be minimized to avoid unnecessary driveway and road cuts. Local officials must enforce strict policies that will minimize such connections to ensure efficient traffic flow. This process is a long-term strategy that will take many years and should start now! Zoning and subdivision/land development regulations can limit permitted driveway cuts, require wider lots, and provide for incentives and design flexibility that encourage adjoining properties to share vehicular access among other things (e.g., parking, loading, signage, storm water control, etc.). For access on State roads, local officials should persuade PADOT officials to limit highway access to the minimum required. However, local officials express mutual concern over PA DOT's lack of cooperation in the past when coordinating access management with local design objectives.***

B. TRAFFIC SAFETY

In addition to reducing congestion, traffic safety is another important consideration in the scheduling of roadway improvements. High accident locations result from factors such as inadequate road design, insufficient sight distance, improper relationship between land use and road classification, improper speed limits, and driver frustration/error. This section describes traffic accident statistics within the Region to gain a general understanding of their location and severity. This will help to ensure a proper relationship between land use and access.

The Pennsylvania Department of Transportation, Center for Highway Safety, provided accident data for the period between 1998 and 2000. This three-year period provides the most recent reportable accident data available. A reportable accident is one in which an injury or fatality occurs, or at least one of the vehicles involved requires towing from the scene. The locations of the majority of accidents discussed on the following pages have been plotted on the *Transportation Map*.

Specific accident locations are ranked by frequency for the Region. These specific locations are ranked and reported in two categories. First, accidents that occurred at specific intersections at two or more roads are identified and ranked. Second, accidents that occurred along one road between two roads, or mid-block accidents, are enumerated and ranked. Mid-block accidents also include accidents that occurred along public roads at an intersection with a driveway.

Finally, accident statistics from the Transportation Element of the Centre County Comprehensive Plan were also used to supplement both intersection and mid-block accident statistics. These figures represent high crash clusters between years 1996 and 2000 as determined by PADOT.

INTERSECTION ACCIDENTS

The following table ranks those intersections that recorded an average of at least one reportable traffic accident per year:

INTERSECTION ACCIDENTS (1998-2000)			
Rank	**Intersection**	**Municipality**	**Total No. of Accidents**
1	SR26 & Jacksonville Road	Spring	9
2	SR26 & Harrison Road	Spring	8
3	High and Water Streets	Bellefonte	6
4	SR150 & Rolling Ridge Road	Benner	5
4	Allegheny and Bishop Streets	Bellefonte	5
4	SR64 & Zion Road	Walker	5
5	SR550 & Fillmore Road	Benner	4
5	SR150 & Rishel Hill Road	Benner	4
5	Howard & Wilson Streets	Bellefonte	4
6	SR150 & Paradise Raod	Benner	3
6	SR150 & Reynolds Avenue	Bellefonte	3
6	SR144 & Spring Street	Bellefonte	3
6	Bishop & Spring Streets	Bellefonte	3
6	Bishop & School Streets	Bellefonte	3
6	Parkview and Zion Streets	Bellefonte	3
6	Lamb & Water Streets	Bellefonte	3
6	SR144 & Harrison Road	Spring	3
6	Forest & Zion Roads	Walker	3
6	SR 64 and Connector Road	Marion	3

The worst accident intersection within the Region between 1998 and 2000 is located at PA Route 26 and its junction with Jacksonville Road. Here the Region's two most-traveled highways (I-80 & PA 26) converge along with the through traffic on Jacksonville Road. The configuration of this multi-legged intersection is confusing. This condition is compounded by the changing route signage as routes change alignment and new route numbers are introduced. Fortunately, the proposed high-speed interchange planned at this location will eliminate this hazardous intersection. Instead the new interchange will allow for rapid transfer of vehicles from one interstate road to the other without the encumbrance of local traffic movements. Jacksonville Road traffic will be grade separated from the high-speed interchange and will flow unimpeded under this interchange.

The intersection with the second highest number of traffic accidents occurs at the intersection of Harrison Road and PA Route 26 on the eastern edge of the Village of Pleasant Gap. Harrison Road provides a "short cut" for those motorists who are travelling in a north-south direction along PA Route 144 to and from Interstate Route 80. This signalized intersection has a modern design with no apparent design deficiencies. The vast majority of these accidents are angle collisions with two vehicles with half occurring during the evening rush hour. This high volume intersection is always likely to record traffic accidents associated with various driver errors. The Township could attempt to reduce these driver errors with focused police enforcement at this intersection, particularly during the evening rush hour.

The intersection with the third highest number of traffic accidents occurs in Bellefonte at High and Water Streets. Given the overall flow of traffic through the Borough, this intersection combines the highest number of vehicle movements from all directions. It is little wonder that this intersection records traffic accidents. In addition, the Water Street corridor has a different streetscape than do many of the streets just one or two blocks east. Water Street's location along the creek reduces the number of properties that front along this road. In turn motorists are presented with a streetscape that seems to favor vehicular movements over pedestrian travel. This causes motorists to travel at higher speeds than they do on other downtown streets. In addition, the alignment of this road follows the creek and therefore has curves unlike the straight grid streets throughout much of the Borough. This reduces motorist sight distance. Then vehicles entering and/or crossing Water Street from High Street West introduce conflicting traffic movements that lead to traffic accidents.

The detailed information of this intersection reveals that accidents occur throughout the day and almost always involve an angled collision of two vehicles, one of which makes an improper turn. Unfortunately, techniques that could be used to calm traffic here would in turn increase congestion along this heavily traveled road. Hopefully as improvements associated with the Waterfront Restoration and Redevelopment Plan occur, more pedestrian activity will follow which should change motorist perception along Water Street and reduce vehicular speeds and improve motorist caution.

MID-BLOCK ACCIDENTS

The following table ranks the mid-block sites that averaged at least one reportable traffic accident per year:

MID-BLOCK ACCIDENTS (1998-2000)							
Rank	Street/Road	Total Accidents Regionwide	Accidents/Municipality				
			Bellefonte	Benner	Marion	Spring	Walker
1	Interstate Route 80	84	NA	NA	81	3	NA
2	PA Route 26	81	NA	16	28	36	NA
3	PA Route 64	63	NA	NA	NA	7	56
4	PA Route 144	57	3	NA	NA	54	NA
5	PA Route 150	53	9	30	NA	14	NA
6	PA Route 550	40	8	19	NA	12	1
7	Rock Road (T376)	10	NA	10	NA	NA	NA
7	Purdue Mt. Road (T383)	10	NA	10	NA	NA	NA
8	Harrison Road	9	NA	NA	NA	9	NA
8	PA Route 445 (Pike Rd.)	9	NA	NA	NA	NA	9
9	SR3001 (Spring Creek Rd)	5	NA	5	NA	NA	NA
9	SR3006 (Valley View Rd.)	5	NA	5	NA	NA	NA
9	SR1010	5	NA	NA	5	NA	NA
9	Blanchard Street (T430)	5	NA	NA	NA	5	NA

Like for intersection accidents, the ongoing update of the Centre County Comprehensive Plan identifies Willowbank Street and Allegheny Streets in Bellefonte Borough as high-crash cluster sites. These segments are part of other routes listed in the above table and these designated sites are specifically depicted on the Transportation Map.

Unsurprisingly, roads with the greatest traffic volumes record the highest number of mid-block accidents. This result is a matter of mathematical probability; however, beyond the sheer math there are other factors in play. For example I-80 has traffic volumes about 1.5 times that occurring on PA Route 26 and yet PA Route 26's accident frequency is marginally lower than that on I-80. However, the function of I-80 is solely to move vehicles while the PA Route 26 corridor moves vehicles and provides for considerable land access to adjoining residences and businesses. Arterial and collector roads tend to record the highest relative accident frequency because of these conflicting road functions and the expectations of motorists who travel them. ***Nonetheless, local officials should be ever mindful of these conflicts and the safety problems they create. Access management techniques described earlier should be used to coordinate road function with adjoining land use. Local officials should look to combine access drives, signs, and off-street parking and loading for businesses that are proposed along these important arterials and collectors.***

The following describes fatal accidents recorded within the Region between 1998 and 2000:

TRAFFIC FATALITIES (1998-2000)				
Municipality	**Principal Road**	**At Intersection**	**Persons Killed**	**Type of Accident**
Spring Township	West Water Street	Park Ave.	1	Auto swerved into path of oncoming truck.

The following tabulates reportable accident types/severity by municipality in the Region:

ACCIDENT TYPES & SEVERITY (1998-2000)						
	Regionwide	**Bellefonte**	**Benner**	**Marion**	**Spring**	**Walker**
Accident Type						
Non-collision	50	5	9	19	11	6
Rear-end	139	31	32	9	54	13
Head-on	44	4	12	2	15	11
Backing-up	0	0	0	0	0	0
Angle	136	50	29	3	33	21
Sideswipe	19	1	2	5	6	5
Hit fixed object	300	23	68	76	94	39
Hit pedestrian	15	9	3	1	1	1
All others	23	0	5	7	9	2
Unknown	0	0	0	0	0	0
Total Accidents	724	123	158	122	223	98
Accident Severity						
Fatal	1	0	0	0	1	0
Major injury	24	3	6	3	7	5
Moderate injury	95	10	20	22	29	14
Minor injury	275	63	66	40	79	27
Unknown injury	25	7	0	0	17	1
Total with injury	420	83	92	65	133	47
Accident Location						
Intersection	174	79	29	4	43	19
Mid-block	550	44	129	118	180	79

The Region recorded 724 total reportable traffic accidents between 1998-2000. This rate is typical to the Region's varied settings and its extensive road network. In rural areas traffic accidents tend to occur at mid-block locations because intersections are less frequent when compared with the distances traveled. Throughout the Region the townships recorded mid-block accidents at a rate about 5 times that of intersection accidents. Conversely, Bellefonte Borough has almost double the number of intersection accidents than mid-block accidents; this too is to be expected in urban settings where intersections are frequent and travel distances are short.

Regionally, about 41% of all accidents involve vehicles colliding with fixed objects. This

often results in more rural settings where winding rural roads and excess speeds combine. Many of these accidents occurred in Marion Township along I-80 where motorists hit guiderails or ran into embankments. Rear-end and side angle collisions each account for just under 20 percent of all accidents within the Region most of which occurred within more developed Bellefonte Borough, and Benner and Spring Townships. About 3.5 percent of accidents involve major injury or fatality but 58 percent produce some injury. Only one fatality occurred which is fortunate given the size of the Region and its varied road network that conveys considerable local and regional traffic. As expected Bellefonte Borough had the most accidents involving pedestrians that totaled 2 percent within the Region.

C. REGIONAL TRAFFIC PATTERNS

Analysis of the average daily traffic volumes for the Region's roads provides some insight into the Region's role as a destination and/or thoroughfare.

First, clearly the highest volumes recorded occur along I-80 through Spring and Marion Townships. These traffic volumes are usually "pass-thru" trips along this important Interstate highway. However, this condition changes during "football Saturdays" in the fall when large crowds assemble at University Park. At these times many additional vehicles presumably exit I-80 and follow various routes to the stadium. The I-99 corridor provides for ready linkage to Beaver Stadium and should carry the bulk of this traffic; however, some traffic will undoubtedly seek less congested routes and shortcuts. No specific traffic counts are available for these periods.

Locally the convergence of PA Routes 150 and 550 in Bellefonte Borough also produce high traffic counts along the Willowbank and Water Street corridors. These patterns should continue as traffic moves between the two major development nodes of Centre County namely the Centre Region and Bellefonte. The completion of the I-99 corridor will likely relieve considerable local traffic along the Benner Pike (PA Route 150) southwest of the I-99 and PA Route 150 interchange. Further north, considerable traffic also passes between the Nittany Valley and Bald Eagle Regions along Routes 144 and 150 north of Bellefonte.

The Region's major highways follow the topography that dictates their northeast/southwest course. Consequently most traffic follows this same course along PA Routes 26, 64 and 550. Several thousand vehicles commute from adjoining Clinton County on a daily basis. These commuters' destinations appear equally split between Bellefonte and the Centre Region as evidenced by the similar traffic volumes recorded to the west of the intersection of PA Routes 64 and 550.

North/south routes tend to have less traffic except for the stretch of I-99 known as the Bellefonte Bypass; here traffic volumes are sizable and will surely increase as more motorists become aware of this new link between the Region and I-80. This new link may reduce through-traffic along PA Route 144 north of Pleasant Gap that was previously used as the link between US Route 322 and I-80. Local officials may want to ***request that PA DOT install directional signs along PA Route 144 in Pleasant Gap to redirect I-80-bound through traffic to the spur interchange of I-99 just east of the Village.***

D. PROGRAMMED TRANSPORTATION IMPROVEMENTS

Officially, the Centre County Metropolitan Planning Organization (CCMPO) is responsible for development of the Long Range Transportation Plan and its accompanying Transportation Improvement Programs (TIP) for Bellefonte Borough and Benner and Spring Townships within the Nittany Valley Region. In addition the CCMPO also serves in the same capacity for College, Ferguson, Halfmoon, Harris and Patton Townships and State College Borough. However, for the past few years the CCMPO has been acting unofficially on behalf of the entire Centre County for transportation planning and programming.

Presently the CCMPO is in the initial steps of expanding its official coverage throughout Centre County subject to acceptance of various agreements and details that must be negotiated by the agency's participants. At this time the structure of the County-wide CCMPO would provide for representatives from Benner and Spring Townships to vote on behalf of the Nittany Valley Region. Therefore, annual transportation project related "wish-lists" submitted by each municipality to CCMPO from the Nittany Valley Region will have better chances for funding and implementation if the representatives from Benner and Spring Township officially support such projects.

Under normal conditions it would be advantageous for the Region to act collectively in the submission of annual transportation project lists. However, the staff of the CCMPO suggests that the Region continue to submit individual municipal wish-lists so that a wide array of projects can be considered and potential projects are compared with the individual project lists submitted throughout the rest of Centre County. Should the Nittany Valley Region wish to prioritize one or more submitted projects over others derived locally, additional weight can be applied to such priorities. In the future once the CCMPO has some experience working with the entire County, then Regional project lists may be the preferred submission format, but in the meantime, individual project lists are desired.

The CCMPO must coordinate its transportation plans with other several key agencies within Centre County including the Centre County Planning Commission (CCPC), Centre Regional Planning Commission (CRPC), Centre Area Transportation Authority (CATA), Centre County Planning Office (CCPO), Centre Regional Planning Agency (CRPA), and the Susquehanna Economic Development Association Council of Governments (SEDA-COG).

The most recent version of the TIP includes an ambitious list of 38 projects totaling over 274 million dollars for years 2003 to 2006. Nine of these projects will occur partially or completely within the Nittany Valley Region totaling nearly 39.5 million dollars. The following tabulates those projects within the Region that are also graphically depicted on the Transportation Map.

Centre Region Metropolitan Planning Organization's 2003 to 2006 Transportation Improvement Program					
	Task[1]/Year				
Project Description	**03**	**04**	**05**	**06**	**Total Cost**
Transportation Enhancement Program Projects					
Fox Hill Road Bike Lane Enhancements – Construction of two 4-feet-wide painted bike lanes straddling Fox Hill Road between Fillmore and Rock Roads.	C	C			$144,515
Pleasant Gap Trail Enhancements – Acquisition, design & improvement of rail trail through the center of Pleasant Gap.				F,C	$191,000
Interstate 80 Reconstruction Projects					
I-80 Yarnell to Bellefonte (incl. Milesburg Interchange) partial - Resurfacing and general improvements to I-80.				C	$12,279,367
Interstate 99 Projects					
PA Route 26 / I-80 Local Access Interchange (partial) – final design, acquisition, utility relocation and construction of new I-80 Interchange in Marion Township.	F,R	U		C	$5,020,000*
I-99 / I-80 High Speed Interchange (partial) – Final design, acquisition and utility relocation for new High-Speed Interchange.	F,R	F,U,R		F	$10,730,000*
I-99/I-80 High-Speed Interchange (Reserve Line Item) – Construction of new High-Speed Interchange for I-80 & I-99.	C				$5,616,990*
Other Highway Projects					
South Central Centre Co. Transportation Study (partial)	P				$1,200,000
PA Route 150 Capital Improvements (partial) – Utility relocation along Benner Pike.		U			$365,000
PA Route 150 Capital Improvements (reserve line item) – Improvements and utility relocation along Benner Pike.	C	U			$261,510
PA Route 550 Fillmore Road Intersection – Improvement to vertical and horizontal alignment to improve sight distance.	C				$500,000
Other Bridge Projects					
Whiterock Quarry Rail Track Bridge[2] – Construction of short RR spur with underpass of PA Route 26 to serve Centre Lime & Stone Co. just east of Village Gap.	C	C			$3,209,225[2]
Total CIP Costs - $39,517,607					

[1]F-Final design / U-Utility relocation / R-Right-of-way acquisition / C-Construction / P-Preliminary engineering
[2] Includes $1,501,550 in Federal and State TIP funds and $1,707,675 in other local and State funds.
* These costs do not represent the total costs for completion of these projects.

In addition, Centre County has budgeted $1,565,000 of its for County-wide road maintenance projects the following of which are contained within the Nittany Valley Region:

PADOT-Funded Road Maintenance Projects for Year 2003 in the Nittany Valley Region		
Road Name	**Project Description**	**Cost**
SR 144 (Axemann)	Resurface from Pleasant Gap to Bellefonte	$114,313
SR 150 (Water Street)	Sel Mill & resurface in Bellefonte	$17,674
SR 550 (Zion Rd.)	Resurface	$125,000
SR1005 (Forest Ave.)	Widen 2' on both sides	$69,580
SR1008 (Armagast Rd.)	Sel. Mill & resurface	$41,744
SR 3006 (Armagast Rd.)	Sel. Mill & resurface	$38,375
	Total Costs of Projects within the NVR	**$406,686**

In addition, each of the municipalities within the Nittany Valley Region have provided the following list of road projects that it expects to undertake in the foreseeable future:

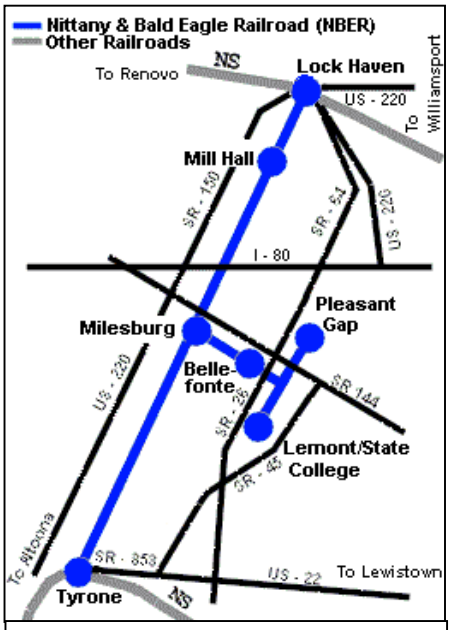
Municipal Programmed / Planned Road Projects			
Road Name	**Project Description**	**Begin date**	**Cost and funding source***
Bellefonte Borough			
McClain Lane	Repaving from Ardell to Beaver	2003	SLF
Cemetery Lane	Repaving from Howard St. to first intersection		
Cemetery Lane	Repaving from first intersection to top of hill		
S. Thomas St.	Potter to High St.		
Ridge St.	Logan to Bishop		
Penn St.	Logan to Bishop		
Blanchard St.	Crawford to Forge Road		
St. Paul Street	High to S. Thomas St.		
Allegheny Street	Linn to Borough line		
Fox Hill Road	Resurface	2004	NA
Phoenix Ave.	Traffic signal	Short-range	NA
PA Route 150	Congested corridor study	NA	NA
PA Route 144	Re-routing along PA Route 150	Short-range	NA
NA	Pedestrian & RR crossing @ Talleyrand Park/PA Match Factory/APS property	NA	NA
East Bishop Street	Construction of "missing link" path between Governors Park Bikepath and sidewalks along East Bishop Street.	Short-range	NA
East Bishop Street	Traffic control and islands and traffic signal at Airport Road.	NA	NA
PA Route 26 / Howard Street	Redesign storm drainage	NA	NA
NA	Downtown pedestrian improvements	NA	NA
NA	Pedestrian bridge across Spring Creek beside Nittany & Bald Eagle RR Bridge, possibly on same piers.	NA	NA
Benner Township			
Benner Pike	Completion of planned improvements as listed in the PA DOT Transportation Improvement Program for Centre County including the installation of a center turning lane.	2003-04	$626,510 PA DOT
Armagast Road	Replace bridge	NA	NA
Fox Hill Road	Bike Lane Enhancements – Construction of two 4-feet-wide painted bike lanes straddling Fox Hill Road between Fillmore and Rock Roads.	2003-04	$144,510

Municipal Programmed / Planned Road Projects			
Road Name	**Project Description**	**Begin date**	**Cost and funding source***
High Tech Road	Creation of new airport entrance	NA	NA
PA Route 550	Improve alignment near Hunter Park and Crestview development	NA	NA
Rock & Fox Hill Roads	Realignment to allow continuous traffic movement	NA	NA
Armagast Road	Stormwater and should improvements	NA	NA
Raymonds Lane	Paving and stormwater improvements	NA	NA
Benner Pike	Campaign of joint access management with improved access definition and landscaping.	NA	NA
Clemons Lane	Delineate intersection	NA	NA
Unspecified locations	Add paved shoulders for cycling and pedestrians.	NA	NA
Seibert Road	Add traffic calming to reduce speeds.	NA	NA
New bypass	Around Village of Peru	NA	NA
PA Route 150	Improve intersection geometry at Valentine Road	NA	NA
PA Route 550	Improve sight distance/clearance at Raymonds Lane	NA	NA
Marion Township			
Sand Ridge Road	Add 2' stone shoulders and 1.5" wearing surface	9/03	$34,345 – SLF & Twp.
Nittany Ridge Road	Base & wearing surface, pave cul-de-sac	9/03	
Spring Township**			
Repaving program - Robinson Ln., Lutz Road, Bilger Ave., Pine Oak St., Countryside Dr., Gregory Ln., Grouse Hollow Dr., Squirrel Ridge Rd., Whitetail Dr., Ringneck Dr., and Blackhawk Rd.		2003	$80,715 SLF
Repaving program – Rishel Hill Rd., Blanchard St., Roopsburg Rd., Garbrick Rd., West End St., Clemens Ln., Rocky Rd., Doruss Dr., Stover Rd., Hastings rd., Kelsey ln., Roanoke Rd., Florence Dr.		2004	$75,000 – SLF
Repaving program – N. Harrison rd., Church St., Mulbarger Ln.		2005	$66,000 – SLF
Repaving program – Blanchard St., Valentine St., Walnut St., Purdue Mountain Rd.		2006	$92,000 – SLF
Repaving program - N. Ridge St., Penn St., Hill St., Sunset Ave., Middle St., 1st Ave., Larimer St., Sweeney St., Nittany St., On the Hill Rd., Forge Rd.		2007	$70,000 SLF
Addition of a center turning lane on PA Route 550 to the west of the interchange with I-99.		Short-range	NA
Realignment of North Harrison Road south of I-99 to remove to right-angle turns.		Long-range	NA
Realignment of the Blanchard Street approach to intersection with North Harrison Road.		Long-range	NA
Walker Township			
Parking lots @ Twp	Extend, pave and resurface	10/03	$9716 - Twp

Municipal Programmed / Planned Road Projects			
Road Name	**Project Description**	**Begin date**	**Cost and funding source***
Building			
Hoy Road Bridge Repair.	Repair of north abutment, repair underside of deck with reinforced pressure mortar.	2004	$47,500 – Twp.
Lincoln Lane	Resurface	7/03	$68,439 - SLF
Hemlock Dr.	200 ft. of curbing		
Meadow Lane	Pave cul-de-sac		
Crust Road	Resurface		
Zion Lane	Sub-surface drain work		
Hoy Road			
Zion Back Road			
Korman Road			
Myers St., Dry Run Rd., Oak St., Lusk St., Loy St., Pine St., Black Walnut St. Elm St., Chestnut St.	Resurface	10/03	$70,749 - SLF
*Funding source codes: SLF–State liquid fuels / CDBG-Comm Dev Block Grant / CO-County / Twp-Township ** Includes 1.5" paving surface and 2' shoulders.			

