



The *Greene County Comprehensive Plan* update was prepared by the Greene County Planning Commission for the Greene County Board of Commissioners. The plan was funded in part by a Land Use Planning and Technical Assistance Program (LUPTAP) through the Pennsylvania Department of Economic Development (DCED) and additional grant funding was received through the generosity of the Greene County Community Foundation and the Benedum Foundation.



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- Greene County Conservation District
- Greene County Industrial Development Authority (IDA)
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- Mr. Chuck Baily, Baily Insurance and Real Estate Agency
- Mr. Shirl Barnhart, Morgan Township Supervisors / County Planning Commission
- Dr. Jerome Bartley, Central Greene School District / Greene County IDA
- Ms. Joy Eggleston, Southwest Regional Medical Center
- Mr. John Frazier Chief Assessor Greene County Assessment
- Mr. Jay Hammers, Rhodes & Hammers Printing
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- Mr. Francis Minor, Board of Directors Planning Commission
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(Mackin Engineering Company)

*R.I.D.C. Park West
117 Industry Drive
Pittsburgh, PA 15275-1015
(412) 788-0472*

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*2402 West 8th Street
Erie, PA 16505*



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A. Foreword

Located in the southwestern corner of Pennsylvania, the County of Greene is rural with a total population just over 40,000 in the year 2000. Historically, the economy has depended upon the coal industry and agriculture. Recent changes in these industries have resulted in the County directing their economic development efforts to take advantage of the previously untapped potential that exists in Greene County and its residents. New agriculture programs are being explored to provide support to farmers. Advancements in the coal industry have facilitated new growth and a renewed interest in expanding activities in Greene County. New industries oriented towards technology have spawned new economic pursuits, which will allow for a diversification of the economy. Finally, tourism, small business development, and expanded retail services are rounding out the County's economic philosophy as they move into the Twenty-first Century.





EverGreene Technology Park Development

Greene County completed a countywide comprehensive plan in 1979 and is now updating this plan to provide the County with an overview of its present situation and an implementation plan to position the County for what the future may bring. In February of 2005, Greene County retained Mackin Engineering Company to facilitate the completion of the Comprehensive Plan update. The County received a grant through the Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance Program (LUPTAP). In recognizing that the County has many unique qualities, County officials procured additional funding through the generosity of the Greene County Community Foundation and the Benedum Foundation. This money was used to expand the scope of work

and address specific issues in detail so as to provide Greene County with a strong framework on which to build the future.

Keystone Principles

On May 31, 2005, the Keystone Principles & Criteria for Growth, Investment & Resource Conservation (Keystone Principles) were adopted by the Pennsylvania Economic Development Cabinet and developed by the Interagency Land Use Team, a working group of the Cabinet. The Keystone Principles are designed to be a coordinated interagency approach to fostering sustainable economic development and conservation of resources through Pennsylvania's investments in diverse communities. The Keystone Principles lay out general goals and objectives for economic development and resource conservation agreed upon among the agencies and programs that participated in their development. The Criteria are designed to help measure the extent to which particular projects accomplish these goals. The Criteria do not replace agency program guidelines or criteria, but rather, at each agency's discretion, they will either be integrated into existing program criteria (preferable) or used as additional, favorable considerations in the scoring or decision making process. The Principles and Criteria are designed to encourage multifaceted project development that will integrate programs and funding sources from a variety of state agencies into a comprehensive strategy to address issues affecting whole communities. There are two categories of criteria:

-  Core Criteria, where relevant, should be given primary consideration in all investment decisions made by Commonwealth agencies when making grants or loans to public or private projects using agency funds.
-  Preferential Criteria should be used by Commonwealth agencies in all programs to which they are applicable to evaluate projects and make decisions on grants or loans using agency funds. Projects are to be evaluated with the recognition that rural, suburban, and urban areas have different characteristics and needs, and that what might work in an urban area might not work in a rural area (the "Be Fair" standard).

The Keystone Principles are as follows:

1. Redevelop First
2. Provide Efficient Infrastructure
3. Concentrate Development
4. Increase Job Opportunities
5. Foster Sustainable Businesses
6. Restore and Enhance the Environment
7. Enhance Recreational and Heritage Resources
8. Expand Housing Opportunities
9. Plan Regionally; Implement Locally
10. Be Fair



Legal Basis

As the planning document for Pennsylvania, the Pennsylvania Municipalities Planning Code (MPC) requires that counties update and adopt their comprehensive plans every ten (10) years. A county comprehensive plan is defined as “a land use and growth management plan prepared by the county planning commission and adopted by the county commissioners which establishes broad goals and criteria for municipalities to use in preparation of their comprehensive plan and land use regulation.”







As required by the MPC, a comprehensive plan must contain a plan for the following elements:

-  Statement of Community Development Objectives
-  Land Use
-  Housing Plan
-  Movement of People and Goods
-  Community Facilities and Utilities
-  Protection of Natural Resources
-  Statement of the Interrelationships Among the Plan Elements
-  Implementation Strategy
-  Contiguous Municipalities Statement



In addition to these required elements for all comprehensive plans, a county comprehensive plan must also address the following issues:

-  Identify land uses as they relate to important natural resources and appropriate utilization of existing minerals
-  Identify current and proposed land uses which have regional impact and significance
-  Identify a plan for the preservation and enhancement of prime agricultural land
-  Identify a plan for historic preservation








Goal of the Comprehensive Plan

The overall goal of a comprehensive plan is to provide a description of how, and at what pace, a community desires to develop its land in order to direct growth and preserve natural resources and historic or cultural character, while strengthening its commercial and economic base. In addition, the comprehensive plan identifies what social aspects the community believes are important and provides strategies to improve the quality of life for its citizens by providing appropriate public services and improving the quality of the housing stock.

The Greene County Comprehensive Plan has been prepared in accordance with the Pennsylvania Municipalities Planning Code (Act 170 of 1988) and subsequent amendments. Although the plan is not a legally binding document, once adopted it will be the official statement for future development in the county. The plan's policy statements, developed by the County and adopted by its officials, should be used by County departments and local municipalities to support community decisions and prepare for future conditions.



The Greene County Comprehensive Plan is:

-  A set of general guidelines for future development of all land in a manner which will promote the public health, safety, morals and general welfare of all residents and business persons;
-  A tool to promote the public interests of all residents and business persons and nonresidents rather than the interests of individuals or special interests groups;
-  A public policy guide to decision making regarding the physical development of the county;
-  A strategy to guide leaders when making decisions about future land use, housing, economic development, natural, cultural and historic features, transportation, community facilities and services, parks, recreation and open space;
-  A statement of the past and present conditions of the communities;
-  A description of how and at what pace the communities desire to develop physically, economically and socially;
-  An expression of the communities' "vision" of the optimally desirable pattern of development for the future.



How to Use the Comprehensive Plan

The Greene County Comprehensive Plan, *Strategy for a Greene Tomorrow*, should be used in the following manner by the elected and appointed officials in order to help the County achieve its desired vision for future growth and development.

1. Support of Future Plans / Studies / Ordinances

Strategy for a Greene Tomorrow recommends many plan updates, ordinance updates, and studies to be developed either at the County or local level. The County will encourage and provide technical assistance for plan updates or studies that implement the County Comprehensive Plan.

2. Plan Review

The County will rely on *Strategy for a Greene Tomorrow* to review development plans, municipal comprehensive plans, or ordinances to ensure compatibility with the County's vision.

3. DRI Review

The County will rely on *Strategy for a Greene Tomorrow* to review any plans that are a "development of regional impact" (DRI). The County Comprehensive Plan outlines the overall development goals and policies, which will be the barometer by which other developments are judged.

4. Economic Incentives

Incentives will be reserved for areas designated as either "growth areas" or "future growth areas", which will encourage infill development and the integration of new development in a manner that complements existing growth trends and public investments.

5. Evaluating the Plan

Strategy for a Greene Tomorrow will be a living document that is regularly monitored and evaluated and updated as conditions warrant and in compliance with MPC requirements.

Compliance with Municipal Plans



As provided for in the MPC, once a county adopts a county comprehensive plan, any proposed action of the governing body of a municipality, its departments, agencies and appointed authorities within the county shall be submitted to the county planning agency for its recommendations if the proposed action relates to the following:

- The location, opening, vacation, extension, widening, narrowing or enlargement of any street, public ground, pierhead or watercourse
- The location, erection, demolition, removal or sale of any public structures located within the municipality
- The adoption, amendment or repeal of any comprehensive plan, official map, subdivision or land ordinance, zoning ordinance or provisions for planned residential development
- The construction, extension or abandonment of any water line, sewer line or sewage treatment facility

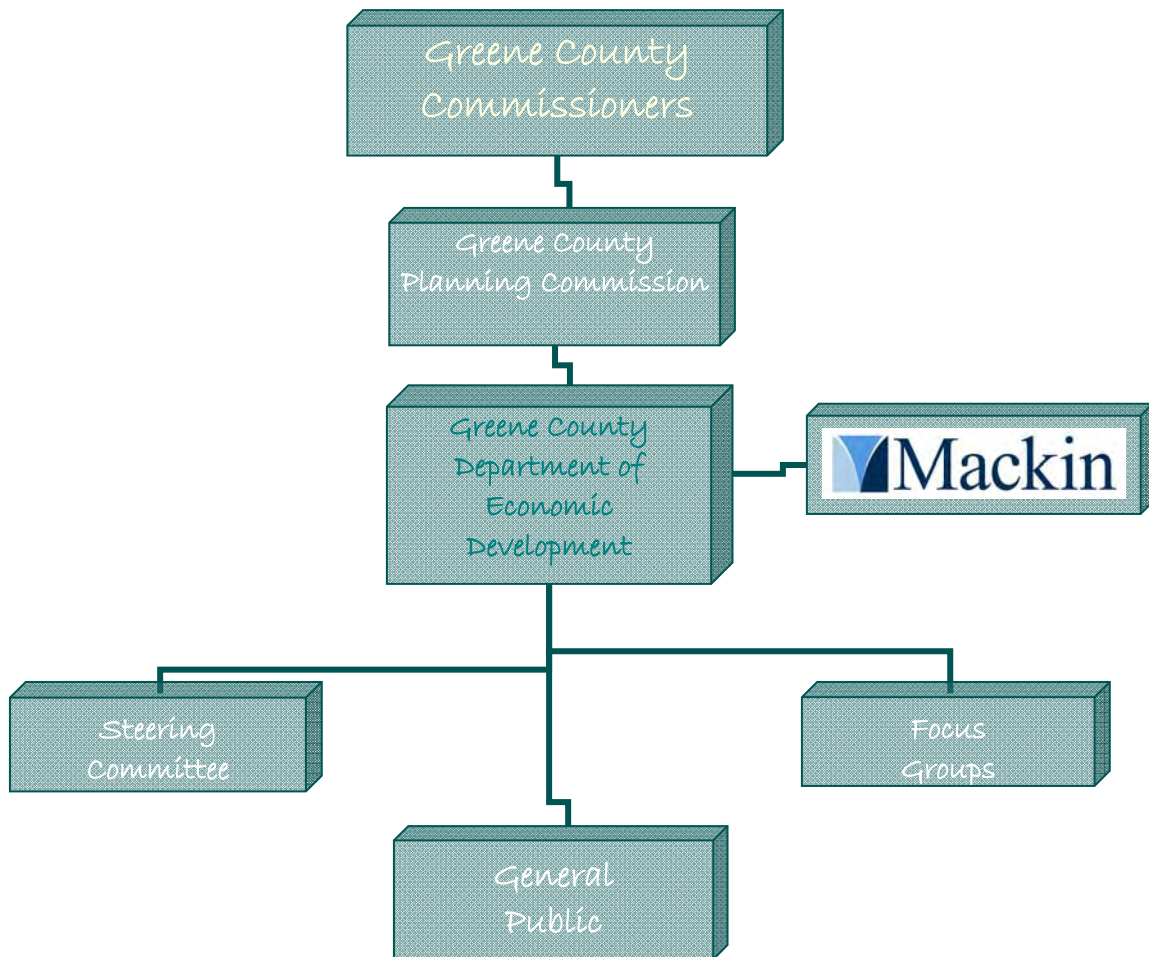
The recommendation of the County planning agency must be made to the municipality within 45 days and the proposed action cannot be taken until such a recommendation is made. If the county does not act within the 45 days, the municipality may proceed without the recommendation.

The MPC also contains a provision that states "when a municipality having a comprehensive plan is located in a county which has adopted a comprehensive plan, both the county and the municipality shall each give the plan of the other consideration in order that the objectives of each plan can be protected to the greatest extent possible."



Project Organization

A project of this magnitude requires participants who all work together to develop a realistic and viable plan. To ensure that the plan would reflect a cross-section of Greene County residents and business owners, the County planning process was structured to provide various types of forums to gather information and ideas. The project organizational chart is as follows:



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B. The Vision

The Comprehensive Plan is entitled "Strategy for a Greene Tomorrow" to reflect the desire to maintain the County's green and rural landscape, while planning for development that is mindful of the impact on the natural resources that are plentiful throughout the County. The Vision Statement and County Development Objectives that have been developed for the County mirror this concept.

In order to build the kind of community and region that people and their children want to live in, the "right" investments have to be made in the "right" places. While the Greene County Comprehensive Plan will contain recommendations for these investments, the recommendations should be a reflection of the current residents' wishes and desires. As a result, the County has developed the following vision statement based upon input received from the residents through a variety of mediums.

Greene County Vision Statement - 2030










"Greene County has expanded its economy through the development of the energy and extractive industries; diversified workforce; targeted expansion of infrastructure; and the provision of basic community services. Residents can choose from numerous housing options including, family homesteads, quaint village developments, or urban-style living. Working in collaboration across municipal and county lines, Greene County's leaders have increased its technological capabilities and tourism that celebrates its mining and agriculture heritage and rural landscape.

With the interstate and highway system as its foundation, Greene County has a multi-modal approach that encompasses connections to the regional trail and transit network, providing mobility and accessibility to outlying urban centers. The Monongahela River enhances the county's transportation system and serves as a conduit for recreational and economic activities.

As the cornerstone of Pennsylvania, Greene County provides a wonderful place to live by offering first-class healthcare, a high quality education system, family-supporting jobs, and an abundance of shopping, recreation, and entertainment. Hills are scattered with grazing livestock and valleys are traversed by pristine waterways, preserving the rural nature that residents and visitors cherish."

County Development Objectives

In accordance with the MPC, Article III Section 301 (a) (1), the following have been developed as "statements of objectives of the municipality concerning its future development, including, but not limited to, the location, character and timing of future development, that may also serve as statements of community development objectives." The County Development Objectives have been developed based upon public input received throughout the planning process and reflect the wishes and desires of the Greene County residents.

-  utilize the comprehensive plan as the blueprint to move the county forward in a positive direction
-  Direct investment to strategic locations that will strengthen the economy with an emphasis on the expansion of infrastructure
-  Continue to prioritize workforce development, such as job training, through collaboration between employers and educational providers
-  Ensure that all residents have access to basic community services
-  Ensure consistency by considering and integrating local municipal comprehensive plans and ordinances when planning future development
-  Seek county wide input into future development decisions
-  Ensure that development decisions provide a net benefit to the county, its municipalities and residents
-  Sustain services integral to the quality of life of residents by implementing sound land use practices when determining the best locations for future development
-  Open communication so that collaboration can take place within the county between its departments, agencies, key industries and businesses and the educational sectors



C. Public Involvement



It is essential to involve the public during all phases of the development of a comprehensive plan, particularly one for an entire county. Developing a plan for such a large geographic area inherently dictates that different parts of the county will have unique needs, issues and priorities for the future. This is particularly true for Greene County, where natural and topographic features direct development patterns. Therefore, Greene County implemented a countywide public participation process that would allow for all residents to provide their input during this important planning process. The public participation process consisted of a variety of methods designed to gather input from all segments of the population.

Steering Committee

The Greene County comprehensive planning effort was overseen by a Steering Committee, comprised of a cross-section of citizens representing businesses and industry, civic and social organizations, human service agencies, government bodies, and residents. The mission of the Steering Committee was to help identify both local and regional concerns, as well as set the foundation for developing consensus for plan recommendations. Steering Committee Members are listed on the Acknowledgements page at the beginning of this plan.

Public Surveys

The public participation process for the Greene County Comprehensive Plan was two-fold. The first round included the distribution of a public survey over a four-month period from July 2005 to October 2005. The survey methodology was by random distribution at public events and was not based upon a statistically valid sampling of County residents. County personnel attended 13 public events to distribute the survey to County Residents. Events included the Coal Show, Rainday, Greene County Fair, White Covered Bridge Festival, Ryerson Arts in the Parks Festival, Senior Fair at Greene County Fairgrounds, Greene County Harvest Day, and the Harvest Festival. The public surveys were also distributed at the five public meetings held in September of 2005 (one in each school district), the Water and Sewer Focus Group meeting and the SPC Transportation Public Participation Panel (PPP) meeting. A total of 779 surveys were completed and returned for analysis. All 26 municipalities were represented, though Franklin and Cumberland Townships residents accounted for over 33 percent of the total responses. The remaining 24 municipalities were spread out, ranging from a low of 0.28 percent in Carmichaels Borough to 7.63 percent in Jefferson Township. The average response rate for the municipalities was 3.78 percent. It should be noted that 1.8 percent of the respondents did not indicate which municipality.

-  Over 55 percent of respondents have lived in the County all of their life with 25 percent noting residency of 11 to 20 years.
-  The average age was between 36 and 60 years (55.51%) with persons over age 60 representing 24 percent of the respondents.

- Females were most likely to complete the survey (60%)
- The average respondent had a high school diploma (27.98%) and those with a college degree were the next likely to have completed the survey (18.88%)

The most important issue in Greene County regarding *answers generating 20 percent or more of the responses*:

Jobs and Economic Development

- Encourage development where it is most likely to create new, family supporting jobs (45.78%)

Open Space and the Environment

- Prevent new and clean up old damage to the environment from mining and related activities (42.72%)
- Clean up litter and roadside dumping (21.44%)

The top three issues in the County were as follows:

1. Jobs/economic opportunities (40.56%)
2. Housing (15.14%)
3. Transportation (10.77%)

Infrastructure

- Maintain and improve existing water/sewer services in established communities (28.16%)
- Expand water/sewer to undeveloped areas (24.51%)
- Expand water/sewer to developed areas (23.14%)

Housing

- Provide affordable housing (24.02%)
- Rehabilitate existing housing (23.07%)
- Offer a range of housing types (21.04%)

Government Services

- More cooperation among municipalities to plan for future development and growth (37.83%)
- More county provided services (Planning, grant writing, technical assistance, etc) (22.45%)

Cultural/Historical Assets

- Offer more youth oriented cultural programs (32.09%)



- Preserve/promote historical sites (27.88%)

Transportation

- Improve the safety of municipal roads (38.16%)
- Provide Public Transportation (29.75%)








Agriculture

- Help farmers keep their farms active (48.97%)
- Support and advertise the sale of local goods/farmer's markets (26.71%)

The public survey results were also tabulated and analyzed along the five school district boundaries to determine if certain issues were more important to a region than others. Table 1:1 Public Survey Results by School District lists the municipalities within each school district, percentage of the County's population that resides in that school district, and the percentage of responses to the survey within each district. While the surveys were not systematically distributed to provide a statistically valid sample, the results show that each district was fairly accurately represented by the survey responses. Central Greene and Carmichaels were represented slightly lower in the survey, while Western Greene and Jefferson Morgan were represented higher.

Table 1-1: Public Survey Results by School District			
Planning District	Municipalities	District % of County Population (40,672)	District % of Total Responses (721)
West Greene School District	<i>Aleppo, Center, Freeport, Gilmore, Gray, Jackson, Morris, Richhill and Springhill Townships</i>	14.55%	17.61%
Central Greene School District	<i>Franklin, Perry, Washington, Wayne and Whiteley Townships and Waynesburg Borough</i>	41.01%	35.09%
Southeastern Greene School District	<i>Dunkard, Greene and Monongahela Townships and Greensboro Borough</i>	11.83%	11.51%
Carmichaels Area School District	<i>Carmichaels Borough and Cumberland Township</i>	17.51%	15.26%
Jefferson Morgan School District	<i>Jefferson Borough, Jefferson Township, Morgan Township, Clarksville Borough, and Rices Landing Borough</i>	15.10%	18.72%

The demographic composition of the respondents for each of the planning districts was very similar as were many of the answers to survey questions. However, there were some differences that should be noted.

-  Litter and roadside dumping were emphasized as important issues in **Carmichaels Area, Central Greene and Jefferson Morgan** school districts.
-  Offering a range of housing types was important to those in **Carmichaels Area, Central Greene and Jefferson Morgan**
-  **Jefferson Morgan and Southeastern Greene** placed a special emphasis on the preservation of agricultural lands throughout the county, but helping to keep farms active and supporting the sale of local goods / farmers markets were important for all of the districts.
-  The rehabilitation of existing housing in established communities was more important in **Southeastern Greene and West Greene**.
-  While the preservation and promotion of cultural and historical sites was important to all districts, those sites along the Monongahela River were especially important to **Southeastern Greene**.
-  Expansion of public water / sewerage was the top priority in terms of infrastructure in **Central Greene**; while the maintenance of existing water / sewerage services was more important in the other districts.
-  The safety of municipal roads and the provision of public transportation were key items in all the districts, with **Central Greene** also stating they would like more opportunities to walk or bike places.

The second round of public surveys were conducted during the summer and fall months of 2007 by staff from the Greene County Department of Economic Development. This second survey was an effort to ensure that the information gathered between 2005 and 2007 was still accurate and to verify the priority issues and areas of concern. Residents were asked to identify their top issues for each planning element (Energy & Extraction, Housing, Economic Development, Agriculture, Historic, Land Use, Natural Resources, Public Facilities, Transportation and Utilities). The survey methodology was similar to the first round, by random distribution at public events and not based upon a statistically valid sampling of County residents. County personnel attended six (6) public events to distribute the survey to County Residents. Events included Rain Day, the Greene County Fair, the Coal Show, the Frontier Festival, Arts in the Park (Ryerson), and the Harvest Festival. The results of the survey revealed that the top priority issues for Greene County remained the same as those from the first survey.



Public Meetings

Public meetings were held in September of 2005, one in each of the five high schools throughout the County, in order to gain input on perceived assets, weaknesses, opportunities for preservation and/or growth and development. Meetings were open to the public and advertised via newspaper articles, radio announcements, and the distribution of flyers and posters. The meetings were attended as follows:

- 🔑 Monday, September 12, 2005 at West Greene: 10 people
- 🔑 Tuesday, September 13, 2005 at Jefferson-Morgan: 26 people
- 🔑 Wednesday, September 14, 2005 at Mapletown: 22 people
- 🔑 Tuesday, September 20, 2005 at Carmichaels: 8 people
- 🔑 Monday, September 26, 2005 at Waynesburg: 27 people

<u>Assets / Strengths</u>	
<i>Meeting 1: West Greene High School</i>	<ul style="list-style-type: none"> • Rural – quiet, low crime, natural beauty • I-79 – proximity to major roads (I-70, I-68, etc.) within region • Potential for development if I-68 comes into the county • Space/room to grow/develop
<i>Meeting 2: Jefferson-Morgan High School</i>	<ul style="list-style-type: none"> • I-79 • Geographic location – close to activity • Higher learning institutions • Not overcrowded • Safe environment • Jefferson-Morgan School District and technology assets • Beautiful environment
<i>Meeting 3: Mapletown High School</i>	<ul style="list-style-type: none"> • History • Mon River • The creeks • Wildlife
<i>Meeting 4: Carmichaels High School</i>	I-79
<i>Meeting 5: Waynesburg Central High School</i>	<ul style="list-style-type: none"> • Elected state legislators • Lots of money in coal and natural gas • Good place to raise family • Low-population density • Rural/natural beauty • Location between Pittsburgh and Morgantown

<u>Weaknesses / Deficiencies</u>	
<i>Meeting 1: West Greene High School</i>	<ul style="list-style-type: none"> • Lack of public water and sewerage • Lack of individual property owners – too many corporate/absentee owners • Lack of diverse economic base • Need to consolidate school districts – tax base can't support them
<i>Meeting 2: Jefferson-Morgan High School</i>	<ul style="list-style-type: none"> • High taxes (local, school district) • Mine subsidence • Need to upgrade public school systems • Lack of zoning • Morrisville bottleneck
<i>Meeting 3: Mapletown High School</i>	<ul style="list-style-type: none"> • High property tax rates • Illegal trash, littering along roads • Lack of identity in Southeastern Greene – no political power
<i>Meeting 4: Carmichaels High School</i>	<ul style="list-style-type: none"> • Inefficient/inadequate infrastructure (water, sewer, electricity) • Lack of jobs – family supporting
<i>Meeting 5: Waynesburg Central High School</i>	<ul style="list-style-type: none"> • Lack of good paying jobs • Lack of public water and sewerage • Lack of property maintenance • Too many municipalities (townships and boroughs) • Lack of job opportunities for young adults • No adequate job training for new companies wanting to come and those that are here
<u>Areas for Preservation</u>	
<i>Meeting 1: West Greene High School</i>	<ul style="list-style-type: none"> • Ryerson Station State Park • Need public water access in rural areas for agriculture lands – wells ruined by mining • Watershed protection • Mason Dixon markers (Perry & Wayne Townships)
<i>Meeting 2: Jefferson-Morgan High School</i>	<ul style="list-style-type: none"> • Swinging bridge in Pit Gas across Ten-mile Creek • Farmlands and agricultural lands • Look into historic preservation ordinances • Covered bridges • Dry Tavern single-family homes/senior housing • Keep Greene County green – include trees in development with open space
<i>Meeting 3: Mapletown High School</i>	<ul style="list-style-type: none"> • Keep Mon River clean • Waterways, creeks • Reclaim Shannopin Mine lands



<i>Meeting 4: Carmichaels High School</i>	<ul style="list-style-type: none"> • Watersheds and creeks • Historic sites, buildings
<i>Meeting 5: Waynesburg Central High School</i>	<ul style="list-style-type: none"> • Preserve green and open space around Waynesburg – do not develop all of Waynesburg • Community history and heritage • Waterways • Public Libraries • Western half of county • Open spaces • Small communities • Small “mom & pop” businesses
<u>Growth / Development</u>	
<i>Meeting 1: West Greene High School</i>	<ul style="list-style-type: none"> • Move airport to Carmichaels to utilize site for development because of access to I-79 • Corner of state – develop and market • Monongahela River – recreation development (boat launches, trail)
<i>Meeting 2: Jefferson-Morgan High School</i>	<ul style="list-style-type: none"> • Monongahela River (recreation, tourism) • Need to benefit entire county, not just central Greene • Housing around Ruff Creek exit on I-79 • I-79 interchanges • Area around Giant Eagle development • SR 21/ SR 88/ SR 188 major arteries
<i>Meeting 3: Mapletown High School</i>	<ul style="list-style-type: none"> • I-79 corridor • Mon River • SR 88 at Cabbage flats (needs public sewerage, decrease taxes)
<i>Meeting 4: Carmichaels High School</i>	<ul style="list-style-type: none"> • I-79 corridor • Mon River waterfront – commercial and recreation development
<i>Meeting 5: Waynesburg Central High School</i>	<ul style="list-style-type: none"> • I-79 Mount Morris Exit (industrial, recreation) • Re-investment in empty buildings in Carmichaels and Waynesburg • Expansion of airport • Sustainable economy • Build on existing infrastructure • Living wage jobs



A. Background

Meeting the service and facility needs of county residents, business, and industry sectors necessitates that elected officials understand the socio-economic structure of Greene County. Data used in this section were taken from the U.S. Census Bureau (2000 Census), the Pennsylvania Department of Education, and the Pennsylvania Department of Labor and Industry. In addition, the population projections contained in this section are taken from the Southwestern Pennsylvania Commission (SPC) Cycle VIII Long Range Forecast (adopted on June 28, 2007).

Planning Region

Figure 2-1: Planning Region depicts the counties that are included in the Planning Region used throughout the Greene County Comprehensive Plan.

Figure 2-1: Planning Region



Greene County is a member of the Southwestern Pennsylvania Commission (SPC), the metropolitan planning organization for the Pittsburgh Region consisting of ten counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland; and the City of Pittsburgh. SPC is responsible for developing the Long Range Forecast as well as the Transportation Improvements Program, and a host of other transportation, economic development, and planning activities. Knowing how the County compares to others in the SPC is useful, since it often competes with them for funding opportunities. The Commonwealth of Pennsylvania and the State of West Virginia are also included in this demographic data analysis to provide state level comparisons.

The Planning Region was additionally defined by adjacent counties and commuting patterns. Using these criteria, the Planning Region includes SPC counties and also Marion, Marshall, Monongalia and Wetzel Counties in West Virginia. Changes in these counties have both a direct and indirect impact on Greene County's economy. Improvements in the Planning Region have a positive impact within the Commonwealth, nationally and internationally. County officials should work to strengthen communication and collaboration efforts to foster new partnerships and capitalize on new prospects within the Planning Region, as defined in this Comprehensive Plan.

Demographic Snapshot

Greene County is the third smallest county in terms of square miles in Southwestern Pennsylvania and has the lowest population at 40,672 residents in 2000 and an estimated 40,432 in 2006 according to the United States Census. As the most rural county, there are just 15,000 households located throughout the County, with most of the residents living in or around Waynesburg, the County seat, or in the northeastern portion of the County along the Monongahela River. The population is predominantly white with 25 percent of the residents under the age of 20 and 15 percent at least 65 years old. The population is projected to increase by almost 2,000 residents, to 42,469 in 2035 (SPC Cycle VIII, 2007).

Greene County has been experiencing an economic upswing. Coal mining continues to play a dominant role in the County's industry, although public administration is now the top employment sector. The County's unemployment rate has decreased annually since 2003 and is projected to experience an increase of more than 3,000 jobs by 2035 in the Services Industry (SPC Cycle VIII, 2007). Typical examples include warehousing; information; finance and insurance; real estate; professional, scientific, and technical services; management; administrative and support services; educational services; health care and social assistance; arts, entertainment, and recreation; and public administration. The median household income has increased annually since 2001 and was estimated at \$32,551 in 2004 (US Dept of Labor & Industry). Chapter 2: Demographics analyzes the population trends and projections and statistics related to employment, income levels, housing stock, and other factors to provide a realistic portrait of existing conditions in the County to better prepare planning for the future.



B. Data & Analysis

Population

Total Population: 1960-2000

Greene County, with a 2000 Census population of 40,672, has the lowest county population in the SPC Region, as shown in Table 2-1. Greene County petitioned the state to be classified as a county of the sixth class, which includes those having a population between 45,000 and 95,000 or those having a population between 35,000 and 45,000 and pass an ordinance or resolution to become a county of the sixth class. As a result, Greene County has over 30,000 less people than its sixth class counterparts in the SPC Region, Armstrong and Indiana.

In terms of the Planning Region, Greene County had the third lowest population in 2000. The City of Morgantown, home to West Virginia University, is located in Monongalia County and directly connected to Waynesburg via I-79. Monongalia has the highest population out of the four West Virginia counties in the Planning Region and in 2000, it was more than double that of Greene County. Marion County has the second highest population of the four West Virginia counties, more than 15,000 higher than Greene County. The City of Fairmont is located in Marion and accounts for over a third of the county population. Marshall County has just slightly lower population than Greene, while Wetzel is by far the smallest at just 17,693 residents in 2000.

The Census breaks group quarters into two categories: institutionalized and non-institutionalized populations. Institutionalized population includes people in correctional institutions, nursing homes, hospitals/wards, and juvenile institutions. Non-institutionalized population includes college dormitories, military quarters, group homes, religious group quarters, dormitories, maritime vessel crews, other non-household living situations and other non-institutionalized group quarters.

According to the Census, Greene County had 3,267 persons living in group quarters in 2000. Of those, 2,529 were institutionalized while 738 were non-institutionalized. The majority of the institutionalized persons were in correctional facilities (2,212), while the majority of the non-institutionalized were living in college dormitories (515). It is important to note that the opening of the State Correctional Institution (SCI) Greene near Waynesburg in 1993 had a significant impact on the County's 2000 population, composition, and changes between the 1990 and 2000 Census.

Greene County's population analysis could easily be misinterpreted due to the population in correctional institutions, which is 5.4 percent of the total or 2,212 persons. In comparison, Allegheny and Westmoreland Counties have just 0.4 percent of their population classified as institutionalized. Allegheny and Westmoreland were the only

other two counties in Southwestern Pennsylvania for the 2000 Census that had state correctional facilities. SCI Fayette did not open until 2003. Therefore, Greene County's population data has been adjusted (when available) to reflect the population figures without the correctional institution population, in order to provide a more accurate comparison to the surrounding counties and region.

Table 2-1 also shows each county's population in ten-year increments beginning in 1960 and ending in 2000. Unlike most of the comparison counties and the SPC Region itself, Greene County has shown little change in population over the last forty years, despite a loss in population between 1960 and 1970.

Table 2-1: Total Population: Planning Region, 1960-2000						
County Class	County Name	1960	1970	1980	1990	2000
2	Allegheny	1,628,587	1,605,133	1,450,195	1,336,449	1,281,666
6	Armstrong	79,524	75,590	77,768	73,478	72,392
4	Beaver	206,948	208,418	204,441	186,093	181,412
4	Butler	114,639	127,941	147,912	152,013	174,083
5	Fayette	169,340	154,667	159,417	145,351	148,644
6*	Greene	39,424	36,090	40,476	39,550	40,672
6*	Greene (no CI)	39,424**	36,090**	40,476**	39,254	38,460
6	Indiana	75,366	79,451	92,281	89,994	89,605
5	Lawrence	112,965	107,374	107,150	96,246	94,643
4	Washington	217,271	210,876	217,074	204,584	202,897
3	Westmoreland	352,629	376,935	392,184	370,321	369,993
	<i>SPC Region</i>	<i>2,996,693</i>	<i>2,982,475</i>	<i>2,888,898</i>	<i>2,694,079</i>	<i>2,656,007</i>
	Pennsylvania	11,319,366	11,800,766	11,864,720	11,881,643	12,281,054
	Marion	63,717	61,356	65,789	57,249	56,598
	Marshall	38,041	37,598	41,608	37,356	35,519
	Monongalia	55,617	63,714	75,024	75,509	81,866
	Wetzel	19,347	20,314	21,874	19,258	17,693
	West Virginia	1,860,421	1,744,237	1,949,644	1,793,477	1,808,344
* by petition						
** no correctional institution population data available						
Source: Southwestern Pennsylvania Commission						



Population Trends: 1960-2000

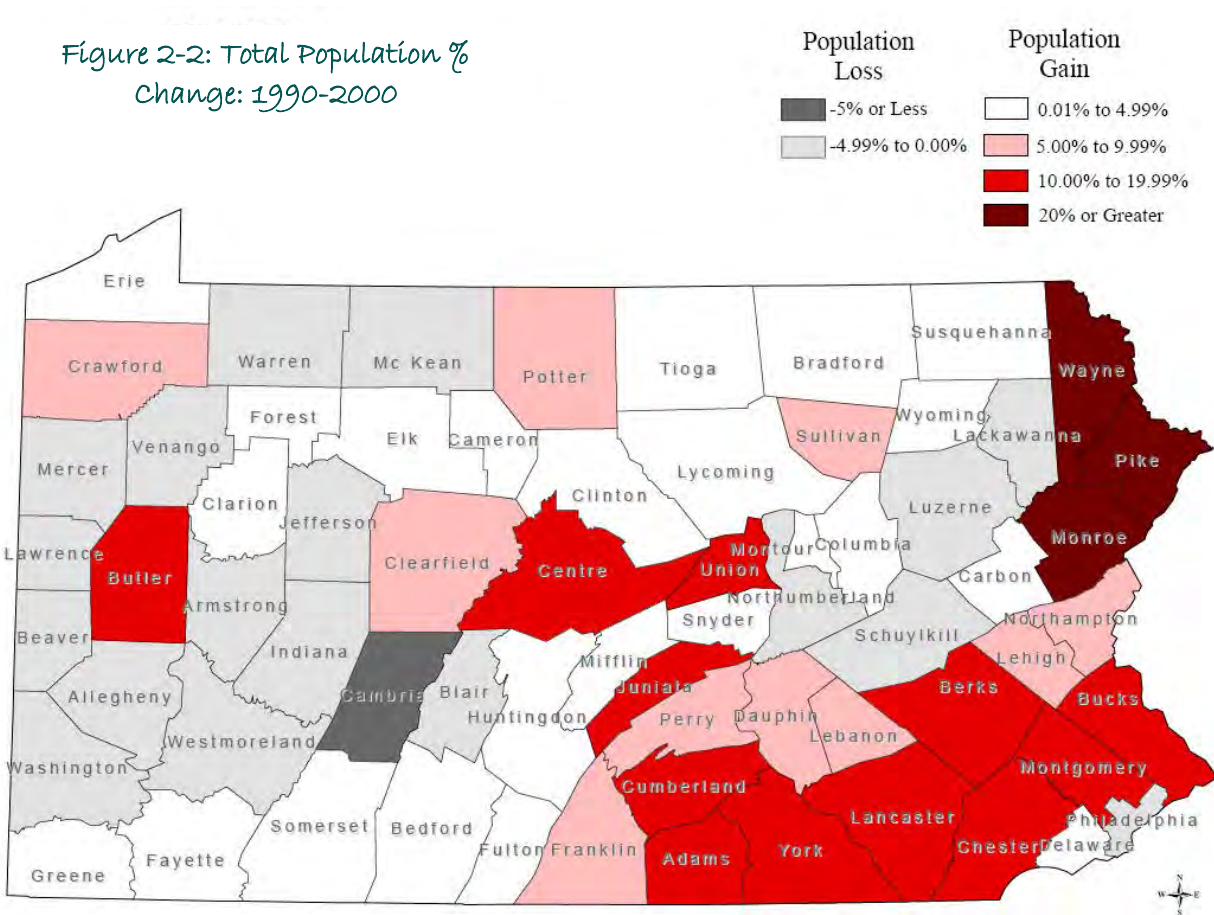
Table 2-2 displays the percent change in population from 1960 to 2000. Without accounting for population in correctional institutions, Greene County experienced a 3.2 percent increase in population over the last forty years, one of only four counties in the SPC Region to grow (the others being Butler, Indiana, and Westmoreland Counties).

Table 2-2: Planning Region Population Percent Change, 1960-

	1960-2000	1960-1970	1970-1980	1980-1990	1990-2000
Allegheny	-21.3	-1.4	-9.7	-7.8	-4.1
Armstrong	-9	-4.9	2.9	-5.5	-1.5
Beaver	-12.3	0.7	-1.9	-9	-2.5
Butler	51.9	11.6	15.6	2.8	14.5
Fayette	-12.2	-8.7	3.1	-8.8	2.3
Greene	3.2	-8.5	12.2	-2.3	2.8
Greene (no CI)	-2.4	-8.5	12.2	-3	-2
Indiana	18.9	5.4	16.1	-2.5	-0.4
Lawrence	-16.2	-4.9	-2.2	-10.2	-1.7
Washington	-6.6	-2.9	2.9	-5.8	-0.8
Westmoreland	4.9	6.9	4	-5.6	-0.1
SPC Region	-11.4	-0.5	-3.1	-6.7	-1.4
Pennsylvania	8.5	4.3	0.5	0.1	3.4
Marion	-3.7	7.2	-13	-1.1	-11.2
Marshall	-1.2	10.7	-10.2	-4.9	-6.6
Monongalia	14.6	17.8	0.6	8.4	47.2
Wetzel	5	7.7	-12	-8.1	-8.5
West Virginia	-6.2	11.00%	-8	0.8	-2.8

Source: U.S. Census, 2000

Figure 2-2 displays statewide county population change from 1990 to 2000.



Source: U.S. Census Bureau, 2000 Census

Though West Virginia is not included in Figure 2-2, it is important to note that Monongalia County is experiencing a heavy population growth, particularly between 1990 and 2000 (refer to Table 2-2: Planning Region Population Percent Change, 1960-2000 on page 2-5). Similar to Butler County, Monongalia's population increase may be a result of lower taxes in West Virginia and the presence of both Morgantown and West Virginia University.



Land Area

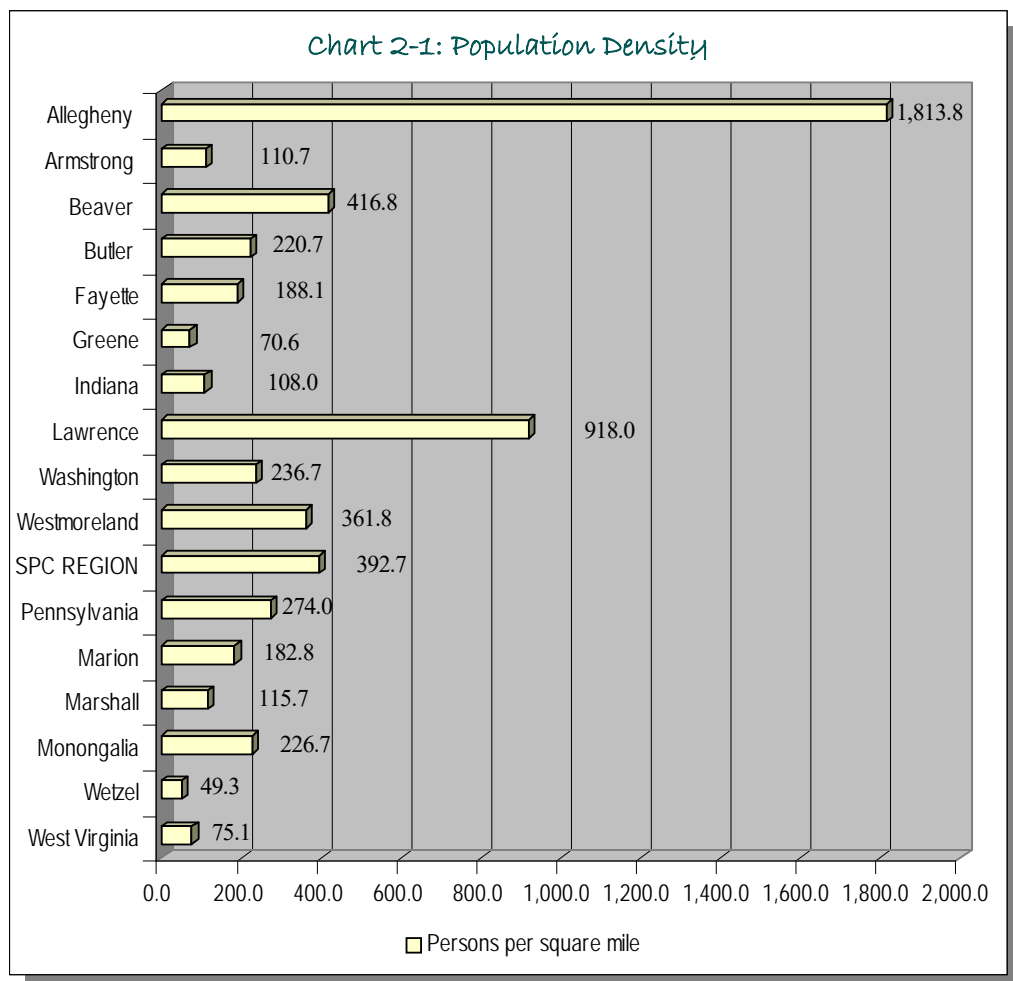
The size of each county in the Planning Region in terms of land area is listed in Table 2-3: Land Area. At 575.9 square miles, Greene County is the third smallest county in the SPC Region but is much larger than all four of the counties in West Virginia.

Table 2-3: Land Area		
	Total Population	Land Area* (sq mi)
Allegheny	1,281,666	706.6
Armstrong	72,392	654
Beaver	181,412	435.3
Butler	174,083	788.6
Fayette	148,644	790.1
Greene	40,672	575.9
Indiana	89,605	829.5
Lawrence	94,643	103.1
Washington	202,897	857.1
Westmoreland	369,993	1022.6
Pennsylvania	12,281,054	44,819.60
Marion	56,598	309.7
Marshall	35,519	307
Monongalia	81,866	361.2
Wetzel	17,693	359.2
West Virginia	1,808,344	24,086.60

Source: US Census Bureau; * Land Area data was taken from 1990

Population Density

Population density is measured by dividing the total population of a land area by the total number of square miles for that area. Chart 2-1: Population Density displays the population densities for each of the counties in the Planning Region. Greene County is the third smallest county in the SPC Region in terms of land area and it has the lowest population density out of all the counties in the SPC region, with only 70.6 persons per square mile.





Urban vs. Rural Population

Urban is defined by the U.S. Census (2000) as “all territory, population, and housing units located within an urbanized area (UA) or an urban cluster (UC)”. It delineates UA and UC boundaries to encompass densely settled territory, which consists of “core census block groups or blocks that have a population density of at least 1,000 people per square mile”; and “surrounding census blocks that have an overall density of at least 500 people per square mile” Rural is defined by as “all territory, population, and housing units located outside of UAs and UCs” (OnLine: http://www.census.gov/geo/www/ua/ua_2K.html).

Table 2-4: Urban & Rural Population, 2000 shows that Greene County is classified by the U.S. Census as having a population that is classified as 31 percent urban, which is the lowest in the entire Planning Region. Not only is the County the most rural, but 1.6 percent of its population lives on farms, which is second only to Marshall County, West Virginia.

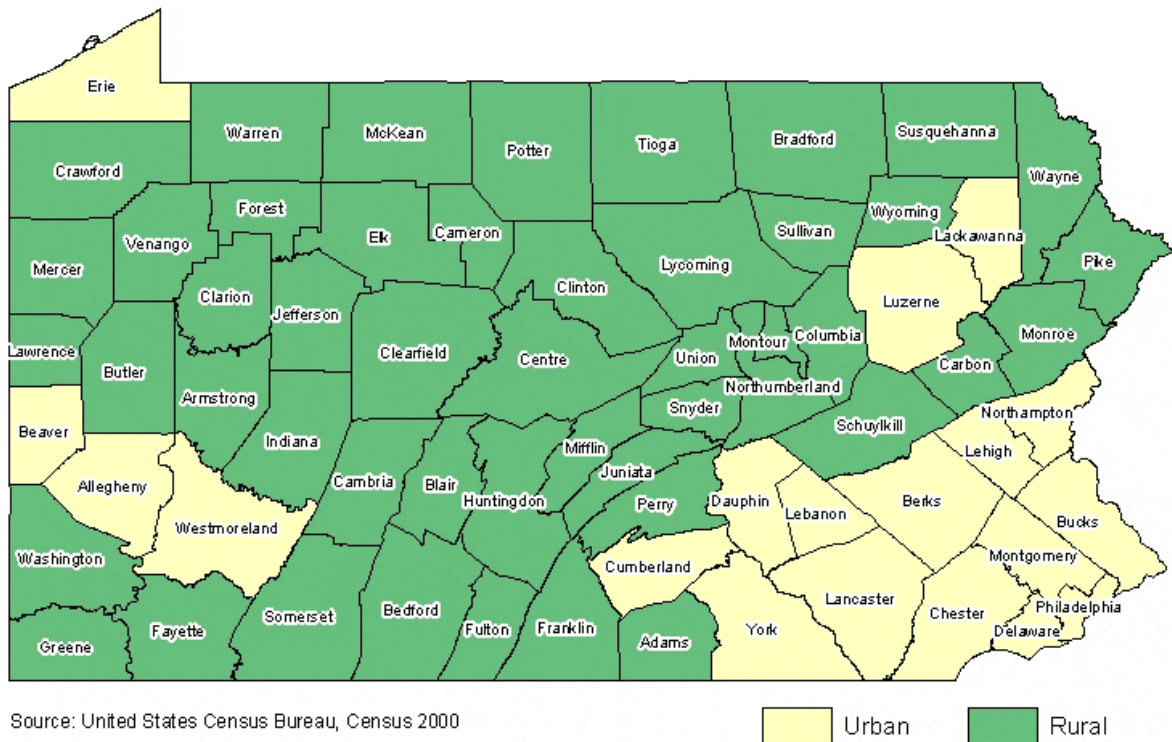
Table 2-4: Urban & Rural Population, 2000				
	Total	Urban	Rural	Farm*
Allegheny	1,281,666	97.3%	2.7%	0.0%
Armstrong	72,392	36.9%	63.1%	1.2%
Beaver	181,412	73.2%	26.8%	0.3%
Butler	174,083	53.3%	46.7%	0.9%
Fayette	148,644	53.2%	46.8%	0.8%
Greene	40,672	31.3%	68.7%	1.6%
Indiana	89,605	37.9%	62.1%	1.4%
Lawrence	94,643	58.9%	41.1%	1.2%
Washington	202,897	63.1%	36.9%	0.8%
Westmoreland	369,993	74.3%	25.7%	0.4%
Pennsylvania	12,281,054	77.0%	23.0%	0.7%
Marion	56,598	58.5%	41.5%	0.6%
Marshall	35,519	50.3%	49.7%	2.0%
Monongalia	81,866	68.3%	31.7%	0.6%
Wetzel	17,693	46.4%	53.6%	1.5%
West Virginia	1,808,344	46.1%	53.9%	1.2%

Source: U.S. Census, 2000; * "Farm" represents a percentage of the total population

In 2003, the Center for Rural Pennsylvania adopted a definition of rural and urban that, while it is based on population density, differs from that of the U.S. Census. According to the Center for Rural Pennsylvania, a county or school district is rural when the number of persons per square mile within the county or school district is less than 274 (the population density of Pennsylvania). Counties and school districts that have 274 persons or more per square mile are considered urban.

The Center found that 48 of Pennsylvania's 67 counties are rural. In 2000, nearly 3.4 million residents, or 28 percent of the state's 12.3 million residents, lived in a rural county. The county classification includes every resident living in every municipality in the county - both rural and urban. At the county level, when the county is considered rural, then all of the residents in the county are considered rural. Figure 2-3: Pennsylvania's Rural Counties displays the counties in Pennsylvania as either urban or rural, according to the definition applied by the Center for Rural Pennsylvania. Using this definition, only Allegheny, Beaver and Westmoreland Counties are considered urban in the SPC Region.