E. RAILROAD ACCESS

Ownership of Rights-of-Way - Within Centre County railroad lines are owned by the **Susquehanna Economic Development Association – Council of Governments Joint Rail Authority (SEDA-COG JRA)**. Their **Nittany Main Line** extends from Tyrone to Lock Haven, north of the Region, and connects with the larger Norfolk Southern lines on either end. However within the Nittany Valley Region, the **Bellefonte Branch** extends south out of Milesburg and generally follows Spring Creek through Bellefonte. On the southern end of the Borough it diverts along Logan Branch through Spring and Benner Township on its way to Lemont.



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Just west of the Village of Pleasant Gap, the **Pleasant Gap Industrial Track** spurs to the east about 1000 feet north of PA Route 26 which serves a large limestone processing plant in this vicinity. It is also noted that construction of **another Whiterock Quarry Rail Track Bridge** is programmed to be completed in years 2003-04 to add spur access to the Centre Lime and Stone Company facility just east of Pleasant Gap.

On the north end of Bellefonte the **Shop Track** spur veers west from the Bellefonte Branch

a short run to the SEDA-COG JRA engine house. This facility is used to house and maintain train engines and as the office of the Nittany and Bald Eagle Railroad who operate the freight trains within this area.

Beyond the engine house, additional right-of-way is held by the SEDA-COG JRA along what was formerly known as the **Bellefonte Central Railroad**. This line was abandoned in 1985 and is currently inactive; however, SEDA-COG JRA has recently redesigned portions of this line and has necessary permits from the PA DEP to reactivate this line should it be needed in the future. No plans to reactivate it are foreseeable presently.

Historically another line extended off of the Bellefonte Branch along the east side of the Borough that ran through Spring and Walker Townships; however, this line was abandoned in the 1930s and all claims to its right-of-way have reverted to the adjoining property owners.

Rail Operators – The **Nittany and Bald Eagle Railroad Company (NBER)** is a local freight company that operates upon 70 miles of the above-described SEDA-COG JRA lines within the Nittany Valley Region, Centre County and beyond. Between the mid 1980s and 2000 the NBER experienced dramatic increases in the number of carloads transported and the company expects similar increases in the future. In 2001 the company transported some 13,615 carloads. Locally NBER serves Cerro Copper Brass, Graymont Lime, and Hawbaker Consruction. The Company plans a $2 million upgrade with 12 miles of welded rail to the main line (located north of the Nittany Valley Region) and has purchased additional locomotives. In response to the Whiterock Quarry Rail Track Bridge project listed above the company expects to operate more trains to serve the expanding aggregate business.[1]

Norfolk Southern is a major freight hauler within the Eastern United States. Typically this company hauls up to 3.8 million tons of coal per year and today the Company runs an average of 1.25 trains per day with 105 cars per train on the Main line connecting Lock Haven (Clinton County) and Tyrone (Blair County).[2]

"The **Bellefonte Historical Railroad Society (BHRS)** has operating rights on the Bellefonte Branch of the SEDA-COG JRA line. The BHRS offers weekend tourism-related tours throughout the year. Trips originate and end in Bellefonte and visit Tyrone, Curtin Village, Unionville and Lemont. Tour fares range from $6.00 to $8.00 for adults and $3.00 to $4.00 for children depending upon the destination."[3]

The State has ongoing efforts regarding the increased use of rail facilities across Pennsylvania as part of their 25-year statewide long range transportation plan. PennPlan studies the need for inter-city rail corridors and has conducted preliminary assessments on a State College to Altoona to Pittsburgh line and another State College to Harrisburg line. In addition the Federal government is also exploring the use of Maglev trains in the vicinity of Pittsburgh; in the future it is envisioned that the Maglev corridor would extend east to

[1] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.35.
[2] Ibid.
[3] Ibid, p.36.

Philadelphia with stops along the way including State College.[4] These projects are very long range in scope and are subject to many factors that could "derail" their implementation.

F. PEDESTRAIN AND BICYCLE ACCESS

Sidewalks & Pedestrian-Friendly Streets - One of the themes of this Comprehensive Plan is to distinguish between "urban" areas where a full range of public services and utilities are provided, and "rural" areas where the protection of the natural environment is given priority over, and protected from, development. Consequently, areas depicted for growth and development should include schools, churches and parks with convenient access to them. These "urban" areas will also, by function, include higher relative densities. Fortunately Bellefonte Borough has an extensive system of sidewalks that blanket its settings; however, the adjoining townships do not. Since most of the projected residential growth within the Region is planned outside of the Borough (because of its built-out condition), it is imperative that the ***townships revise their development policies to require pedestrian access and street linkages with adjoining neighborhoods. In addition Bellefonte Borough intends to provide a bike path connection between the sidewalks along PA Route 550 and Governor Park.***

To offset increased congestion, all proposed developments within the identified growth areas should be fitted with handicapped accessible sidewalks and curbs. This will reduce reliance upon vehicular traffic for short trips and promote neighborly interaction. ***In existing neighborhoods that do not have sidewalks, local officials should seek to retrofit some pedestrian linkage with nearby civic uses, commercial areas and adjoining neighborhoods of the Borough.*** It may not be necessary to line both sides of every street with sidewalks, but some basic system that enables children to travel throughout the community would be a good gauge. Also, linear paths can replace sidewalks in built-up areas that are highly improved along the street. This approach will better integrate residents and reduce their automobile dependency. ***Finally, bus stops should be required at prominent development locations even if current transit service is not yet available.***

Bike Routes – Centre County has 19 different bike routes totaling 21.7 miles; however, these bike routes are contained within the Centre Region and do not extend to the Nittany Valley Region. In addition 8.75 miles of off-road bike paths are planned within the foreseeable future; again principally within the Centre Region. The Fox Hill Road Bike Lane Enhancements will add two 4-feet-wide painted bike lanes straddling Fox Hill Road between Fillmore and Rock Roads adjoining the University Park Airport in Benner Township. This project is scheduled for completion in years 2003-04.[5]

[4] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.37
[5] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 ps.37-42.

Pennsylvania has over 200 miles of fully-signed statewide bicycle routes, both on and off-road, used for travel, tourism and recreation. Another 800 miles are to be added in the near future as a result of a $1 million transportation enhancement grant. Route G is a north/south statewide bicycle route from Maryland to New York that passes through Ferguson, Harris, College, Potter and Gregg Townships and Centre Hall Borough within Centre County. Presently none of the State bike routes are contained within the Region.[6]

Arguably, many designated bike routes are a byproduct of society's reliance on automobile and truck movements. Road design standards that favor higher vehicle speeds and greater commuting distances dissuade efficient and safe bicycle travel. Hence it becomes necessary to provide for separated routes for bicycles and pedestrians.

By contrast, "livable communities" balance the need for vehicular travel with pedestrian and non-motorized modes of transport. For example, consider the traditional grid road pattern and streetscape design within Bellefonte Borough. Here bicycle and pedestrian travel is logical and safe despite vehicle congestion***. Street designs of the Borough inherently incorporate traffic calming features that enable motorists and bicyclists/pedestrians to coexist. Also neighborhood linkages provide residents with ready pedestrian/bicycle access to a variety of businesses, civic uses and activity centers located throughout the Borough. The same street design features and community linkages can and should be applied to new residential neighborhoods that result from this plan. In addition, areas planned for growth should be compact with densities that keep motorists expectations for vehicle speeds lower than in the suburbs. Then it will be unnecessary to identify specific bike routes as all forms of transport can "share the road." It is important to understand that this discussion relates to local streets within neighborhoods. The mixing of bicycles/pedestrians along heavily traveled highways with high speed limits will still require some physical separation.***

Greenways - The recently completed study entitled the *Nittany and Bald Eagle Greenways Plan* (2002) highlights the many opportunities to develop linear corridors within large parts of the Region and in the adjoining Bald Eagle Creek watershed. This plan comprehensively studied these opportunities and applied a hierarchical greenway structure that identifies the following features within the Nittany Valley Region.

- **Spring Creek Corridor** - a major greenway corridor along the Spring and Bald Eagle Creeks originating in the south at Boalsburg and connecting to Blanchard and Clinton County to the north. This continuous corridor crosses much of Benner Township and the northwest corners of Bellefonte Borough and Spring Township. The major corridors have regional significance and connect the most important destinations or "hubs." Within the Region this corridor includes over 10 miles of proposed greenway that should be located, designed and maintained to offer conservation, education, recreation, transportation, water quality and tourism functions;

[6] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 ps.37-42.

- **Buffalo Run and Logan Branch** - two minor corridors that follow Buffalo Run and Logan Branch, respectively that converge with the major corridor in Bellefonte which is identified as one of the major "hubs" along the greenway. Minor corridors follow significant tributaries of the major corridor and offer access to important wetlands, high quality waters and historic settings that reveal the heritage of the area. The Logan Branch corridor runs about 5.4 miles from Bellefonte to the Pleasant Gap Fish Hatchery and on to the headwaters. The Buffalo Run corridor runs almost 9 miles between Bellefonte, Coleville and Waddle;

- **Big Hollow Link** - off of the Spring Creek corridor that runs 3.2 miles through Benner and College Township and parallels Buffalo Run and Barns and Fox Hill Roads north of the University Park Airport; and,

- **Mackey Run Spur** off of the Logan Branch that follows PA Route 144 between Pleasant Gap and the Mid-State Trail located on Nittany Mountain.

Bellefonte Borough has already begun to implement the greenway plan along Spring Creek as part of its *Waterfront Restoration and Redevelopment Plan*. In addition Benner and Spring Townships have zoning districts along waterways that seek to protect their integrity. However, the plotting of a potential greenways/rail-trails/linear park on a map is but the beginning point to a lengthy and potentially difficult process. Many pitfalls can "derail" this process and prevent project completion. Nonetheless, these trails have become one of society's popular priorities and therefore, funding for feasibility studies is readily available.

For this reason, it is recommended that the Regional Recreation Board (RRB) and Centre County make a joint application under the Pennsylvania Recreational Trails Program. The PA DCNR offers an 80%-State to 20%-local matching grant for such studies under its Community Conservation Program. More information on this subject can be found within the Parks and Recreation Chapter VI of this Plan.

G. MASS TRANSIT

The presence of the Pennsylvania State University within Centre County presents special public transportation needs. The **Centre County Office of Transportation (CCOT)** operates a shared ride program where a van is pre-scheduled to pick-up multiple riders at their origins and delivers them to their destinations. This service extends throughout Centre County and is principally oriented to senior citizens and those with disabilities.[7]

The **Centre Area Transportation Authority (CATA)** operates three modes of public transport. First CATA operates its **fixed-route bus service** involving twelve routes anchored in downtown State College and on the Campus of Penn State. Generally

[7] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.28.

these routes radiate into adjoining municipalities. CATA's buses are all equipped with bike racks to enable riders to use dual forms of transit and extend access to recreation opportunities along designated routes and their surroundings.[8]

CATA's fixed bus **Route X** serves Bellefonte and Pleasant Gap with weekday routes from about 7:00 AM to 7:00 PM and Saturday routes from about 11:00 AM to 7:00 PM. This loop route originates at the Nittany Mall then follows the Benner Pike into downtown Bellefonte where it loops and departs along Blanchard Street. Then the route follows Harrison Road and loops through the Village of Pleasant Gap before turning west along College Avenue back to the Nittany Mall. The map on the following page identifies this bus route.[9]

The **Centre Area Transportation Authority (CATA)** also operates a **demand responsive curb-to-curb service** within its service area. Much the same as the CCOT service this is a shared ride mode requiring advance reservations. This CATA program also provides complimentary paratransit service in compliance with the Americans with Disabilities Act.[10]

The **Centre Area Transportation Authority (CATA)** also **operates special shuttle services** during special events like Penn State Football games, Central Pennsylvania Festival of the Arts, Bellefonte Arts & Crafts Fair, Bellefonte Victorian Christmas and others. **CATA's Ride Share** program matches registered commuters with similar schedules and destinations for potential carpooling.[11]

Bellefonte Borough has also expressed interest in establishing a local trolley service. To identify possible courses of action towards that goal information was obtained from James Lutz, Executive Director of the Red Rose Transit Authority (RRTA) in Lancaster, PA. The RRTA has considerable experience in operating trolley service over the past two decades. According to Mr. Lutz, the Borough has several options to offer service.

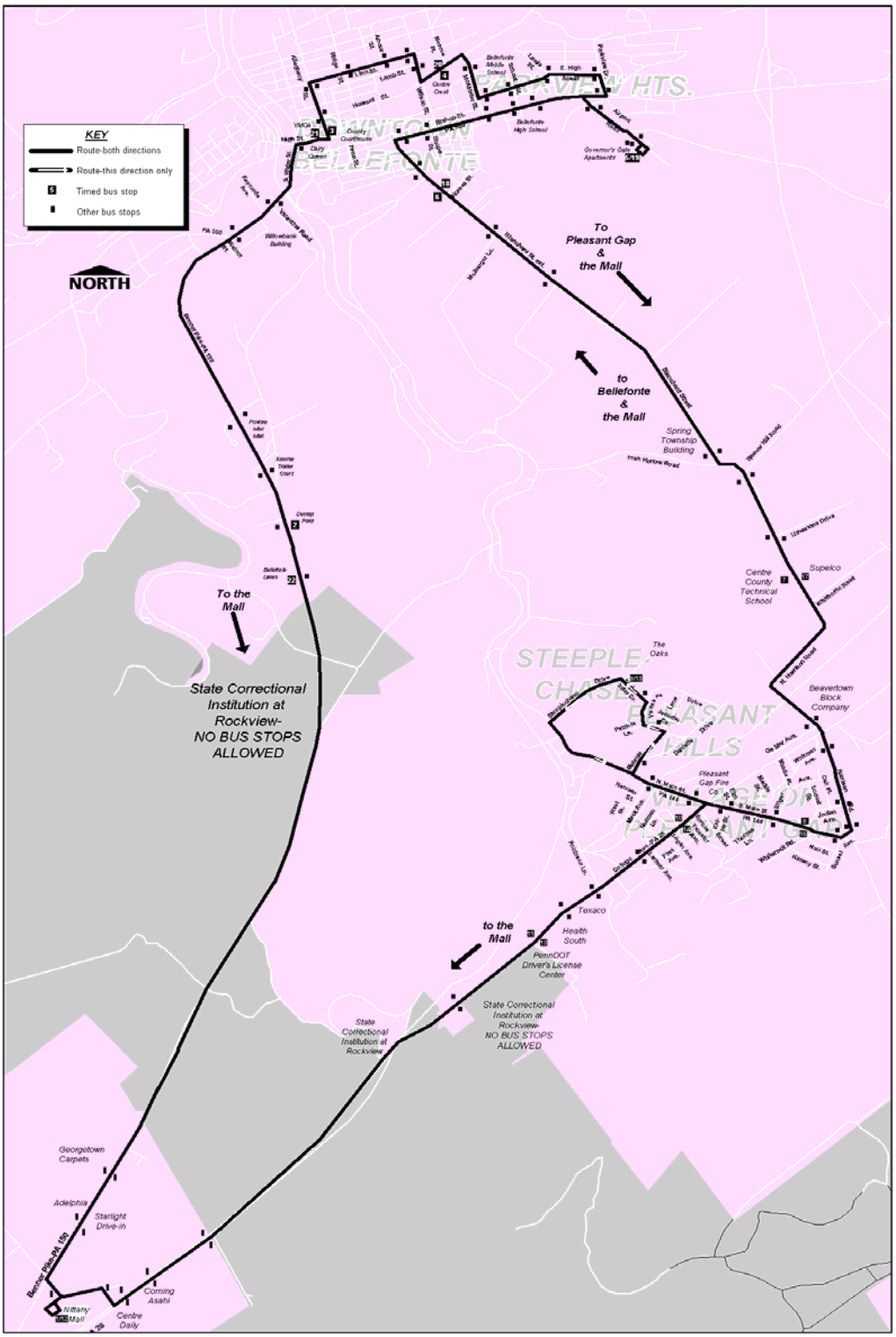
First the Borough could work with CATA and subsidize their offering of trolley service to the Borough and possibly to other areas. This approach offers advantages of State and Federal assistance and CATA's inherent ability to deal with other incidental costs and liabilities associated with this service.

Second the Borough could decide to undertake this service by itself. In this case the Borough should solicit assistance from the local State representatives in acquiring a State grant to conduct a demonstration project over a trial period and assess the feasibility of more permanent service. Here a used vehicle would likely be leased as new trolleys can cost up to $250,000, but older used trolleys can be obtained for much less. Again Mr. Lutz recommends that the Borough lease a vehicle for a trial period to see if service is financially supportable.

Third the Borough could approach a local private bus company to consider this service. Mr Lutz indicated that trolleys tend not to pay for themselves during normal daily commuting. However, charter services can offset daily losses and keep overall costs manageable. The RRTA's trolley typically costs about $100 - $110 per hour to operate including all capital and incidental costs. The RRTA is currently expanding its regular

[8] http://www.catabus.com/
[9] http://www.catabus.com/
[10] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.28.
[11] Ibid, ps.28-29.

trolley service by offering free parking at a nearby park-n-ride lot when the user purchases a long-term trolley bus pass. Finally the RRTA has several older vehicles that it might be able to lease to Bellefonte subject to negotiation. For additional information contact James Lutz at (717) 397-5613.



H. AIRPORTS

Centre County has six public use airports. Within the Nittany Valley Region are the University Park Airport located along Fox Hill Road within western Benner Township and the Bellefonte Airport located on the south side of PA Route 550.

University Park Airport (UNV) – This airport is served by 4 commercial airlines with scheduled service by Northwest Airlink, United Express, US Air Express and Delta Connection. The airlines provide non-stop service to Philadelphia, Washington-Dulles, Pittsburgh, Detroit and Cincinnati. Recently jet service was initiated to Cincinnati and Detroit. The UNV is the seventh busiest commercial airport within Pennsylvania and serves students, faculty and visitors of Penn State plus major employers within Centre County. The Airport is owned by Penn State, but the airline terminal building and adjacent parking facilities are owned and operated by the Centre County Airport Authority (CCAA).[12]

Today the airport consists of two paved runways one at 6701 feet in length and the other at 2349 feet, a taxiway system, a precision landing system, additional straight-in and circling instrument approaches, a 25,922 square foot passenger terminal, a 6000 square foot general aviation terminal and other hangars.[13]

The airport currently accommodates almost 170 aircraft per day. The airport has experienced a 143 percent increase in enplanements between 1985 and 2001 from 46,709 to 113,597. According to the University Park Airport Master Plan the number of passengers flying out of the UPA will increase over the next 20 years by 80 percent to more than 228,000. In addition air cargo forecast suggest similar increases in tonnage from 966 tons to 2068 tons by year 2020. This will result in an increase in cargo flights from 60 per week in 1999 to 100 by 2020. These increases will be the result of many factors including gaining importance of the Centre County economy across the State and improved access to nearby markets with a relative lack of airport facilities.[14]

To meet the projected future the University Park Airport Master Plan recommends $61 million worth of scheduled improvements be undertaken:

[12] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 ps.30-32.
[13] University Park Airport Master Plan Update, Executive Summary, Delta Airport Consultants, Inc. July, 2003, p.2.
[14] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 ps.30-32.