Figure 2-3: Pennsylvania's Rural Counties

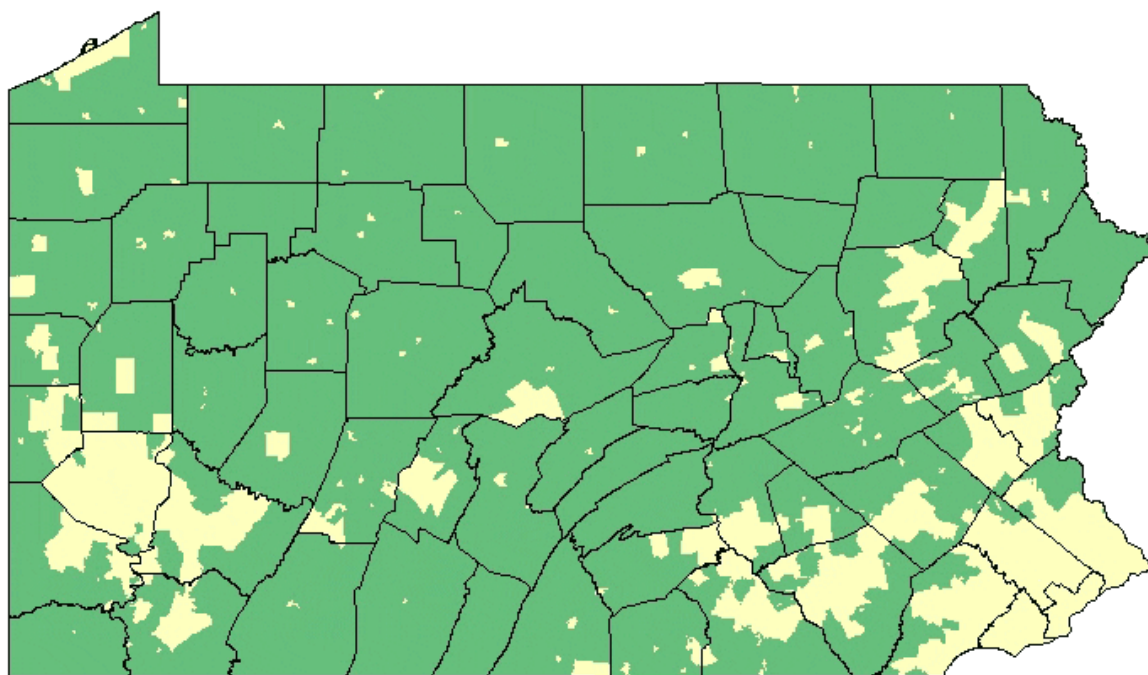




According to the Center's definition, a municipality is rural when the population density within the municipality is less than 274 persons per square mile or the municipality's total population is less than 2,500, unless more than 50 percent of the population lives in an urbanized area, as defined by the U.S. Census Bureau. All other municipalities are considered urban. The municipal definition only includes those residents who live in a rural municipality, regardless of whether the county is considered rural or urban. Using this definition, it is possible to have an urban municipality in a rural county and a rural municipality in an urban county. At the municipal level, 1,655 municipalities are rural, or 64 percent of the state's 2,576 municipalities. In 2000, more than 2.8 million people lived in a rural municipality, or 24 percent of the state's 12.3 million residents (On Line http://www.ruralpa.org/rural_urban.html).

Figure 2-4: Pennsylvania's Rural Municipalities displays the municipalities in Pennsylvania as either urban or rural, according to the definition applied by the Center for Rural Pennsylvania. Greene County has one municipality, Waynesburg Borough, that is considered urban.

Figure 2-4: Pennsylvania's Rural Municipalities



Source: United States Census Bureau, Census 2000

Urban Rural

Age Cohorts

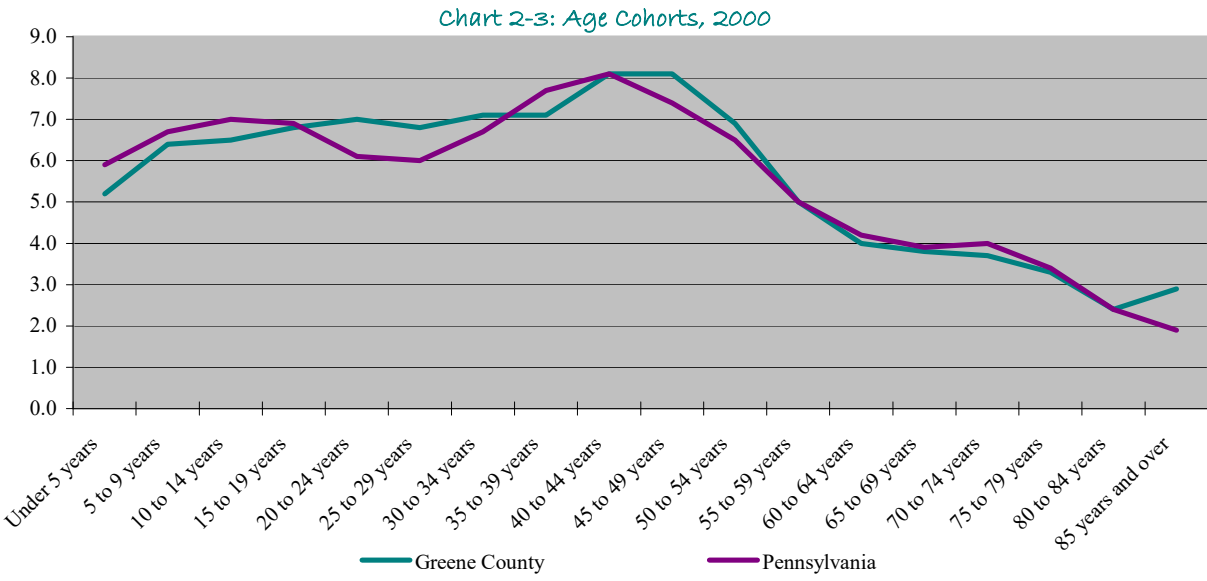
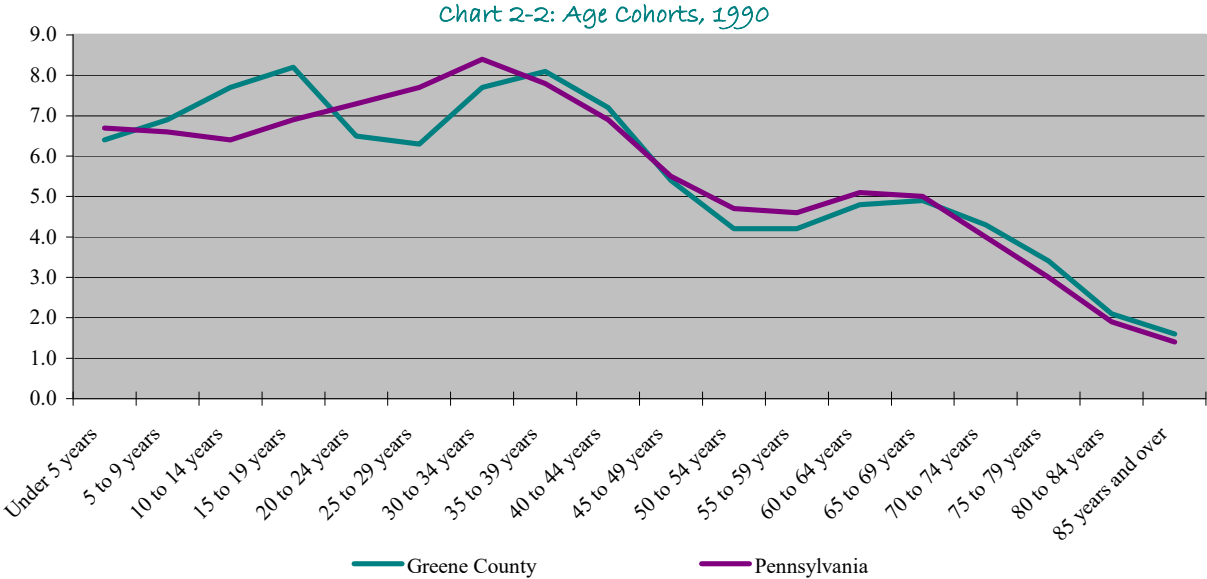
As reported by the Brookings Institution Center on Urban and Metropolitan Policy (2003), nationwide, between 1990 and 2000, Pennsylvania had the ninth-largest percentage loss of persons between 25-34 years of age. As shown in Table 2-5: Age Cohorts, Greene County experienced a decrease in the following age cohorts: 0-5; 5-19; 30-39; 60-79. In fact, Greene County actually experienced a slight increase in persons between the ages of 20-29 and a larger increase in persons 40-59.

Table 2-5: Age Cohorts, % of Total Population (1990 & 2000)				
	Greene County	Pennsylvania	Greene County	Pennsylvania
	1990		2000	
Total Population	39,550	11,881,643	40,672	12,281,054
Under 5 years	6.4	6.7	5.2	5.9
5 to 9 years	6.9	6.6	6.4	6.7
10 to 14 years	7.7	6.4	6.5	7
15 to 19 years	8.2	6.9	6.8	6.9
20 to 24 years	6.5	7.3	7	6.1
25 to 29 years	6.3	7.7	6.8	6
30 to 34 years	7.7	8.4	7.1	6.7
35 to 39 years	8.1	7.8	7.1	7.7
40 to 44 years	7.2	6.9	8.1	8.1
45 to 49 years	5.4	5.5	8.1	7.4
50 to 54 years	4.2	4.7	6.9	6.5
55 to 59 years	4.2	4.6	5	5
60 to 64 years	4.8	5.1	4	4.2
65 to 69 years	4.9	5	3.8	3.9
70 to 74 years	4.3	4	3.7	4
75 to 79 years	3.4	3	3.3	3.4
80 to 84 years	2.1	1.9	2.4	2.4
85 years and over	1.6	1.4	2.9	1.9

Source: US Census



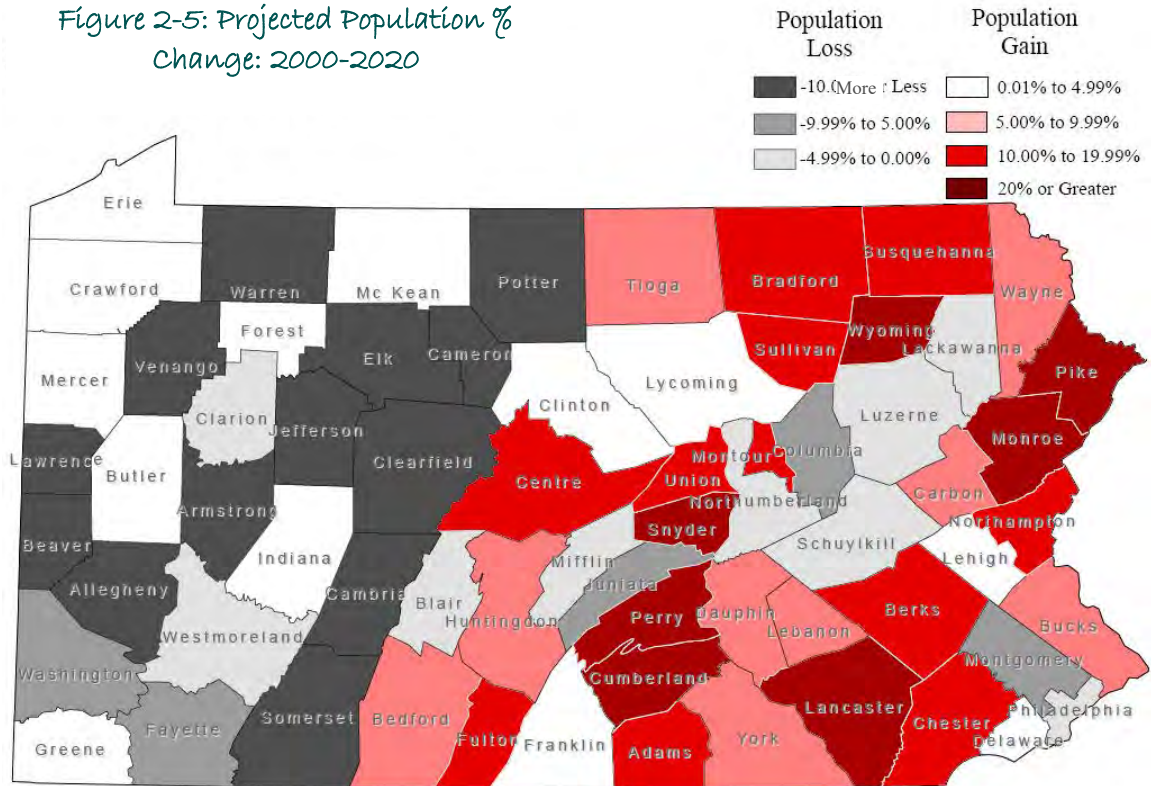
Chart 2-2: Age Cohorts, 1990 and Chart 2-3: Age Cohorts, 2000 present a comparison of age cohorts for Greene County and Pennsylvania.



Population Projections

Identifying the potential for future population fluctuations is important for projecting where to dedicate funds to accommodate expected growth. Figure 2-5 visually represents population projections provided by the U.S. Census for the period of 2000 to 2020. As can be seen by this representation, Greene County is expected to experience a slight population gain of between 0.01 and 4.99 percent.

Figure 2-5: Projected Population % Change: 2000-2020



Source: U.S. Census Bureau, 2000 Census





According to the U.S. Census population projections, Butler, Indiana, and Greene Counties are expected to experience slight population increases, while all other counties that comprise SPC are expected to lose population by 2020. Allegheny, Armstrong, Beaver, and Lawrence are expected to have losses greater than ten percent.

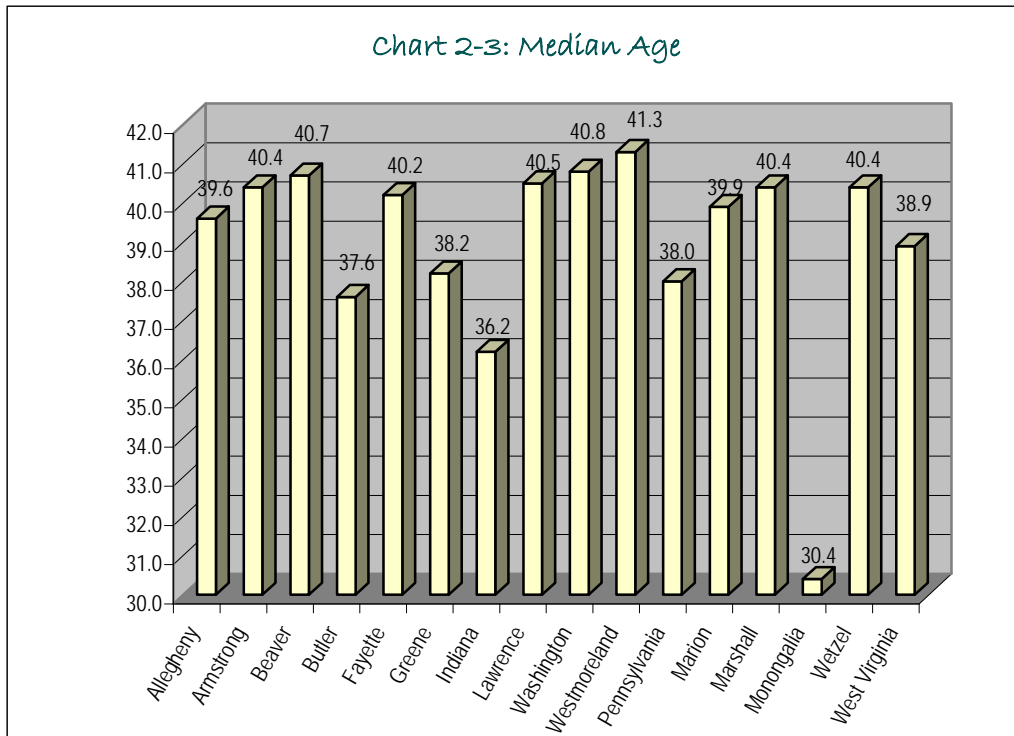
SPC released their Cycle VIII Forecast in 2007, which contains population projections for the counties that comprise SPC, as shown in Table 2-6: SPC Population Projections, 2035. According to SPC's projections, all counties within the SPC Region are expected to experience an increase in population by 2035. Greene is projected to grow in population by seven percent (7%); while the lowest in the region, is an improvement compared to recent population trends. Of the ten counties, Butler is expected to continue experiencing the highest rate of population increase, though Beaver, Fayette, Lawrence, and Washington are all expected to see population increases of more than 20 percent. Overall, Southwestern Pennsylvania's population is expected to grow by approximately 18 percent over the next 25 years. However, it is expected to grow very little over the next 15 years.

Table 2-6: SPC Population Projections, 2035			
	2005	2035	% Change
Allegheny	1,235,817	1,421,883	15.1%
Armstrong	70,779	78,305	10.6%
Beaver	177,514	216,147	21.8%
Butler	186,923	247,517	32.4%
Fayette	148,418	183,676	23.8%
Greene	39,682	42,469	7.0%
Indiana	88,531	96,608	9.1%
Lawrence	92,824	111,775	20.4%
Washington	201,412	250,442	24.3%
Westmoreland	365,494	426,733	16.8%
Total for SPC Area	2607394	3,075,555	18.0%
Source: SPC Cycle VII Forecast (2007)			

Since there are differing reports on the future population projections for Greene County, the yearly trends should be closely monitored. It will be important to develop a monitoring system that can identify increases in certain age groups if the county wishes to plan for particular services and facilities.

Median Age

Chart 2-3 displays the median age of the population for the Planning Region. As shown, Greene County's median age is the third youngest in the SPC Region and fourth overall. Again, it must be noted that the median age does not account for the institutionalized population. Greene County's median age is similar to that of the Commonwealth of Pennsylvania.





Population by Race

As shown in Table 2-7, the racial composition of the Planning Region is primarily homogenous, with the majority of the counties – eleven out of fourteen - having over 95 percent white population. Only Allegheny County reflects Pennsylvania in regard to percent of population by race. The remaining counties, both in Pennsylvania and West Virginia are over 90 percent white.

Table 2-7: % of Population by Race				
	White	African American	Asian	All Other Races
Allegheny County	84.3	12.4	1.7	1.5
Armstrong County	98.3	0.8	0.1	0.7
Beaver County	92.5	6.0	0.3	1.2
Butler County	97.8	0.8	0.6	0.8
Fayette County	95.3	3.5	0.2	0.9
Greene County	95.1	3.9	0.2	0.8
Greene County (no CI)	98.3	0.6	0.2	0.9
Indiana County	96.9	1.6	0.7	0.9
Lawrence County	95.0	3.6	0.3	1.1
Washington County	95.3	3.3	0.4	1.1
Westmoreland County	96.6	2.0	0.5	0.8
Pennsylvania	85.4	10.0	1.8	2.8
Marion County	95.1	3.2	0.4	1.3
Marshall County	98.4	0.4	0.3	0.9
Monongalia County	92.2	3.4	2.5	1.9
Wetzel County	98.9	0.1	0.3	0.7
West Virginia	95.0	3.2	0.5	1.3

U.S. Census Bureau, 2000

Municipal Population Data

The 26 political subdivisions within Greene County include twenty (20) second class townships and six (6) boroughs. Understanding where the population lives within Greene County is important when determining the future location of such things as housing and water and sewer facilities. For instance, if the majority of the population is clustered in one section of the county, it would behoove the elected officials to ensure that local municipal services and infrastructure systems are equipped to handle service demands in that area.

At the onset of the county comprehensive planning process, the County was divided into five planning districts following school district boundaries. Public input results were tabulated by district and compared to each other, in order to determine what the unique interests and issues were facing each district. Therefore, while the municipal population data is mapped and discussed in terms of municipality, it is also discussed in terms of district. Table 2-8: Greene County School Districts lists the municipalities under each school district.

<i>Table 2-8: Greene County School Districts</i>		
School District	Municipality	District % of County Population
Carmichaels School District	<i>Carmichaels Borough and Cumberland Township</i>	17.51%
Central Greene School District	<i>Franklin, Perry, Washington, Wayne and Whiteley Townships and Waynesburg Borough</i>	41.01%
Jefferson Morgan School District	<i>Jefferson Borough, Jefferson Township, Morgan Township, Clarksville Borough, and Rices Landing Borough</i>	15.10%
Southeastern Greene School District	<i>Dunkard, Greene and Monongahela Townships and Greensboro Borough</i>	11.83%
West Greene School District	<i>Aleppo, Center, Freepport, Gilmore, Gray, Jackson, Morris, Richhill and Springhill Townships</i>	14.55%
U.S. Census Bureau, 2000		



Almost half of the population in Greene County can be found in the central portion of the county that comprises Central Greene School District. Combined with the northeastern portion (containing both the Carmichaels and Jefferson Morgan school districts), these 13 municipalities account for approximately three-quarters of the total County population. The remaining quarter population lives in the western half of the county and the southeastern corner.

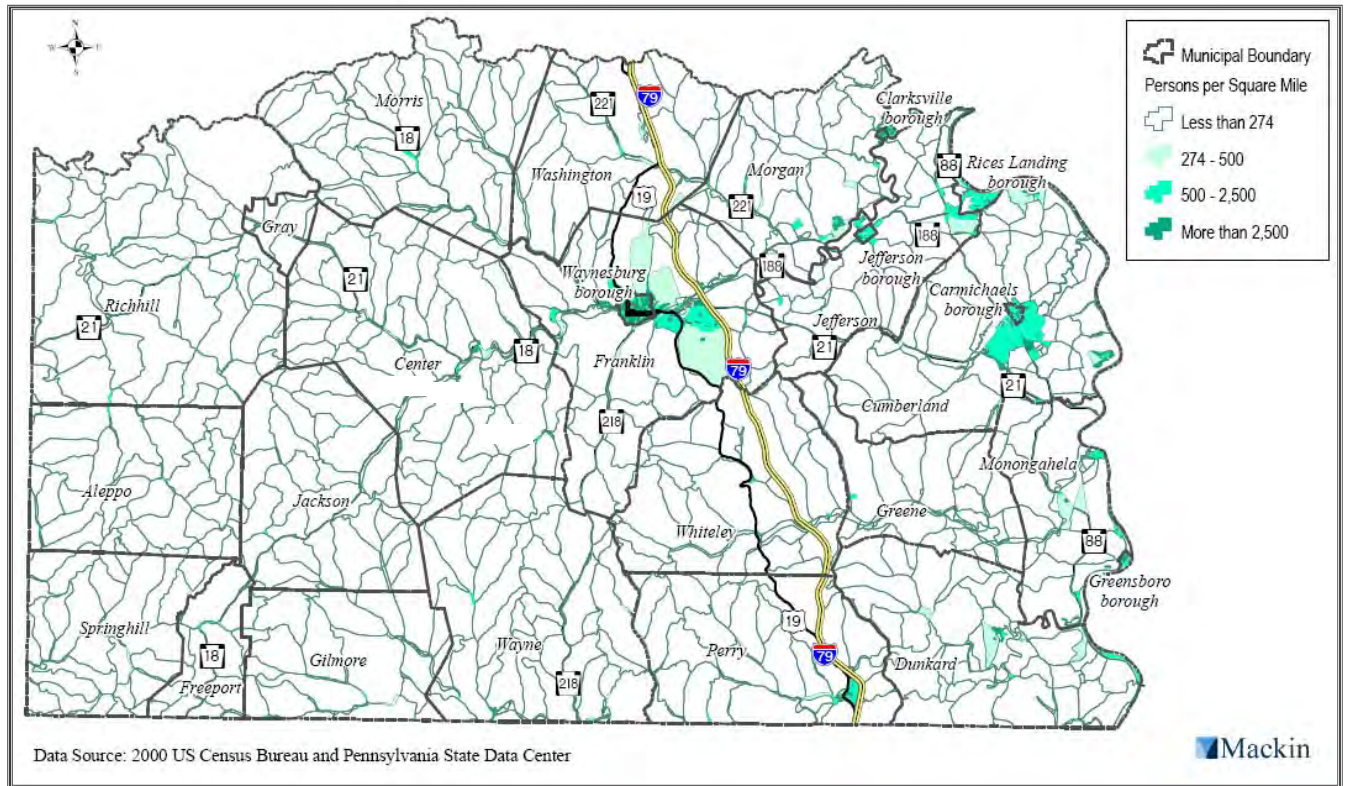
The only municipalities in Greene County that have a population density of at least 200 people per square mile are the six boroughs. According to the U.S. Census, an area must meet the census block density condition of at least 500 people per square mile to be considered an urban area. The urban areas in Greene County include Waynesburg Borough, Carmichaels Borough and portions of Franklin Township and Cumberland Township that are contiguous to the boroughs. Using the Center for Rural Pennsylvania, a municipality is rural when the population density is less than 274 persons per square mile (the population density of Pennsylvania) or the municipality's total population is less than 2,500, unless more than 50 percent of the population lives in an urbanized area, as defined by the U.S. Census Bureau. Only Waynesburg Borough is considered urban by the U.S. Census Bureau.

To provide a more accurate depiction of where the population clusters are located within the County, population density is displayed by to Census block group in **Figure 2-6: Population Density, 2000**. A Census block is defined as "the smallest geographic unit for which the Census Bureau tabulates 100-percent data...blocks -- especially in rural areas - may include many square miles and may have some boundaries that are not streets."