Recommended Improvements to the University Park Airport	
Specific Improvement	**Year(s)**
Widen and lengthen runway safety area of Runway 6-24.	2001-2005
Add 210 auto parking spaces	2001-2005
Expand capacity of Jet A Fuel by 30,000 gallons	2001-2005
Build airport maintenance building	2001-2005
Widen Fox Hill Road to improve general aviation access	2001-2005
Add 1 Taxi-way connectors to Runway 6-24	2006-2010
Add 1 Air Carrier Gates	2006-2010
Add 75 auto parking spaces	2006-2010
Expand General Aviation Terminal by 8,000 square feet	2006-2010
Add 7 T-Hangar Spaces	2006-2010
Build centralized storage area for aircraft deicing	2006-2010
Extend Runway 6-24 from 6701 to 7500 feet	2011-2020
Add 3 Air Carrier Gates	2011-2020
Add 250 auto parking spaces	2011-2020
Add 8 curbside load/unload slots	2011-2020
Expand General Aviation Terminal by 8,800 square feet	2011-2020
Add 5 T-Hangar Spaces	2011-2020
Build Air Traffic Control Tower	2011-2020
Expand pads and automate disposal for aircraft deicing	2011-2020
Source – University Park Airport Master Plan Update, Executive Summary, July, 2003	

The UPA is located on approximately 1052 acres owned by Penn State. The FAA recommends that airports manage land within their respective Runway Protection Zones to prevent the construction of flight obstructions, development of incompatible uses and protect neighborhoods from excessive noise. In 1997 the UPA acquired 15 properties to protect their RPZs, the Airport's Master Plan suggests the acquisition of another 187 acres associated with the planned extension of the Runway 6-24. "In addition the Airport Master Plan shows a proposed road connecting Seibert Road around the Airport property with a connection to the Park Avenue interchange at future Interstate 99."[15]

Local officials should coordinate their community development goals to accommodate this important facility and prevent the development of new uses that would adversely affect, or be adversely affected by, the planned airport expansion.

Bellefonte Airport (BA) – The Bellefonte Airport is located at 612 Buffalo Run Road (PA State Route 550) in Benner Township. The airport consists of hangars and tie-downs for aircraft. The airport operates with one asphalt runway that is in good condition. Services at the airport include charter flights, flight instruction, aircraft rental and sales. In 2001, the airport accommodated approximately 47 aircraft per day including 67 percent local general aviation, 30 percent transient aviation, 2 percent air taxi and less than one percent military.

[15] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.31.

The airport has approximately 28 aircraft based on the site.[16] A forecast summary study conducted for the airport suggests that air traffic will increase here and identifies several substandard conditions to be addressed in the future.

Benner Township should continuously ensure that its zoning regulations limit potential structure height in areas within the Region's Airport Hazard Zones.

[16] Orth-Rodgers Associates, Inc. Centre County Comprehensive Plan Update Transportation Element, May, 2003 p.33.

XI. Future Land Use

One element important to the comprehensive planning process is the charting of appropriate future land uses and growth areas. This effort embodies all of the background information collected regarding natural features, public facilities and utilities, existing land use, population studies, and traffic patterns. Then, these resources are allocated in a manner that responds to the Region's desires, as expressed in the Community Planning Goals in Chapter II. ***What results is a future land use map that should be used to adjust zoning boundaries, and help properly locate future municipal investments, so as to maximize their efficiency. This chapter should be used in conjunction with the Future Land Use Map.***

The preparation of the Future Land Use Map was accomplished according to several "ground rules"; an understanding of these "ground rules" will lead to a better understanding of the Plan's recommendations.

First, this Plan is designed to address future conditions until the year 2020. Accordingly, future growth areas have been generally located and sized to accommodate the growth that is projected during this time frame. This results in a "staged" future land use scheme that (1) reduces the conversion of productive farmlands and sensitive natural features, (2) confines development areas so that public improvements and services can be provided efficiently to a compact area, and (3) predominately focuses infill development around existing settlements. ***The benefits of this approach are significant, but require that the municipalities commit to the Plan's updating on or before the year 2020.***

Second, a great deal of emphasis was placed on existing land uses in developed areas. In some limited cases, existing development types were recommended for changes to another land use category to enhance compatibility. In rare instances, existing uses were not reflected to suggest the need for change within that given locale toward which regulatory efforts can strive. Similarly, isolated land uses within the rural landscape are not identified unless they are large enough in scale to represent regional consequence. This helps to convey the Plan's overall approach towards targeted growth in designated growth areas and conservation of outlying natural features and farms. Furthermore, this document deals with future land use on a property-by-property basis; however, in rural settings individual home sites are not reflected as they are considered a part of the rural landscape. Overall, this emphasis on existing land use will keep the Plan practical and should make it more useful to local officials in their evaluation of future land use decisions.

Third, based upon regional goals to concentrate development around Bellefonte Borough and in Spring Township where public utilities can be provided, much of the designated future growth is located within close proximity of existing utility lines. Regionally, the Plan attempts to distinguish between "urban" areas in which planned growth will be served by a wide range of public utilities and services, and rural areas in which farming will be spared the burden of suburban encroachment.

Last, this Chapter establishes a cornerstone of the Comprehensive Plan and will directly implement one of the goals articulated at the outset of this planning process by local officials as follows:

Future Land Use

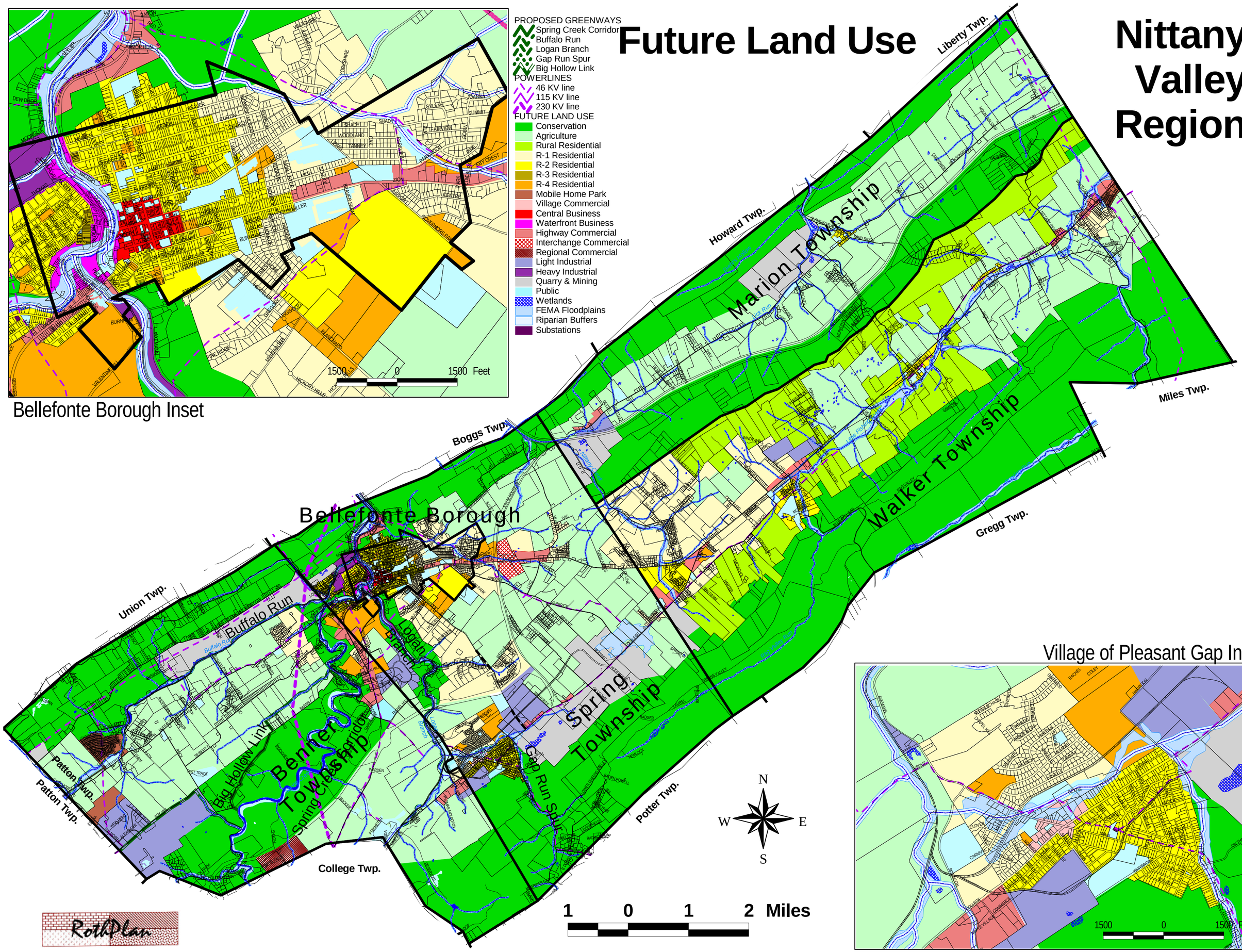
Nittany Valley Region

PROPOSED GREENWAYS
- Spring Creek Corridor
- Buffalo Run
- Logan Branch
- Gap Run Spur
- Big Hollow Link

POWERLINES
- 46 KV line
- 115 KV line
- 230 KV line

FUTURE LAND USE
- Conservation
- Agriculture
- Rural Residential
- R-1 Residential
- R-2 Residential
- R-3 Residential
- R-4 Residential
- Mobile Home Park
- Village Commercial
- Central Business
- Waterfront Business
- Highway Commercial
- Interchange Commercial
- Regional Commercial
- Light Industrial
- Heavy Industrial
- Quarry & Mining
- Public
- Wetlands
- FEMA Floodplains
- Riparian Buffers
- Substations

Bellefonte Borough Inset



Village of Pleasant Gap Inset

RothPlan

"Structure the Plan and its policies to enable a regional allocation of various land uses through the future development of one regional or individual zoning ordinances."

The regional allocation of land use is a recent advancement available within Pennsylvania. The Municipalities Planning Code (MPC) has two applicable sections that enable this technique:

1. Section 811-A. of the MPC specifically authorizes a regional allocation of land use when a regional plan is adopted and implemented through a joint zoning ordinance of the participating municipalities. It states:

   *"**Area of Jurisdiction for Challenges.** In any challenge to the validity of the joint municipal zoning ordinance, the court shall consider the validity of the ordinance as it applies to the entire area of its jurisdiction as enacted and shall not limit its consideration to any single constituent municipality."*

2. Section 916.1.(h) of the MPC specifically authorizes a regional allocation of land use when a regional plan is adopted and individual zoning ordinances generally implement the Plan. It states:

   "*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 zoning hearing board or governing body, as the case may be, 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."*

These sections authorize this Plan's use of a regional allocation of land use to be implemented either through a joint zoning ordinance for all of the municipalities or through individual zoning ordinances that are administered in a manner generally consistent with this Plan. This Chapter presents recommended land use categories that are meant to specifically guide subsequent zoning policies. These categories correspond to those depicted on the Future Land Use Map.

A. AGRICULTURE ZONE

Throughout history, agriculture has played a primary role within Pennsylvania, Centre County and the Region; today, this is still true as evidenced in Chapter VII (Existing Land Use). As the Soils and Geology Map contained within Chapter II (Natural & Cultural Features) of this Plan reveals, the Region also contains a generous amount of prime agricultural soils and agricultural soils of statewide importance.

These prime farmlands are concentrated in the valley and each of the Region's Townships share in these productive settings. These fertile areas have a characteristically flat to gently rolling landform. This area also contains the highest concentration of farms that are

restricted by Agricultural Conservation Easements and are part of the designated Agricultural Security Areas. Although some parcelization and development has occurred here in the past, a suitable critical mass of this landscape is still devoted to a variety of agricultural operations. These resources are being put to good use by the Region's farmers who have largely embraced the need to preserve their farms.

In planning for agricultural land, the Region should adopt a philosophy and policy not to consider agricultural land as "undeveloped farmland awaiting another use." Rather it should be viewed as "developed land" that is being used to produce a valuable product. Farming is a land-intensive, manufacturing process that converts raw materials into a product, comparable to other industrial operations, with occasional accompanying impacts of noise, odor and dust. Therefore, this plan advocates a position that this agricultural area not be considered as a holding zone, but as a zone having a positive purpose of utilizing the Region's natural and non-renewable resources for the benefit of the entire community and beyond. This agricultural area should be protected by strict zoning regulations that prevent interference by incompatible uses which weaken the ability to conduct normal farming practices and introduce influences that erode its critical mass.

Traditionally, farming has involved the growing of crops for either sale off of the farm or for consumption by animals on the farm with the subsequent marketing of either meat or milk. Thus, the viability of the farming operation was very much tied to the productivity of the land. Recent years have seen the advent of concentrated animal feeding operations (CAFOS). These involve the concentration of large numbers of cows, hogs or poultry on a single tract of land with the feed being bought off-site. Because the food these animals eat is often not grown on the tract of land where they are housed, very high animal concentration can be achieved. These highly concentrated operations often create acute odor impacts on neighboring residents. These odors can arise from the animals themselves, but more often from their waste products, both at the site where produced and where they are land-applied. Strict zoning regulations are needed to insure that these operations, should they come into the area, will not adversely affect their immediate neighbors, nor the community at large.

Finally, past lenient zoning policies and the widespread extension of public utilities have enabled the development of several clusters of rural homes within the agricultural landscape. It is unfortunate that these developments have "cropped-up" over the years as farming and neighborhoods are incompatible. ***Nonetheless these homes exist and future zoning regulations should specifically permit them as permitted uses within this Zone.*** In so doing the homes avoid the classification as nonconforming uses. This will enable residents to make logical adjustments to these lots/homes without the need to gain approval from a local zoning hearing board for variances or expansions to nonconforming uses.

Also regulations within the Agricultural Zone should also have graduated design standards acknowledging the availability of public utilities, particularly sewers. With such utilities, lot sizes and setbacks can be reduced thereby accommodating a dwelling unit lot that minimizes the loss of farmland.

To manage these issues, it is recommended that a new effective Agricultural Zone be applied to this area with the following components:

1. ***A deliberately worded purpose statement that cites the valid public purpose to protect and preserve prime agricultural soils and valuable farming operations in compliance with Section 604.(3) of the Municipalities Planning Code;***

2. ***A "hands-off" and "by-right" regulatory approach to farms conducting normal farming operations;***
3. ***A fixed ratio of permitted residential density that restricts development potential to as little as is politically acceptable (say 1 lot for every 20 acres of lot area);***
4. ***A minimum and maximum lot area of 1/2 and 2 acres, respectively, for nonfarm uses;***
5. ***Liberal accessory use regulations that specifically include farm occupations, roadside stands and other rural pursuits, provided that these uses have little impact and that adequate provision is made for the safe disposal of wastes;***
6. ***Separate provisions of concentrated animal feeding operations (CAFOs) that ensure proper siting, operation and disposal of wastes;***
7. ***Siting standards for future dwelling units proposed that protect sunlight easements/equipment turning radii onto adjoining farms and locate homes so as to minimize land use conflict;***
8. ***Language that specifically authorizes existing homes as permitted uses; and,***
9. ***An Agricultural Nuisance Disclaimer that informs prospective residents of the potential impacts associated with normal farming practices that are protected under the PA Right to Farm Law.***

Although an effective agricultural zoning ordinance can preserve farmlands in the short run, certain legal principles on accommodating growth can threaten their long-term integrity. Therefore the Region should continue to support the County's Agricultural Conservation Easement Program and the respective Township's Agricultural Security Area programs. Certainly easement funds are limited and all prime lands cannot be purchased immediately. Therefore, local officials should commit to the preservation of farmlands through zoning until easements can be purchased through this program.

Areas within the Agricultural Zone are largely located within the Region's high-quality watersheds. Historically, intensive agricultural production has created surface water degradation due to erosion and the application of fertilizers. ***It is critical that deliberate actions be taken by local officials to prevent surface water degradation in these areas. Local officials should employ a variety of techniques that encourage farmers to install riparian buffers along the creek and its tributaries.***

Unfortunately, farmers generally have little interest in installing riparian buffers as they reduce land available for crops and pasturing. Furthermore, ongoing farming operations have little need for zoning approvals and change; therefore, local municipalities have little leverage to require their installation and use. Nonetheless, these areas are often the most critical in determining local surface water quality. ***Therefore, local officials should adopt and implement a riparian buffer ordinance in this Zone and others. Then compliance should be required whenever a zoning permit is needed. The Region should also lobby the County Agricultural Preserve Board to revise its conservation easement eligibility prerequisites to include installed riparian buffers, particularly in high-quality or exceptional value watersheds. Required Natural Resource Conservation Service (NRCS) conservation plans should also be fitted to include riparian buffers. Tax assessment officials should be required to reduce assessed values of lands within riparian buffers.***

Farmers should also be educated about the Federal Conservation Resource Enhancement Program (CREP) and income tax deductions that are made available to property owners who place conservation easements upon their properties for riparian buffers. Local watershed groups should target important farms that can offer the

best improvement to surface water quality. These sites should become local priorities for fund-raising and actual riparian buffer construction.

A sample riparian buffer ordinance is presented later in this Chapter and additional discussion can be found on pages VI-20 through VI-23 of this Plan. ***In addition all farms must always conduct their operations in compliance with approved Conservation and Nutrient Management Plans, as applicable. Local officials and staff should quickly notify the Centre County Conservation District of suspected violations.***

Within the Region, many farmers consider their property as their "retirement fund" and expect to sell their farms for development purposes at the end of their career. This causes resistance to the adoption of stricter agricultural zoning regulations that would severely restrict future residential development in favor of continued farming. To overcome this problem, and compensate local farmers, ***the Region proposes utilizing transferable development rights (TDR).*** The use of TDR enables farmers to sell the development rights of their farm to developers or other parties, yet retain the ability to farm. In turn, developers apply the TDR acquired from the farm elsewhere; hence, the "transfer of development rights."

TDR is a program that presents no risk to the farmer. Essentially, the municipality assigns a number of "development rights" which are generally tied to the sizes of farms (e.g., one TDR per five acres of farmland) within the area to be preserved. This area is called the "sending area" as TDR's are "sent" from it.

Next, the municipality identifies an area in which developers can use their purchased TDR's to increase the intensity of permitted development. This area is called the "receiving area," as TDR's are "received" to it. In this case, the receiving areas are the Regional and Interchange Commercial Zones, described later in this chapter.

Again, it is important to state that a TDR program costs the farmer nothing. He/she simply is given TDR's that he/she can keep and/or sell. Any sale prices of individual TDR's are determined between the farmer and the buyer, but typically average several thousand dollars per TDR. Once a farmer sells all of his/her TDR's, no additional residential development can occur on the farm, unless and until such time as the municipality decides to reissue TDR's and identify a new receiving area.

TDR provides a means of financially rewarding farmers who are willing to preserve their farms. TDR also enables the farmers to share in the wealth created by growth and development within the municipality, at no risk. ***To implement the TDR program the Region will need to conduct a detailed analysis of both the sending and receiving areas, as well as develop the ordinance and methods to administer this program; these efforts will require considerable expense, time and commitment. It is also important to note that the transfer will likely occur across municipal boundaries within the Region. This will require that the Region have a uniform approach or that each participating municipality have a similar program of administration.***

Usually TDRs are purchased by developers from farmers, but nothing prevents others from purchasing development rights. In one instance a municipality contemplated conducting an annual reverse-auction for the purchase of development rights. This auction would provide a convenient mechanism at which developers and others could join with farmers to transact TDR transfers. In some cases, local and county government agencies have acquired development rights and resold them to developers at a profit. This creates an opportunity for

conservation-oriented groups to preserve resources and generate funds for a revolving program of purchase and resale of TDRs. Then the developers have a known bank from which to acquire needed development rights. This is but one example of the creativity that can be applied in the development process to preserve natural resources yet enable managed growth and development.

The Region's two airports are also depicted within the Agricultural Zone to protect their surroundings from large-scale development and thereby improve public safety. However, local officials recognize that the investment made to improve airports would likely prevent their conversion back to agricultural use should an airport use fail. Therefore, local officials understand that should either of these airports fail, local zoning regulations or maps would likely need to be changed to offer suitable adaptive reuse opportunities of these valuable sites beyond strict agricultural use.

B. CONSERVATION ZONE

The Nittany Valley Region is blessed with considerable natural diversity. One of the most important landscapes takes the form of rocky and wooded hillsides and ridges that are difficult to develop yet offer protection of surface water quality. At the same time these areas present significant natural habitats and passive recreation opportunities. Other lower-lying areas contain valuable wetlands and sensitive floodplains; these areas, too, hold the same value. It is not surprising that protection of these resources is foremost in the minds of many local officials and residents.

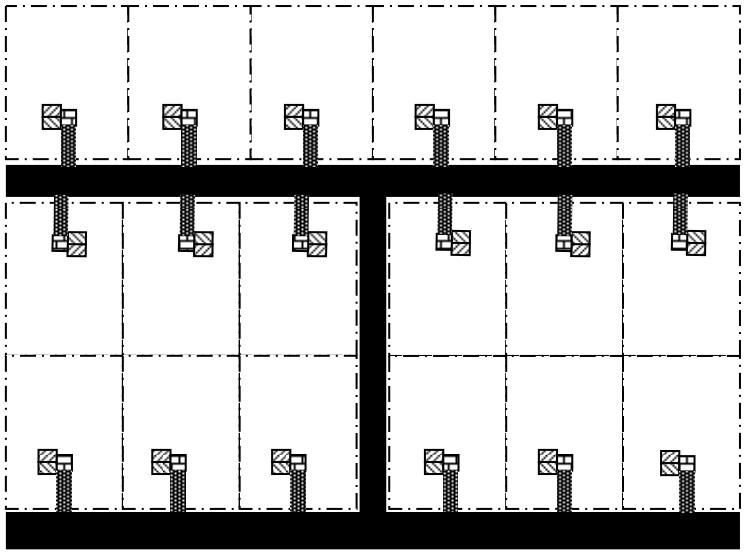
Due to the Region's topographic position, all of the Townships within the Region share in these critical areas. Current case law suggests the limitation of residential development within these areas at 1 dwelling unit per each 3 acres. This precedent is based upon a case in which a municipality sought to impose a minimum lot size greater that 3 acres which was successfully challenged. The Court decided that requiring such a large lot size was exclusionary because it elevated the cost of building lots to a point where many would-be residents could not afford them.

On the other hand recent amendments to the Municipalities Planning Code emphasize the need for local governments to strengthen their protection of natural features. By applying a ratio form of zoning density (like that in agricultural zoning) where a lot is permitted based upon a prescribed number of acres, the number of new units allowed can be kept low to protect the overall setting while at the same time keeping the cost of lot ownership reasonable. This approach has the added benefit of reducing the impacts to the natural areas by confining disturbance and clustering development in a smaller area. This enables the "critical mass" of woodlands and habitats to remain intact while not depriving prospective landowners of "reasonable use" of their land.

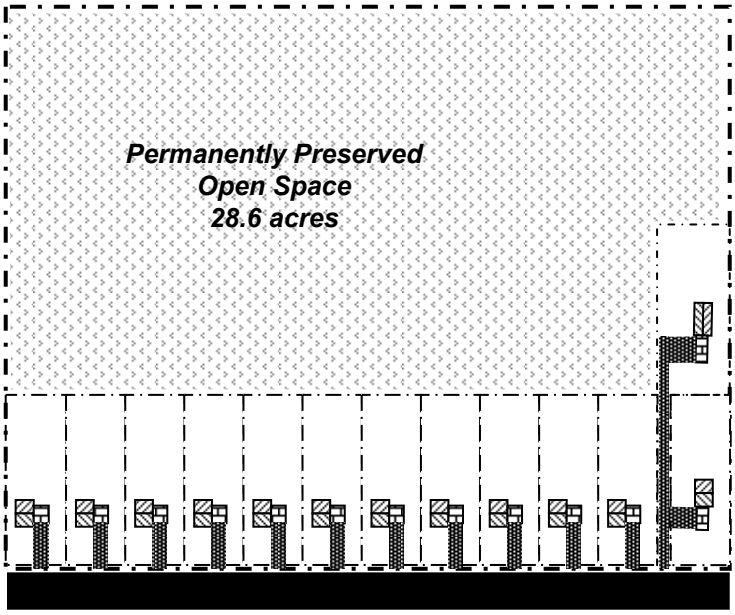
It is not known if the legal system will support as restrictive an approach in a conservation setting as it has in an agricultural context. However, given the predominate role that these areas play in protecting environmental quality and the Region's public supply of groundwater, the Region would seem to provide a strong argument for such an approach. Similarly, its local officials understand and are committed to the need to protect these areas in their natural state. ***For this reason it is recommended that the Region apply this approach in its new Conservation Zone. This Zone should enable the development of detached homes at a rate of one per each 3 to 5 acres but that the minimum lot***

size could be as little as one-half acre with public utilities acre, with the balance of the parent tract left in an undisturbed condition.

COMPARISON OF STANDARD 2-ACRE MINIMUM LOT AREA ZONE vs.
FIXED RATIO ZONE WITH DENSITY OF 1 LOT PER 3 ACRES & 1 ACRE MIMIMUM LOT SIZE



Max. Density - 1 lot per	2 ac.
Min. Lot Size (ac.)	2
Min. Lot Width (ft.)	200
Min. Front Setback (ft.)	50
Total Lots (Acres)	18 (36.6)
Total Street ROW (ac.)	3.4
Street Coverage (ac.)	2.03
Building Coverage (ac.)	.82
Driveway Coverage (ac.)	.41
Total Coverage (ac.)	3.26
Total Open Space (ac.)	0



Proposed Zone	C
Max. Density - 1 lot per	3 ac.
Min. Lot Size (ac.)	1
Min. Lot Width (ft.)	150
Min. Front Setback (ft.)	50
Total Lots (Acres)	13 (13.4)
Total Street ROW (ac.)	0
Street Coverage (ac.)	0
Building Coverage (ac.)	.60
Driveway Coverage (ac.)	.43
Total Coverage (ac.)	1.03
Total Open Space (ac.)	28.6

Assumptions

- 41 acre site
- 1000 square feet driveways (50 by 20 feet)
- 2000 square feet building footprints
- 60-foot street ROW with 36-foot cartway

For this approach to work optimally, it is important that several other features be integrated within the Conservation Zone. ***First, a certain amount of design flexibility should be "built-into" this Zone. To a lesser extent than in the Agricultural Zone public utilities have been extended here and this will enable smaller lot sizes to accommodate housing without consuming even more natural area. However, in areas lacking public utilities now, extensions should be banned unless absolutely necessary to overcome remedial on-lot system malfunctions. Where public utilities do not exist, lot sizes should be at least one acre in size to accommodate on-lot sewers with primary and back-up disposal fields. Where public utilities exist, a one-half acre lot size seems appropriate. Lot width, and setback requirements should be kept small so that homes can be situated amid the rugged terrain without the need for variances. In addition, the use of flag lots and shared driveways can help to tuck small clusters of homes amid the "nooks and crannies" of a natural landscape thereby enabling the preservation of vast and/or inter-connected areas elsewhere on the same parcel.***

The locations of various conservation features have been depicted on the Natural Features Map contained within Chapter III of this Plan. Similarly, the Soils and Geology Map (also within Chapter III) depicts soils with severe development constraints for buildings and on-lot sewers. All of these features form the basis for the assignment of the Conservation Zone. In addition they offer some general perspective on the presence of conditions with a given locale. However, the specific location and extent of these features will require more detailed refinement and analysis during preliminary plan review of the subdivision process. Consequently, ***this Zone should apply a required environmental impact report as a prerequisite to subdivision of new lots.*** This report should require an applicant to identify important natural features on the site and keep proposed development activities away or manage impacts within acceptable levels. This will require considerable work on the part of an applicant and the municipalities but will ensure that proposed developments are designed to respect the Region's many valuable natural features.

Often individual local planning commissioners are assigned one topic (eg. wetlands, steep slopes, surface waters, groundwater, woodland, habitats, etc.) to become the local expert. Then as new lots are proposed, the respective planning commissioner assumes a prominent role in the review of the project based upon what natural features comprise the proposed site. This is a big step to take in the name of natural conservation and it will require more commitment from local officials. ***This might encourage some turnover on the various review boards and elected officials should seek replacements that have greater environmental awareness and commitment than in the past.***

A recent amendment to the MPC requires that forestry uses be permitted by right within every zone of every municipality within the Commonwealth. Since forestry uses typically occur within conservation settings this discussion is presented here; however***, each municipality must revise its ordinance to permit forestry uses in each of its zones.*** At about the same time, the Pennsylvania State Township Association of Supervisors (PSATS), Pennsylvania State University (PSU) and PA Department of Conservation and Natural Resources (PA DCNR) prepared a model ordinance to help regulate and monitor forestry operations. ***A slightly altered copy of this model ordinance is contained on page XI-9 and should be reviewed and adapted for use as a general zoning provision applied to every property within each municipality.***

In addition to the Conservation areas depicted on the Future Land Use Map, FEMA

Floodplains, USDI Wetlands and Riparian Buffers have been overlain upon the Region. While protection of floodplains and wetlands are widely accepted land use management techniques, recent awareness of diminishing surface water quality suggests the need for more protection for surface water. Since most of the Region contains State-designated "High-Quality" or "Exceptional Value" watersheds, this too is an important local topic.

Studies conducted by the U.S. Forest Service demonstrate that 60-to-95-foot wide riparian buffers offer real advantages in the removal of harmful nutrients and sediment from storm water before it enters the stream. These same riparian buffers can increase the food supply and create interconnected natural systems of movement for local wildlife. Riparian buffers are areas adjoining streams where naturally successive vegetation is provided and protected. More information about this subject can be found on pages VI-20 through VI-23, and a model ordinance is contained on Page XI-10 of this Chapter. ***Local officials should adopt a Riparian Buffer Overlay Zone and apply it throughout the Region, particularly within its state-designated watersheds.***

However, the Conservation Zone will be home to many of the Region's residents. Almost half of the Region is proposed within this Zone. In addition to farming, single-family detached dwellings should be the principal form of "development" here. Farming uses should be afforded the same opportunities and limitations that are presented within the Agricultural Zone. ***Flexible design standards should be used to enable efficient lotting of new homes amid prime farmlands and natural features. Because no public utilities are planned to extend into this area, new homes should be required to provide for two on-lot sewage disposal systems (primary and back-up) prior to issuance of a building permit. In addition some municipalities have begun to require proof of an adequate domestic well prior to preliminary plan approval or issuance of a building permit.***

Next, the use of accessory businesses should be permitted within the Conservation Zone to offer close-to-home employment. Home occupations should be confined to uses that can be adequately conducted from within the dwelling unit itself with limited non-resident employees; these uses can be permitted by right. Rural occupations expand on the home occupation concept and enable other more intensive uses that can make efficient use of rural outbuildings and outdoor storage. Here impacts of noise, light, dust, hours, screening and odor should be scrutinized prior to approval to ensure that adjoining properties are not adversely affected. Farm occupations should be confined to larger farms and can be conducted in barns. Here local residents from the site and its neighborhood can engage in non-farm activities provided the impacts are contained upon the site and the operator continues to farm. In all cases (home, rural and farm occupations) the applicant should demonstrate safe means of waste disposal that does not threaten the environment. Rural and farm occupations are best administered with a special exception to ensure a proper scale and orientation of the use.

Model Regulations for Forestry Uses

1. In accordance with State law, forestry uses are permitted by right in every zone, subject to the following standards:

2. **Logging Plan Requirements** - Every landowner on whose land timber harvesting is to occur shall obtain a zoning permit, as required by this Ordinance. In addition to the zoning permit requirements listed elsewhere in this Ordinance, the applicant shall prepare and submit a written logging plan in the form specified below. No timber harvesting shall occur until a zoning permit has been issued. The provisions of the permit shall be followed throughout the operation. The logging plan shall be available at the harvest site at all times during the operation, and shall be provided to the Zoning Officer upon request. The landowner and the forestry operator shall be jointly and severally responsible for complying with the terms of the logging plan and the zoning permit.
    1. **Minimum Requirements** - As a minimum, the logging plan shall include the following:
        A. Design, construction, maintenance and retirement of the access system, including haul roads, skid roads, skid trails, and landings.
        B. Design, construction and maintenance of water control measures and structures, such as culverts, broad-based dips, filter strips, and water bars.
        C. Design, construction and maintenance of stream and wetland crossings.
        D. The general location of the proposed operation in relation to municipal and State highways, including any accesses to those highways.
    2. **Map** - Each logging plan shall include a sketch map or drawing containing the following information:
        A. Site location and boundaries, including both the boundaries of the property on which the timber harvest will take place, and the boundaries of the proposed harvest area within that property.
        B. Significant topographic features related to potential environmental problems.
        C. Location of all earth disturbance activities, such as roads, landings and water control measures and structures.
        D. Location of all crossings of waters of the Commonwealth.
        E. The general location of the proposed operation to municipal and State highways, including any accesses to those highways.
    3. **Compliance With State Law** - The logging plan shall address and comply with the requirements of all applicable State regulations, including, but not limited to, the following:
        A. Erosion and sedimentation control regulations contained in Title 25 Pennsylvania Code, Chapter 102, promulgated pursuant to The Clean Streams Law (35 P.S. §691.1. et seq.).
        B. Stream crossing and wetlands protection regulations contained in Title 25 Pennsylvania Code, Chapter 105, promulgated pursuant to the Dam Safety and Encroachments Act (32 P.S. §693.1 et seq.).
    4. **Relationships of State Laws, Regulations and Permits to the Logging Plan** - Any permits required by State laws and regulations shall be attached to and become part of the logging plan. An erosion and sedimentation pollution control plan that satisfies the requirements of Title 25 Pennsylvania Code, Chapter 102, shall also satisfy the requirements for the logging plan and associated map specified in Sections 2.1. and 2.2., provided that all information required by these sections is included or attached.

3. **Required Forest Practices** - The following requirements shall apply to all timber harvesting operations:
    1. Felling or skidding on, or across, any public road is prohibited without the express written consent of the Municipality, or the Pennsylvania Department of Transportation, whichever is responsible for maintenance of the thoroughfare.
    2. No tree tops or slash shall be left within twenty-five (25) feet of any public road, or private roadway providing access to adjoining residential property.
    3. All tree tops and slash between twenty-five (25) and fifty (50) feet from a public roadway, or private roadway providing access to adjoining residential property, or within fifty (50) feet of adjoining residential property, shall be lopped to a maximum height of four (4) feet above the ground.
    4. No tree tops or slash shall be left on, or across, the boundary of any property adjoining the operation without the consent of the owner thereof.
    5. Litter resulting from a timber harvesting operation shall be removed from the site before it is vacated by the forestry operator.

4. **Responsibility for Road Maintenance and Repair; Road Bonding** – Pursuant to Title 75 of the Pennsylvania Consolidated Statutes, Chapter 49; and Title 67 Pennsylvania Code, Chapter 189, the landowner and the forestry operator shall be responsible for repairing any damage to Municipality roads caused by traffic associated with the timber harvesting operation, to the extent the damage is in excess of that caused by normal traffic, and shall be required to furnish a bond to guarantee the repair of such potential damages, as calculated by the Municipality Engineer.

Model Regulations for Riparian Buffers

As required within this Ordinance, and as guidance to any other landowner that voluntarily proposes, streamside buffers shall be provided in accordance with the following standards:

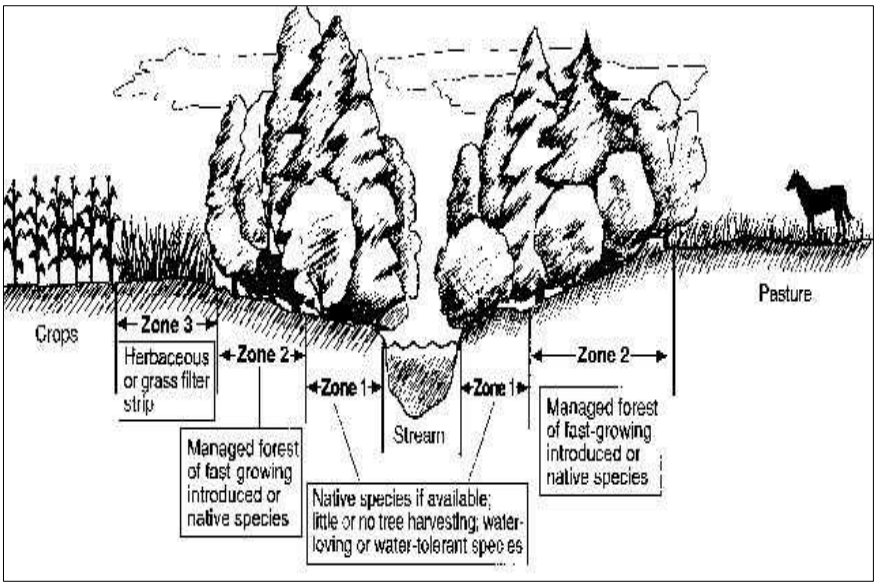
Buffer delineation – The applicant must submit a scaled site plan that clearly depicts the streamside buffer comprised of the following three separate Zones:

Zone 1 – The landward area located between the streambank edge under typical flow conditions and the largest combined width of all of the following:

- fifteen (15) feet as measured directly perpendicular from the streambank edge;
- the 100 year floodplain;
- any adjoining identified wetlands; and/or,
- any adjoining area characterized by slopes exceeding twenty-five percent (25%).

Zone 2 – The area beginning at the inland edge of the above-described Zone 1 and extending at least sixty (60) feet inland therefrom; and,

Zone 3 - The area beginning at the inland edge of the above-described Zone 2 and extending at least fifteen (15) feet inland therefrom. Where a pasture is proposed just beyond the above-described Zone 2, no Zone 3 is required;



Buffer plantings – Each of the respective Zones of the streamside buffer shall include vegetation that already exists or will be planted and maintained by the applicant that satisfies the following design objectives. The applicant shall submit expert evidence that the existing and/or proposed vegetation satisfies such objectives:

Zone 1 – This Zone must include mature canopy trees and a ground cover of warm season grasses. New tree plantings should be selected, arranged and managed to accelerate canopy growth, and offer native species habitat and food supply. New grass plantings should be selected and managed to filter-out pollutants and offer habitat. All vegetation within this Zone must thrive in wet conditions;

Zone 2 - This Zone must include mature canopy trees generally three rows deep and a natural undercover. New tree plantings should be selected that are rapid growing so as to intercept passing nutrients. Such trees should also be arranged and managed to accelerate canopy growth, and offer native species habitat and food supply. Successive undercover plants should also be allowed to "evolve" with the canopy of this Zone;

Zone 3 – This Zone should be planted with warm season grasses that are allowed to mature naturally without mowing. The tall grasses ensure that overland storm water flows do not "channel" into Zone 2. New grass plantings should be selected and managed to enable controlled grazing or haying so long as the grasses are not reduced to a point where they are no longer able to effectively disperse the surface water flows.

Buffer use and maintenance – Streamside buffers must be generally undisturbed. Mature trees and long grasses absorb more nutrients than do manicured plants. Similarly the more extensive root systems retain passing sediments. These characteristics reduce pollution and yield abundant food and habitat for wildlife. The temptation to "over-maintain" the streamside must be overcome. The following lists required maintenance activities for each Zone and the applicant must present a working plan that demonstrates compliance with such activities and practices:

Zone 1 – This Zone compels requires little maintenance. As trees mature, die and decay it is important that such natural debris be allowed to decompose within the stream. This will provide important food and habitat for beneficial microorganisms, fish and amphibious animals. Streamside grasses should similarly be allowed to seasonally flourish and recede. Man-made activities should be very limited and confined to perpendicular passages from Zone 2. Intensive-used locations should be fitted with raised walkways and reinforced embankments. Streamside cleanup of junk and manmade debris is permitted. No animal watering and crossing locations are permitted.

Zone 2 – This Zone requires the most attention but not for some time after initial planting. Here the objective is to develop a stable and broad canopy of tree cover. The trees within Zone 2 are fast-growing and therefore consume many nutrients. The regular pruning and trimming of these trees will increase their nutrient consumption, but should not jeopardize the important overhead canopy of shade. The natural undercover should be undisturbed except for periodic litter cleanup. Pedestrian paths can weave through Zone 2 but should be provided with raised walkways to prevent compacted soils and root damage.

Zone 3 – This Zone also requires little maintenance. Long summer grasses should be allowed to flourish and recede with the seasons. Grazing and haying is permitted so long as the residual grass length is sufficient to disperse overland storm water flows into Zone 2 and avoid channelization.

Finally, past zoning policies have enabled the development of many scattered rural homes within the area. Most of these homes are not proposed for service by public utilities and like in the Agricultural Zone, ***should be specifically permitted by right within the Conservation Zone.*** This avoids their classification as nonconforming uses and will enable residents to make logical adjustments to these lots/homes without the need to gain approval from a local zoning hearing board for variances or expansions to nonconforming uses.

In summary, it is recommended that a new Conservation Zone be applied within the Region with the following components:

1. ***A deliberately worded purpose statement that cites the valid public purpose to protect and preserve important natural features in compliance with Section 604.(1) of the Municipalities Planning Code;***
2. ***A "hands-off" and "by-right" regulatory approach to farms conducting normal farming operations;***
3. ***Severely restricted development potential (say 1 lot for every 3-5 acres of lot area);***
4. ***Flexible lot design standards that enable new homes to tuck into the "nooks and crannies" of the rugged terrain;***
5. ***Provision for flag lots and shared driveways to facilitate efficient lotting and access;***
6. ***Required environmental impact report that details important natural conditions on a site and presents a strategy for their protection;***
7. ***Regulations governing the conduct of forestry operations in all areas of the Region;***
8. ***Regulations governing the use of riparian buffers throughout the Region;***
9. ***Requirements for 2 on-lot sewers and a domestic well prior to establishment of new homes;***
10. ***Liberal accessory use business regulations that specifically include home, rural and farm occupations, provided that these uses have little impact and that adequate provision is made for the safe disposal of wastes;***
11. ***Separate provisions of concentrated animal feeding operations (CAFOs) that ensure proper siting, operation and disposal of wastes;***
12. ***Siting standards for future dwelling units proposed that protect sunlight easements/equipment turning radii onto adjoining farms and locate homes so as to minimize land use conflict;***
13. ***Language that specifically authorizes existing homes as permitted uses; and,***
14. ***An Agricultural Nuisance Disclaimer that informs prospective residents of potential impacts associated with normal farming practices that are protected under the PA Right to Farm Law.***

C. RURAL ZONE

During the preparation of this Regional Plan, Walker Township was completing work on an independent update of its comprehensive plan and zoning ordinance. As part of that process the Township explored the possibility of extended coverage of effective agricultural zoning throughout much of its valley landscape. For some the concept was accepted, for others it was not. In turn, the Township applied a "Rural Zone" to areas that could not gain support for more restrictive agricultural zoning by its property owners and local officials.

Here farming is still a mainstay of current use; however, local officials have provided for these farms to be converted into large-lot rural residences. Accordingly, this Plan acknowledges this separate land use category that is different from the effective agricultural zone applied elsewhere throughout the Region. Because of the its inherent development potential, this zone should permit normal farming operations by right, but apply rigorous review procedures upon more intensive livestock operations. The mixing of intensive livestock operations with their associated odors are usually unwelcome neighbors amid large lot rural neighborhoods. Walker Township might also wish to consider banning intensive livestock operations within the Rural Zone for this reason and focus them upon lands within its Agricultural Zone.