In addition to the six boroughs, other areas with as dense population can be found in the communities located along the Monongahela River; around the three I-79 interchanges in Greene County and along the following major transportation routes:

- PA 21 from Gray Township into Fayette County
- PA 18 from Morris Township through Center Township
- PA 188 between Waynesburg and Rices Landing
- PA 221 in Washington and Morgan Townships
- PA 88 from Jefferson south through Monongahela
- US 19 corridor

Figure 2-6: Population Density (by Census block), 2000

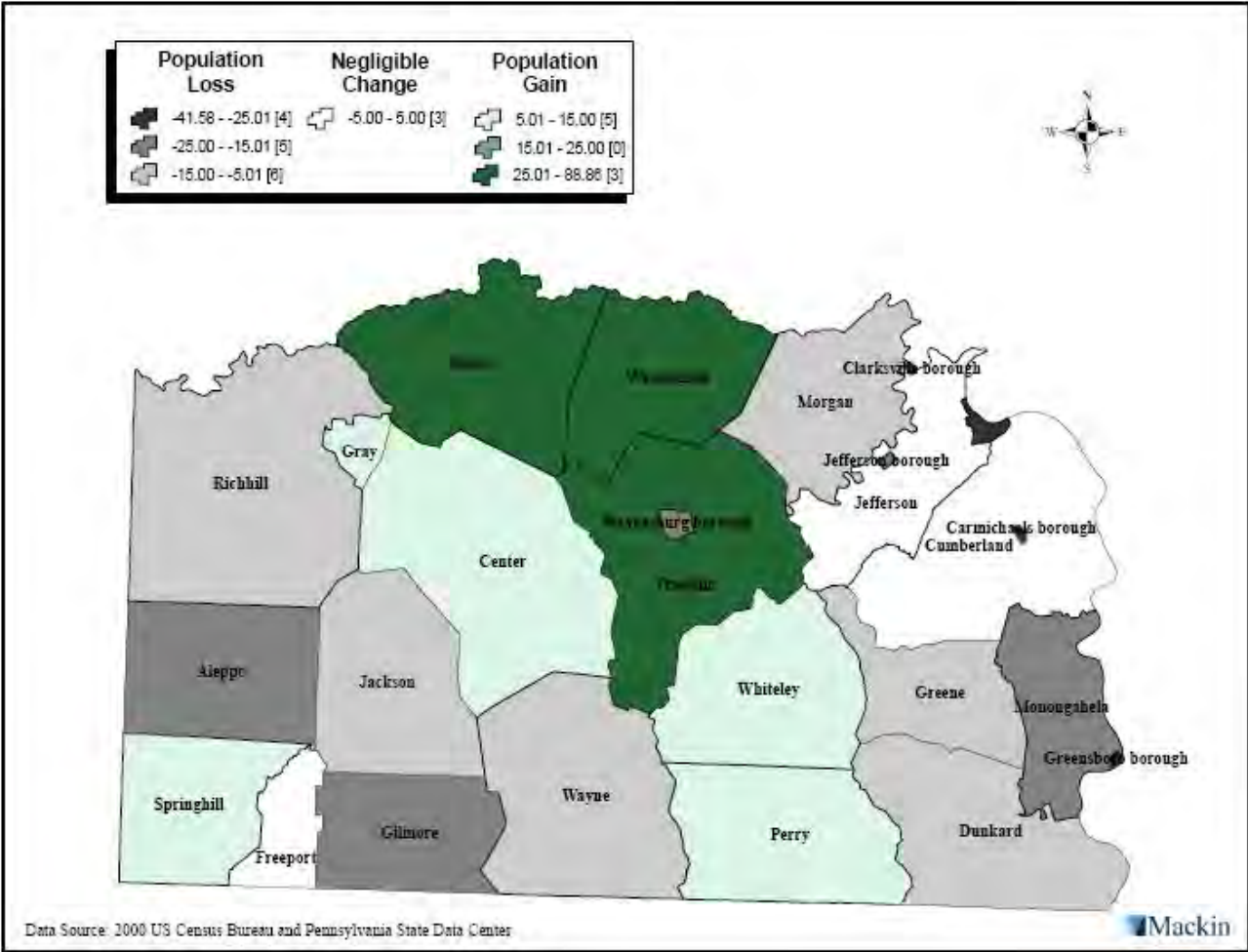




The municipalities of Greene County have experienced varying degrees of population fluctuation as shown in Figure 2-7: Municipal Population Change, 1960-2000. Predominantly, the municipalities that have experienced population growth between 1960 and 2000 are found along the I-79 corridor while the municipalities that have lost population over the same time period can be found along or near the river and in the western portion of the county. Again, it should be noted that due to the presence of SCI Greene in Franklin Township, the population change between 1990 and 2000 has been affected greatly by the prison population and was not accounted for in Figure 2-5.

Central Greene School District encompassed the majority of the population growth, with some growth occurring in West Greene. For the most part, the other three school districts experienced population losses since 1960.

Figure 2-7: Municipal Population Change, 1960-2000



Population projections were calculated by the Southwestern Pennsylvania Commission in their Cycle VIII Long Range Forecast, adopted in June of 2007. The Forecast include population and employment projections for 2010, 2020, 2025, 2030 and 2035, using 2005 populations estimates from the U.S. Census as their baseline. Table 2-9: Population Projections displays the projected population for each municipality and Greene County for the years 2010, 2020, and 2035 as well as the expected percentage change.

Table 2-9: Population Projections (SPC Cycle VIII Forecast) by Municipality, 2010-2035

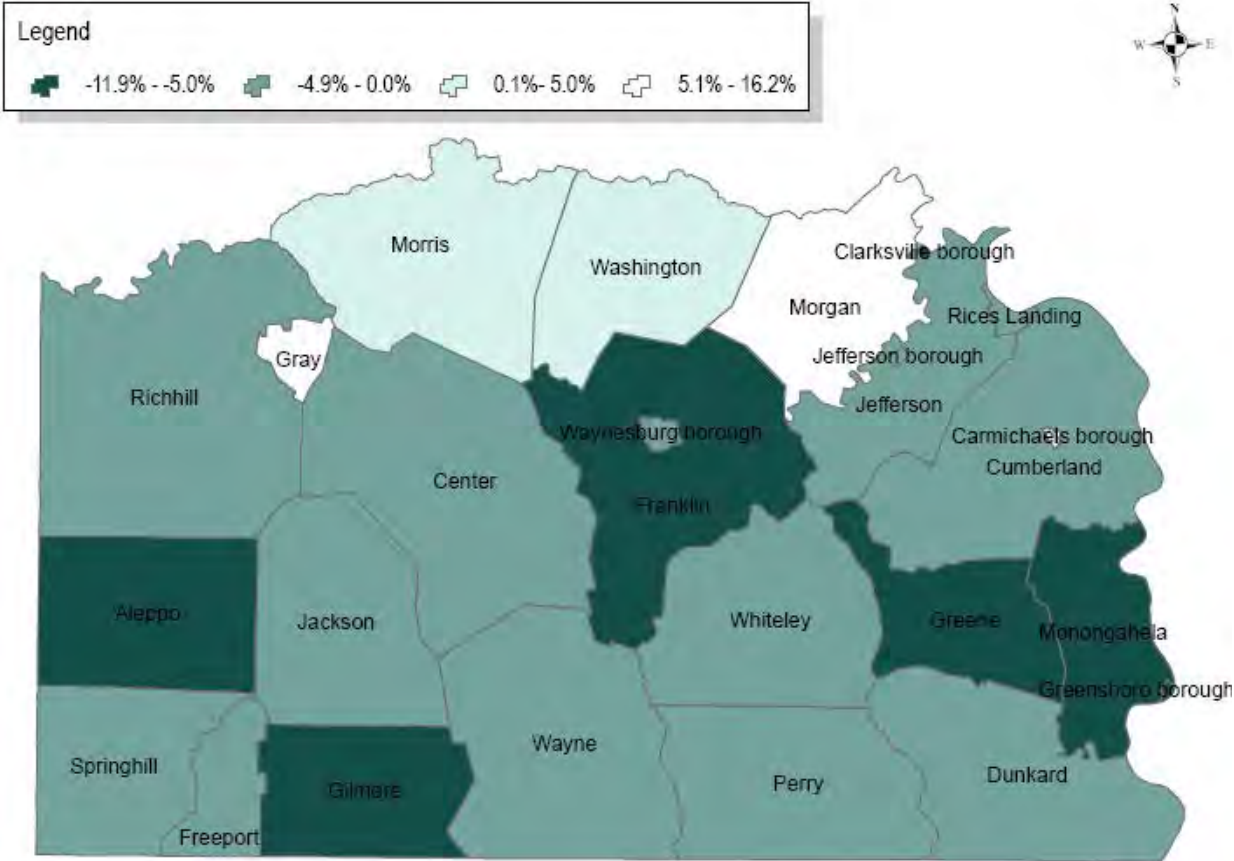
Municipality	% Change	2010*	% Change	2025*	% Change	2035*	% Change
	'05-'10		'10-'25		'25-'35		'05-'35
Aleppo Township	-5.6%	521	-7.7%	481	-0.6%	478	-13.4%
Carmichaels Borough	0.4%	560	7.3%	601	8.5%	652	16.8%
Center Township	-1.5%	1,323	6.7%	1,411	9.5%	1,545	15.0%
Clarksville Borough	-1.8%	218	3.7%	226	7.1%	242	9.0%
Cumberland Township	-2.1%	6,225	2.0%	6,348	5.5%	6,700	5.4%
Dunkard Township	-0.1%	2,319	9.2%	2,533	10.5%	2,798	20.5%
Franklin Township	-0.9%	7,075	1.8%	7,202	3.3%	7,440	4.2%
Freeport Township	-0.7%	294	8.2%	318	12.3%	357	20.6%
Gilmore Township	-7.7%	240	-9.6%	217	-1.8%	213	-18.1%
Gray Township	6.3%	272	23.5%	336	17.9%	396	54.7%
Greene Township	-5.7%	384	-7.3%	356	-1.1%	352	-13.5%
Greensboro Borough	-2.5%	273	6.2%	290	10.0%	319	13.9%
Jackson Township	-2.4%	485	0.6%	488	4.7%	511	2.8%
Jefferson Borough	0.6%	325	-2.8%	316	-0.9%	313	-3.1%
Jefferson Township	-1.9%	2,422	0.5%	2,433	3.5%	2,518	2.0%
Monongahela Township	-3.4%	1,568	0.5%	1,576	6.7%	1,682	3.6%
Morgan Township	-1.2%	2,985	1.7%	3,036	3.6%	3,146	4.1%
Morris Township	0.2%	1,047	-3.0%	1,016	16.1%	1,180	12.9%
Perry Township	-1.5%	1,658	2.9%	1,706	5.7%	1,803	7.1%
Rices Landing Borough	-2.1%	418	2.9%	430	9.1%	469	9.8%
Richhill Township	-2.4%	997	3.5%	1,032	8.8%	1,123	9.9%
Springhill Township	-1.3%	453	8.8%	493	11.6%	550	19.8%
Washington Township	-0.1%	1,112	3.3%	1,149	4.4%	1,199	7.7%
Wayne Township	-1.4%	1,166	6.8%	1,245	9.6%	1,365	15.4%
Waynesburg Borough	-1.5%	4,015	2.6%	4,118	5.4%	4,342	6.5%
Whiteley Township	-1.2%	736	1.4%	746	4.0%	776	4.2%
Greene County	-1.5%	39,091	2.8%	40,193	5.7%	42,469	7.0%

* Source: SPC Cycle VIII Forecast (2007)



Figure 2-8: Municipal Population Projected Change depicts the projected population percentage change for the Greene County municipalities between 2005 and 2025. Over the next 20 or so years, Morgan Township and Gray Township are expected to see the largest population increases, while Washington and Morris Townships are projected to experience marginal population increases. The largest population losses are expected to occur in Aleppo, Gilmore, Franklin, Greene, Monongahela, and Greensboro Borough.

Figure 2-8: Municipal Population Projected Change, 2005-2025



Data Source: SPC Cycle VIII Projections



Table 2-10: Population Projections for School Districts lists the projected enrollments for each of the five school districts in the County through school year 2016-2017. Carmichaels Area, Central Greene, and Southeastern Greene are all projecting increased enrollment by 2017, while Jefferson-Morgan and West Greene are expected to see decreased enrollment.

<i>Table 2-10: Greene County School District Enrollment Projections</i>					
	Carmichaels Area	Central Greene	Jefferson-Morgan	Southeastern Greene	West Greene
2007-2008	1,162	2,164	836	699	842
2008-2009	1,161	2,156	829	692	778
2009-2010	1,159	2,174	831	698	738
2010-2011	1,166	2,164	800	709	703
2011-2012	1,165	2,175	779	723	655
2012-2013	1,173	2,199	774	738	610
2013-2014	1,171	2,230	753	756	576
2014-2015	1,194	2,267	736	772	549
2015-2016	1,221	2,325	721	795	524
2016-2017	1,216	2,375	695	818	501

Source: PA Dept of Education (2005 & 2007)



Households

While housing is discussed in detail under Section 8 of the Comprehensive Plan, the following information is provided to present a snapshot of types of households within Greene County. The U.S. Census uses the following definitions:

- Household consists of all the people who occupy a housing unit including unrelated persons and a person living alone.
- Householder indicates the person who owns or rents the housing unit. The number of family householders is equal to the number of families.
- Size of household includes all the people occupying a housing unit.
- Size of family includes the family householder and all other people in the living quarters that are related to the householder by birth, marriage, or adoption.
- Size of unrelated subfamily includes the reference person and all other members related to the reference person.

Table 2-11: Households displays the breakdown of family and non-family households, as well as the average household size for the Greene County Region.

Table 2-11: Households, 2000				
Municipality	Total households	Family households (families)	Non-family households	Average household size
Allegheny County	537,150	61.9	38.1	2.3
Armstrong County	29,005	70.8	29.2	2.5
Beaver County	72,576	69.6	30.4	2.4
Butler County	65,862	71.1	28.9	2.6
Fayette County	59,969	68.7	31.3	2.4
Greene County	15,060	70.3	29.7	2.5
Indiana County	34,123	66	34	2.5
Lawrence County	37,091	69.8	30.2	2.5
Washington County	81,130	69.1	30.9	2.4
Westmoreland County	149,813	69.8	30.2	2.4
Pennsylvania	4,777,003	67.2	32.8	2.5
Marion County	23,652	65.6	34.4	2.3
Marshall County	14,207	71.1	28.9	2.4
Monongalia County	33,446	55.3	44.7	2.3
Wetzel County	7,164	70.9	29.1	2.5
West Virginia	736,481	68.4	31.6	2.4

Source: US Census, 2000

With a total of 15,060 households, Greene County has by far the lowest number of households in the SPC Region, though both Marshall and Wetzel in West Virginia have fewer. The percentage of family households in Greene County (70.3) is similar to most of the other counties in the Planning Region. Monongalia County has the smallest percentage of family households (55.3) in the entire Planning Region, most likely attributed to the presence of West Virginia University. Average household size is standard across the board, only ranging between 2.3 to 2.6.

Table 2-12: Households by Type is an extension of Table 2-11, and provides the percentages of households that are headed by a female with no husband present; householder living alone; and householder who is at least 65 years old and living alone. In terms of households that are headed by females with no husband present, Greene County falls in the middle, with Butler County having the lowest at 8.1 percent and Allegheny and Fayette having the highest at 12.4 percent. Greene County has one of the lowest percentages of householders who live alone at 25.7 percent.

When looking at senior citizens who are living alone, at 12.7 percent, Greene again falls in the middle of the pack. Monongalia County has the lowest (8.4) while Fayette County has the highest (14.5).

Table 2-12: Households by Type, 2000			
Municipality	Female householder, no husband present	Householder living alone	Householder 65 yrs + living alone
Allegheny County	12.4	32.7	13.2
Armstrong County	9.0	25.9	13.7
Beaver County	11.4	26.9	13.1
Butler County	8.1	24.2	10.4
Fayette County	12.4	28.0	14.5
Greene County	10.9	25.7	12.7
Indiana County	8.2	26.5	11.8
Lawrence County	11.5	27.0	14.4
Washington County	10.3	27.0	13.2
Westmoreland County	9.6	26.9	13.3
Pennsylvania	11.6	27.7	11.6
Marion County	10.7	28.9	13.9
Marshall County	10.8	25.6	12.9
Monongalia County	8.3	31.3	8.4
Wetzel County	9.3	25.7	12.8
West Virginia	10.7	27.1	11.9

Source: US Census, 2000



Education

The level of education attained by the population is often a good indicator of how well that community can meet the demands of employers who desire skilled labor or an educated workforce. Table 2-13: Educational Attainment reflects the level of education that the population ages 25 years and older has attained. As shown, Greene County has one of the highest percentages of residents that have a high school diploma.

Table 2-13: Educational Attainment (25yrs and older), % Population, 2000

Municipality	High School Grad	Some College,	Associate Degree	Bachelor's Degree	Graduate / Professional
		No Degree			
Allegheny County	33.9	17	7.1	17.3	11
Armstrong County	51.1	12.7	5.7	7.1	3.3
Beaver County	42.4	17.3	8.1	11.1	4.7
Butler County	39	17	7.3	16.1	7.4
Fayette County	47.9	11.9	4.8	7.2	4.3
Greene County	47.6	12	3.9	8	4.3
Indiana County	46.4	13.2	4.5	9.3	7.7
Lawrence County	45.7	15	5.8	9.9	5.2
Washington County	42.6	14.6	6.6	12.8	6
Westmoreland County	41.2	16.9	7.3	13.6	6.6
Pennsylvania	38.1	15.5	5.9	14	8.4
Marion County	39.6	18.6	5.3	10.1	5.9
Marshall County	46.6	17.1	5.4	6.8	3.9
Monongalia County	30.5	16.9	3.7	15.1	17.4
Wetzel County	47.5	15	4.6	6.1	4.3
West Virginia	39.4	16.6	4.3	8.9	5.9

Source: U.S. Census Bureau

Income

The education attainment level of the resident population relates directly to income earning potential. Typically, a well-educated population is better equipped to meet employer demands, adapt to changing workforce demands, and earn more than their less educated peers. Table 2-14: Median Income reveals the median income levels per household, family, and individual. Greene County ranks 10th in terms of household income; 11th in terms family income, and last in individual income, out of the 14 counties in the Planning Region.

Table 2-14: Median Income, 2000

	Household	Family	Individual
Allegheny County	\$38,329	\$49,815	\$22,491
Armstrong County	\$31,557	\$38,271	\$15,709
Beaver County	\$36,995	\$45,495	\$18,402
Butler County	\$42,308	\$51,215	\$20,794
Fayette County	\$27,451	\$34,881	\$15,274
Greene County	\$30,352	\$37,435	\$14,959
Indiana County	\$30,233	\$38,386	\$15,312
Lawrence County	\$33,152	\$41,463	\$16,835
Washington County	\$37,607	\$47,287	\$19,935
Westmoreland County	\$37,106	\$45,996	\$19,674
Pennsylvania	\$40,106	\$49,184	\$20,880
Marion County	\$28,626	\$37,182	\$16,246
Marshall County	\$30,989	\$39,053	\$16,472
Monongalia County	\$28,625	\$43,628	\$17,106
Wetzel County	\$30,935	\$36,793	\$16,818
West Virginia	\$29,696	\$36,484	\$16,477

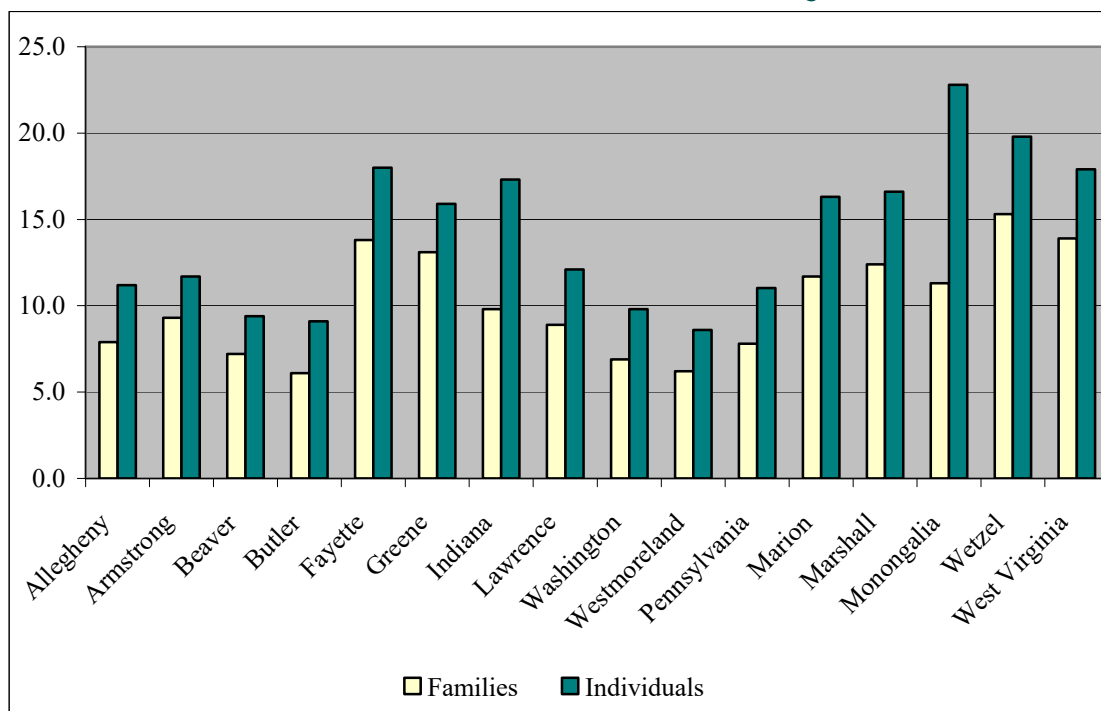
Source: U.S. Census Bureau



As might be expected by the median income information displayed in Table 2-11, Greene County has a higher rate of persons who live below the poverty level as compared to most of the study area and the state as shown in Chart 2-4: Families and Individuals living at or below poverty level. The poverty level is based upon the US Department of Agriculture's determination that one third of income is spent on food and the basis for the food cost is from a Department of Agricultural economy food plan. For the 2000 Census, the poverty level was determined at \$8,350/annually for persons who were 18 and over, and resided in the contiguous United States. The poverty threshold for a family of four persons was \$17,603.

As revealed in Chart 2-4, Greene County ranks much higher the Pennsylvania average (7.8%) in families who live below the poverty level. At 13.1 percent, Greene County has the second highest percentage of families living in poverty in the SPC Region and third overall. Regarding individuals living at or below poverty level, Greene County (15.9%) is third highest in the SPC Region but is less than that of all the counties in West Virginia.

Chart 2-4: Families and Individuals living at or below poverty level, 2000



Labor Force

Labor force statistics are provided in Table 2-15: Employment Status for the Greene County Region. The low median income levels and higher rates of residents living in poverty can be explained by examining the labor force in Greene County. The County has the lowest percentage of its population in the labor force within the SPC Region and is second lowest in the Planning Region. At just 51 percent, only half of the residents who live in Greene County are in the labor force. Of those that are in the labor force, 4.7 percent of Greene County residents are unemployed, which is the highest in the SPC Region and second only to Wetzel County, West Virginia overall.

Table 2-15: Employment Status, Population 16 years and over, 2000

	Allegheny	Armstrong	Beaver	Butler	Fayette	Greene	Indiana	Lawrence	Washington	Westmoreland	Pennsylvania	Marion	Marshall	Monongalia	Wetzel	West Virginia
% in labor force	61.1	55.8	60.1	63.6	54.2	51	56.1	58.1	58.9	59.4	61.9	55.8	55.2	59	49.8	54.5
% in Civilian labor force	61.1	55.7	60.1	63.5	54.1	50.9	56.1	58	58.8	59.3	61.8	55.8	55.2	58.9	49.8	54.3
% Employed	57.3	52.3	56.9	60.7	49.7	46.2	51.5	54.5	55.7	56.3	58.3	51.3	51	54.6	44.8	50.4
% Unemployed	3.7	3.4	3.2	2.8	4.5	4.7	4.6	3.6	3.1	3.1	3.5	4.4	4.2	4.3	5	4
% Armed Forces	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	-	-	0.1	-	0.1
% Not in labor force	38.9	44.2	39.9	36.4	45.8	49	43.9	41.9	41.1	40.6	38.1	44.2	44.8	41	50.2	45.5

Source: U.S. Census



A. Background

Existing Studies

A Management Action Plan for the Rivers of Steel National Heritage Area (ongoing)

The Steel Industry Heritage Corporation is currently developing a management action plan for the Rivers of Steel National Heritage Area, which is comprised of Allegheny County, Fayette County, Greene County, Washington County and Westmoreland County. The goals of the plan are to inventory industrial, cultural heritage, tourism and natural resources; identify interpretive themes and opportunities; set priorities for investment; and develop strategies for expanding and promoting heritage tourism throughout the region. In particular, Greene County is part of the “Fueling a Revolution” journey area, which encompasses the areas that are known for river-based production and transportation for steel and related industries and inland supply communities. Some of the historic resources in Greene County identified in the plan are Greensboro, Rices Landing, Waynesburg and Bobtown. The recommendations of the plan include the following:

- Develop tourism hubs
- Strengthen physical connections
- Build awareness of heritage resources
- Build capacity of local heritage groups
- Secure endangered resources
- Reinforce sound resource conservation and restoration practices

Greene County Comprehensive Parks, Recreation, and Trails / Greenways Plan (2008)

The Greene County Comprehensive Parks, Recreation, and Trails / Greenways Plan demonstrates the potential connections within the County of historic preservation and recreational pursuits. The plan recommends that the County implement a marketing and promotional campaign that divides the County into three Recreation / Tourism Regions: the Rural / Wilderness Region (the western half of the County); the Technology / Recreation Region (the central portion of the County); and the Historical / Cultural Region (the eastern portion of the County along the Monongahela River). While historical and cultural assets can be found throughout the County, a large concentration can be found in the communities along the Monongahela River and thus be coupled with recreational opportunities.