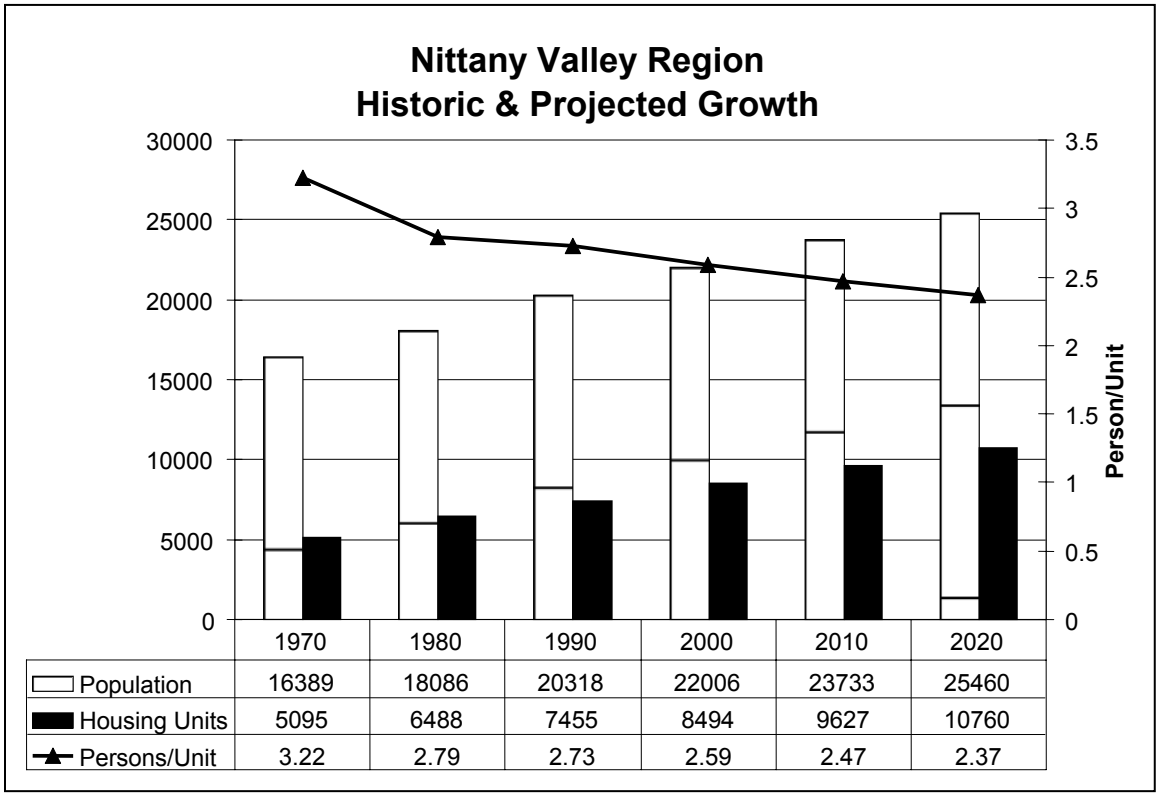
Similarly, secondary businesses that can usually be conducted within expansive agricultural settings may prove too intensive when large-lot neighborhoods can rise-up next door. Walker Township may wish to limit the scale and types of farm occupations within the Rural Zone to ones that can reasonably function surrounded by acre-lot houses.

D. RESIDENTIAL ZONES (R-1 through R-4 Residential Zones)

As described in Chapter VIII (Existing Land Use) of this Plan, the Region contains a wide variety of residential forms. Considerable rural housing lies in outlying areas on large lots with on-lot utilities and public utilities. Most of these are scattered along the Region's roads but some larger neighborhoods have also evolved. These rural homes are **not** part of this discussion but are covered by their respective previous land use categories (Agriculture or Conservation) depending upon their location.

This Section and category focus upon areas that have already developed or are specifically planned for residential growth. These areas are largely concentrated in Bellefonte Borough and Spring Township but Benner and Walker Township also share in significant growth areas. These neighborhoods are to be fitted with public sewer and public water as well as a host of other public amenities, facilities and services.

Chapter IV (Demographics) of this Plan analyzed population and housing trends within the Region by municipality and for the Region as a whole. Since the Region has undertaken this Plan in a cooperative manner and has established the goal to allocate growth on a regional basis, the following graphs past and projected growth across the entire Region. The net projected population and housing growth is summarized below:



Projected Net Changes Per Decade		
Year	**2000 to 2010**	**2000 to 2020**
Population	1727	3454
Housing	1133	2266
Persons/Unit	-0.08	-0.18

The following table lists the various residential designations depicted on the Future Land Use Plan along with measurements of land area and potential developments based upon permitted densities. In addition pipeline developments have been added to accurately reflect total development potential within the Region:

Planned Residential Growth						
Land Use Category	**Planned Acreage[1]**	**Area (65%) devoted to development features[2]**	**Base Density Units/acre**	**Total Potential Planned Units**	**Pipeline Development Units**	**Total Potential Units**
R-1 Zone	1652	1074	4	4295	542+	4837+
R-2 Zone	157	102	5	510	0	510
R-3 Zone[3]	0	0	6	0	0	0
R-4 Zone	260	169	8	1352	271	1623
Mobile Home Park	0	0	6	0	412	412
Region	2069	1345		6157	1225	7382+

[1]These acreages do not reflect areas identified within pipeline developments

[2]These figures reduce the area for development to reflect:

- the considerable areas of significant development constraint that exist throughout the Region; and,
- the features within developments that cannot be devoted to actual residential use (e.g. roads, utility easements, parks and etc.)
- the "Right-to-Travel" doctrine which requires that municipalities provide for some choice in personal mobility and residency.

[3]This Zone reflects no additional acreage as only minor "in-filling" can occur within small neighborhoods of Bellefonte Borough.

As can be seen the total number of potential housing units represents more than 3 times that growth projected within the Region through the year 2020 and this does not even include the considerable development potential that resides within the Region's Conservation and Agricultural areas described earlier in this Chapter. While a quick examination of these percentages suggests that less area within the Region should have been planned for future residential growth, another important legal doctrine confounds such action.

When existing and pipeline growth areas are plotted on the Future Land Use Map, several properties are bordered by proposed or existing residential development. In some cases, these properties have access to the same utilities, are comprised of the same landform, are served by the same public facilities, and front along the same roads. Equal protection land use policies dictate that these areas be treated similarly as the existing development counterparts. This results in an over-allocation of urban residential development that is unavoidable, but enables the Region to eliminate development potential from other areas (e.g., the agricultural areas). Given this condition, local officials can resist residential rezoning claims based upon allegations that insufficient lands have been designated for growth.

Chapter IV (Demographics) also analyzed the mixture of various housing types to ensure that all forms of housing are provided. It determined that in ***order to avoid claims of exclusionary zoning practices and to reflect contemporary housing styles, the Region needs to specifically plan to rely less upon single-family detached units in the future as presented in the following table:***

Target Projected New Housing Units by Structural Type				
Year	**Total Housing Units**	**Target single-family detached**	**Target attached and duplex**	**Total multi-family**
2000	8494	6477 (76.3%)	796 (9.4%)	1221 (14.4%)
2000-2010	+1133 = 9627	+ 262 = 6739 (70%)	+648 = 1444 (15%)	+ 223 = 1444 (15%)
2000-2020	+2266 = 10,760	+1055 = 7532 (70%)	+ 818 = 1614 (15%)	+ 393 = 1614 (15%)

From the above table it can be determined that the Region should provide for the opportunity to develop at least 818 new duplex or attached housing units and another 393 multi-family housing units through the year 2020. Pipeline development projects are slated to provide 271 such units within the near future; therefore, the Region should plan for an additional 940 units by the year 2020. These figures meet the target mixture of unit types and can help the Region avoid claims of exclusionary zoning based upon a lack of housing variety. Specific strategies will be presented within each of the various Residential Zones to achieve this desired balance of varied housing types.

R-1 Suburban Residential Zone - Within the Region the R-1 Residential Zone is largely designed around the existing "suburban-style" neighborhoods that have evolved over the last fifty years. Each of the Region's municipalities shares in this category except Marion Township because of their lack of public utilities. These newer neighborhoods are characterized by detached dwellings with front yard driveways that can accommodate at least two off-street parking spaces. Lot widths range up from 80 feet to 200 feet; however, most average between 90 to 100 feet and lot sizes average around 9000-10,000 square feet. These design standards are acceptable as a base density permitted within the planned R-1 Residential Zone neighborhoods.

As indicated in the preceding table the Region has allocated some 1652 acres within this Zone which along with the other suburban pipeline development projects could conceivably generate over 4800 new dwelling units (about 57% the Region's current detached housing stock).

But planning for residential growth involves more than merely assigning acres for development. Municipalities and the Region have a responsibility to provide for a wide range of housing types and costs. Development of the R-1 Residential Zone exclusively for single-family detached dwellings would continue the Region's relative lack of a variety of housing types as determined in Chapter IV. Therefore, to ensure that the Region provides for its fair-share of a wide range of housing types, this R-1 Residential Zone must do more. ***To promote a higher mixture of housing styles and costs it is recommended that the R-1 Residential Zone include an optional set of "overlay" standards. These standards should adopt a "Traditional Neighborhood Design" (TND) philosophy that departs from the base suburban style.***

TNDs feature designs and characteristics that resemble communities more like Bellefonte Borough and Pleasant Gap, than sprawling suburbs. These communities are sweeping the nation as society recognizes the consumptive and dissociative aspects of suburban sprawl. Recent amendments to the Municipalities Planning Code specifically enable and encourage this new approach. This recommendation also directly responds to one of this Plan's goals:

> ***"Increase density in planned residential areas as a means of reducing development pressure on the outlying rural landscape." "***

In return, the community will receive neighborhoods that feature a better integration of important natural and cultural features, more common open space, better pedestrian access and mobility, more diverse housing styles, and a setting that invites neighborliness and interaction.

However, developers are often reluctant to undertake traditional neighborhood designs when they require special zoning reviews as conditional uses or special exceptions. They also resist strict prescribed design requirements that offer little flexibility. Consequently, very few examples of traditional neighborhood designs have been built within Central Pennsylvania; although that is changing. ***It is important that the local officials of the Region invite the use of traditional neighborhood designs through a variety of short-term and ongoing actions.***

First, as part of the development of new zoning policies for the Region, local officials should participate in a joint workshop to develop a set of traditional neighborhood design regulations that meet their needs. This work should be undertaken with representatives from the Centre County Planning Office staff along with a professional planning consultant. Suitable regulations should:

1. ***Require a "proper site planning process" and review early in the development review process that effectively incorporates and protects important natural and cultural features, and then provides an opportunity for the developers and the community to reach some agreement on the design priorities for the site;***

2. ***Ensure a diversity of housing types, sizes, and costs, with particular emphasis on scattered-site, affordable housing opportunities at densities of up to 6 units per acre.*** **To meet County-wide figures the mixture should encourage the target ratio of new unit types as reflected in the table on page XI-13;**

3. ***Provide for interconnected and rectilinear narrow street and intersection designs with-on street and rear yard off-street parking, and abundant well-lit sidewalks to promote pedestrian mobility and safety;***

4. ***Require the provision and efficient use of local infrastructure and services;***

6. ***Reflect the historic and traditional building styles of the Region;***

7. ***Reserve and feature civic uses and open spaces as community focal points;***

8. ***Invite regular and frequent social interaction among its inhabitants through reduced building setbacks and the use of front porches;***

9. ***Blend all of these above-described features in a way that promotes community identification and a "sense-of-belonging" for the residents; and,***

10. ***Provide for a set of requirements that achieves the preceding designs, yet allows enough flexibility for developer ingenuity and creativity, and applies a development review process that is streamlined and can be effectively managed by local officials and staff.***

Once a draft ordinance is prepared, a series of local official training sessions to familiarize and seek feedback from would-be users of the ordinance should be conducted:

1. The first work session should be held for local staff, engineers, planning commissioners, and elected officials. Here, local officials need to be educated about the benefits of TND and trained on how they would administer the ordinance. Local officials should be shown with actual or hypothetical examples of how the ordinance is applied. Feedback during this process should be used to fine-tune the ordinance;

2. After local officials have had the chance to understand and refine the TND ordinance, another work session should invite review and comment from local developers. Local officials should emphasize their intent to "get serious" about TND as the preferred development form, and plainly explain that a higher standard of design is expected from all developers. Then, local officials should invite constructive review of the TND ordinance, to enable practical use by the developers. This will likely take several weeks as the developers study the ordinance and its consequences. Suggestions to streamline the review process should be incorporated, unless local officials fear a lack of control over the process and its outcome. Revisions to the design standards should be avoided, unless local officials are convinced that a better standard results; and,

3. Finally, a similar public education and awareness session should be held to explain the ordinance and its impact on respective neighborhoods. Local officials should promote the benefits of TND to citizens and homeowners groups. They should also candidly explain their intent to approve TND developments within the various neighborhoods, along with their higher densities. In this manner, local officials can forewarn would-be NIMBY opponents of the municipality's commitment to this form of development, and invite constructive neighbor involvement during the review process. This display will also assure prospective developers that local officials would not allow NIMBY opponents to prevent approval of an otherwise preferred TND.

Once these meetings have been held and the Ordinance is adopted, the real work begins. Local staff and officials need to be ever-vigilant in their desire to promote TND within the community. Initial developer resistance is likely, and unless local officials turn-away substandard plans, their TND efforts will have been in vain. Developers who miss the mark should have their plans denied firmly and quickly. Conversely, developers who attempt TND designs should be welcomed and

assisted in their development review process and approval. Over time, this will "send the right message" to developers and citizens alike.

R-2 Town Residential Zone – Much of the Region's housing diversity is anchored within the older neighborhoods of Bellefonte Borough and to a lesser extent the Village of Pleasant Gap in Spring Township. Here, the traditional residential pattern of development must be reflected to continue and grow. Within Bellefonte, side-by-side duplexes are also quite common. By design these neighborhoods features long and narrow lots with tightly-knit houses built close to the sidewalks and on-street parking. There exists some diversity in density and lot dimensions within the Borough's R-2 Zone neighborhoods; however, the grid street/block pattern creates uniform lot depths of 200 feet. Therefore, lot width is the sole determinant in density. Garages upon narrow alleys are also common within the Borough. This Plan recognizes these areas and allows them to evolve with little municipal oversight. Within the Village of Pleasant Gap, lot widths and depths are more variable and sidewalks are generally found only on one side of the street. Here parking is generally located within front yard driveways. Very limited areas are also depicted in Marion and Walker Townships to reflect existing neighborhoods; these areas are not intended to grow aside from in-fill developments.

These areas will have access to a full range of public utilities and services. The following lists suggested minimum design standards based upon the prevailing designs of existing developments within these areas.

SUGGESTED DESIGN STANDARDS FOR THE R-2 RESIDENTIAL ZONES						
Housing Types	**Min. Lot Size (sq. ft.)**	**Min. Lot Width**	**Front setback***	**Side setbacks**	**Rear setback**	**Parking Location**
Bellefonte Borough						
SFD	10,000	50 ft.	20 ft.	5 ft. each	30 ft.	Alleys & on-street
2FD	5,000	25 ft.	20 ft.	2 ft. one side	30 ft.	Alleys & on-street
Marion Township						
SFD	1 acre	100 ft.	20 ft.	20 ft.	100 ft.	Front, side or rear/ off-street only
Walker Township						
SFD	15,000	75 ft.	20 ft.	15 ft.	50 ft.	Front, side or rear/ off-street only
Spring Township						
SFD	9,000	60 ft.	35 ft.	10 ft. each	30 ft.	Front driveways and on-street (one-side only)
* Front yard setbacks measured from the edge of the cartway to the closest point of the front façade.						

To accommodate logical change in these neighborhoods, zoning policies must align with the preceding design standards. This will enable residents to undertake projects that are consistent and compatible with nearby uses, without the need for variance and/or special exception applications and hearings. This will ease municipal workload and increase public acceptance of municipal practices and policies.

Accordingly, these standards represent common denominators that are at a higher density with smaller setbacks imposed than those found on some of the properties within this neighborhood. ***Hence the municipalities should include language within the R-2 Zone that specifically varies required setbacks (particularly in front yards) to reflect those found on the same block.*** This will ensure compatibility on a block-by-block basis.

These neighborhoods are almost entirely "built-out"; therefore, few new buildings are expected. However, a specific goal for this Plan states:

> ***Promote adaptive reuse of carriage houses and other related outbuildings on the "lanes" within the Borough as a means of providing for affordable housing opportunities, limited home occupations and suitable adaptive reuse of accessory historic structures.***

Consequently, the Borough should "keep-an-open-mind" regarding the use of new and creative forms of housing within these settings, provided adequate space exists per unit and for required parking, and such conversions do not alter the residential character of the site. Accessory outbuilding apartments provide opportunities for scattered site affordable housing that can be used as starter units for young families or empty-nest units for the elderly. These housing opportunities should be incorporated into the Borough's Residential Zones; the following presents "typical" special exception criteria imposed upon these uses*:*

Section __ Accessory Building Apartments

1. Within the (R-2) Residential Zone, an accessory outbuilding that existed on the effective date of this ordinance may be converted into one (1) dwelling unit, or accessory occupation by special exception, subject to the following criteria:
2. The applicant shall furnish evidence that an approved system of water supply and sewage disposal will be utilized;
3. No modifications to the exterior of the building (except fire escapes) that would alter its residential character shall be permitted unless authorized by the Historic Architecture Review Board;
4. Each dwelling unit/use shall have at least 400 square feet of habitable floor area and a direct means of escape to ground level; and,
5. The applicant must provide for two (2) off-street parking spaces.

Another issue that is commonly problematic within densely-developed neighborhoods relates to accessory uses. Accessory uses are structures or activities that are incidental to the primary use of a property. For example, a residential accessory structure could include a detached garage, swimming pool or satellite dish antenna. Similarly, a residential accessory activity could be a yard sale, the storage of a boat or trailer, or the repair of personal automobiles.

The impacts of accessory uses are more easily absorbed in rural or suburban areas where lot-to-lot separation is greater. Within the Borough and Pleasant Gap, however, such separation is impossible and neighbors are more easily affected by another's activities and actions. ***It is recommended that applicable residential accessory land use regulations be strengthened within the R-2 Zone; however, not to the point that they violate recently adopted amendments to the Municipalities Planning***

Code which authorizes widespread use of "home-based businesses."

Last, the R-2 Residential Zones' central locations cause them to be linked with the Central Business District of the Borough and the Village Commercial area within Pleasant Gap. Consequently, these neighborhoods already include other nonresidential uses that contribute to their central and nodal roles within the Region and its small-town character. ***These uses should be specifically accommodated. Civic uses, churches, schools, parks and playgrounds and limited day care facilities should all be permitted as they provide important services within these established neighborhoods.***

About 157 acres have been planned to enable growth of these neighborhoods. Specifically these future neighborhoods have been targeted on the outskirts of the Borough principally south of the High School campus. It is hoped that these areas can evolve with much the same character as older neighborhoods and rely upon the existing system of sidewalks and paths to access the many nearby community facilities and services. In all this area could accommodate about 510 new dwelling units, and because this Zone specifically accommodates duplexes, it greatly contributes to the Region's target diversity of housing types.

R-3 Rowhouse Residential Zone – Within Bellefonte Borough are several "pockets" of housing that are at a higher density than the other older neighborhoods. These areas tend to be small often less than one block in size. Here are groupings of row homes often with little or no setbacks. Front building facades directly adjoin the sidewalk and parking is exclusively located on the street. Since these areas are completely built-out no additional units are planned here. Like in the R-2 neighborhoods, these areas have access to a full range of public facilities and services as well as adjoining sidewalks. The following lists the prevailing design standards which should be applied to these areas.

SUGGESTED DESIGN STANDARDS FOR THE R-3 RESIDENTAI ZONES						
Housing Types	**Min. Lot Size (sq. ft.)**	**Min. Lot Width**	**Front setback***	**Side setbacks**	**Rear setback**	**Parking Location**
Bellefonte Borough						
Rowhome	2,000	20 ft.	0 ft.	5 ft. ends	30 ft.	Alleys & on-street

Because of the high density within these neighborhoods, no conversion apartments should be permitted and the strict regulation of accessory uses should be maintained like that described in the R-2 Zone.

R-4 Multi-Family Residential Zone – The Nittany Valley Region is experiencing considerable growth of multiple family housing developments. Today some 271 new units have been presented to local officials and are planned within the foreseeable future. In addition this Plan allocates about 342 acres for future high-density development which could yield about 1776 new dwelling units. As presented earlier the Region hopes to increase its relative share of multi-family housing to about 15 percent of planned growth which would require some 393 new units through the year 2020. Therefore the proposed acreage accomplishes this objective with a surplus of about 1383 units, when considering both pipeline units and the potential number of units that could be built within areas planned for this use.

Areas planned in this category largely acknowledge other similar adjoining uses or pipeline development projects with these types of units. The locations of these areas have been deliberately scattered along many of the Region's major roads so as to "spread" the traffic impact across several traffic sheds. All areas are planned for public sewer and water service and should be fitted with sidewalks and access other public facilities (eg. parks, bus routes, local police protection, and etc.)

These areas also identify small concentrations of multi-family conversions that have previously occurred within the Borough. Therefore the Borough should continue to permit these conversion uses within this Zone; however, it may wish to remove this potential from the other adjoining neighborhoods to protect their integrity.

The Region has an unusual mixture of multi-family housing types as reported within Chapter VII (Existing Land Use). The respective design standards seemingly vary from one location to the next. The following lists design standards observed in these areas that would permit the range of uses observed and should be applied.

SUGGESTED DESIGN STANDARDS FOR MULTI-FAMILY RESIDENCES							
(Unit Type)	Lot Size	Lot Width	Front Setback*	Side setback*	Rear Setback*	Maximum Height	Parking Location
Townhouses	2000 sq. ft.	20 ft./unit	20 ft.	15 ft. ends	30 feet	35 feet	Front , rear or common parking lots
Garden Apartment	1 acre	125 feet	30 ft.	30 feet	30 feet	35 feet	Common parking lots
*Setbacks between units contained upon common property must be applied based upon the sides of the buildings that adjoin one another.							

Another consideration with high-density housing relates to off-street parking. Generally units with assigned off-street parking spaces yield higher values and likelihood for owner occupancy as opposed to rental occupancy. Consequently municipalities have begun to offer design incentives for parking arrangements that foster these preferred arrangements. Local officials should carefully explore a range of parking schemes for the various housing unit types and determine if one or more schemes best fit the local community development objectives.

Finally, this Zone should also regulate other specialized high-density residences such as assisted living, nursing, rest or retirement homes and campuses, and boarding houses. These uses often involve specific needs that compel special attention and review, either by special exception or conditional use.

E. MOBILE HOME PARKS ZONE

The Region has a ratio of mobile homes equal to 125% of the Countywide average. In Benner Township more than 1 in 3 dwelling units is a mobile home. For these reasons, the Region believes that it has already met its fair-share burden to provide for mobile homes within its several mobile home parks. Therefore, future mobile home park development will be limited to expansion of existing parks within Benner and Walker Townships and a large pipeline development project in Benner Township that will add 412-units in a new mobile home park. It is important to understand that this restriction only applies to mobile home

parks as freestanding mobile homes are protected under Federal law as single-family detached dwellings and can be placed anywhere "stick-built" homes can be.