Historic Resources

Greene County Historical Society

The Greene County Historical Society was founded in 1925 and is a private, non-profit organization. In addition to operating and maintaining the Greene County Historical Museum and Local History Library, the Society is also involved with other historic sites such as the W.A. Young Machine Shop and Foundry in Rices Landing and the Thomas Hughes House in Jefferson. The Society has approximately 320 members, whose memberships range from \$8 for students and senior citizens to \$99 for donors. Membership provides free admission to all Society-owned historic sites, passes to the Museum, society newsletters and admission to members-only events. Festivals hosted by the Society include the Annual Harvest Festival.

Cornerstone Genealogical Society

The Cornerstone Genealogical Society (CGS) was formed in 1975 to assist individuals to learn more about their ancestors who may have resided in or around Greene County. The CGS is a non-profit 501 (c) 3 entity and has approximately 530 members who meet monthly. Due to the growing popularity, the CGS constructed an addition to the original courthouse in order to create a library and store genealogical records. The GCS is housed in the original Greene County Courthouse, located one block behind the current courthouse in Waynesburg Borough.

Nathanael Greene Historical Foundation

The Nathanael Greene Historical Foundation is located in Greensboro Borough and motto is "Preserving the culture that is uniquely South Western Pennsylvania."
http://www.natgreene.org/Home_Page.php

Tourism

The Greene County Tourism Promotion Agency (TPA) was created to promote and market tourism in Greene County as an economic development tool. The TPA is overseen by a Board of Directors and works in conjunction with the Greene County Department of Recreation to host a variety of festivals and fairs.



Historic Snapshot

Greene County, the “Cornerstone of the Keystone State,” is located in the southwestern corner of Pennsylvania and is bordered by Washington County to the north, Fayette County to the east; Wetzel County and Monongalia County, West Virginia to the south; and Marshall County, West Virginia to the west. The Mason-Dixon Line, one of the most famous boundaries in the United States, serves as the southern boundary of the County and the Monongahela River forms the eastern boundary with Fayette County. The Mason-Dixon Line was originally delineated in the mid-1700s by Charles Mason and Jeremiah Dixon to settle a property dispute between the Calvert and Penn families but is most commonly associated with the division between free and slave states during the 1800’s and the American Civil War.

The original inhabitants of Greene County were the Indian Sachem Six Nations (Iroquois Confederacy) and consisted of the following Indian peoples: Mohawks, Oneidas, Onondagas, Cayuga, Senecas, and Tuscaroras. The County as well as the entire state of Pennsylvania was granted to William Penn on March 4, 1681 by King William II. Greene County was established on February 9, 1796 when Washington County was divided into two counties through an act of the Legislature. The southern portion became Greene County, named after the Revolutionary War General Nathanael Greene and consisted of 577 square miles. The first European inhabitants were a mix of the following: English, Irish, Scotch, Scotch-Irish, and German.

Colonel John Minor is considered the “Father of Greene” because he sponsored the bill that made the division of Washington County a reality. Between 1796 and 1860 thirteen separate municipalities were established within the county in addition to the original six municipalities. Permanent settlement began in Waynesburg (named after General “Mad” Anthony Wayne) following a deed sale on October 28, 1796. The Borough of Waynesburg was established as the County Seat in 1816.

Greene County developed its economic base historically through mining and agriculture. Gas wells, coal mining, and wool production provided the early forms of growth in Greene County. At one point the wool industry was so prosperous that the County was the first overall in total Merino wool production and was said to have more sheep than human inhabitants county-wide. Although the agricultural component of the County has diminished, the mining industry is considered the top industry operating in Greene County today. Currently, there are eight coal mines in production in the County famous for a large product turnout each year. Greene County has the largest bituminous coal reserves in the state.

A contributing element of Greene County history is the commitment to pursuits of higher learning. Waynesburg College was established in 1849 from two separate schools in the area: Greene Academy in Carmichaels and Madison College in Uniontown (Fayette County). Situated in the County Seat, Waynesburg College and is a positive component to the growth of the County. In 2007, Waynesburg College became Waynesburg University and offers doctoral, graduate and undergraduate programs in more than 70 programs of study. With 2,300 students, the University provides education at its main campus in Waynesburg as well as three adult centers located in the Pittsburgh regions of Southpointe, North Hills and Monroeville.



Waynesburg: 1897 [Source: US Library of Congress (www.loc.gov/)]



B. Data & Analysis

Culture & Local Identity

The religious character of Greene County is predominantly Protestant with a small percentage of Roman Catholic and other denominations. Politically, Greene County is considered a Democratic stronghold and has a strong degree of patriotism and loyalty to county, state, and country. The County has a strong network of local events and traditions. Long-running annual events provide the citizens of the County with recreational and social events that build a strong sense of community County-wide. It is through these social gatherings that the identity and character of Greene County is strengthened and relationships and family ties are cemented.

Two examples of traditional events held in Greene County are the Jacktown Fair and Rain Day celebration. The Jacktown Fair is known as the oldest continuous fair in the United States. It has been running annually since 1865 and draws close to 15,000 participants each year. The Rain Day celebration is an annual occurrence in Waynesburg since the 1870s. A local man in Waynesburg noted that it rained on his birthday (July 29) every year and a festival was created to note this amazing feat. Recorded history has documented rain on 83 percent of the days ever since. While these two events reflect the strong heritage of Greene County, there are numerous other events that strengthen the framework including the Carmichael's King Coal Show, Greene County Fair, and the Covered Bridge Festival.

Coal mining remains a strong factor of the character of Greene County. The industrial legacy has both negative and positive elements. For instance, environmental concerns include mine drainage, coal refuse piles, and abandoned coal structures. Residential developments built around mining pursuits remain as small "patch towns" or villages. One example is the village of Mather, which was built in 1919 by the Pickins and Mather Mine Company. Mather was built to meet the housing needs for the men who worked in the Mather Colliery Mine. On May 9, 1928, a methane gas explosion killed 198 men at the Mather mine site. This significant event put the region on the map as this event resulted in the most casualties from a mining accident at that time in the nation's history.

The years of mining activity have left significant environmental and economic impacts. Evidence of previous mining activity present to this day can be found in the form of a 'gob pile.' Gob Piles are essentially coal leftovers that were not processed by the mine. There are a number of remediation efforts underway to eliminate gob piles and reclaim usable coal and other products; eventually reclaiming the land for other uses.



Mather Memorial (Mackin, 2004)

Greene County is actively pursuing a public policy to promote community and economic development by encouraging cultural activities that build community identity and cohesion. Greene County is successfully fostering partnerships among community development organizations, social service organizations, and arts/artist and heritage/ preservation groups, as well as economic development agencies. Efforts are underway to identify grants and provide technical assistance to community groups seeking to renovate space for arts and cultural projects, and to integrate arts and cultural programming into community development projects in Greensboro, Rices Landing, Waynesburg and the Jefferson Morgan Region.

Aspects contributing to the concept of "cultural" include the arts, folklife/heritage, historic preservation, and the humanities. Culture is at the essence of community and can serve as a foundation of community development, combating sprawl, revitalizing rural districts and urban centers, and improving quality of life. Culture contributes to the social capital of a community and through historic preservation, cultural tourism, and civic engagement, can have an integral role in economic revitalization efforts. Arts and culture can enliven neighborhoods and enhance the quality of life. Social values and neighborhood bonds are reinforced by participating in cultural activities. The Rivers of Steel National Heritage Area is a model example of collaboration between local, state, regional, and federal agencies to establish and promote the heritage associated with southwestern Pennsylvania communities and related industries.



Historical Sites

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. Table 3-1 lists the 42 sites in Greene County that are contained on the Register (as of May 11, 2006), along with the municipality, address, and date listed for each site. The locations of the historic sites, including covered bridges and historic districts, are shown on *Figure 3-1: Historic Resources*.



John Rex Farm – Jefferson Township (Mackin, 2004)

Table 3-1: Greene County National Register Listed Properties			
Historic Site	Municipality	Address	Date Listed
Carmichaels Covered Bridge	Carmichaels Boro	L.R.30062	6/22/1979
Greene Academy	Carmichaels Boro	314 N Market St	12/12/1976
Neddie Woods Covered Bridge	Center Twp	T-487, North of Oak Forest	6/22/1979
Scott Covered Bridge	Center Twp	T-424, Southeast of Rutan	6/22/1979
Shriver Covered Bridge	Center Twp	T-454, South of Rogersville	6/22/1979
Crawford, William, House	Cumberland Twp	Off Brown's Ferry Rd. & Stevenson's Lane	11/12/1992
Point Marion Bridge	Dunkard Twp	L.R. 451	6/22/1988
Bridge in Franklin Twp over L.R. 268	Franklin Twp	L.R. 268	6/22/1888
Gordon, George W., Farm	Franklin Twp & Whiteley Twp	333 Mary Hoge Rd.	8/24/2000

Greene Hills Farm	Franklin Twp	Alt. Rt. 21, 2-1/2 miles east of Waynesburg	4/23/1973
Heasley, Charles, House	Franklin Twp	75 Sherman Ave.	2/21/1991
Kent, Thomas, Jr., Farm	Franklin Twp	208 Laurel Run Rd.	8/16/2000
Corbly, John, Farm	Greene Twp	L.R. 30027 (Garards Fort)	5/3/1984
White Covered Bridge	Greene Twp	L.R. 30129, west of Garards Fort	6/22/1979
Boughner, Alexander V., House	Greensboro Boro	Junction of 2nd & Minor Sts.	3/9/1995
Glassworks--Core House	Greensboro Boro	Rte. 451	7/27/1995
Greensboro Historic District	Greensboro Boro	County, Water, Clear, Front Sts.	11/7/1995
Greensboro Public School	Greensboro Boro	Junction of 2nd & Clear Sts.	3/9/1995
Jones, James, House	Greensboro Boro	Junction of Front & Stone Sts.	3/9/1995
Parreco, James, House	Greensboro Boro	Junction of 3rd & Clear Sts.	3/9/1995
Foley, Richard T., Site	Jackson Twp	Holbrook	5/10/1984
Cree, William & Jane, House	Jefferson Twp	L.R. 30057, just north of Rt. 21	7/15/2002
Hughes House	Jefferson Twp	Hatfield St.	12/27/1972
Rex, John, Farm	Jefferson Twp	Rt. 188, 1/2 mile east of Jefferson	5/8/1998
Crawford, John Minor, House	Monongahela Twp	Pa 2014	7/27/1995
Glassworks/Gabler House - Building 302A	Monongahela Twp	Pa 2014	7/27/1995
Peters-Graham House	Monongahela Twp	Monongahela River	3/9/0995
Reppert/Gabler House - Building 314-A	Monongahela Twp	Pa 2014	7/27/1995
Sugar Grove Petroglyph Site	Monongahela Twp		3/20/1986
Colver-Rogers Farmstead (Rogers, Norval P., House)	Morgan Twp	East of L.R. 30055 at T-159	11/21/2003
Lippincott Covered Bridge	Morgan Twp	T-568	6/22/1979
Mason & Dixon Survey Terminal Point	Perry Twp	Brown's Hill, Pa-W.VA. Boundary	00/00/1973
Rices Landing Historic District	Rices Landing Boro	119 High St. Carmichaels to Bayard	12/24/1992
Fisher Site	Richhill Twp	West Findley	11/15/1982
King Covered Bridge	Wayne Twp	T-371, Southwest of Kuhntown	6/22/1979
Thralls, Ernest, House	Wayne Twp	Rt. 218 at T.R. 353 & T.R. 522, Spraggs	5/12/1999
Hanna Hall	Waynesburg Boro	College St. Waynesburg University Campus	4/19/1979
Miller Hall	Waynesburg Boro	51 W College St.	4/14/1978
Waynesburg Historic District	Waynesburg Boro	2nd Alley; East St.; Cherry Ave.; Bowlby St.	3/1/1984
Hamilton-Ely Farmstead	Whiteley Twp	1055 Sugar Run Rd.	3/2/2006

Source: Pennsylvania Historical Museum Commission, Bureau for Preservation, May 11, 2006



As of May 11, 2006, there are 24 properties in Greene County that are eligible to be listed on the National Register. Table 3-2 lists each site, along with the municipality, address, and date of eligibility of the site.

Table 3-2: Greene County National Register: Eligible Properties			
Historic Site	Municipality	Address	Date of Eligibility
Huss, H. & Graham, P. Property	Center Twp	S.R. 4027	8/10/1993
McQuay Property	Center Twp	S.R. 18 East of Holbrook	9/6/1995
Smith, D.H. & J.K, Property	Center Twp	S.R. 18, Sec. 0417	7/2/1993
Strawn, Stephen, Farmstead	Center Twp	T-478	8/10/1993
Wilson Property	Center Twp	Oak Forest	9/6/1995
Crucible Historic District	Cumberland Twp	5th Ave., River View Ave.	12/3/1991
Crucible Mine	Cumberland Twp	S.R. 1017	7/15/1991
Nemacolin Historic District	Cumberland Twp	Pershing Blvd. S.R. 1004	10/4/2005
Allison Farm	Franklin Twp	Gorden Hill Rd. South of U.S. 19	9/1/2000
Paul, Randall S., House	Franklin Twp	Star Rte.	5/29/1986
County Bridge No. 53 over Township Road 379	Gilmore Twp	T-379	10/3/1994
Monongahela House (Demolished)	Greensboro Boro	County St.	1/25/1985
Foley Farm	Jackson Twp	Both sides T-381, 400ft west of S.R. 3007	10/29/1999
Eberhart/Gabler House - Building 224	Monongahela Twp	Rt. 451	8/2/1995
Old Lock & Dam 7	Monongahela Twp	Monongahela River	10/20/1992
Mather Collieries & Town	Morgan Twp	Southeast of Town of Mather	8/28/1996
Chess Farm	Richhill Twp	T-356	5/25/1995
County Bridge No. 57	Richhill Twp	T-356	5/26/1995
County Bridge No. 68	Springhill Twp	T-345	6/5/1995
Penn Manufacturing & Supply Company	Waynesburg Boro	E 1st & S Washington Sts. Lts 22, 23 & Pt Lt 2	1/11/1996
Sayers, W.W., House	Waynesburg Boro	S Morgan St. W/S Lt 14 Sayers Addition	1/11/1999
South Ward School	Waynesburg Boro	Park St.	7/26/1991
Waynesburg U.S. Post Office	Waynesburg Boro	120 S Morris St.	7/3/1984

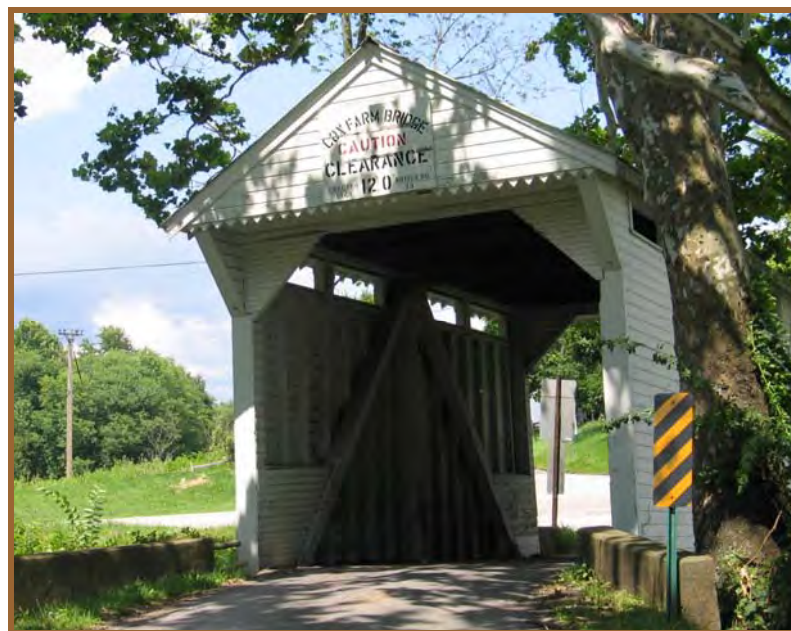
Source: Pennsylvania Historical Museum Commission, Bureau for Preservation, May 11, 2006

Covered Bridges

Greene County is actively involved in a very successful heritage tourism event with Washington County. The Covered Bridge Festival is an annual event that celebrates the architectural heritage of covered bridges. The Covered Bridge Festival was organized in 1970 by residents in adjacent Washington County and has grown to include the covered bridges in Greene County. There are seven covered bridges that remain standing in the County.

The Lippincott / Cox Bridge over Ruff Creek

This covered bridge is located off State Route 221 in Morgan Township. The bridge was constructed in 1943 and is noted for its unusual design of white horizontal clapboard siding on both exterior sides, part of the interior sides and the portals. The roof is covered with sheet metal and the deck is covered with crosswise planking. Dimensions of the bridge are 27'8"Lx15'W.



Lippincott / Cox Bridge (Mackin, 2004)

The Carmichaels Bridge over Muddy Creek

This covered bridge was constructed in 1889 and remains open to vehicular traffic to this day. The Carmichaels Bridge is noted for its status as the only covered bridge to be within a borough. The bridge is constructed of white vertical board and batten siding, with a sheet metal roof with planking on the deck. The bridge rests on cut stone-and-mortar abutments. Dimensions of the bridge are 64'Lx15'W.



The White Bridge over Whiteley Creek

The White Bridge was constructed in 1919 and is the longest Queenpost Bridge in Greene County. The Bridge is noted for the height of the structure with a clearance of 17 feet, 6 inches and heavy weight bearing limit of ten tons. The bridge is covered with white vertical tongue-and-groove board siding on both sides and has a sheet metal roof. Dimensions of the bridge are 66'6"Lx15'W.

The King Bridge over Hoover Run

The King Bridge was constructed in 1890 and remains open to traffic with a three ton weight limit. The bridge is of a Queenpost construction and is unpainted and covered with random-width vertical board siding with a sheet metal roof. Dimensions of the bridge are 46'6"Lx15'W.

The Shriver Bridge over Hargus Creek

This covered bridge was constructed in 1900. The bridge is of a Queenpost construction and is covered with random-width unpainted vertical board siding on both sides with a sheet metal roof. The weight limit is unknown. Dimensions of the bridge is 40'Lx14'W.

The Scott Bridge over Ten Mile Creek

This Queenpost Bridge was constructed in 1885 and is open to traffic. The bridge is 41'Lx15'W and is covered with random-width unpainted vertical board siding and has a sheet metal roof. The weight limit is unknown.

The Neddie Woods Bridge over Pursley Creek

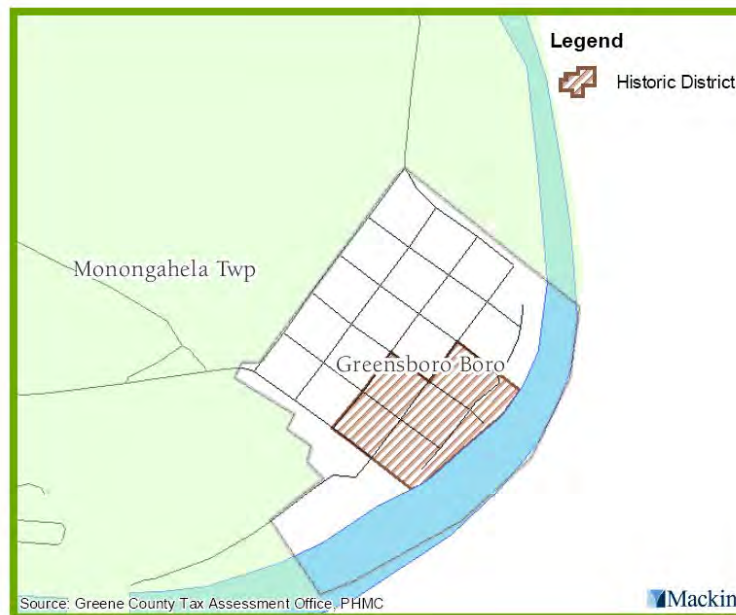
The Neddie Woods Bridge was constructed in 1882 and is the oldest covered bridge in Greene County that remains open to traffic. The bridge dimensions are 40'Lx15'W with unpainted vertical board siding with a corrugated sheet metal roof and has a weight limit of four tons.

Historic Districts

Greensboro Historic District

The Greensboro Historic District was added in 1995 and is roughly bounded by County, Second, Walnut, Front and Clear Streets and the Monongahela River. The Greensboro Historic District is comprised of 14 acres and contains 29 contributing buildings. The historic significance to this district is the Architecture, which is primarily Queen Anne and Italianate in style. The period of significance for this district is 1750 to 1949. The structures contain a mix of commercial business, religious uses, a theatre, and residential dwellings.

Figure 3-1: Greensboro Historic District



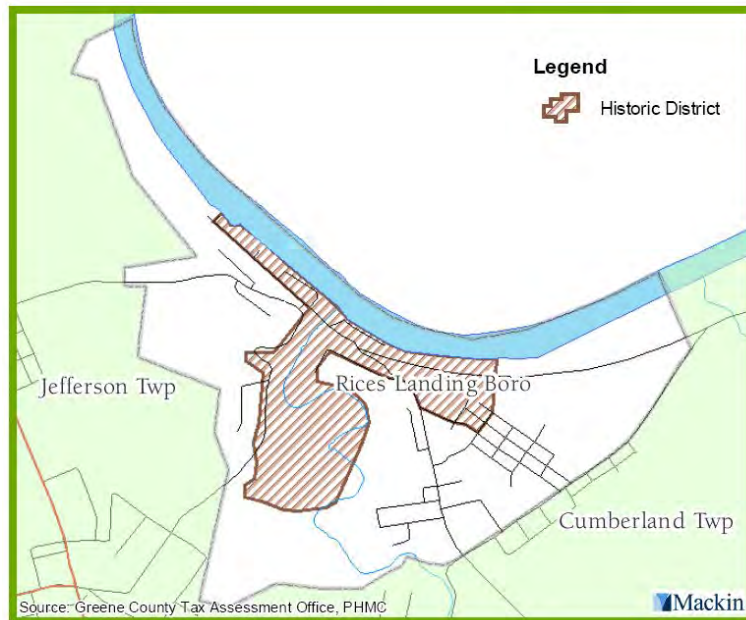
The Borough of Greensboro was first known as Delight by local Indians. The early settlement by European traders was facilitated by the presence of Indian trails along the Monongahela River. Greensboro evolved from a trading center to an industrial center first associated with the glass industry and later the pottery industry. The town was a social and commercial center for the surrounding region. The historic district contains a contributing structure built around the Civil War period. The structure is a Wharf where boats would access the town for distribution of goods. There is also an archeological site that was once the location of the James and Hamilton pottery, which was widely distributed and a means of economic prosperity for the Borough.



Rices Landing Historic District

The Rices Landing Historic District was officially listed on the National Register of Historic Places on December 24, 1992. The district is 81 acres and bounded by the Monongahela River, Water Street, Second Street, Bayard Avenue, Carmichael Street, High Street, Main Street and Ferry Street including Pumpkin Run Park. Within the district, there are 63 buildings and four archaeological sites including the remains of the Dilworth Mine Complex, the company housing on Red Row, the Hughes Grist Mill and the Union Supply Store. Contributing structures include the Monongahela Navigation Lock #6 and lock-houses, concrete wall for the ferry and boat landing, the original Rices Landing Jail, and the W.A. Young & Son's Foundry and Machine Shop. The architectural style is reminiscent of a Colonial Revival and Bungalow/Craftsman style. The period of significance is 1850 to 1949.

Figure 3-2: Rices Landing Historic District



Located on Water Street, the Machine Shop and Foundry was built in 1900 by William A. Young. All of the equipment dates from 1870 to 1920 with the only modernization occurring in 1928 when electricity was connected to the building. The Machine Shop and Foundry contain a fully operational system of belts and pulleys that manipulate 25 pieces of machinery, each being fully independent of the other. The entire belt and pulley system is operated by one motor. The Foundry produced items that could be cast in molten metal by the coke-fired furnace, which still remains. The Foundry closed its operations in 1965 and sat idle until 1985 when the Greene County Historical Society purchased the facility for restoration. Ownership is currently being negotiated to transfer to Steel Industry Heritage Corporation.



W.A. Young & Son's Foundry and Machine Shop (Rices Landing, Mackin 2005)

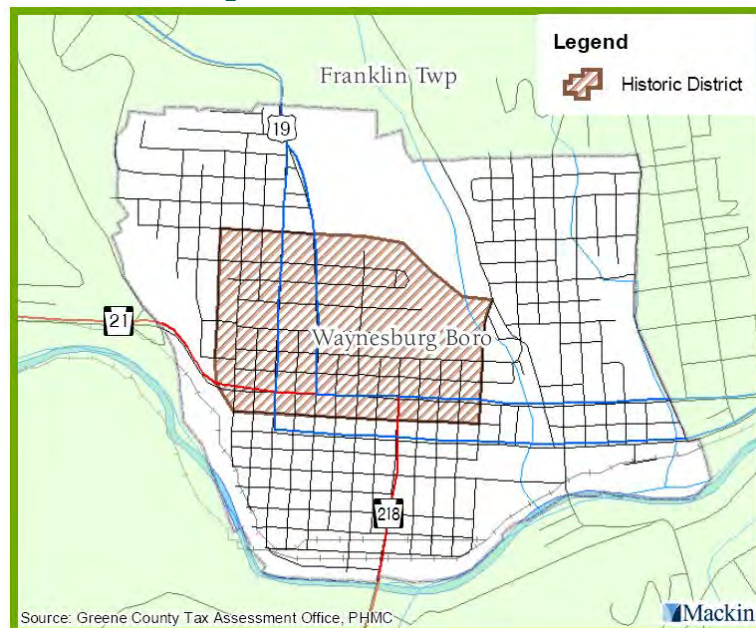
Rices Landing Borough is bordered by Jefferson Township on the west and south, Cumberland Township to the east, and the Monongahela River to the north and northeast. Rices Landing was first settled in 1786 by John Rice and soon became an industrial and commercial center due to its proximity to the river. The Monongahela River was improved for year around transportation by the Monongahela Navigation Company in 1837 when a series of seven locks and dams from Pittsburgh towards the West Virginia state line were built. Lock #6 was built in 1856 at Rices Landing. The construction of a new lock system began in 1960 with the construction of the Maxwell Lock and Dam, which resulted in the removal of the old Lock and Dam #6 at Rices Landing, PA in 1965. Rices Landing and the surrounding region profited from the presence of the natural resource, bituminous coal, which was extracted by the Dilworth Mining Company. The Mining Company served as a major employer for Rices Landing and other communities along the Monongahela River.