Mobile home parks have unique settings that do not mesh with regulations imposed upon their surroundings. Therefore, occupants of these parks must often apply to the Zoning Hearing Board to undertake minor expansions and adaptations of their homes. This imposes unnecessary bureaucracy and costs upon low-to-moderate income residents who can least afford the hearing and legal representation expenses. To overcome this problem it is recommended that a Mobile Home Park Zone be applied to existing parks. This will enhance the compatibility within the other adjoining zones by eliminating mobile home parks as a potential use within these unsuspecting neighborhoods. The following presents suggested design standards for mobile home parks as observed during the field inspection of the Existing Land Use Inventory (Chapter VII):

SUGGESTED DESIGN CHARACTERISTICS OF MOBILE HOME PARKS						
Min. Rd. width	**Min. Lot Width**	**Front Setback**	**Side Setback**	**Rear Setback**	**Parking Location**	**Other Setbacks**
Benner Township						
40 ft.	75 ft.	30 ft.	15 ft.	10 ft.	Front pads 2 cars wide	Sheds setback 10 ft.
Walker Township						
60 ft.	75 ft.	50 ft.	20 ft.	10 ft.	Front pads	NA

F. COMMERCIAL ZONES
(Village, Central Business, Waterfront Business, Highway, Interchange & Regional)

Within the Nittany Valley Region there are six distinct patterns of planned commerce. The first, **Village Commercial Zone**, aims to localize convenience goods and services in the Village of Pleasant Gap. The **Central Business District** within Bellefonte Borough is intended to provide a vibrant downtown destination featuring a variety of shops, restaurants, offices and civic uses. **The Waterfront Business District** seeks to adapt an older area of strip commercial and industrial development amid a network of parks and paths that create a unique and high-quality downtown destination within the Borough that is linked with its Central Business District. The **Highway Commercial Zone**, provides for freestanding strips of commerce that line the Region's historic travel routes. The **Interchange Commercial Zone** will offer premium interchange access for large-scale employment and tourism-based businesses that act as a gateway to Bellefonte Borough and the Region. Finally the **Regional Commercial Zone** reflects an extension of adjoining large-scale developments in adjoining College Township straddling Shiloh Road. The following details recommendations for each of these separate areas:

Village Commercial Zone - Within the Village of Pleasant Gap is a proposed Village Commercial Zone. Here is a junction of two of the Region's most important roads at a central location serving residents from Pleasant Gap and commuters from all directions who travel PA Routes 144 and 26. Today this intersection contains a variety of small scale retail

stores, small service shops, offices, restaurants and taverns, auto filling, a salon and several civic uses. Several churches are also nearby. For the most part this area is built-out. However, the boundaries of this Zone include under-utilized parcels and residential properties that could be adapted for commercial use. Based upon the Existing Land Use Inventory (Chapter VIII) about 2.5 acres could be adapted for commercial use within this Zone.

Assuming:

- a total lot coverage of 75%;
- a 20% reduction in usable area for non-development features;
- a 2:1 ratio of off-street parking area to building area; and,
- a parking/loading size of 300 square feet per space (includes driveways & aisles);

the unused/underused development potential within this Zone could produce 21,780 square feet of retail floor space with 145 new parking spaces.

The proposed configuration of this Zone reflects these existing uses and adds several other lots fronting this intersection. Should this configuration become saturated with new businesses that are contributing to the convenience of the Region's rural residents, expansion is conceivable. ***However, local officials should be mindful of the desired scale of this Zone and not invite uses that are better sited within the Highway Commercial Zone on either end of town..***

Uses permitted here should reflect a local orientation and integrate within the setting without great adverse impact. Uses should remain small and emphasize providing local daily needs to nearby rural residents. Convenience stores, restaurants and taverns, bed and breakfasts, offices, automobile filling stations with minor repair, card, book, magazine, newspaper, music, and video shops, barber and beauty salons, photographic, art and dance studios, tailors, laundromats and dry cleaning drop-off stations, flower shops, jewelry, watch and small appliance sales and various civic uses like churches, cemeteries and post offices are all appropriate.

Overall retail size per store should be limited so as not to exceed its local orientation, nor provide an incentive for the demolition of existing historic buildings in favor of more modern commercial building styles. The development of multi-shop arcades should be encouraged particularly within the adaptive reuse of existing historic buildings. Demolition of historic buildings should be discouraged. All commercial signs should also be limited to reflect their local orientation yet offer ready identification at this busy intersection.

Existing site designs, and parking vary. ***Nonetheless, local officials can begin to tighten regulations in these areas and, over time, "weed-out" unwanted nonconforming uses and replace them with businesses that can coexist better within this small village. Similarly, zoning design standards should promote shared use of access drives, and off-street parking and loading spaces. Outdoor storage should be prohibited in most cases and, if allowed, effectively screened from adjoining roads and residences.***

Central Business District – Bellefonte Borough has the most cohesive and identifiable commercial core within the Region. While the Borough has much to be proud of in its downtown, local officials continually hope for a better future with more activity and reinvestment. This Zone will assemble a strategy to enable "downtown" to

continue to thrive as the Region's center of retail, service, civic and leisure activities. For the most part this area is built-out. However, the boundaries of this CBD include under-utilized parcels and residential properties that could be adapted for commercial use. ***To manage this area and enhance its successes the Borough should undertake a variety of actions and programs, many of which will require patient diligence:***

First, the Borough should be selective in the uses allowed in downtown areas to be pedestrian-friendly and at a proper scale. This will allow for confident reinvestment as owners will be assured of a pleasant and intimate setting that is free of more intensive and objectionable uses. Zoning requirements for this area should incorporate several important features. ***The zone should promote uses that are oriented toward pedestrian customers.*** This does not suggest that customers will suddenly stop visiting the area via automobile, but that "potential" uses should be ones that can serve pedestrians equally well. Such uses would have the added benefit of not requiring the frequent delivery of merchandise via large tractor-trailers, in an area lacking adequate off-street loading space. Examples of suitable uses include:

> *card, book, magazine, newspaper, music, and video shops; specialty food stores; bakeries; delicatessens; wine shops; clothing boutiques; barber and beauty salons, sporting goods and musical instrument shops; drug, tobacco, hardware, and 5 and 10 cent stores; restaurants, taverns, ice cream parlors, and outdoor cafes; bed and breakfasts; photographic, art and dance studios; offices; photocopy and office supplies; computer and software sales; arcades and movie theaters; tailors; laundromats and dry cleaning drop-off stations; flower shops; jewelry, watch and small appliance sales and repair; corner grocery stores, including outdoor display, etc. In addition, various civic uses like churches, cemeteries and post offices are also appropriate.*

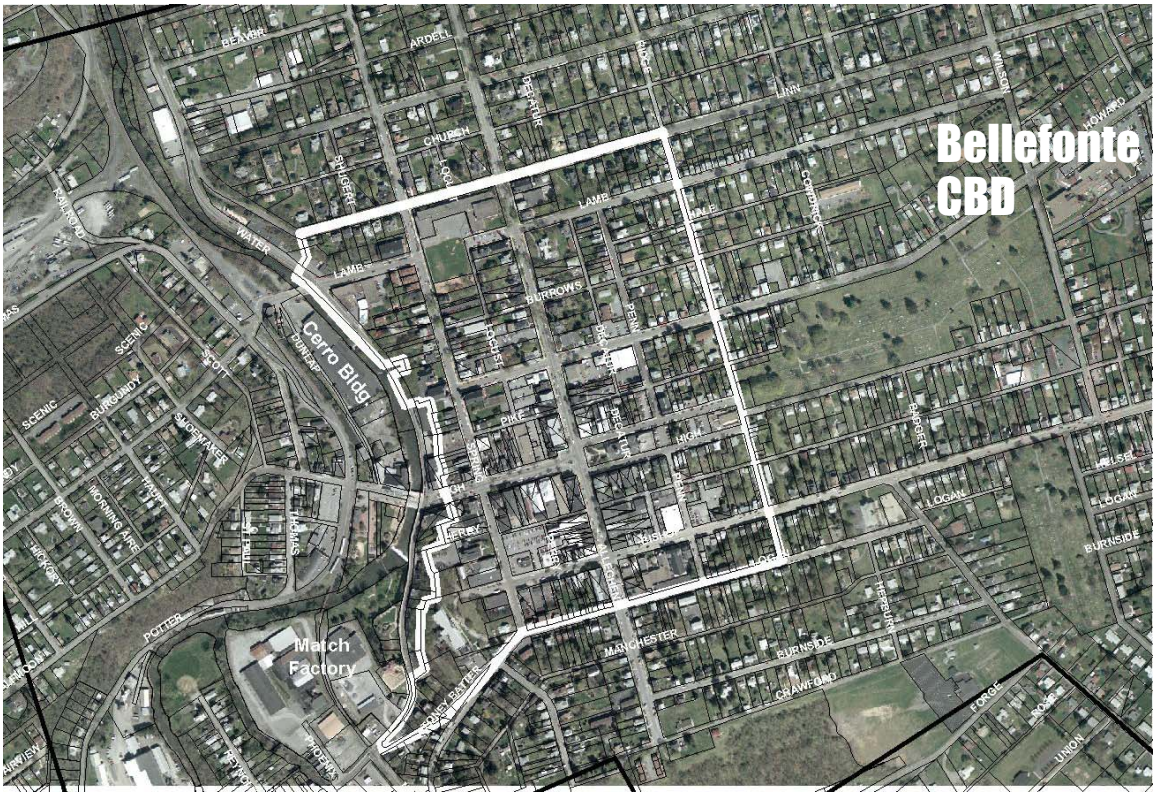
Overall retail size per store should be limited, so as not to exceed its local orientation, nor provide an incentive for the demolition of existing historic buildings in favor of more modern commercial building styles. The development of multi-shop arcades should be encouraged, but only through the adaptive reuse of existing buildings. Demolition should be discouraged, and ***all structural alterations should be scrutinized by the local Historic Architectural Review Board (HARB).*** The HARB should also apply suitable standards for other streetscape amenities, such as signs, canopies, benches, light poles, and so forth.

All commercial signs should be limited to reflect their pedestrian orientation. Within this Zone, the Borough should substantially relax off-street parking requirements for suitable uses, due to their pedestrian orientation and the proximity of on-street and public parking lots. Upper-story apartments should be permitted to offer a greater variety of affordable housing options, and make efficient use of floor space that is often unusable for commercial purposes.

Zoning requirements should prohibit the placement of off-street parking and/or loading within the front yard, in favor of sidewalk "build-to" lines with outdoor cafes and limited outdoor display bins. Other outdoor storage areas should be prohibited to enhance site-to-site compatibility.

Within Bellefonte, several industries adjoin, or are a short walk from its downtown. Today, most of these uses are active and generate local employment. Some, however, are vacant now and others may become vacant in the future. ***Consequently, local regulations***

governing these older structures should invite creative adaptive reuse opportunities. Regulations should be flexible enough to promote reinvestment but protect adjoining land uses. More discussion on this subject is contained later under the Waterfront Business District of this Chapter.



"***To promote revitalization, local officials also need to advertise their willingness to work with local entrepreneurs to achieve the right type of development.*** Too often, would-be proprietors are afraid of the development review process and the local opposition that can emerge. Local officials should emphasize their willingness to cooperate and work through any specific difficulties that jeopardize reinvestment. This is not to say that they should approve every request, but the local business community should feel as though they have an ally in the review process when the right type of use is proposed. This will require an ongoing demonstration of this commitment. Over time, local entrepreneurs will come to trust the Borough officials and feel free to exercise their creativity and entrepreneurial spirit through reinvestment to the benefit of the community and Region.

Borough Council should challenge and energize local business owners through the creation of a non-profit corporation that aggressively markets downtown Bellefonte for both local and wider markets. This group should be vigilant in their advocation for these areas at all times, and keep the local officials' and public's attention squarely on its needs over the long haul. This should be accomplished as a short-term activity that will lead to an ongoing process of improvement. ***Borough Council should also seek to implement a program of institutionalized temporary local, School District and County tax relief for new entrepreneurs who decide to reinvest downtown.*** This will require commitments from these respective agencies and help new businesses survive their first difficult years.

Bellefonte Borough, unlike many other Boroughs, has an important job base due to the presence of County offices and nearby industries. ***It is recommended that local businesses provide goods and services that target these employees who work here on a daily basis.*** Convenience goods and services and lunch-time menus can create new customers, and intercept others who may look for similar services along the highways that converge within the Borough. This would help to capture the existing employee market that is available on a daily basis. ***Also regularly scheduled special events (e.g. closed-street fairs, brown-bag concerts, first-Fridays, juror appreciation days, open-air markets and etc.) can enliven downtown as an activity center and distinctive destination.*** In a related matter, the Borough also currently contains the main campus of the School District; this creates considerable traffic through the Borough after school. ***Local merchants should seek to offer goods and services that can intercept this traffic, while parents and students commute to-and-from the school. Convenience goods and services, prepared meals, and day-care facilities would be good examples of suitable pursuits.***

Today, the on-street parking appears to be sufficient to serve the existing businesses with their level of commercial activity. However, with increased success and activity in the downtown will come an increasing demand for services, including parking. Limited off-street parking could adversely affect its ability to compete with outlying shopping areas and tourists will not enjoy a visit that is marred by an inability to conveniently park. To ensure that adequate parking will exist, the Borough hopes to employ several strategies.

First the Borough already has provided 3 separate public parking lots that are anchored to the downtown. Two of these are to the rear of properties that directly straddle the 100 block of East High Street while the third directly adjoins West High Street. However, time and again local officials hear complaints from local business owners and residents of insufficient parking. This suggests a potential problem of perception and a lack of information about the location of these lots. ***To better identify their location it is recommended that the parking lots be renamed as follows:***

Proposed Name Changes for Public Parking Lots	
Existing Name	**Proposed Name**
Parking Lot A	Howard Street Parking Lot
Parking Lot D	Spring Street Parking Lot
Parking Lot H	High Street Parking Lot

The address name should help residents and visitors find these lots more easily. ***However, it is vital that the Borough add "low-key" directional signs for such parking lots at prominent locations and advance a campaign of awareness for these lots. In addition, the Borough hopes to provide a new pedestrian link between Parking Lot D/Spring Street Parking Lot and West High Street. Ideally this link would align with the current walkway that connects East High Street with Parking Lot A/Howard Street Parking Lot. Such walkways should be well lighted for safe nighttime passage and security. They should also reflect the desirable amenities of the downtown streetscape (landscaping, benches, old-style light fixtures, archways, modest directional signage, waste receptacles, etc.) if possible.***
Several new parking lots are also envisioned as opportunities for their creation emerge. First the County-owned employee parking lot located on the north side of Penn Street is to be extended south across Penn Street to offer additional County employee parking. Second, with the removal of the County prison there is the potential to add a two-level parking garage in its place. Third, several new lots are expected to be located in the adjoining Waterfront Business District at the Unico

property near the Match Factory, and at the Graymont site located on the northern end of the Borough, once reclamation has occurred.

Finally, the Borough hopes to supplement its on-street parking by replacing the parallel parking spaces along the 100 block of West High Street and all of Allegheny Street with diagonal "head-in" spaces.

The Borough's streetscape is attractive yet functional; however, some improvements can be made. In the past the maintenance of sidewalks have been the responsibility of individual landowners. This has created differences in levels of improvement and design. ***The Borough hopes to undertake a campaign to improve and standardize sidewalk design and maintenance to beautify downtown and enhance pedestrian amenity and safety.*** Accordingly the Borough hopes to assume such responsibilities through the receipt of a financial grant. As part of this campaign, the Borough will install ADA-compliant sidewalks, street and directional signs, historic lighting fixtures, standard benches, tree grates and trash receptacles. In addition a program of tree rescue and replacement will also occur.

Finally, the CBD and Waterfront Business Districts straddle the active Nittany and Bald Eagle Railroad line that parallels Thomas Street. ***It is important that the Borough continuously employ state-of-the-art systems to notify and warn pedestrians and motorists of the frequent passing trains.***

Waterfront Business District – Throughout history Bellefonte Borough has had an important link with its water. Consequently local officials have been nurturing the development of another "sister" district to its CBD. Like any parent, the Borough wants to balance its efforts so that both sisters develop together and in support of one another. Yet each sister is different and the traits and needs of the Waterfront Business District (WBD) are not the same as the CBD. Therefore, a separate district is required.

Bellefonte's acclaimed Waterfront Restoration and Redevelopment Plan conducted detailed feasibility study and preliminary master site planning. This ambitious project divided the Borough's Waterfront into 4 segments for planning and revitalization efforts. A brief overview of each segment and its proposed use is described on pages VI-23 & 24.

Borough officials envision the WBD as a transformed corridor that blends nature, recreation, culture, civic and limited commerce in place of former industry. Accordingly, uses permitted here should strictly reflect this orientation. Also local officials hope to capture one or more unique themes that can propel the Borough as a distinctive destination within the Region and beyond. Some of the possible themes include the "Fountains of Bellefonte," history and antiques, kayaking, fishing, hiking, biking, historic railroad stop, museum, education, art, farmers/flea market, and offices. It is hoped that the WBD will develop with northern and southern major-use/attraction anchors connected by the Big Spring Greenway.

Borough officials are seriously committed to achieving the desired balance of uses. ***To ensure the proper character the Borough is prepared to purchase "threatened" sites and await suitable development options that conform to the objectives of the WBD.*** Presently the Borough plans to temporarily purchase the Cerro building for this purpose. ***The Borough hopes to secure one or more financial grants to establish a revolving real estate fund to temporarily purchase threatened properties and then market them to developers with projects that align with the WBD's needs.*** Then the proceeds from any sale would be used to recapitalize the revolving fund for the next project.

4 Segments of Waterfront District

Since most of the existing sites and buildings contained within this area had been developed for industry, they would become nonconforming uses under the regulations of the WBD. ***Therefore, upon acquisition of such sites by the Borough, local officials should take specific actions to abandon nonconforming uses status of such properties so that all future owners would be bound by the requirements of the WBD.*** This would prevent an owner substituting a different future use based upon former nonconforming use status and requiring the Borough to again purchase the then threatened site. This can be accomplished by converting the use to one that conforms to the requirements of the WBD, or by taking positive steps to abandon the former nonconforming use.

Since the WBD involves a variety of building types and site designs, and local officials intend to design the WBD across several purposes, it is recommended that all uses require a different zoning approval process than is typical. Conditional use approval can give local officials and planning commissions the opportunity to consider creative adaptive reuse strategies that don't necessarily conform to rigorously applied design standards. Regulations should be flexible enough to promote reinvestment but protect adjoining land uses. In so doing, it should list certain prescribed objectives for the use and ask the respective developer to best meet them. For example, the following could be a list of seemingly appropriate development objectives:

1. To make efficient use of the existing historic buildings located within the Borough and retain any "historic" character of the area;
2. To develop properties with uses that contribute to the economic vitality of the Borough;
3. To propose uses that are sized and designed to compliment the desired theme of the WBD and can be adequately housed within the existing/proposed facilities;
4. To minimize the detrimental effect on existing, sensitive and natural features and improve compatibility with adjoining uses;
4. To participate in the provision and use of pedestrian access throughout the WBD.
5. To ensure that adequate vehicular circulation and parking are part of the proposed use;
6. To, wherever practical, make use of shared amenities with other nearby uses for parking, loading, vehicular access, signage, storm water management, etc.; and,

7. In those instances where one or more of the preceding objectives cannot be accomplished, suggest what measures could be taken by the Borough to facilitate needed change.

Many of the preceding objectives are subjective by design so that local officials can carefully evaluate the benefits of a particular land use proposal against its potential problems. Typically, zoning ordinances try to minimize such broad discretion. However, in this case, it seems the best option to consider the wide range of potential designs rather than strictly enforce design standards that will create the need for frequent variances and thereby transfer site plan approval from the governing body to the zoning hearing board. ***Local officials will need to carefully review each proposal with public input and begin to set precedents that best align with the stated objectives, whatever they may be. One caution deals with equal treatment. Local officials will need to be ever mindful of fairness with this approach. Legal doctrine requires that similar proposals be treated similarly and that differing treatments be explicitly explained.***

Another critical component of the WBD will be its linkage to the CBD. Geographically both districts adjoin generally along Water Street. However, pedestrian linkage between the two districts occurs at two existing important intersections. First the intersection of High and Water Streets is the WBD's strongest pedestrian link with the CBD. Here pedestrians can access the "heart" of both the CBD and WBD. Unfortunately this intersection also conveys the highest daily traffic volumes and records the most traffic accidents within the Borough. The second important intersection occurs at Water and Lamb Street; again traffic is a concern here along Water Street. The convergence of vehicular and pedestrian movements at these problematic intersections compels remedial action.

First, local officials hope to reduce the vehicle traffic along Water Street by diverting southbound flow to a new alignment that follows Thomas Street and reconnects with PA Route 150 on the north and south ends of the WBD. This is a major project that will require approval and funding from the State that should be coordinated through the CRMPO. ***However by eliminating the southbound traffic, Water Street's cartway can be narrowed and replaced with the sorely needed sidewalk.*** This will reduce by half the amount of traffic along Water Street on a daily basis and eliminate the many conflicting vehicle turning movements associated with two-way traffic flow. This should help to alleviate vehicle congestion and accidents but may result in an increase to overall vehicle speeds which is contrary to safe pedestrian crossings.

To overcome these problems and enhance pedestrian crossing safety at these key intersections, ***the Borough intends to install traffic calming measures. Sidewalks here will reach into the intersection and force vehicles to slow down as they pass through. Second, cobblestone surfaces will be applied to the cartway on the approaches and through these intersections; this too should reduce vehicle speeds. Next, warning signs and other streetscape amenities will be concentrated adjoining these intersections to enable motorists to readily identify these as critical activity nodes.*** Finally, as foot traffic increases here motorists will tend to coast through these intersections at slower speeds. ***These same measures should be applied to the intersection of West High Street and Thomas Street once the southbound traffic from Water Street is diverted so that safe pedestrian access is available to Parking Lot H/West High Street Parking Lot.***

But the WBD will also require vehicular access and parking. Presently Parking Lot H/High Street Parking Lot is located just west of the railroad line on the south side of West High Street. ***In addition the Borough hopes to establish a satellite parking lot located on the northern end of the WBD on the Graymont site once the quarry operation is reclaimed. From here shuttle bus service would connect with other key points of the CBD and WBD. Next the Borough hopes to acquire other underdeveloped sites for convenient public parking as more visitors arrive to the WBD. Finally, unlike the densely developed CBD, the configuration of sites within the WBD generally provide ample space for off-street parking and loading and should be required as part of conditional use approval.***

Highway Commercial Zone - Apart from Bellefonte Borough's downtown, the Region has experienced considerable strip commercial development along its important highways. Often these settings and uses accommodate a wide range of commerce and businesses that are too large or intensive to adapt to a "downtown" setting. In addition vehicle-related sales and services often involve outdoor storage that presents impact too great to integrate within the tight Borough streetscape. For these reasons a separate Highway Commercial Zone is planned in various locations where these uses have evolved. While these areas have been and will continue to be important locations of commerce, it is hoped that other commercial uses will be targeted elsewhere among the Regions various commercial zones.

This principal locations acknowledge the existing land use pattern plus adjoining access to the Region's most-heavily traveled corridors. The following lists the various locations of proposed Highway Commercial Zoning that is available for development:

Corridor	Municipality	Acreage & Location
PA Route 26	Benner	13 acres Along E. College Ave.
	Spring	12 acres along E. College Ave.
	Marion	7 acres along Jacksonville Road
PA Route 64	Walker	18 acres along Nittany Valley Drive
PA Routes 144/150	Spring	26 acres along Pleasant View Road
PA Route 150	Benner	144 acres along Benner Pike
PA Route 550	Bellefonte	6 acres along Bishop Street
	Spring	13 acres along Zion Road
	Region-wide	**239 acres**

Assuming:

- a maximum lot coverage of 70%;
- a 20% reduction in usable area for non-development features;
- a 2:1 ratio of off-street parking area to building area; and,
- a parking/loading size of 300 square feet per space (includes driveways & aisles),

the unused development potential within this Zone could produce 2.4 million square feet of retail floor space with about 16,200 new parking spaces.

The areas have been sized and configured to allow for coordinated developments and shopping centers that share access drives, off-street parking and loading, signs and stormwater management facilities. Since many of the uses already in place have developed without these shared features, it will take time for this site coordination to spread throughout the area. ***All municipalities should develop suitable commercial zoning regulations that require and/or strongly encourage shared development***

features. This can be done by limiting access drive locations, waiving setbacks for shared features, providing lot coverage bonuses and other design incentives for shared features, and generally communicating to prospective developers the Region's desire for these coordinated designs. ***Each municipality should immediately incorporate these zoning requirements, then continuously advocate coordinated designs in the coming years as existing businesses seek to change and new ones emerge.*** These changes should help to improve the function and appearance of adjoining roads including those that act as gateways to the Region and Borough.

Beyond these shared features, other contemporary design features should also be used. First, the use of front yard landscape strips should be required along the road. ***These strips will help to define road/site travel lanes and soften the appearance of the roadside and offer shade for pedestrians.*** A minimum 10-foot wide landscape strip should be required, along with ornamental shade trees and sidewalks.

Off-street loading spaces and outdoor storage areas (exclusive of outdoor sales) should be screened from the roads and adjoining properties.

Sign standards should reflect the vehicle-oriented customers of the area, but should produce signs that are informative without being loud and obtrusive. It is important that signs be large enough so that motorists can easily read them at prevailing speed limits. The number of signs should be limited so that they do not compete for driver's attention, and the use of coordinated signage is encouraged.

On-site lighting of buildings and surrounding areas should employ hooded or screened fixtures that confine glare to the site, and security lighting should be directed toward the building, rather than the area around it. Lighting levels should be established to enable the detection of suspicious movement, rather than the recognition of definitive detail.

Public address systems used in external areas should be designed to keep audible impact at ambient levels.

Again, since many of the Region's commercial uses already exist without these features, their provision will take time and patience. Nonetheless, ***local zoning ordinances should require these features of all uses. This will make the existing uses nonconforming, and allow local officials to negotiate with existing business owners for these features as existing uses grow and adapt.***

Finally, it is noted that a number of scattered highway-oriented businesses exist throughout the Region. The absence of these uses within the planned Highway Commercial Zone reflects a vision of the future for the Region where such uses are confined to areas served by public utilities and services. Some of these scattered businesses could be permitted within their respective Zones (eg. Conservation & Agriculture) as they would be logical uses within those contexts. For example, a country inn or bed & breakfast is an appropriate use within the Conservation and Agricultural Zones. Similarly, a nursery and garden center can also be justified within an Agricultural Zone. Conversely, many of these uses are not consistent with Conservation or Agricultural settings unless they are limited in scale as accessory occupations (home, rural and farm occupations). In such cases these uses should be regulated as nonconforming uses by local zoning ordinances.

Interchange Commercial Zone – As described in the previous Transportation Chapter, the completion of the I-99 corridor will dramatically influence commuting patterns within Centre County, particularly within the Nittany Valley Region. It is expected that the ease of migration through the Region will also stimulate residential growth here. The Region intends to reflect these impacts and influences within this Plan. One such response is the creation of a new Interchange Commercial Zone straddling Zion Road adjoining the Bellefonte Interchange.

The proposed Zone is located to the east of the interchange and configured to accommodate uses that typically seek these prominent locations. ***Regional officials intend to promote uses at this important location that will not compete with those that could be better located within either the Central Business or Waterfront Business Districts in downtown Bellefonte.*** Rather, uses associated with commuting and travel should be allowed along with high-quality economic development. Some examples of these uses include lodging, sit-down restaurants, corporate office headquarters, convention centers, health campuses and hospitals, etc.

Local officials also recognize that this interchange represents a "gateway" to the Region for travelers and commuters. In turn they hope to encourage developments that portray an image reflective of the Region's character and the Borough's historic charm. This will be a difficult task and will require innovation on the part of local officials and skillful negotiation with prospective developers. Zoning ordinances cannot impose regulations founded solely on the basis of aesthetics. ***Instead local regulations will have to be crafted to offer real incentives to developers in return for architectural treatments and designs that convey the desired image.***

One vital component of this novel approach is a clear and deliberate articulation of those design features and elements that will accomplish the Region's development objectives. Unless developers know about these priorities early, they are likely to undertake site development feasibility and engineering without the desired style. This will create later resistance to redesign and complicate the approval process. ***For this reason it is recommended that Spring Township carefully fashion these "design-related" regulations and implement a sketch plan subdivision/land development review process that gives the Township the ability to impart its design intentions to the prospective developer early in the process.***

To identify appropriate architectural and design features it is recommended that officials from Spring Township request assistance from the Bellefonte Historic Architectural review Board (HARB). The HARB has a wealth of experience and expertise on these very subjects and would legitimize the design standards to be implemented. Like within the Borough, these standards should be clearly expressed and tied with lot coverage bonus incentives.

Until such times as the HARB and Spring Township have "worked-out" the details of design to be imposed here, it would be premature to suggest specific zoning regulations that should apply. Rather, local officials should determine their specific design objectives and then devise an overall package of regulations and incentives with the greatest likelihood for successful implementation. ***However, local officials should resist attempts that would simply replicate a typical strip-commercial development pattern and require an integrated site design that manages access, circulation, parking/loading, signage, lighting, and stormwater management.***

The Future Land Use Map identifies about 89 acres within the Interchange Commercial Zone. Assuming:

- a maximum lot coverage of 70%;
- a 20% reduction in usable area for non-development features;
- a 2:1 ratio of off-street parking area to building area; and,
- a parking/loading size of 300 square feet per space (includes driveways & aisles),

the development potential within this Zone could produce 724,000 square feet of retail floor space with 4800 new parking spaces.

Finally, to help compensate farmers for the loss of their former development rights throughout the Region***, local officials have opted to designate this area as a receiving area for the transfer of development rights or TDRs from the Agricultural Zone.*** These techniques are specifically authorized by the Pennsylvania Municipalities Planning Code (Act 170, as amended).

Within this Zone, regulations should limit permitted lot coverage to at some base level (say twenty-percent) beyond which additional coverage can be obtained via the acquisition and assignment of TDR's from the Agricultural Zone (sending area). Then for each TDR applied the lot coverage can be increased by a prescribed size (say 2000 square feet) up to the maximum permitted lot coverage of 70 percent. More discussion on this subject is contained in the description of the Agricultural Zone found earlier on this Chapter.

Regional Commercial Zone – On the eastern end of the I-99 corridor within Benner Township is another planned commercial zone. ***The Regional Commercial Zone intends to accommodate an extension of the large shopping center/mall developments that have occurred to the south in adjoining College Township.*** This Zone is located straddling Shiloh Road between I-99 on the north and the College Township boundary on the south.

Like the Interchange Commercial Zone, this is an important location for commerce and economic development. Here the pattern of use is more contemporary than that envisioned at the Bellefonte Interchange and there is less concern for competition for particular land uses that could locate in downtown Bellefonte. ***Here a wide range of uses should be permitted. However, this Zone should require large-scale use or force an assemblage of smaller uses within a coordinated site design.***

Local officials should be particularly weary of attempts by developers to “load” the I-99 site frontage with numerous and large signs that would clutter the corridor’s appearance and compete for driver attention. ***Sign regulations should orient freestanding development signs to locations where actual site access is provided and permit attached storefront signs oriented towards parking lots and pedestrian visibility.***

Design standards applied to this area should promote a planned campus environment with large minimum lot area requirements, controlled vehicular access, generous setbacks, integrated landscaping within parking/loading areas, screening of outdoor storage, and designated mass transit stops.

The Future Land Use Map identifies about 106 acres within the Regional Commercial Zone.

Assuming:

- a maximum lot coverage of 70%;
- a 20% reduction in usable area for non-development features;
- a 2:1 ratio of off-street parking area to building area; and,
- a parking/loading size of 300 square feet per space (includes driveways & aisles),

the development potential within this Zone could produce 862,000 square feet of retail floor space with 5700 new parking spaces.

Finally, to help compensate farmers for the loss of their former development rights throughout the Region***, local officials have opted to designate this area as a receiving area for the transfer of development rights or TDRs from the Agricultural Zone.*** These techniques are specifically authorized by the Pennsylvania Municipalities Planning Code (Act 170, as amended).

Within this Zone, regulations should limit permitted lot coverage to at some base level (say twenty-percent) beyond which additional coverage can be obtained via the acquisition and assignment of TDR's from the Agricultural Zone (sending area). Then for each TDR applied the lot coverage can be increased by a prescribed size (say 2000 square feet) up to the maximum permitted lot coverage of 70 percent. More discussion on this subject is contained in the description of the Agricultural Zone found earlier on this Chapter.

G. INDUSTRIAL ZONES (Light Industrial, Heavy Industrial, Quarry & Mining)

Light Industrial Zone – Benner and Spring Townships will share in the bulk of the Region's Light Industrial Zones. Unlike the Region's heavy industry, its light industry tends to be within contemporary industrial parks that are located within suburban settings. These areas incorporate better site designs and appear well maintained and managed.

The Light Industrial Zone is suitable for a wide range of industrial activities that contribute to the well-being of the Region by diversifying its economy and providing valuable employment opportunities. ***Zoning should allow for small, start-up business and light industry as permitted uses. However, more intensive uses (listed below) should require the obtainment of a conditional use:***

- Billboards;
- Heavy equipment sales, service and repair, such as excavation machinery, farm equipment, commercial trucks, buses, mobile homes, trailers, and other similar machinery;
- Truck or motor freight terminals;
- Warehousing and wholesale trade establishments;
- Adult-related uses;
- Junkyards;
- Quarries and mines;
- Sawmills;
- Septage and spent mushroom compost processing;
- Slaughtering, processing, rendering, and packaging operations;
- Solid waste disposal, and processing facilities; and,
- Any other industrial activity that presents adverse impact to surrounding areas.

By requiring a conditional use review local officials realize the following benefits:

(1) require the developer to fully explain the nature of the proposed uses;

(2) give local citizens the opportunity to express support or concern over the use;

(3) application of specific criteria aimed at minimizing adverse impact to the community and adjoining properties;

(4) provide the Region time to engage professional review assistance of the use and its expected impacts; and,

(5) allow local officials to attach reasonable conditions of approval to mitigate any negative effects of the use.

Regulations should also limit the number of driveway cuts and freestanding signs, and manage outdoor storage, off-street loading and parking. ***Design standards should encourage functional, yet attractive, sites when viewed from adjoining properties and roads. This involves required landscaping, screening and buffering, and dumpster storage standards.***

Additionally, prospective industries should demonstrate compliance with all applicable Federal and State operations standards. Each municipality should adopt noise and lighting standards that will ensure compatibility from one site to the next.

This principal locations acknowledge the existing industrial parks/sites. The following lists the various locations of proposed Light Industrial Zoning that is available for development:

Industrial Park	Municipality	Acreage & Location
Airport	Benner	225 acres Along Fox Hill Road*
Penn Eagle	Benner/Spring	115 acres along Rolling Ridge Road
Pleasant Gap East	Spring	192 Straddling PA Route 26
Pleasant Gap West	Spring	30 acres end of Whiterock Road
Marion	Marion	49 acres south of Jacksonville Road
	Region-wide	611 acres

* Does not include acreage of the University Park Airport

Assuming:

- a total lot coverage of 70%;
- a 20% reduction in usable area for non-development features;
- a 1:1 ratio of off-street parking area to building area; and,
- a parking/loading size of 300 square feet per space (includes driveways & aisles),

the unused development potential within this Industrial Zone could produce 7.4 million square feet of industrial floor space with 24,840 new parking spaces.

Heavy Industrial Zone - Within the Region older industries often were associated with the processing of materials from its many quarries and mines. Some of these sites are to be incorporated within the Borough's Waterfront Business District and will likely change to another land use category. In addition the large CERRO metals plant along Axeman Road is another obvious important heavy industry within Spring Township.

These uses were developed at times before zoning regulations were in place to manage impact and buffer surroundings. Consequently these areas are untidy by today's standards and include outdoor storage that lacks screening and buffering. ***Local officials should strive to retrofit these amenities as uses expand, change or improve. Most particularly, industries abutting existing or planned residential areas should be fitted with sight-tight fences and/or landscape screens to enhance compatibility. This process will be slow and will require patient persistence; however, now is the time to start!***

New uses proposed amid these older, industrial enclaves should be held to a higher standard of site design, and suitable zoning regulations should be adopted. This will, undoubtedly, make many features of the existing industries nonconforming; however, the nonconforming use provisions of zoning ordinances are intended to effect desired change over time. Furthermore, if new uses are proposed, they should be encouraged to cooperate with their neighboring uses (where practical) in the sharing of vehicular access, off-street parking and loading, signage and storm water management. ***Local officials should seize every opportunity to upgrade these older industrial sites when confronted with some prospective change.***

The Heavy Industrial Zone is suitable for a wide range of industrial activities that contribute to the well-being of the Region by diversifying its economy and providing valuable employment opportunities. However, it is expected that many of these areas will be devoted to processing of materials from nearby quarries. These uses are particularly intensive and create substantial impact to the community and environment***. For these reasons it is recommended that heavy industrial uses require conditional use approval for all of the reasons listed before in the preceding Light Industrial Zone.*** Furthermore, a new trend in the use of mineral materials is recycling and re-processing. Although the Region appear rich in natural mineral deposits, ***it is recommended that processing plants be specifically able to re-process and recycle materials on these sites*** as the market will direct. In this way local companies can keep abreast of emerging technologies and extend the effective life of their existing quarry sites.

Regulations should also limit the number of driveway cuts and freestanding signs, and manage outdoor storage, off-street loading and parking. ***Design standards should encourage functional, yet attractive, sites when viewed from adjoining properties and roads. This involves required landscaping, screening and buffering, and dumpster storage standards.***

Additionally, prospective industries should demonstrate compliance with all applicable Federal and State operations standards. Each municipality should adopt noise and lighting standards that will ensure compatibility from one site to the next.

Within the Region a total of 15.5 acres of "developable" land has been planned within the Heavy Industrial Zone located on the north side of the Shop track spur railroad line in the extreme northwest corner of Bellefonte Borough and adjoining Spring Township. Since these areas are likely to develop as mineral processing plants, a calculation of potential floor space and parking spaces would be misleading.

Quarries and Mining As reported in Chapter VII (Existing Land Use) the Region has along and important history of mining. Each municipality within the Region has at one time had important quarry/mining operations. Today the bulk of the Region's mining activities are located just east of Pleasant Gap and in Marion Township. Here large sites

operate with considerable residual capacity for years to come. Given the Region's wealth of mining operations and its considerable reserve capacity, planned areas for this activity reflect these current sites; no additional land area has been planned in this category. In short the Region is confident that it has already provided for its fair-share of such uses without the need for further expansion

Although no new areas are planned, the Region must regulate ongoing operations and their subsequent reclamation. Because of their intensive operations, and potentially detrimental impacts, quarry and mining operations are usually highly controversial***. For this purpose a new Quarry Zone is recommended. This new zone should permit agricultural uses, public uses and utilities, and parks and recreation by rights; quarries, mines and processing and/or recycling of mineral materials and solid waste disposal sites should be allowed only through the obtainment of a conditional use. Conditional uses should be strictly regulated with numerous specific use criteria that consider their grave impact on nearby neighborhoods, roads, and the environment. Finally, all quarrying should be required to at all times demonstrate compliance with the Pennsylvania Noncoal Surface Mining Conservation and Reclamation Act (as may be amended). As part of compliance with this State Act, quarry owners are required to propose a reclamation land use once quarrying operations cease. Local officials should carefully scrutinize such reclamation uses to determine their suitability with long-range comprehensive planning for that locale.***

As stated above, this plan only recommends the existing quarry locations. Should any of these uses require expansion, or a new use be proposed, local officials can scrutinize potential locations via a rezoning hearing process. At the same time, they can review an accompanying conditional use application, thereby streamlining the development approval process.

H. Public / Non-Profit

As reported in Chapter VIII (Existing Land Use) the Region's public and nonprofit uses comprise 491 acres or about 0.6 percent of the total land area. These uses have been depicted as they exist to assist in user orientation of the Future Land Use Map. Since zoning regulations that would limit uses to ones of a public nature would be considered confiscatory, it is not recommended that the municipalities adopt public use zones. ***Rather, these public uses should be permitted within their respective zones as they occur throughout the Region and are depicted on the Future Land Use Map.***

I. Overlay Zones (Wetlands, FEMA Floodplains and Riparian Buffers)

To delineate important natural features that may limit development potential and offer potential recreation and ecological linkages, the Future Land Use Map depicts these features atop the underlying land use category. Wetlands are those identified by the United States Department of the Interior. Floodplains are 100-year areas delimited by the federal Emergency Management Agency. Riparian buffers include a 60-foot-wide area on either side of a body of water as suggested by United States Forest Service. ***Local officials should be mindful of these important natural features when reviewing proposed developments and reconfiguring zoning districts. In addition, local officials should adopt Wellhead Protection Zones around the sites of public water supply wells at radii specifically delineated for the respective well.***

XII. Implementation

A. LEGAL REQUIREMENTS

The development of this Plan has been an ambitious and educational process. Goals have been deliberately set high and many specific recommendations have been made. But this is just the beginning. The Plan outlines a grand strategy, but action and dogged determination will be necessary if the Plan's goals are to be achieved. This final Chapter will provide a list of tasks that must be undertaken to optimally determine the Region's future, but before actual assignments are listed, it is important to understand how each municipality within the Region is to interact in this regional undertaking.

Recent amendments to the Municipalities Planning Code (MPC) address this issue directly. Article 11 of the MPC is entitled Joint Municipal Planning Commissions but it provides much more than this subject. Article 11 enables regional planning and specifies its objectives. It defines municipal versus County roles in the regional planning process. And finally, it provides for inter-municipal implementation agreements. Section 1104 states:

(a) In order to implement multi-municipal comprehensive plans, under section 1103 counties and municipalities shall have authority to enter into intergovernmental cooperative agreements.

(b) Cooperative implementation agreements between a county and one or more municipalities shall:

(1) Establish the process that the participating municipalities will use to achieve general consistency between the county or multi-municipal comprehensive plan and zoning ordinances, subdivision and land development and capital improvement plans within participating municipalities, including adoption of conforming ordinances by participating municipalities within two years and a mechanism for resolving disputes over the interpretation of the multi-municipal comprehensive plan and the consistency of implementing plans and ordinances.

(2) Establish a process for review and approval of developments of regional significance and impact that are proposed within any participating municipality. Subdivision and land development approval powers under this act shall only be exercised by the municipality in which the property where the approval is sought. Under no circumstances shall a subdivision or land development applicant be required to undergo more than one approval process.

(3) Establish the role and responsibilities of participating municipalities with respect to implementation of the plan, including the provision of public infrastructure services within participating municipalities as described in subsection (d), the provision of affordable housing, and purchase of real property, including rights-of-way and easements.

(4) Require a yearly report by participating municipalities to the county planning agency and by the county planning agency to the participating municipalities concerning activities carried out pursuant to the agreement during the previous year. Such reports shall include summaries of public infrastructure needs in growth areas and progress toward meeting those needs through capital improvement plans and implementing actions, and reports on

development applications and dispositions for residential, commercial, and industrial development in each participating municipality for the purpose of evaluating the extent of provision for all categories of use and housing for all income levels within the region of the plan.

(5) Describe any other duties and responsibilities as may be agreed upon by the parties.

(c) Cooperative implementation agreements may designate growth areas, future growth areas and rural resource areas within the plan. The agreement shall also provide a process for amending the multi-municipal comprehensive plan and redefining the designated growth area, future growth area and rural resource area within the plan.