Waynesburg Historic District

The Waynesburg Historic District was added to the Register in 1984 and is roughly bounded by Second Street, Cherry Avenue, East Street, and Bowlby Street. The district covers 61 acres and has 183 contributing structures. The architectural style is from the late 19th Century, the 20th Century Revival, and late Victorian. Waynesburg has served as the County-seat of Greene County for over two centuries. It has also functioned as the commercial center primarily due to its historical commerce dominance in the wool/sheep industry and due to the discovery of natural gas. The physical layout of Waynesburg is a grid pattern with Waynesburg University to the north, a central residential hub, and the commercial area to the south. The area is comprised of 224 structures of which 41 are considered intrusive.

Figure 3-3: Waynesburg Historic District



Pennsylvania At-Risk: 1992-2003

Pennsylvania at Risk is published annually by Preservation Pennsylvania. The list contains a number of historic properties that are facing threats to their continued preservation. The list is compiled from recommendations made by members, local heritage organizations, the board and staff of Preservation Pennsylvania, and the Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission (PHMC). In addition to the annual listing released each spring, Preservation Pennsylvania will occasionally add to the endangered list in its newsletters in response to threats to significant historic properties.

Criteria for Listing

- the property is listed on, or determined eligible for listing in the National Register of Historic Places, or
- the property is considered a contributing structure in a National Register Historic District, or
- the property is designated historic by local government, and
- the property is faced with imminent, recognized endangerment either from overt action, neglect, incompatible use, or loss of context.

The following properties in Greene County have been included in past publications of *Pennsylvania At Risk* (<http://www.preservationpa.org/files/publications/Risk05.pdf>):

- Glassworks and Greensboro, Greensboro Borough (1993)
- Lock & Dam 7, Monongahela River, Greene & Fayette Counties (1995)
- Thomas Kent, Jr. Farm, Franklin Township (1999)

Historic Pennsylvania Agriculture Project

A Historic Pennsylvania Agriculture Project for Washington and Greene Counties is underway and is a partnership between local, state, and federal government agencies, non-profit organizations, and educational institutions. Its purpose is to document the agricultural history and resources of Pennsylvania. Its intent is to create a comprehensive resource that will support efforts to preserve working farms, develop heritage education and tourism, and raise awareness of Pennsylvania's agricultural industry. The Washington and Greene County survey is funded by the federal Preserve America program, Pittsburgh History & Landmarks Foundation, and Pennsylvania Historical and Museum Commission.

From July 2007 through August 2008, project teams will be in Washington and Greene Counties to document the farms and landscapes of this important farming region. The project will consist of a survey documentation (identifying the buildings and landscape features of farms and farmsteads to illustrate how our agricultural resources historically developed); a web page to make the components of the entire project available online; oral histories intended to capture the voices of



Pennsylvania farmers telling their own histories; federal and state agricultural census manuscripts for 1850, 1880, and 1927 collected to make original data at the farmstead level available to researchers; and regional narratives to produce a comprehensive analysis of the evolution of agricultural regions across the state.

Historic Markers

The Pennsylvania Historical and Museum Commission (PHMC) has operated the Historical Marker Program since 1946 in order to commemorate people and places that have had a significant historical impact. The guidelines, as adopted by Resolution of the Pennsylvania Historical and Museum Commission on December 2, 1987 require:

- That the person, event, or site to be commemorated have had a meaningful impact on its times and be of statewide or national rather than only local significance.
- That only historical subjects (rather than current events) be considered.
- That significant subjects which have hitherto been given less attention by the Historical Marker Program receive more favorable consideration (other factors being equal) than subjects which have already had fuller coverage.
- That people and their activities receive more favorable treatment than buildings or sites.
- That historically recognized personages shall no longer be living, and that the place of their accomplishments in history shall have become established.
- That churches, schools, headquarters of societies, organizations, institutions, etc., be encouraged to erect their own signs or markers (consistent with legal requirements) if the subject does not meet the requirements of these guidelines.
- That requests for graveyard markers for war veterans be referred to the Director of Military Affairs within the county concerned.
- That requests for marking geographical or topographical features be referred to an appropriate agency.
- That locations or individuals already commemorated with existing monuments or markers receive less favorable consideration than those not previously recognized.
- That subjects that have been nominated, reviewed, and disapproved by the Commission in three consecutive years shall become ineligible for Commission consideration for a period of three years.
- That any person who served as Governor of Pennsylvania shall be approved as the subject of a historical marker (subject to Guideline #5).
- That any historic site or property owned by the Pennsylvania Historical and Museum Commission shall be approved as the subject of a historical marker.

The following historical markers are located in Greene County:

Fort Jackson

Date Dedicated: February 23, 1955

Marker Type: Roadside

Location: E High St. at Woodland Ave., Waynesburg (Missing)

Category: Military, American Revolution, Forts

Marker Text: Refuge from Indians during Revolutionary period. In 1774, it was a stockade cabin; later it became a square-shaped system of settlers' cabins joined by palisades.

Fort Swan

Date Dedicated: unknown

Marker Type: Roadside

Location: Pa. 88, S of Dry Tavern (Missing)

Category: Military, Forts

Marker Text: Site of early fort is 1.3 miles east of here. It was built in 1774 as a protection against Indian raids. Seven years before, 1767, the first settlers -- Swan, Van Meter, Hughes, Hupp -- crossed the Monongahela River into this area.

Garards Fort

Date Dedicated: May 23, 1958

Marker Type: Roadside

Location: SR 2011, .6 miles E of Garards Fort

Category: Military, Native American, American Revolution

Marker Text: Site of frontier refuge in Revolutionary War. Station of a small detachment of Virginia militia in 1777, when this area was claimed as part of Monongalia County, Virginia. Near here, on May 12, 1782, the wife and three children of the noted Baptist minister, Rev. John Corbly, were killed while on their way to church; two of Corbly's other children were wounded in the same Indian attack but survived.

Greene Academy

Date Dedicated: May 22, 1953

Marker Type: City

Location: Pa. 88, Carmichaels near intersection of Greene & Vine Sts.

Category: Education

Marker Text: Established in 1810 by Act of Legislature, aided by a State grant of \$2000 and public subscriptions, until 1860, it was a leading academy west of the mountains.



Greene County

Date Dedicated: May 3, 1982

Marker Type: City

Location: County Courthouse, High St., Waynesburg

Category: Government & Politics, Government & Politics 18th Century

Marker Text: Formed February 9, 1796 from Washington County. Named for Gen. Nathanael Greene. Waynesburg, the county seat named for Gen. Anthony Wayne, was incorporated in 1816. Site of Waynesburg University, founded 1849. Near Ten Mile is birthplace of Gov. Edward Martin.

Monongahela College

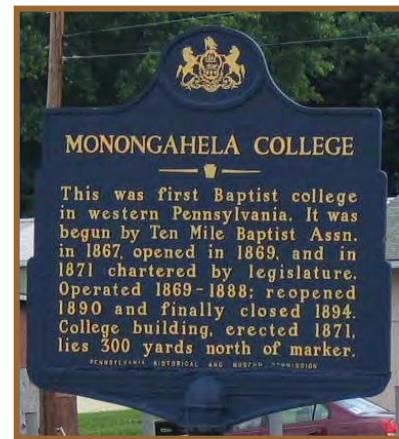
Date Dedicated: May 8, 1960

Marker Type: Roadside

Location: Pa. 188 in Jefferson at Green & Pine Sts.

Category: Education, Religion

Marker Text: This was first Baptist college in western Pennsylvania. It was begun by Ten Mile Baptist Assn. in 1867, opened in 1869, and in 1871 chartered by legislature. Operated 1869-1888; reopened 1890 and finally closed 1894. College building, erected 1871, lies 300 yards north of marker.



Monongahela College Marker (Mackin, 2004)

Old Glassworks

Date Dedicated: March 28, 1955

Marker Type: Roadside

Location: SR 2014, Greensboro

Category: Business & Industry, Glass

Marker Text: On this site, the first glass factory west of the Monongahela River was established in 1805 through the stimulating influence of Albert Gallatin, Secretary of the Treasury under Thomas Jefferson. Glass was made here until 1849.

Rev. John Corbly

Date Dedicated: November 15, 1994

Marker Type: Roadside

Location: SR 2011 between Fordyce and Garards Fort

Category: Government & Politics, Religion, Government & Politics 18th Century, Military, Whiskey Rebellion

Marker Text: A noted Baptist minister serving area congregations, Corbly was among some 150 men arrested by federal troops on the "Dreadful Night" of November 13, 1794. A vocal opponent of the U.S. excise tax on whiskey, he was this area's best known participant in the Whiskey Rebellion and was seen as a threat by the Federalists.

Imprisoned for a time in Philadelphia, Corby returned here and remained active in the ministry.

Ryerson's Blockhouse

Date Dedicated: October 17, 1960

Marker Type: Roadside

Location: Pa. 21 at Wind Ridge

Category: Native American

Marker Text: Near here stood one of three blockhouses erected by Captain James Paul's company in 1792, during the State's last troubles with the Indians. On April 17, 1792, soldiers carrying supplies from the Thomas Ryerson mill clashed with an Indian war party attacking the white settlements.

Waynesburg College

Date Dedicated: January 6, 1949

Marker Type: Roadside

Location: U.S. 19 in Waynesburg

Category: Education, Religion

Marker Text: Founded in 1849 by the Cumberland Presbyterian Church. Chartered by the State in 1850. One of the first two colleges in Pennsylvania to grant degrees to women, in 1857.



Historical Museum

The Greene County Historical Museum is located on Rolling Meadows Road in Franklin Township, just outside of Waynesburg Borough. The brick building that houses the Museum was originally the county's poor farm, which was a home and workplace for indigent men. Constructed in the 1860's, the museum has 52 rooms and is located on 19.6 acres of land. The Greene County Historical Society operates the museum and leases the property from the County. Over 10,000 artifacts are on display inside the Museum and offer a tangible history of Greene County, including art, period furniture, and old clothing. Outside of the museum are an old train, cannons, and log cabins; which are used for educational classes.

The Museum is also home to the Harvest Festival, Spring Festival, Civil War re-enactment, Whiskey Rebellion re-enactment and other special events. Funding for the Museum is sustained through a \$10,000 annual gift from the County and a \$10,000 match, as well as through endowments and small trusts. It is estimated that approximately 6,000 visitors come to the Museum yearly.



Greene County Historical Museum (Mackin, 2004)

Courthouse

The original Greene County Courthouse, located one block behind the current courthouse in Waynesburg Borough is a two-story log house that was built in 1797. This has become one of the biggest tourist attractions in Greene County and approximately 1800 to 2000 visitors come each year to research their ancestry. The historic log courthouse is also used by various community organizations and groups for meetings as well as home to school programs in May. During the summer, visitation reaches over 200 people daily.

United Mine Workers Coal Heritage Park

Building upon the history of coal mining in Greene County, the County in collaboration with the United Mine Workers, have received a First Industries Tourism grant to establish a nationally significant Coal Heritage Park that that would be co-located with the UMWA Training Center. The grant paid for a study, released in April of 2008 by Economics Research Associates, that evaluated the market potential for such an attraction in Greene County. A second report is due that will focus on the financial and economic analyses portions of the study and implementation recommendations.

The proposed site for the UMWA Training Center and Coal Heritage Park is the old Gateway mine portal, land, and buildings near Ruff Creek. Ruff Creek is located off Interstate 79 in Greene County, 30 miles from West Virginia and 40 miles from Pittsburgh. The Park will require a building of roughly 44,000 square feet; of which 24,000 would be devoted to exhibits. There would be additional outside exhibits, including relocated coal patch structures. Preliminary cost estimates are around \$23.9 million (2008 dollars). Initial concepts for Park exhibits include a mining timeline that will simulate a coal mine (lighting, temperature, smells, machinery, etc.) and a recreation of a company town and Company Store. The center will also house a museum store and a food court.

The Coal Heritage Park project, if fully developed, would be a regional draw and potentially a national draw for southwestern Pennsylvania. The project would generate significant demand for overnight accommodations and would draw tourists from well outside a 100-mile radius of the proposed site. It would employ several people for the technology integrated into the Coal Heritage Park, developers, machine operators, management and marketing staff would additionally be required. Additionally it would provide a range of opportunities for small businesses to engage in activities around and in the park and provide additional minimum wage jobs on an on-going basis related to operational aspects of the park.



C. Development Strategies

The public participation process for the comprehensive plan revealed that Greene County residents cherish their heritage and that a major focus should be placed on preservation and promotion. The County has a rich and diverse history that is can still be seen throughout the County, whether in the rural countryside, boroughs, or coal patch towns. It is vital that the County take on an active role in the preservation and promotion of these sites and encourage heritage tourism to stimulate the local economy. Southeastern Greene County and the Monongahela River corridor, in particular, were noted as being areas suitable to implement heritage tourism efforts.

Greene County has a wealth of historic resources, however during the inventory and analysis it was evident that the organizations in charge of preserving and promoting the sites are lacking in capacity. The County needs to identify responsible parties to take on some of the development strategies that have been identified to fulfill the historic and cultural goals of the County. Collaboration among a variety of organizations will be one of the most important tools that can be utilized.

Assessing public opinion regarding the historic and cultural resources in Greene County was undertaken during public and focus group meetings. The most important issues regarding historic / cultural assets were identified as follows:

1. Offer more youth oriented programs (theaters, arts programs and community centers)
2. Offer more cultural programs such as museums, music, arts, theater
3. Advertise to encourage tourism
4. Preserve / promote historical sites (buildings, covered bridges, communities, etc.)
5. Preserve / promote cultural and historical features along the Monongahela River

Greene County is actively pursuing a public policy to promote community and economic development by encouraging cultural activities that build community identity and cohesion. Greene County is successfully fostering partnerships among community development organizations, social service organizations, and arts/artist and heritage/ preservation groups, as well as economic development agencies. Efforts are underway to identify grants and provide technical assistance to community groups seeking to renovate space for arts and cultural projects, and to integrate arts and cultural programming into community development projects in Greensboro, Rices Landing, Waynesburg and the Jefferson Morgan Region.

GOAL: Provide youth-oriented cultural opportunities

Strategy: Waynesburg University should work with school districts to provide youth oriented cultural events that include aspects of local history

Strategy: The Greene County Historical Society should develop programs that focus on historic and cultural topics of the County that would serve as the basis for the college and school district programs

Strategy: The Greene County Department of Recreation should work with the County Fair Board, the Nathanael Greene Historical Foundation, and Tourist Promotion Agency to develop arts and learning programs for youth that would be hosted at County fairs and events

GOAL: Enhance the quality of life for Senior Citizens

Strategy: Charge the Greene County Tourist Promotion Agency to develop senior-friendly tourist events and bus tours

GOAL: Protect & enhance the historic and cultural character of "hub" communities

Strategy: Develop and distribute model ordinances for municipalities to use in site design

Strategy: Provide education sessions or informational packets to each municipality on how these model ordinances may be enacted and the benefits they provide

Strategy: Host educational workshops sponsored by the Pennsylvania Historical Museum Commission (PHMC) for "Hub" Communities

Strategy: Encourage local historic district ordinances as implementation measures



GOAL: Preserve historical & cultural assets

Strategy: The County of Greene Department of Economic Development, the Greene County Historical Society, and representatives of each historic district should create a commission to identify resources and a responsible party to implement a historic preservation plan to include:

- PHMC criteria to identify sites and preservation methods
- Create and manage a geographical information system (GIS) database of historical and cultural sites/resources
- Prioritize sites/resources as to their status (i.e. protected or at-risk) and action strategies
- Identify capital funds for promotion, preservation, rehabilitation of historic sites/resources
- Assist museums and other organizations with letters of support and efforts to secure funding
- Investigate which properties listed as "eligible" should be formally listed on the National Register of Historic Places and provide technical support necessary to attain this status
- Develop an informational packet on historic preservation funding sources and tax incentives.

GOAL: Promote historic & cultural assets

Strategy: The Greene County Tourist Promotion Agency should implement a historic and cultural promotion strategy to include:

- Identify and maintain a list of sites or resources accessible to the public that support public visitation and exemplify the intrinsic qualities of Greene County
- Develop and publish a marketing piece to increase awareness of the sites targeted for visitation
- Distribution should be broad enough to include (but not limited to) outreach through chambers of commerce, realtors, economic development organizations, and the Pennsylvania Welcome Center at the Kirby Interchange on I-79.

GOAL: Maximize the economic development potential of tourism

Strategy: Develop a lobbying campaign directed to state and federal agencies and representatives and legislators to promote the tourism industry

Strategy: Identify tax revenue sources such as the hotel tax and amusement tax and allocate this to best serve Greene County

Strategy: Establish a unique identity for "Hub" communities that represents historic and/or cultural characteristics inherent to each

- Suggested themes include:
 - Greensboro is established as the Arts Center for Greene County due to its heritage as the historical center for the glass and pottery industry as well as the number of existing structures that retain historic significance
 - Rices Landing / Crucible could focus on river-oriented recreation and its importance as a historic center for industry and commerce
 - Waynesburg is promoted for its historic relevance to the County's formation, thriving main street, and home to Waynesburg University
 - Ruff Creek is home to the United Mine Workers Coal Heritage Park

GOAL: Capitalize upon the economic & recreation potential of the Monongahela River

Strategy: Identify communities that are interested in completing a riverfront development plan and acquire money to support this effort from a regional perspective

Strategy: Extend the Greene River Trail

- Complete a feasibility study to identify steps to connect to Washington County, Fayette County, and hub communities along the Monongahela River

Strategy: Collaborate to coordinate festivals for the communities along the Monongahela River

- Promote the theme of festivals along the river
- Coordinate dates and promotion activities

Strategy: Encourage the towns with public river access (Rices Landing) to attract businesses that are supportive of boaters, etc. and maximize the designation of the Upper Mon River Water Trail.



A. Background

Identifying sensitive environmental characteristics is integral to the establishment of targeted growth areas and establishing County-level development policies. The Greene County Comprehensive Plan includes an overview of the existing natural features and identifies specific developmental limitations attributed to the presence of these natural features (i.e., streams, floodplains, etc.) or anthropogenic sources (i.e., point source pollution, non-point source pollution, etc.).

The Natural Resources section of this comprehensive plan will be consistent with and may not exceed those requirements imposed under the Act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law."

Existing Studies

There have been many reports and studies completed over the years that investigate natural resources, water quality, and other environmental issues in Greene County. The following have been reviewed and summarized to include findings and recommendations that relate to any of the issues addressed under this section.

Greene County Comprehensive Plan: Part I - Background Analysis and Part II - Final Report (1979)

The comprehensive plan focused on regional location analysis; physical features and existing land use; population and economy; housing analysis; thoroughfares; and community facilities. The background analysis found that the steep topography and poor access has inhibited development; 96 percent of land is undeveloped woodlands, agricultural land, or publicly owned open space; and that substantial amounts of developable land along the County's road system lie in flood hazard areas. The final report recommended that the County should locate new development in areas with suitable topography, access to utilities and access to employment; protect valuable county land resources including unique natural features, established neighborhoods, prime industrial sites and recreational areas; to foster coordination between various planning and administrative bodies in the county to avoid conflicts between land use, transportation, housing, utilities, services, conservation and community facilities.

Water Resources and the Effects of Coal Mining: Greene County, Pennsylvania (1987)

The study investigated the effects of coal mining on Greene County's water resources. As 20 percent of Pennsylvania's minable bituminous coal reserves are in Greene County, it is considered to be one of last major deposits of high-quality, high-Btu coal in the nation. The study found that Abandoned Mine Drainage (AMD) affected many of the sampled streams in eastern Greene County. In addition, the most productive water-bearing units

are sandstones and coal beds in Washington and Waynesburg formations less than 200 feet below the surface. Major groundwater-quality problems are high concentrations of iron, manganese, and hardness; minor problems include hydrogen sulfide gas, methane gas, and occasional high concentrations of chloride. Iron and manganese levels are above the Environmental Protection Agency (EPA) limits due to oxidation, not due to mining. The study recommended that well-depth be greater than 200 feet only in valley settings; wells should be installed, tested, and relative permanence determined during dry periods; and that wells should be drilled as wide as cost allows for more storage capacity.

Monongahela River Conservations Plan (1998)

The Monongahela River Conservation Plan (RCP) was completed in 1998 by Mackin Engineering. This plan addresses the stretch of river from the Mason-Dixon Line to where the river confluences with the Allegheny River at the Glenwood Bridge in the City of Pittsburgh to form the Ohio River. Management objectives were provided in the plan to assist in the future planning of the watershed.

Dunkard Creek Rivers Conservation Plan (2000)

The Dunkard Creek RCP was conducted by the Greene County Conservation District in conjunction with various agencies. The purpose of this study is to look at several issues and concerns that the public has brought to our attention via public meetings concerning the watershed. Once these issues are identified, recommended policies and actions will be undertaken to conserve, restore and/or enhance the river resources and values. This process ultimately included Dunkard Creek on the Pennsylvania Rivers Conservation Registry. The purpose of the Rivers Conservation Registry is to promote the conservation of rivers and river values, officially recognize community plans for conserving rivers and river values, and facilitate consistent state action with local river conservation plans. Within this plan is a management options plan for the watershed. This plan gives direction and options for remediation and/or protection options for the watershed.

RAG Emerald Resources Corporation - Whiteley Creek Watershed Mitigation (2001)

A Biological Assessment of the Rudolph Run Watershed (2002)

The study was undertaken to assess existing water quality and biological conditions of Rudolph Run Watershed before corrective actions to reduce flood-related damage would occur. Based on parameters of this study, water quality in the watershed does not appear to be severely impacted. High stream flows have contributed to erosion.



Monongahela River Source Water Assessment Report (for Dunkard Valley Joint Municipal Authority, East Dunkard Water Association, and the Southwestern Pennsylvania Water Authority) (2002)

These studies were conducted to meet the 1996 Safe Drinking Water Act that requires a Source Water Assessment and Protection Program (SWAP) to evaluate all drinking water sources that serve public drinking supplies and to provide a mechanism for development of local protection programs. Potential sources for contamination (PSOCs) include point (water and sewer treatment plants, wildcat sewers, mining, power plants, chemical plants) and non-point sources (major transportation corridors and run-off from urban/developed areas). The most serious PSOC is the accidental release of materials along a transportation corridor. The studies found that Dooley Run and Dunkard Creek are affected by Abandoned Mine Drainage (AMD) and metals. The study recommended the development of a community based source water protection program to safeguard the public drinking supply based on the threats identified in the assessment.

Flow Measurement, Site Reconnaissance, and Proposed Remedial Action for Mine Discharges in the Lower Dunkard Creek Watershed (2002)

The study inventories Abandoned Mine Drainage problems from seven mine sites that discharge into Dunkard Creek and offers discharge remediation. Because of low pH values and/or topography (lack of suitable flat acreage), in situ neutralization is recommended, combined with mine sealing, wetlands, and open limestone channels.

North Fork of the Dunkard Fork of Wheeling Creek & Ryerson Lake (Duke Lake) Watershed Assessment (2003)

The Greene County Conservation District applied for and received funding to perform the Ryerson Lake watershed assessment project. This project was funded by the U.S. Environmental Protection Agency (U.S. EPA) and the Pennsylvania Department of Environmental Protection (PADEP) through the Nonpoint Source Program (Section 319). As part of this assessment, a comprehensive lake and watershed management plan was developed to improve and further protect the water quality of Ryerson Lake and its tributaries.

The comprehensive lake and watershed management plan for this project was developed using watershed-specific data and information. Watershed data and information were compiled, analyzed and mapped using GIS (Geographical Information System) software. Stream and lake data were collected and analyzed. Both water and pollutant (nutrients and sediment) budgets were determined for the Ryerson Lake watershed. Watershed investigations were performed to identify major sources of nutrients and sediments (nonpoint source pollution) to the lake and its streams.

Jackson Run Flood Study: Franklin Township & Waynesburg Borough (2004)

A study was conducted regarding the flooding problems along Jackson Run in Franklin Township and Waynesburg. In order to lessen the incidence of flooding in the study reach of Jackson Run, the following modifications are recommended:

1. For the open channel section between the existing 8 feet by 8 feet concrete box culvert through the railroad embankment and the outfall of the existing 10 feet by 7 feet concrete arch culvert under Greene Street, re-align and re-grade the channel to the lines and grades shown on Dwg. No. P-5, Plan View, Dwg. No. PR-1, Stream Profile and Dwg. No. SS-3, Stream Sections.
2. For the open channel section between the existing 10 feet by 7 feet concrete arch culvert under Greene Street and the 72 inch CMP outfall for the 60 inch RCP under High Street, trim the vegetation along the channel banks and remove any debris or rubbish in the channel.
3. Replace the existing 60 inch RCP under High Street with a 12 feet by 6 feet concrete box culvert. Modify the inlet channel to accommodate the wider and deeper culvert.
4. Re-align and re-grade the channel upstream and downstream of the existing bridge over Jackson Run near the intersection of Woodland Avenue and 7th Street. Remove accumulated sediment under the bridge.

Ruff Creek Watershed Assessment Report (2004)

Greene County Watershed Alliance completed a watershed assessment of upper Ruff Creek watershed to identify extent and degree of stream impairment. The study found that 23 percent of the streams in watershed are severely impaired with the most impairment on the mainstem. The recommendations stated that most of impaired streams will, at a minimum, require some bank grading and re-establishment of appropriate channel features (natural channel design); to restore riparian buffers in the watershed, and to fence out all livestock from stream corridor. The study also includes a Stream Restoration Plan.

Greene County Natural Heritage Inventory (2005)

A County Natural Heritage Inventory is designed to identify and map important biotic (living) and ecological resources. This information helps county, state, and municipal governments, the public, and business and industry plan development with the preservation of these environmentally important sites in mind. Biotic / ecological resources inherited by the citizens of this region include:

- Lands that support important components of Pennsylvania's native species biodiversity
- Populations of species that are facing imperilment at a state and/or global level, and their habitats



- Natural communities (assemblages of plants and animals) that are regionally important to biodiversity because they are exceptionally undisturbed and/or unique within the state
- Areas important for wildlife habitat, open space, education, scientific study, and recreation
- Areas that have been left relatively undisturbed by human activity
- Potential habitats for species of special concern

Environmental Resources

Greene County Conservation District

Every county in Pennsylvania, except Philadelphia, has a County Conservation District to support grassroots conservation efforts. The Greene County Conservation District is governed by a Board of Directors comprised of at least four farm directors, no less than two public directors, and one county commissioner. It is these directors that plan and direct the District programs, coordinate the help of governmental agencies, assign priority to requests for assistance from private landowners for resource development efforts, and serve the community. The policy of the Greene County Conservation District is to provide for the conservation of the soil, water and related resources of Greene County, for the control and prevention of soil erosion, and to preserve natural resources; assist in the control of floods; prevent impairment of dams and reservoirs; assist in maintaining the navigability of rivers and harbors; preserve wildlife; preserve the tax base; protect public lands; and protect and promote the health, safety and general welfare of the people of Greene County (<http://www.co.greene.pa.us/secured/gc/depts/ed/conserv/index.htm>).

Greene County Water Resources Program

The County of Greene and the Greene County Conservation District are partnering to establish a Water Resources Program to assist local municipalities and state agencies with certain aspects of water within the County. The program will result in an inventory and evaluation of the water resources as it relates to flood plains, stormwater, cultural, natural and recreational resource issues and concerns voiced by local municipalities. We are currently working with municipalities to inventory various issues of concern by interviewing each township or borough individually so that a needs assessment can be made for each municipality individually. Once this assessment is made then the County can assist the municipalities with finding proper resources to remedy situations.

Floodplain Monitoring Program

The Floodplain Monitoring Program is currently being contracted by the Conservation District. The Conservation District's primary activity under this program is to meet with municipal officials and review their administration/enforcement of their ordinance.

- District will review the current ordinance and check to see whether it is up-to-date
- Conduct a visual survey of the municipality for development in floodplains
- Provide training on floodplain map reading and usage
- Offer workshops and technical assistance

The result of this program is to get an understanding as to how the local municipalities administer and adheres to their ordinances and local understanding.

Greene County Watershed Alliance (GCWA)

The GCWA serves to protect and preserve the watersheds of Greene County, PA. GCWA was formed in October 2000 with the assistance of the Greene County Conservation District through the PADEP Growing Greener grant initiative, and became incorporated in May 2001 (<http://www.greenewatersheds.org/friends.html>). The GCWA is an independent, non-profit 501(c)3, volunteer organization dedicated to:

- Increase public understanding of watershed issues throughout Greene County
- Encourage understanding of watershed issues throughout Greene County
- Encourage the wise use, restoration, and conservation of natural resources that will promote sustainable land use and water quality.
- Serve as a central source for watershed information.
- Encourage the development of grass roots watershed organizations throughout the county.

Friends of Dunkard Creek

Friends of Dunkard Creek was developed through the assistance of the Greene County Watershed Alliance and a partnership with Greene County Conservation District. The purpose of this association is to preserve and protect the lower portion of Dunkard Creek to bring back recreational activity to the area.

Ten Mile Creek Watershed Conservancy

The Ten Mile Creek Watershed Conservancy was established in 1988 and has 127 members. The Conservancy was formed to be "a voice for the natural continuum of Ten Mile (Cusutha's) Creek and neighboring watersheds in Greene and Washington Counties" and their slogan is "Caring about the places no one is



saving." For more information about the group, visit their website: <http://www.pawatersheds.org/watersheddirectory/detail.asp?varOrgID=233>.

Wheeling Creek Watershed Conservancy

The Wheeling Creek Watershed has an existing watershed association titled Wheeling Creek Watershed Conservancy. The organization focuses on "Educating and Evaluating the Watershed for Preservation Project" and partners with West Greene School District and Richhill Township Supervisors.

Harry Enstrom Chapter of the Izaak Walton League of America (IWLA)

The Izaak Walton League of America (IWLA) was formed in 1922 to save outdoor America for future generations. Located in nearly 300 communities, local chapters of the IWLA are committed to restoring watersheds, reducing air pollution, fighting litter, protecting wildlife habitat and open spaces, and instilling conservation ethics in outdoor recreationists. The Henry Enstrom Chapter of the IWLA is headquartered in Waynesburg, Greene County (<http://www.iwla.org/index.php?id=581>).

Natural Infrastructure Atlas

The Southwestern Pennsylvania Commission (SPC), the Pennsylvania Department of Conservation and Natural Resources (DCNR), the Pennsylvania Environmental Council (PEC), and the Heinz Endowments, developed a project to examine the natural infrastructure of southwestern Pennsylvania. By identifying these elements and conducting analysis on their relationships to our communities, local governments can use these as a competitive advantage in today's economy.

This "natural infrastructure", which provides a broad array of services, products, and recreational opportunities, is a focal point for retaining and attracting residents and companies to the region. By leveraging the GIS and data capabilities of SPC, the project sponsors are developing an important tool for planning across the region. Not only will Natural Infrastructure provide a broad look across the counties, but local governments can also incorporate their own data to refine the analysis and expand the GIS capabilities within their community, ultimately leading to an improved planning process.

PA CleanWays of Greene County, Inc.

PA CleanWays of Greene County is a non profit organization that is working to empower Greene County residents to take action against illegal dumping and littering in their townships and communities. PA CleanWays provides education/outreach opportunities at local events and schools (<http://www.pacleanways.org/greene/index.html>).

Penn State Cooperative Extension

Penn State Cooperative Extension in Greene County gives local residents easy access to the resources and expertise of the Pennsylvania State University. Through educational programs, publications, and events, cooperative extension agents deliver unbiased, research-based information to Greene County citizens. They can answer your questions on a wide array of topics (website 2008). <http://greene.extension.psu.edu/>

Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Forestry

The Bureau of Forestry oversees Pennsylvania's 2.5 million acres of state forests, which in addition to producing valuable timber; also provide clean water, recreational opportunities, habitat for wildlife, and places to enjoy nature. While there are no state forests in Greene County, the Bureau also assigns a Bureau Service Forester to each county to advise residents on forest management and encourage sustainable forest management. Services provided include (http://www.dcnr.state.pa.us/forestry/serviceforesters_select.aspx):

- Forest management technical assistance
- Cost-share assistance
- Forest Stewardship Plans
- Regional planning advice
- Forestry and Water Best Management Practices advice
- Information and Education programs
- Urban and Community Forestry management
- Tree Planting
- Riparian Forest Buffer restoration

Pennsylvania Game Commission (PGC)

The Greene County region of the Pennsylvania Game Commission is within the 2nd District of eight as noticed by the state. The Game Commission handles the management, protection, habitat management, information and education of wildlife resources. For more information their website is <http://www.pgc.state.pa.us/>

Pennsylvania Fish and Boat Commission (PFBC)

The mission of the PFBC is “to provide fishing and boating opportunities through the protection and management of aquatic resources” (PFBC, 2005). Pennsylvania is divided into eight geographic districts and Greene County lies in the 2nd or Southwest District. The PFBC maintains a County Guide that provides the locations to obtain fishing licenses, boat registrations, launch permits, boat rentals (liveries), charter boats / fishing guides, and boating special regulations for each county in Pennsylvania and can be accessed via the website at: http://pfbc.state.pa.us/CountyGuide/County_Guide.htm.



Ralph K. Bell Bird Club

The Ralph K. Bell Bird Club, based in Greene County, was formed in October, 2006. The group was named in honor of their mentor and teacher Ralph K. Bell. This group of bird enthusiasts meets to learn about the birds of the area and perform bird counts and play a crucial role in the community. Meetings are held on the third Tuesday of every other month.

United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS)

NRCS staff works directly with farmers, ranchers, and others, to provide technical and financial conservation assistance. The guiding principles of the NRCS are service, partnership, and technical excellence.

NRCS helps landowners develop conservation plans and provides advice on the design, layout, construction, management, operation, maintenance, and evaluation of the recommended, voluntary conservation practices. NRCS activities include farmland protection, upstream flood prevention, emergency watershed protection, urban conservation, and local community projects designed to improve social, economic, and environmental conditions. NRCS conducts soil surveys; conservation needs assessments; and the National Resources Inventory to provide a basis for resource conservation planning activities and to provide an accurate assessment of the condition of the Nation's private lands (<http://www.nrcs.usda.gov/about/>). The NRCS maintains state offices that provide more information related to locally operated conservation programs (<http://www.pa.nrcs.usda.gov/>).

Some other conservation organizations within Greene County include the Southwestern PA Woodlot Owners Association and the Ten Mile Creek Protection Network.

Natural Resources Snapshot

More than any other factor, physical features and resources have impacted the history and settlement of Greene County and continue to dictate development patterns. It has been well documented over the years, that the steep topography of Greene County has limited where and to what extent development has occurred. While there is more development in the central and eastern portions of the county than the western half, the entire County is blessed with a wealth of natural features. Significant features include the Monongahela River; South Fork of Ten Mile Creek High Quality Warm Water Fishery that includes Browns Creek, Grays Fork and the headwaters of South Fork Ten Mile Creek; trout stocked fisheries; biological diversity areas; landscape conservation areas; the Enlow Fork Natural Area; and state game lands, among others. The Natural Resources section provides an inventory of these environmentally important sites, identifies existing and potential threats, and offers recommendations that the County can implement to protect these sites from harmful impacts.



Greene County Landscape (Mackin, 2004)



B. Data & Analysis

Climate

The mean temperature for Greene County is 50.2 degrees Fahrenheit (°F) with a maximum mean monthly temperature of 71.1°F in July and a mean monthly low of 28.0°F in January. Precipitation averages just under 40 inches per year and is fairly evenly distributed throughout the year. May is the wettest month with an average of 4.2 inches per year and February is the driest month with 2.5 inches per year. For the years between 1971 and 2000, the average annual snowfall is 29.9 inches, with almost all of it coming between December and March (USDA, 2002).

Vegetation

Greene County is located within the Eastern Broadleaf Forest (Continental) Province (USGS, 2004). The USGS also identified the majority of the deciduous forestland in Greene County as oak-hickory forest (USGS, 2004). Several types of forestland are found in Greene County, including deciduous, coniferous, and a mix of both types. Deciduous forest land includes all forested areas that have a predominance of trees that lose their leaves when the frost-free season ends or the dry season begins (Anderson, 1976). Two pockets of coniferous forestland were identified near Boyd Run in Washington Township and near Fordyce Run in Gilmore Township.

The Natural Infrastructure Atlas indicates numerous areas in Greene County that are considered “prime areas for managed forestry” and several areas identified as “public land suitable for managed forestry.” Forest reserves can be an important economic resource if properly managed and can also reduce stormwater runoff, capture and store carbon monoxide, and provide areas for recreation (PEC et al, 2005). Mapping that identifies these areas is found in the Natural Infrastructure Atlas. **Figure 4-1: Forest Resources** provides a visual depiction of forest lands (as per the most current land cover data). In addition, data from the Natural Infrastructure Project (distributed by the Southwestern Pennsylvania Commission) shows areas with oak and hickory forests and areas with maple, beech and birch forests.

Stream margins or riparian buffers throughout the county are composed of several species of riparian vegetation. Vegetation observed along some of the streams in the county included deer-tongue grass (*Dichanthelium clandestinum*), jewelweed (*Impatiens capensis*), smooth alder (*Alnus serrulata*), black cherry (*Prunus serotina*), birch (*Betula* spp.), and American beech (*Fagus grandifolia*). These riparian and wetland species function to alter floodwater flow, retain sediment and toxins from upland areas, stabilize and shade the stream margin, and deliver detritus matter to the stream. Riparian buffers are areas of vegetation that are maintained along the shore of a water body to protect stream water quality and stabilize stream channels and banks. Thus, these areas are essential for good water quality and aquatic habitats. These areas of tree buffers surrounding bodies of water should be preserved or replanted where feasible.

Riparian buffers provide additional benefits to landowners and the larger community by:

- Safeguarding water supplies by protecting groundwater recharge areas
- Providing flood control
- Providing stormwater management potential – natural vegetation provides a basis for innovative stormwater management systems. Stormwater flows from retention basins can be directed to, and allowed to flow through forested buffers to reduce nutrient and sediment loads
- Improving the health of cities, boroughs, and townships by improving water and air quality
- Stimulating economic opportunities such as by providing valuable open space, which may increase land values and, therefore, the tax base
- Providing some federal tax incentives to landowners (depending on a landowner's financial situation) willing and able to place some of their lands under conservation easements
- Cost savings by reducing grounds maintenance
- Providing recreation opportunities, and associated economic benefits for recreation-related businesses
- Providing educational and research opportunities for local schools and colleges
- Providing windbreak, shade, and visual buffer

Physiographic Characteristics & Geology

Pennsylvania is divided into numerous physiographic provinces, which are defined as regions in which all parts are similar in geologic structure, climate, relief, and have a unified geomorphic history. The majority of Greene County is located in the Waynesburg Hills Section of the Appalachian Plateaus physiographic province; a small section in the southeastern quadrant of the county is located in the Pittsburgh Low Plateau Section. The dominant topography in the region is very hilly with narrow hilltops and steep-sloped, narrow valleys and is underlain with sandstone, shale, red beds, and limestone. The highest elevations can be found along the divide between waters flowing directly into the Ohio River in the western portion of the County and waters flowing into the Monongahela River in the central / eastern portions of the County.

Slopes play a significant role when determining the extent and type of development that is being planned. Land with slopes in excess of 25 percent begins to cause serious problems for development. The slope and soils present on steep slopes are in balance with vegetation, underlying geology, and precipitation levels. If these steep slopes are actively used or the vegetation is removed, the soils become prone to erosion. In addition, Greene County's soils have high clay content and with the amount of rainfall in the area, regardless of the slope, the soils are prone to hydraulic instability.

For the Natural Infrastructure project, the Southwestern Pennsylvania Commission (SPC) developed slope data based on 20-foot USGS topographic lines. The topographic lines were 'reduced' to 100-foot topographic lines before being used to calculate slope, using algorithms in the Geographic Information System (GIS). The Natural Infrastructure project was regional in scope, and therefore data layers were created using the best available regional data. The SPC



encourages the recreation of data sets by counties and local municipalities if better data is available. **Figure 4-2: Topography** illustrates the locations of slopes within the county between zero and eight percent, between eight and 15 percent, between 15 and 25 percent, between 25 and 40 percent, and slopes over 40 percent. **Table 4-1: Greene County Slope Data** lists the percentages for each category.

Table 4-1: Greene County Slope Data	
Slope	Percent of Total Land
0-8%	31.0%
>8-15%	7.0%
>15-25%	17.6%
>25-40%	37.5%
>40%	6.8%
Source: SPC, 2000	

The flattest part of the County lies east of I-79, particularly along the PA Route 88 corridor and the Monongahela River. Just slightly over half of the County has a slope value of 25 percent or less. Almost 38 percent of the County contains slopes greater than 25 percent and another seven percent is in excess of 40 percent. The majority of these lands can be found in the western portion of the County. This data was compared to slope data associated with the various types of soil found in the County. The soil data showed that approximately 47 percent of the County has steep slopes in excess of 25 percent, a difference of just three percent when compared to that developed by SPC.

The Greene County Subdivision and Land Development Ordinance (SALDO) defines any slope, 25 percent or greater, as a "steep slope" and certain requirements have to be met for development of this land. The SALDO also states that anything over 40 percent cannot be developed.

The surface geology in the area originates from fluvial erosion and landslides and has a developed dendritic drainage pattern. Seven geologic formations are found in Greene County. Sandstone is the predominant rock type within the county; shale, limestone, siltstone, conglomerate, and coal layers are scattered within the sandstone. **Figure 4-3: Bedrock Lithology** depicts the geology of Greene County. Limestone can be found along the eastern edge of the County and along Ten Mile Creek, while shale is found only in the very southeastern edge of Greene County.

Soil Associations

Soil is produced through the interaction of five natural forces: climate, biological influences, parent material, topographic relief, and time. The degree and influence of each of these factors differ from place to place and influence individual characteristics of the soil.

General knowledge of the soil associations within an area is useful for planning. These associations can provide background information for determining suitable land uses for land tracts. In addition, this information is useful for watershed management, forestland management, and community development.

A soil association has a distinctive pattern of soils, relief, and drainage. Each is a unique natural landscape. Typically, an association consists of one or more major soils and some minor soils. Taxonomy of associations is based on major soil groupings. The soils making up one association can occur in another but in a different pattern (NRCS, 2006). Three soil associations exist within Greene County (USDA, 1979) and are identified on *Figure 4-4: Soil Associations*.

1. Dormont-Culleoka – Moderately well drained and well drained; deep and moderately deep; gently sloping to very steep soils; on hilltops, ridges, benches, and hillsides
2. Dormont-Culleoka-Newark – Well drained to somewhat poorly drained; deep and moderately deep; nearly level to very steep soils; on hilltops, ridges, benches, hillsides, and floodplains
3. Glenford-Dormont-Library – Moderately well drained and somewhat poorly drained; deep, nearly level to sloping soils; on terraces and surrounding uplands

The majority of the county is comprised of the Dormont-Culleoka association. The major limitations correlated with this association include steep slopes, a tendency for erosion to occur, and a seasonal high water table. The Dormont-Culleoka-Newark association is located along the floodplains and hillsides adjacent to the following streams: Enlow Fork Wheeling Creek, Dunkard Fork (North and South Forks), South Fork Ten Mile Creek, and Whiteley Creek. Major limitations associated with this association are the steep slopes, the tendency for erosion to occur, a seasonal high water table, and occasional flooding. The Glenford-Dormont-Library association is located in the eastern portion of the county and a few isolated pockets in central and southeastern Greene County. The major limitations associated with this association include steep slopes, the tendency for erosion to occur, a seasonal high water table, and slow and moderately slow permeability.

Hydric Soil

As defined by the NRCS, a hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA, 2004). Hydric soils support the growth and regeneration of hydrophytic (water-loving) vegetation. In addition, soils that are sufficiently wet because of artificial measures are classified as hydric soils. Also, soils in which the



hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric.

The analysis of hydric soils has recently become an important consideration when performing any type of physical analysis of the community. These soils are important to identify and locate due to the fact that they provide the approximate location where wet areas may be found. Thus, the location of hydric soils is one indication of the potential existence of a wetland area.

Hydric soil imposes restrictions for development of land. These soils have severe surface and subsurface drainage characteristics, which result in significant development limitations, including restrictions on the placement of septic systems within a hydric soil area. There is one true hydric soil in the project area – Purdy Silt Loam. Most of the hydric soil within Greene County is found in the Muddy Creek and Little Whiteley Creek watersheds in the eastern portion of the county. However, 21 other soils in the project area could support wetlands if the proper hydrology exists. Hydric soils are mapped on *Figure 4-5: Hydrology*.

Prime Agricultural Soil

There are seven types of soil that are classified as Pennsylvania Prime Farmland soils and 16 types of soils classified as Additional Farmland of Pennsylvania Statewide Importance within the project area. Approximately five percent of land in Greene County is classified as a prime agricultural soil. The soil is scattered around the county with denser deposits in the eastern portion of the County and along South Fork Ten Mile Creek. *Figure 11-1: Agriculture* depicts the location of both the prime agricultural soils, along with Agricultural Security Areas and identified farmland.

Water Resources

Surface waters are defined in The Commonwealth of Pennsylvania Code Title 25 Environmental Protection Chapter 93 Water Quality Standards as "Perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds, and constructed wetlands used as part of a wastewater treatment process" (Pennsylvania Code, 1971).

Under Section 303(d) of the 1972 Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters (USEPA 2004). The water quality standards identify the uses for each water body and the scientific criteria needed to support that use. Minimum goals set by the Clean Water Act require that all waters be "fishable" and "swimmable." This section requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters. A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among point and nonpoint pollutant sources. The Environmental Protection Agency's (EPA) implementing regulations (40 CFR Part 130) require:

- States to develop lists of impaired waters for which current pollution controls are not stringent enough to meet water quality standards (the list is used to determine which streams need TMDLs);
- States to establish priority rankings for waters on the lists based on severity of pollution and the designated use of the water body; states must also identify those waters for which TMDLs will be developed and a schedule for development;
- States to submit the list of waters to EPA every two years (April 1 of the even numbered years);
- States to develop TMDLs, specifying a pollutant budget that meets state water quality standards and allocate pollutant loads among pollution sources in a watershed, e.g., point and nonpoint sources; and
- The EPA to approve or disapprove state lists and TMDLs within 30 days of final submission.

Despite these requirements, states, territories, authorized tribes, and the EPA had not developed many TMDLs. Beginning in 1986, organizations in many states filed lawsuits against the EPA for failing to meet the TMDL requirements contained in the federal Clean Water Act and its implementing regulations. While the EPA has entered into consent agreements with the plaintiffs in several states, other lawsuits still are pending across the country.

In the cases that have been settled to date, the consent agreements require the EPA to backstop TMDL development, track TMDL development, review state monitoring programs, and fund studies on issues of concern (e.g., AMD, implementation of nonpoint source Best Management Practices (BMPs), etc.). These TMDLs were developed in partial fulfillment of the 1997 lawsuit settlement of American Littoral Society and Public Interest Group of Pennsylvania v. EPA.



The TMDL's developed for Greene County are:

- Dooley Run Watershed, EPA approved 4-7-07 located within the Dunkard Creek Watershed-pollutant-metals from AMD
- Dunkard Creek Watershed-EPA approved 4-4-07-pollutant-metals, siltation, suspended solids
- Whiteley Creek watershed-not approved as of Feb 2009-pollutant-Non Point Source Pollution-siltation
- Pumpkin Run Watershed-not approved as of Feb 2009-pollutant-Non Point Source Pollution-Nutrients/Organic Enrichment/low dissolved oxygen

Watersheds / Rivers / Streams

The PADEP protects waters within the state boundary under the following categories: aquatic life, water supply, recreation, special protection, and other. Under the "Special Protection" category, certain watercourses are given protection as High Quality Waters (HQ), meaning that the watercourse has excellent quality waters and environmental or other features that require special water quality protection (PADEP, 1999). To qualify as a Exceptional Value Water (EV), the water must be classified as HQ; the water is a surface water of exceptional ecological significance; and at least one of the following:

- (i) The water is located in a National wildlife refuge or a State game propagation and protection area.
- (ii) The water is located in a designated State park natural area or State forest natural area, National natural landmark, Federal or State wild river, Federal wilderness area or National recreational area.
- (iii) The water is an outstanding National, State, regional or local resource water.
- (iv) The water is a surface water of exceptional recreational significance.
- (v) The water achieves a score of at least 92% (or its equivalent) using the methods and procedures described in subsection (a)(2)(i)(A) or (B).
- (vi) The water is designated as a "wilderness trout stream" by the Fish and Boat Commission following public notice and comment.

Greene County is fortunate to have several streams that are designated as either HQ or EV. In addition, several streams and their tributaries have been designated as trout stocked fisheries (TSF) by the PADEP, which means these streams maintain stocked trout from February 15 to July 31 and maintains and propagates fish species and additional flora and fauna which are indigenous to a warm water habitat. Table 4-2: Streams provides a listing of the streams classified as HQ and/or TSF.