(d) The county may facilitate convening representatives of municipalities, municipal authorities, special districts, public utilities, whether public or private, or other agencies that provide or declare an interest in providing a public infrastructure service in a public infrastructure service area or a portion of a public infrastructure service area within a growth area, as established in a county or multi-municipal comprehensive plan, for the purpose of negotiating agreements for the provision of such services. The county may provide or contract with others to provide technical assistance, mediation or dispute resolution services in order to assist the parties in negotiating such agreements[1].

Based upon the preceding requirements, the Region must undertake the development of an implementation agreement to operationalize the Plan. Such implementation agreement should be developed with the assistance of local officials, Centre County Planning Office staff, solicitors and planning consultant(s). It should be detailed enough to convey the expectations of each municipality yet simple enough to be understood and not discourage involvement.

B. SCHEDULE OF SPECIFIC RECOMMENDATIONS

In developing an implementation agreement as enabled by the MPC and recommended above, ***the following specific action tasks have been identified with bold italicized print throughout this Plan.*** The task along with its responsible parties, suggested time frame and a reference where further discussion can be found within the plan are provided in the following schedule. These tasks should form the basis of the inter-municipal agreement and can be used as an agenda of action by local officials over the life of the Plan.

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
1. It is important for all persons involved and/or interested in the future of the Nittany Valley Region to read and understand this Plan. Local decision-makers should keep the Plan handy when evaluating future development proposals, service adjustments or public investments.	Local staff, & officials from each municipality	ongoing	2-3

[1] http://www.inventpa.com/docs/MPCode.txt (1/23/03)

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
Recommendations related to the protection of natural & cultural features. (Chapter III)			
2. New public and industrial water supplies should be located in the vicinity of carbonate formations to take advantage of the abundant groundwater supplies. However, such sources should be routinely monitored and treated as necessary due to the vulnerability of this groundwater from contamination via the widespread solution channels.	Bellefonte Benner, Spring and Walker	ongoing	14-15
3. The geologic formations of the Region's upland settings can only supply groundwater to serve a sparse rural development pattern and local officials should adjust zoning densities accordingly. Such areas should be reserved for low intensity rural uses with limited permitted lot coverages and woodland preservation requirements that will reduce potential impact on groundwater volumes and quality.	Benner, Marion, Spring & Walker	Sort term	14
4. Implement a well-head protection plan for public water supplies .	Bellefonte, Benner, Spring & Walker	Short-term & ongoing	15
5. Support and cooperate with the Clearwater Conservancy in protection of the Spring Creek Watershed.	Bellefonte, Benner, Spring & Walker	Short-term & ongoing	16
6. Prime farm soils and active farms should be protected by strengthening and expanding each of the Township's agricultural zones.	Benner, Marion, Spring & Walker	Short term	18
7. Proposed developments should avoid soils with severe development constraints as regulated by local zoning and subdivision and land development (SLDO) ordinances.	All municipalities	Short-term & ongoing	18
8. Local officials should take active steps to preserve and protect State-designated high-quality and exceptional value watersheds from the ills of inappropriate land use and local activities that could threaten their integrity.	All municipalities	Short-term & ongoing	22
9. Adopt waste handling and waste disposal reporting requirements as part of local zoning ordinances. Such zoning provisions should require prospective uses to demonstrate compliance with all applicable local, state and Federal waste handling and disposal regulations.	All municipalities	Short-term & ongoing	23
10. Each of the Region's municipalities should apply riparian buffer standards to developments that seek to locate within State-designated high-quality and exceptional value watersheds.	All municipalities	Short-term & ongoing	23
11. Municipal officials should consider the adoption of various measures to protect the Region's wetlands, including modified road maintenance standards, an environmental impact assessment (EIA) requirement in their respective SLDO, land use and development limitations, and a homeowner educational program.	All municipalities	Short-term & ongoing	26
12. Expand local floodplain regulations to include alluvial soils and 500-year floodplains. Request review of local floodplain regulations by the PA DCED and then incorporate updates as necessary to remain eligible under the National Flood Insurance Program.	All municipalities	Short-term	27-28
13. Continue to support the actions of the Spring Creek Watershed Commission.	Bellefonte, Benner & Spring	ongoing	29-30
14. Continue to implement the Fishing Creek Stormwater Management Plan by enforcing the accompanying management ordinance prepared by Centre County,	Marion, Spring & Walker	ongoing	30

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
15. Continue to rely upon Centre County for administration of stormwater management ordinances in Nittany Creek and Lick Run watersheds until such time as more detailed stormwater management strategies can be derived from a future Bald Eagle Watershed Stormwater Management Plan.	Marion & Walker	ongoing	30
16. Require an Environmental Impact Assessment prior to any subdivision approval within identified natural habitat areas.	All municipalities	Short-term & ongoing	32
17. Develop and adopt sound forestry management regulations that can protect the sensitivity of wooded areas and adjoining neighbors from the deleterious impacts of uncontrolled logging uses and operations.	All municipalities	Short-term & ongoing	34 & 197
18. Adopt woodland preservation requirements.	All Townships	Short-term & ongoing	34
19. Educate the public about the Pennsylvania Cave Protection Act and seek to incorporate these unique features within resource and open space protection policies.	All municipalities	ongoing	34-36
20. Continue to administer its effective Historic Preservation programs to the benefit of current and future generations.	Bellefonte	ongoing	38-40
21. Gauge public support for voluntary historic preservation techniques.	Benner, Marion, Spring & Walker	Long-term	42-42
Recommendations related to demographics. (Chapter IV)			
22. Special outreach opportunities and programs should be targeted within the Borough to assist the high percentage of persons with incomes under the poverty level.	Bellefonte	Short-term & ongoing	52
23. Provide for a target mix of housing types to offer greater housing diversity within the Region.	All municipalities	Short-term & ongoing	54
Recommendations related to the delivery of public services. (Chapter V)			
24. Closely monitor growth within the Region so as to proactively plan for facility expansion well in advance of actual demand for space.	School District	Short-term & ongoing	60
25. Improve the process of residential development review and allocate manpower and resources so as to properly respond to such applications and provide meaningful feedback to the municipalities.	School District	Short-term & ongoing	60
26. Revise subdivision and land development application requirements so that adequate and timely notification to the School District is assured.	All municipalities	Short-term & ongoing	60
27. Create a new Regional Recreation Board (RRB).	All municipalities& School District	Short-term & ongoing	60 & 85
28. Apply to the PA Department of Conservation & Natural Resources (DCNR) for a grant to prepare a Regional Comprehensive Park, Recreation and Open Space Plan.	RRB	Short-term	60
29. Participate in a PA Department of Community Economic Development (DCED) regional police feasibility study.	Bellefonte, Benner & Spring	Long-term	64
30. Create a new Emergency Service Alliance (ESA).	All municipalities	Short-term	67-68
31. Evaluate policies that affect availability of local volunteers.	ESA	Short-term	67-68

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
32. Enhance sources of daytime volunteer firefighters and emergency medical transports (EMTs).	ESA	Short-term	67-68
33. Formalize program of specialized training throughout the Region.	ESA	Short-term	67-68
34. Consider the creation of a new Emergency Services Coordinator staff position.	ESA	Long-term	67-68
31. Mount an educational and media campaign to cultivate awareness among the newly-arrived residents of the need for their financial and manpower support to sustain volunteer firefighting and ambulance services.	ESA & local officials	Ongoing	69-71
32. Apply to the PA DCED for the preparation of a technical review, as part of its Shared Municipal Service Program, at no cost to the Region to examine the adequacy of the Region's equipment to provide adequate service.	ESA & local officials	Short-term	69-71
33. Publicize the names of contributors to local volunteer emergency service agencies.	Local officials	Annually	69-71
34. Explore the partial and gradual use of "other" funding mechanisms.	Local fire and ambulance companies and local officials.	Long-term	69-71
35. Adopt uniform driveway design standards that provide for adequate emergency vehicle access.	All Townships	Short-term	71
36. Provide detailed geographic information system (GIS) mapping to each emergency service provider.	Centre County	Ongoing	72
37. Install dry hydrants in rural areas of the Region.	Local fire companies and local officials.	Long-term	72
38. Adjust zoning and SLDO regulations to ensure adequate emergency access and integrate local fire companies in the development review process for those wishing to deviate from such regulations.	Local fire companies and local officials.	Long-term	73
Recommendations related to parks & recreation. (Chapter VI)			
39. Create a new Regional Recreation Board (RRB).	All municipalities& School District	Short-term & ongoing	60 & 85
40. Apply to the PA DCNR for a peer-to-peer review.	RRB	Short-term	85
41. Apply to the PA DCNR Community Conservation Partnerships Program for a grant to conduct a community center feasibility study.	RRB	Long-term	100
42. Add a new small neighborhood park in the Village of Nittany.	RRB/Walker	Short term	102
43. Retrofit existing community and neighborhood parks with greater variety of improvements and activities.	RRB	Ongoing	102
44. Educate landowners and developers of the importance of riparian buffers, and the Region's intent to provide for them.	All municipalities & School	Short-term	104-107 & 23
45. Mount a campaign to inform local landowners who abut creeks of the Conservation Reserve Enhancement Program (CREP).	All municipalities & School	Short-term	105

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
46. Energize Region's youth to develop pilot riparian buffers at visible locations.	All municipalities & School District	Ongoing	106
47. Make joint application under the Pennsylvania Recreational Trails Program to carry-out recommendations of the Nittany and Bald Eagle Greenways Plan.	RRB & Centre County	Long-term	108
48. Adopt mandatory dedication language within the SLDO.	Bellefonte & Spring	Short-term & ongoing	110-113
49. Require Centre County to apply mandatory parkland dedication provisions within the County Subdivision and Land Development Ordinance.	Benner, Marion & Walker	Short-term and ongoing	113
50. Apply revenues/parklands acquired from mandatory dedication throughout the Region.	RRB	Ongoing	113
Recommendations related to public utilities. (Chapter IX)			
51. Conduct one or more long-range public utilities planning summits.	All municipalities & public utility providers	Short-term and ongoing	135-136
52. Initiate a long-range public sewage treatment strategy with some urgency and commit to implement its findings sometime by the mid 2010s.	Bellefonte, Benner, Spring & Walker	Long term	142
53. The Bellefonte Borough Authority should look beyond the Borough's bounds to make efficient use of its longstanding public water system.	All municipalities	Long-term	143-145
54. Implement a wellhead protection program at Carles Well.	Spring Township Water Authority	Long-term	147
55. While public water may be readily available throughout much of the Region, this Plan must look to redirect future growth in a different more-compact pattern. Then local officials must firmly resist proposals that would extend current water service areas outside of the plan's designated growth areas.	All municipalities	ongoing	153
56. Cooperate in the development of regional solutions to the challenges confronting the Bellefonte Borough Authority to make efficient use of the Region's resources.	All municipalities	ongoing	153
57. Consider its responsibilities to establish and implement a source-separation and collection program for recyclable materials.	Benner	By 2010	154-155
58. Make use of PA One-Call system with respect to use and developments proposed along the Region's overhead and underground utility rights-of-way.	Residents and developers.	Ongoing	155
59. Submit a pre-application Letter of Intent on behalf of the Region to the Key net Alliance to provide voice, data, video, basic digital transport, and Internet services using advanced technology.	Bellefonte	Short term	159
Recommendations related to transportation. (Chapter X)			
60. Adopt comprehensive traffic impact study regulations within the SLDO.	All municipalities	Short-term	160
61. Upgrade arterial roads to minimum recommended standards.	All municipalities	Short-term	165
62. Upgrade collector roads to minimum recommended standards.	All municipalities	Short-term	167

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
63. Adopt uniform road design criteria across the Region.	All municipalities	Short-term	168
64. Reduce and discourage the number of driveway cuts along the Region's arterial and collector roads.	All municipalities	Ongoing	168
65. Combine access drives, signs, and off-street parking and loading for businesses that are proposed along arterial and collector roads.	All municipalities	Ongoing	171
66. Request that PA DOT install directional signs along PA Route 144 in Pleasant Gap to redirect I-80-bound through traffic to the spur interchange of I-99 just east of the Village.	Spring	Short-term	173
67. Cooperate with various agencies in the completion of the many transportation projects programmed within the Region.	All municipalities	Ongoing	174-175
68. Complete various locally-scheduled road improvements.	All municipalities	Ongoing	176-178
69. Revise SLDO policies to require pedestrian access and street linkages with adjoining neighborhoods via handicapped accessible sidewalks and curbs.	Benner, Spring & Walker	Short-term	180
70. Provide a bike path connection between the sidewalks along PA Route 550 and Governors Park.	Bellefonte	Short-term	180
71. In existing neighborhoods that do not have sidewalks, local officials should seek to retrofit some pedestrian linkage with nearby civic uses, commercial areas and adjoining neighborhoods of the Borough.	Spring	Long-term	180
72. Install sidewalks in all new planned neighborhoods.	Bellefonte, Benner, Spring & Walker	Short-term and ongoing	180
73. Install bus stops at prominent locations even if current transit service is not yet available.	Bellefonte, Benner & Sproing	Long-term	180
74. Planned neighborhoods should be fitted with street designs that enable safe bicycle travel and offer an alternative mode of daily commuting between employment and activity centers.	Benner, Spring & Walker	Ongoing	181
75. Coordinate community development to prevent the development of new uses that would adversely affect, or be adversely affected by, the planned University Park Airport and Bellefonte Airport expansions.	Benner	Ongoing	186
76. Submit a list of needed transportation projects on behalf of each of the municipalities of the Region to the Centre Region Metropolitan Planning Organization.	All municipalities	Ongoing	174
Recommendations related to future land use. (Chapter XI)			
77. Adopt a new Regional zoning ordinance and map that is consistent with the recommendations contained within Chapter XI, or adopt individual municipal zoning ordinances and maps that are generally consistent with the recommendations contained within Chapter XI.	All municipalities	Short-term	188-189
78. Commit to updating the Comprehensive Plan by the year 2020.	All municipalities	Long-term	188
79. Adopt an effective agricultural zone that severely restricts development in favor of normal farming operations and related secondary occupations.	Benner, Marion, Spring & Walker	Short term	189-202
80. Develop a Transfer of Development Rights Program to financially compensate farmers for the loss of property value resulting from the adoption of effective Agricultural Zones.	All Townships	Short term	192

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
81. Adopt a Conservation Zone that severely restricts development in favor of natural conservation and related secondary occupations, has design flexibility to tuck development amid scattered natural features and requires the submission of environmental impact reports .	Benner, Marion, Spring & Walker	Short term	193-199
82. Develop zoning language to permit forestry use by right in all zones throughout the Region with suitable management requirements.	All municipalities	Short-term	195-197
83. Adopt a Riparian Buffer Overlay Zone.	All municipalities	Short-term	23, 104-107, 196, & 198
84. Assign local planning commission members primary responsibility to review specific environmental topics of proposed developments.	All municipalities	Short-term	195
85. As turnover occurs, replace members of various boards with members with greater environmental awareness.	All municipalities	Ongoing	195
86. Carefully scrutinize proposed intensive livestock operations and/or farm occupations proposed within the Rural Zone.	Walker	Ongoing	200
87. Standardize several new Residential Zones in which planned neighborhoods can grow with the use of a wide range of public utilities and services that reflect existing development types and their respective design features.	All municipalities	Short-term & Ongoing	200-210
88. Develop a new Traditional Neighborhood Design (TND) Overlay Zone that promotes a target mixture of housing types, protects important natural features, promotes pedestrian travel, reflects historic character, features community focal points and invites regular social interaction.	Bellefonte, Benner, Spring & Walker	Short-term	203-206
89. Conduct several TND workshops at various target groups.	Bellefonte, Benner, Spring & Walker	Short-term	203-206
90. Strengthen accessory use regulations within the Residential Zones.	Bellefonte & Spring	Short-term	207
91. Adopt a new Mobile Home Park Zone that is limited to existing parks and reflects existing conditions.	Benner and Walker	Short-term	209-210
92. Adopt a new Village Commercial Zone that reflects the rural context, provides for local conveniences, discourages demolition of historic buildings, promotes shared features and manages outdoor activities.	Spring	Short-term	210-211
93. Adopt a new Central Business District that promotes pedestrian scale uses and designs, discourages demolition of historic sites, favors on-street parking, directly abuts the sidewalk, promotes adaptive reuse and permits upper story apartments.	Bellefonte	Ongoing	211-212
94. Promote revitalization of CBD through demonstrated support for reinvestment, creation of non-profit corporation to market the town, and support temporary tax relief for initial business start-up.	Bellefonte	Ongoing	212-213
95. Improve parking by renaming existing parking lots, seizing opportunities to provide for improved linkages between parking lots and the streetscape, developing additional parking lots and exploring the possibility of re-orienting on-street parking in a “head-in” arrangement.	Bellefonte	Ongoing	213-215
96. Undertake a campaign to improve and standardize sidewalk design and maintenance to beautify downtown and enhance pedestrian amenity and safety.	Bellefonte	Long-term	214-215
97. Create a new Waterfront Business District (WBD) that transforms the corridor and blends nature, recreation, culture, civic and limited commerce to capture one or more unique themes and propel the Borough as a distinctive destination.	Bellefonte	Long-term	215

Recommended task:	Responsible Parties	Time-frame	Plan reference (pages)
98. Establish a revolving fund that can be used to acquire threatened sites to ensure a proper proposal that satisfies the WBD's special features and character.	Bellefonte	Ongoing	216
99. Take positive steps that abandon non-conforming zoning status for properties that are acquired within the WBD.	Bellefonte	Ongoing	216
100. Improve pedestrian access along Water Street by redirecting the southbound traffic lanes of PA Route 150 along Thomas Street and installing traffic calming devices along the road and at key intersections.	Bellefonte	Long-term	217
101. Establish satellite parking lots at the northern and southern ends of the WBD to serve the "downtown" and the WBD.	Bellefonte	Long-term	218
102. Employ state-of-the-art systems to notify and warn pedestrians of frequent passing trains and vehicles.	Bellefonte	Ongoing	217
103. Develop a new Highway Commercial Zone for businesses that are too large or intensive for the CBD, and encourage the use of shared design features (eg. parking, loading, signs, access, stormwater, etc.)	All municipalities	Short-term	218-219
104. Develop a new Interchange Commercial Zone to act as a gateway to Bellefonte at this important location that will not compete with uses that could be better located within either the Central Business or Waterfront Business Districts in downtown Bellefonte.	Spring	Short-term	220-221
105. Fashion "design-related" incentives and implement a sketch plan subdivision/land development review process that gives the Township the ability to impart its design intentions to the prospective developer early in the process. To identify appropriate architectural and design features it is recommended that assistance be provided by the Bellefonte Historic Architectural Review Board (HARB).	Bellefonte & Spring	Short term	220-221
106. Develop a new Regional Commercial Zone to extend the large-scale shopping center/mall developments that have occurred in adjoining College Township. Apply design standards to promote a planned campus with large minimum lot area requirements, controlled vehicular access, generous setbacks, integrated landscaping within parking/loading areas, screening of outdoor storage, and designated mass transit stops.	Benner	Short-term	221-222
107. Develop a new Light Industrial Zone that permits small-scale light industry by right but requires conditional use approval for other heavier uses.	Benner, Spring & Marion	Short-term	222-223
108. Retrofit older industrial areas with adequate screens and buffers as uses change or expand. Hold newer uses proposed amid these older, industrial enclaves to a higher standard of site design, and function. Local officials should seize every opportunity to upgrade these older industrial sites when confronted with some prospective change.	All municipalities	Ongoing	224
109. Develop a new Quarry Zone that permits rural land uses by right and provides for quarries and mines by conditional use. Conditional uses should be strictly regulated with numerous specific use criteria that consider their grave impact on nearby neighborhoods, roads, and the environment. Finally, all quarrying should be required to at all times demonstrate compliance with the Pennsylvania Noncoal Surface Mining Conservation and Reclamation Act (as may be amended). As part of compliance with this State Act, quarry owners are required to propose a reclamation land use once quarrying operations cease. Local officials should carefully scrutinize such reclamation uses to determine their suitability with long-range comprehensive planning for that locale.	Bellefonte, Benner, Marion & Spring	Short-term & ongoing	224-225

The preceding table plots an ambitious list of recommended activities. These tasks are vital if the Region is to optimally manage its growth and development and to plan and implement its “vision” for the future. The completion of many of these tasks should result in an improved quality of life within the Region.

Municipal officials are responsible to monitor and evaluate the implementation strategy aimed at achieving the locally-expressed objectives and resultant recommendations set forth in this Plan.

Cooperation among all administrative bodies and levels of government is an essential component to a streamlined and successful implementation strategy. The continued use of public participation is also a very important duty of municipal officials. If, for some reason, the recommendations of this Plan do not appear to address the, then-current conditions, municipal officials should not hesitate to amend portions of this Plan or any other policy to rectify those deficiencies.

This Plan holds a wealth of information that can be easily accessed and understood. Its implementation will help residents, businesses and visitors know the Plan is vital, and that the future of the Region is deliberate, and the result of considerable analysis and public scrutiny.

Nittany Valley Joint Comprehensive Plan of 2004

ADOPTED BY separate municipal resolutions carried by a majority vote of the governing body of each of the participating municipalities at public meetings held on the dates shown below following the public hearing held on the 16th day of September, 2004.

Benner Township:

Adopted by Resolution # 09-04, this 16 day of September 2004.

David Breon, Chairman

John Einitski, Jr., Vice Chairman

James Swartzell

Marion Township:

Adopted by Resolution # 2004-8, this 16 day of September 2004.

John R. Dillon, Chairman

Archie B. Gettig, Jr., Vice Chairman

Henry J. Kohnlein

Spring Township:

Adopted by Resolution # 19-04, this 16 day of September 2004.

Frank W. Royer, Jr., Chairman

Jim Smith, Vice Chairman

Terry Perryman

Walker Township:

Adopted by Resolution # 04-308, this 16 day of September 2004.

Keith E. Harter, Chairman

Henry W. Weight, Vice Chairman

James B. Heckman

Borough of Bellefonte:

Adopted by Resolution # 09-16-04, this 16th day of September 2004.

Joseph P. Heidt, Jr., President of Council

Stanley L. Goldman, Mayor

Ralph W. Stewart, Borough Manager/ Secretary