Table 4-2: Streams

Stream Name	Municipality	Drainage Area (square miles)	Chapter 93 Protected Water Use
Unnamed Tributaries to NORTH FORK, DUNKARD FORK WHEELING CREEK	Aleppo Township Richhill Township	unknown	EV
Unnamed Tributary to OWENS RUN, ENLOW FORK	Morris Township Richhill Township	unknown	EV, WWF
BROWNS CREEK (and its tributaries)	Franklin Township Washington Township Morris Township Center Township	45.7	HQWWF
CLEAR RUN	Center Township Franklin Township	1.47	HQWWF
LIGHTNER RUN	Center Township	1.70	HQWWF
PURSELY CREEK (and its tributaries)	Wayne Township Center Township Franklin Township	13.2	HQWWF
RUSH RUN	Center Township	1.85	HQWWF
SOUTH FORK TEN MILE CREEK to mouth of BROWNS CREEK (and its tributaries)	Center Township Franklin Township	199.0	HQWWF
Monongahela River	All municipalities along the eastern border of the county	7,386	WWF
ENLOW FORK WHEELING CREEK (and its tributaries)	Morris Township Richhill Township	73.1	TSF
SOUTH FORK, DUNKARD FORK WHEELING CREEK (and its tributaries)	Jackson Township Richhill Township	28.0	TSF
WHITELEY CREEK (and its tributaries)	Whiteley Township Greene Township Perry Township	54.4	TSF
LAKE WILMA	Wayne Township	n/a	TSF
TEN MILE CREEK (source to South Fork Ten Mile Creek)	Morgan Township Jefferson Township	338.0	TSF

Notes: EV - exceptional vaule; HQWWF - high quality warm water fishery; TSF - trout stocked fishery (according to PADEP Chapter 93. Water Quality Standards



The major landscape feature for water resource studies is the watershed boundary. A watershed is defined by the United States Environmental Protection Agency (USEPA) as the area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake, or groundwater (USEPA, 2004). Because watersheds are defined by natural hydrology, they represent the most logical basis for managing water resources. The resource becomes the focal point, and managers are able to gain a more complete understanding of overall conditions in an area and the stressors, which affect those conditions. This entails a strategy that crosses municipal boundaries and requires a great deal of coordination, cooperation, and communication within and between municipalities sharing the same watershed.

Watersheds are delineated based on topography and ridgelines. Every river, stream, and tributary has an individual watershed, however, these individual watersheds are grouped together to form larger watersheds. All of Greene County is within the Ohio River watershed, which is Pennsylvania's second largest river basin, covering 15,614 square miles of the state west of the Allegheny Mountains (PADEP, Pennsylvania's Major River Basins, 2008)¹. The Monongahela River watershed is a sub-watershed of the Ohio River watershed and, therefore, any watercourse that drains into the Monongahela River is not only part of the Monongahela River watershed, but it also part of the larger Ohio River watershed. The Monongahela River forms the eastern boundary of Greene County and is one of the two major rivers (the second being the Allegheny River) that converge in Pittsburgh to form the Ohio River. Rivers, streams, and tributaries in the western portions of Greene County drain west directly into the Ohio River watershed; whereas, watercourses in the central and eastern portions of the county drain east into the Monongahela River sub-watershed. Enlow Fork of Wheeling Creek, Dunkard Fork of Wheeling Creek, and Pennsylvania Fork, of Fish Creek are the three main tributaries in Greene County that flow into the Ohio River Watershed; while Ten Mile Creek, South Fork Ten Mile Creek, Muddy Creek, Little Whitely Creek, Whitley Creek, and Dunkard Creek, Pumpkin Run, and Crooked Run are the eight main tributaries in Greene County that drain into the Monongahela River watershed. *Figure 4-5: Hydrology* depicts the boundaries of the major watersheds in Greene County:

- 1) *Crooked Run* is a 3rd order stream that originates in Dunkard Township and flows east until it empties into the Monongahela River. The stream has a drainage area of 7.09 square miles, which is partially located in West Virginia. The PADEP has classified Muddy Creek under Chapter 93 Water Quality Standards as WWF. According to PADEP's Internet website, no TMDLs have been approved for Muddy Creek watershed to date.
- 2) *Dunkard Creek* is a 3rd order stream that has a total drainage area of 235 square miles. Pennsylvania Fork Dunkard Creek and West Virginia Fork Dunkard Creek converge to form Dunkard Creek along the Pennsylvania – West Virginia border near the town of Brave, Greene County. The stream flows east along the PA/WV for approximately 10 miles and then heads northeast into PA until it empties into the Monongahela River at Poland Mines. The PADEP has classified this stream under

Chapter 93 Water Quality Standards as a WWF. According to PADEP, TMDLs were approved in April of 2007 for Dooley Run, which drains into Dunkard Creek approximately a mile south of Mt. Morris. Dooley Run is impaired by metals specifically total iron, total manganese, and total aluminum from abandoned mine drainage (AMD) and resource extraction. A remediation plan will need to be developed for Dunkard Creek Watershed in order to meet the water quality objectives outlined in the report.

A Rivers Conservation Plan was completed in 2000 for the Dunkard Creek Watershed. Biological, physical, and social/cultural characteristics of the watershed were discussed in the report and several major concerns were identified with AMD labeled as the number one problem and first priority in the watershed. Other issues listed in descending order of priority by the Plan include: Solid waste/trash dumps, erosion/sedimentation, education, sewage, water quality, and recreation/heritage. Since the publication of the Plan, a Pennsylvania based "Friends of Dunkard Creek" group was developed through the assistance of the Greene County Watershed Alliance and a partnership with Greene County Conservation District. The purpose of the development of this association was to unify the Dunkard Creek watershed.

- 3) *Dunkard Fork of Wheeling Creek* is a 3rd order stream that has a drainage area of 76.2 square miles. **North Fork Dunkard Fork** and **South Fork Dunkard Fork** converge to form Dunkard Fork along the PA S.R. 21 near the town of Ryerson Station, PA. The stream then goes on to flow northeast into West Virginia, where it eventually empties into Wheeling Creek. The PADEP has classified Dunkard Fork as a WWF and classified North Fork and South Fork as TSF. According to PADEP's Internet website, no TMDLs have been approved for the streams. The Pennsylvania Fish and Boat Commission (PFBC) officially approved Dunkard Fork, North Fork, and South Fork as "approved trout waters." Ryerson Station State Park is located within this Watershed.
- 4) *Enlow Fork of Wheeling Creek* is a 3rd order stream that has a drainage area of 73.1 square miles. The stream begins in Morris Township, Greene County and drains west into WV, serving as the north western border between Washington and Greene Counties, and eventually emptying into the Ohio River. The PADEP has classified this stream as a Trout Stocked Fishery (TSF) from the source to PA-WV state border (PADEP, 2005). According to PADEP's website, no Total Maximum Daily Loads (TMDL) have been approved for Enlow Fork Wheeling Creek (PADEP, 2005). The Pennsylvania Fish and Boat Commission (PFBC) has officially approved this stream as "approved trout waters", indicating that it meets criteria qualifying the stream to be stocked with trout by the PFBC. These waters are closed for all fishing from March 1 to 8:00 a.m. on opening day of trout season.

The Wheeling Creek Watershed has an existing watershed association titled Wheeling Creek Watershed Conservancy. The organization focuses on "Educating and



Evaluating the Watershed for Preservation Project” and partners with West Greene School District and Richhill Township Supervisors.

- 5) *Little Whiteley Creek* is a 3rd order stream that originates in Cumberland Township and flows east, serving as the Cumberland / Greene Township border, until it empties into the Monongahela River. The stream has a drainage area of 9.03 square miles. The PADEP has classified this stream under Chapter 93 Water Quality Standards as a WWF. According to PADEP’s Internet website, no TMDLs have been approved for Little Whiteley Creek watershed to date. Little Whiteley Creek is not a tributary of Whiteley Creek.
- 6) The *Monongahela River* watershed, the largest of the sub-watersheds with a drainage area of 7,386 square miles, originates in Fairmont, WV and joins Allegheny River in Pittsburgh to form the Ohio River. The Pennsylvania Department of Environmental Protection (PADEP) has classified this river as a Warm Water Fishery (WWF), meaning that this type of stream maintains and propagates fish species and additional flora and fauna that are indigenous to a warm water habitat. It also is protected under the Navigation (N) use, meaning that this type of stream is used for the commercial transfer and transport of persons, animals, and goods.



Monongahela River (Mackin, 2004)

The Monongahela River has played a significant role in the history of the region. It has served as a transport avenue for runaway slaves who were heading north, a major transportation route for westward settlement during colonial times and later propelled the industries along its shores to worldwide importance and unequalled production. Along with its changing roles and functions, the Monongahela River itself has adapted. It has been transformed from a wide and shallow river to a slow-moving, deeply pooled, body of water.

The Monongahela River has approved TMDLs for two pollutants—chlordane and PCBs. Chlordane was used from 1948 until 1988 in the United States as a pesticide; it

is a persistent chemical (>20 years) and bioaccumulates in the environment and tissues of animals. PCBs are manmade chemicals that were used in transformers, paints, adhesives, caulking compounds, some filters, and carbonless copy paper. PCBs enter the environment in air, water, and soil during the manufacturing process.

The *Monongahela River Conservation Plan* (RCP) was completed in 1998 and contains management objectives to assist in the future planning of the watershed.

- 7) *Muddy Creek* is a 3rd order stream that has a total drainage area of 31.7 square miles. The stream originates in Jefferson Township and flows southeast to Baileys Crossroads, where South Branch enters, and then flows northeast until it empties into the Monongahela River. The PADEP has classified Muddy Creek under Chapter 93 Water Quality Standards as WWF. According to PADEP's Internet website, no TMDLs have been approved for Muddy Creek watershed to date.
- 8) *Pennsylvania Fork of Fish Creek* is a 3rd order stream that has a drainage area of 36.6 square miles. The stream originates in Jackson Township along S.R. 18, near Nettle Hill, and flows southwest into WV where it converges with West Virginia Fork, Fish Creek to form Fish Creek. The PADEP has classified Pennsylvania Fork as a TSF. According to PADEP's Internet website, no TMDLs have been approved for Pennsylvania Fork.
- 9) *Pumpkin Run* is a 5th order stream that is a tributary of the Monongahela River. Pumpkin Run originates in Jefferson and Cumberland Townships, flows east across Greene County for approximately 2 miles, and then heads north for approximately 3 miles until emptying into the Monongahela River near the Borough of Rice Landing. The PADEP has classified Pumpkin Run under Chapter 93 Water Quality Standards as a WWF. A TMDL has been developed by the PADEP and is expected to be approved in the fall of 2008.
- 10) *South Fork of Ten Mile Creek* is a 4th order stream that originates in Center Township, Greene County and flows northeast until it empties into Ten Mile Creek on the northeast boarder of Morgan Township. It has a drainage area of 199 square miles. The PADEP has classified this stream under Chapter 93 Water Quality Standards as a High Quality WWF (HQ-WWF) from its source to Browns Run and the remaining length as a WWF. The HQ designation means that this stream has excellent quality waters and contains environmental or other features that require special water quality protection. No TMDLs have been identified for South Fork Ten mile Creek (PADEP, 2005). The following tributaries to South Fork Ten Mile Creek are designated HQ-WWF: Browns Creek, Pursley Creek, Clear Run, Rush Run, Lightner Run, and a few unnamed tributaries.

In April of 2004, PA Cleanways supported a "clean-up" of Browns Creek. Trash was removed from the channel and the riparian area. In addition, native vegetation was planted in the riparian zone to restore quality to the stream.



- a. *Ten Mile Creek* is a 3rd order stream that has a drainage area of 338 square miles. Ten Mile Creek begins in South Franklin Township, Washington County and drains east for approximately 12 miles, serving as the north eastern border between Washington and Greene County, and eventually empties into the Monongahela River at Millsboro. The PADEP has classified this stream as a Trout Stocked Fishery (TSF) from the source to convergence with South Fork Ten Mile Creek and a Warm Water Fishery (WWF) from South Fork Ten mile Creek to the mouth. According to PADEP's Internet website, no TMDLs have been approved for Ten mile Creek (PADEP, 2005). The Pennsylvania Fish and Boat Commission (PFBC) has officially approved this stream (from S.R.18 downstream to S.R. 19) as "approved trout waters", indicating that they meet criteria qualifying them to be stocked with trout by the PFBC. These waters are closed for all fishing from March 1 to 8:00 a.m. on opening day of trout season.

Ten Mile Creek watershed has an existing watershed association titled Ten Mile Creek Watershed Conservancy. The watershed association's slogan is as follows: "A voice for the natural continuum of Ten Mile (Cusutha's) Creek and neighboring watersheds in Greene and Washington Counties, Pennsylvania "Caring about the places no one is saving." For more information about the group, visit their website: <http://www.pawatersheds.org/watersheddirectory/detail.asp?varOrgID=233>.

- 11) *Whiteley Creek* is a 3rd order stream that has a total drainage area of 54.4 square miles. It originates in Whiteley Township and flows east to the Monongahela River. The PADEP has classified this stream under Chapter 93 Water Quality Standards as a TSF from the source to S.R. 2011 bridge and a WWF from the bridge to the mouth (the Monongahela River). According to PADEP's Internet website, no TMDLs have been approved for Whiteley Creek watershed to date, although PADEP will have an approved plan at the end of 2008. The Pennsylvania Fish and Boat Commission (PFBC) has officially approved this stream (from the headwaters downstream to S.R. 0088) as "approved trout waters."

A watershed mitigation plan for Whiteley Creek (Foundation for California University, 1999) was implemented in 1999 to mitigate impacts incurred by RAG Emerald Resources Corporation during coal mining operations. Mitigation measures included planting 110 acres of warm seasons grasses, construct 23 border edge cuts, and restore 7.2 miles of stream bank (7.2 miles of fencing, 5 acres of wetland restoration, construction of 7 cattle crossings, 5 ramps, 1 watering trough, 2 H-braces, 26 spring gates, and 4 wire gates) along Whiteley Creek. Implementation measures and monitoring is ongoing. In addition, the Greene County Conservation District implemented a best management practices (BMP) for the watershed.

Wetlands

A wetland is defined by the United States Fish and Wildlife Service (USFWS) as any land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of the year (USFWS, 2004). The USFWS provides information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats and other wildlife habitats. The USFWS attributes causes of wetland losses to urban development, agriculture, silviculture and rural development.

The United States Fish and Wildlife Service (USFWS) has developed a National Wetland Inventory (NWI) as directed by the Emergency Wetland Resources Act of 1986. Mapping and additional information about Greene County's wetlands can be accessed on the US Fish and Wildlife Service's National Wetland Inventory (NWI) website: <http://www.fws.gov/wetlands/data/index.html>. *Figure 4-5: Hydrology* illustrates the known wetland locations within the project area.

Floodplains / Floodways

According to 25 Pa. Code § 106, the definition of a floodplain is "the 100-year floodway and that maximum area of land that is likely to be flooded by a 100-year flood as shown on the floodplain maps approved or promulgated by Federal Emergency Management Agency (FEMA)." A floodway is defined as "the channel of the watercourse and those portions of the adjoining floodplains, which are reasonably required to carry and discharge the 100-year flood." Floodplains are important to a community and its environment because they hold back storm flows and reduce destructive flooding downstream. In addition, they are very fertile habitat, providing for good cropland for agriculture as well as providing important shading for stream habitat. Also, floodplains provide an important linkage between aquatic and upland habitat.

The one hundred and five hundred-year floodplains are generally narrow and restricted by the steep slopes that border most of the corridor. *Figure 4-5: Hydrology* illustrates the floodplain locations within the project area. Flood management and insurance rates are coordinated through the National Flood Insurance Program. This program, which was established by the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973, was an effort to reduce the damage and hazards associated with flood events. To accomplish these goals, the Federal Emergency Management Agency (FEMA) conducts routine flood insurance studies, which investigate the severity and existence of flood hazards throughout the country. The results of these studies are then used to develop risk data that can be applied during land use planning and floodplain development.



In addition to the flood hazard data provided by FEMA, the National Weather Service (NWS) operates river forecast points at several locations along the Monongahela River. River stage information is available through recorded messages, the NWS Internet site (www.nws.noaa.gov/er/pitt), and the National Oceanic and Atmospheric Administration (NOAA) weather radio. Army Corps of Engineers (ACOE) also maintains copies of FEMA studies and related flood hazard investigations. This information as well as other flood hazard assistance is available through the ACOE, Pittsburgh District Office.

According to the ACOE, Pittsburgh District Office, there are no federally maintained or owned flood control dams present in Greene County. PA-647 and PA-648 dry dams in the Enlow Fork watershed were constructed and are flood retarding structures for Wheeling, WV as well as a levee system that was built by the ACOE in New Freeport.

Groundwater

Water quality and quantity are life sustaining elements for human habitation, and plant and animal life. In very fundamental terms, groundwater is water that has traveled through the soil to locations within the ground where saturation occurs and creates the water table. This area within the ground has rock and / or soil layers that can store and transmit water—these rock and soil layers are called aquifers. There are generally two types of aquifers—consolidated and unconsolidated. Consolidated aquifers are locations of rock (limestone, granite, etc.) that hold water in the fractures of the rock. Unconsolidated aquifers include areas of rock debris or soil that hold the water between the particles.

Groundwater is defined as water under the surface of the earth in the saturated zone (PADEP, 2001). It is found underground in the cracks and pores in soil, sand, and rocks and makes up the base flow of rivers and streams. Groundwater is used everyday for household, agricultural, and industrial needs. Fifty-one percent of the total United States and 99 percent of the rural population of the US uses groundwater for their source of drinking water (The Groundwater Foundation, 2003).

Groundwater is constantly on the move through filtration and pumping. Gravity causes groundwater to move from higher “recharge” areas to lower areas where the water leaves the ground through springs, streams, wetlands, etc. Generally such movement is confined to a single watershed. Groundwater is recharged through precipitation that falls to the ground and, what isn't taken by runoff or evaporated, eventually enters the saturation zone. The highest levels of groundwater recharge occur in the late winter fall and through the spring. Land cover directly influences the rate and ability of precipitation to infiltrate the soil and recharge the groundwater. For instance, large areas of impervious surfaces eliminate infiltration areas and direct water from original aquifer zones. In contrast, areas that are forested have high infiltration rates due to the ability of the soil to constantly accept precipitation.

To maintain a plentiful high quality water supply, Greene County has 40,750 acres of good groundwater recharge areas but no prime groundwater recharge areas. These areas can

be found along the streams. Good groundwater recharge areas must have soils that are non-hydric and well drained to moderately-well drained; slopes less than 25 percent; bedrock depth less than or equal to three percent; land cover of agricultural, forested or low-density residential; no wetlands; further than 1,000 feet of an abandoned mine drainage (AMD) impacted stream; and lie within 1,000 feet of flood prone area. Prime groundwater recharge areas must also be locations within high volume groundwater (well) areas (PEC et al, 2005).

Groundwater production areas are based on the production of known non-residential groundwater wells in the County as reported by private property owners to the PADEP. Greene County has 215,910 acres of groundwater production areas that produce up to six gallons per minute (gpm) and 121,110 acres that produce between six and eight gpm; while just over 30,000 acres produce more than eight gpm. Ten Mile Creek and the area along the Monongahela River, particularly in the southeast portion of the County, have the highest groundwater production.

Surface water production areas represent watersheds that possess exceptional water quality and provide ideal water sources for public consumption. There are no areas within Greene County that produce prime surface water protection areas; 5,240 acres of good surface water protection areas, located near Dunkard Creek; and 54,690 acres of other surface water production areas, mainly located in the western and north central portions of the County.

Water Quality

Groundwater has been used for centuries as a source of drinking water. While water can become unsafe for human consumption, without treatment, due to naturally occurring minerals or contaminants such as iron, radon, etc, more often, is the contamination of water supplies from waste disposal, resource extraction, agricultural practices, and human development.

Solid waste, human waste, chemical treatment products, resource extraction, farming, and land use can all affect the quality of water and availability of water. The presence of any one of these things can degrade water quality or even change the level of water from which to draw. Human waste and animal manure are two common causes of water contamination in rural areas. Human development or activities can cause significant damage to the natural occurring recharge and filtration of groundwater thereby reducing the availability of drinking water.

The detection of water contamination is difficult and expensive. Existing wells and water sources can be tested for contaminants but this does not provide a manner by which to determine the extent of pollution. Furthermore, some contaminants are harder to detect due to their chemical makeup. For instance, pollutants react differently when they come into contact with water and may float, sink, or mix with the groundwater thereby requiring a variety of methods to be identified. Finally, the treatment of contaminated groundwater is



expensive and difficult. Therefore, it is commonly accepted that the only solution is prevention of contamination.

In Pennsylvania, the Department of Environmental Protection is responsible for overseeing a variety of programs (authorized through legislation) that address water contamination. Many of these programs have been developed in response to federal legislation directing the state government to implement protection measures for water quality and availability. However, implementation must occur at the local level and most often requires a multi-municipal approach as watersheds do not follow political boundaries. Municipalities have the authority to implement land use regulations that control development and human activities.

Residents not on a public water system rely on water from privately owned and maintained wells. The Commonwealth of Pennsylvania does not govern private wells. The Master Well Owner Network (MWON) is an organization of volunteers who provide education on the construction, maintenance, and management of private water systems in Pennsylvania. As of April 2005, 243 volunteers, representing 55 counties throughout the commonwealth, were trained as Master Well Owners. To date, these Master Well Owners have educated over 6,500 homeowners and reported over 28,000 media contacts. (Source, <http://www.dcnr.state.pa.us/topogeo/groundwater/mwon.aspx>).

The availability of water is protected under *Act 220 known, as "The Water Resources Planning Act,"* which requires the Department of Environmental Protection to conduct a statewide water withdrawal and use registration and reporting program. Act 220, as amended on November 25, 2002, establishes a water resource planning policy for the Commonwealth of Pennsylvania. The information gathered from this program will be used to update the State Water Plan, identify Critical Water Planning Areas and develop Critical Area Resource Plans. The State Water Plan is a policy and guide for water resources. Its main goal is to provide information, prioritize issues and provide recommendations to guide municipalities, counties and state agencies. The plan is NOT legally binding and is completely VOLUNTARY.

The Act requires that public water systems that exceed 10,000 gallons a day must register and report their water use to DEP (no fees will be assessed to register or report). Alternative regulations will be developed for water users with withdrawals between 10,000 and 50,000 gallons and there will be no metering of homeowner wells. Critical Water Planning Areas will be identified on a multi-municipal watershed basis, where the demand for water exceeds, or is projected to exceed, available supplies.

Once established, Critical Water Planning Areas would serve as the planning boundary for the creation of a more detailed Critical Area Resource Plan or "water budget" for that area. Critical Area Resource plans will be submitted for review and comment to the Official Planning Agency and governing body of each municipality in the identified area prior to final recommendation. The Critical Area Resource Plans will be developed under the guidance of the regional committees in conjunction with a watershed advisory committee.

The plans will include a water availability evaluation, assess water quality and water quantity issues, and identify existing and potential adverse impacts on water resources uses.

The impetus behind Water Resources Planning Act (Act 220) is to protect the quality and availability of water resources. The Comprehensive Plan includes a discussion of natural resources within the project area including water resources and quality and potential impacts associated with development, agriculture, and mineral extraction. One focus of this Comprehensive Plan is to protect water resources to ensure the ongoing availability of a safe water supply and to acknowledge that:

- Lawful activities such as the extraction of minerals can impact water supply sources and such activities are governed by statutes regulating mineral extraction that specify replacement and restoration of water supplies affect by such activities.
- Commercial agriculture production can impact water supply sources.

Point Source Pollution

Point source, or end of pipe, pollutants are easily identified and can be directly traced to their source (e.g., industrial discharges, municipal discharges, stormwater discharges, combined sewer overflow discharges, and concentrated animal feeding operations (CAFO)). All point source discharges require a National Pollutant Discharge Elimination System (NPDES) permit, established by Section 402 of the 1972 Clean Water Act. According to the EPA's Envirofacts Warehouse Internet website (http://oaspub.epa.gov/enviro/ef_home2.water), 56 facilities have been issued NPDES permits in Greene County (EPA, 2005).

Non-Point Source Pollution

Non-Point Sources (NPS) include all other forms of pollution that are not point sources (e.g., abandoned mine drainage, agriculture, urban runoff, atmospheric deposition, construction activities, on-lot sewage systems, leachate from landfills, and silviculture).

Sedimentation

Sediment from roads, farms, construction sites, logging, and a host of other sources is the largest single contributor of pollution of Pennsylvania's waters (www.dirtandgravelroads.org). The Dirt & Gravel Road Maintenance Program was enacted into law in April 1997, as Section 9106 of the PA Vehicle Code to establish "environmentally sound maintenance." The program provides dedicated and earmarked funding to eliminate stream pollution caused by dust and sediment from unpaved roads. Across the state, 12,000 sites have been identified where road runoff negatively impacts a stream. County Conservation Districts are the local program administrators and annual funding is provided to them



based on identified need. Funding is available to all municipalities and other entities that provide maintenance to dirt and gravel roads after successful completion of a required two-day Environmentally Sensitive Maintenance (ESM) training.

County Conservation Districts have until the end of 2008 to complete a voluntary countywide assessment. The Assessment consists of inspecting unpaved roads in the field and locations where unpaved road runoff affects stream quality should be made into "worksites." Worksites are then evaluated using established criteria to determine the overall "pollution potential" for the site and become the basis of the Dirt and Gravel Road Program in the County (www.dirtandgravelroads.org).

The primary sediment pollution control entity at the County level is the Greene County Conservation District 102/105 program under the delegation of the PADEP. The 102/105 program reviews Erosion and Sediment Control Plans for earth disturbance activities as well as issuing PAG-2 NPDES permits, ESCGP-1 permits, and PASPGP-3 permits. These permits are essential to the monitoring and recording of development activity near waterways or of a large enough scope to potentially create sediment pollution.

Legacy Sediment

The PADEP defines legacy sediment as "sediment that (1) was eroded from upland slopes during several centuries of intensive land clearing, agriculture, and milling (in the eastern U.S., this occurred from the late 17th to late 19th Centuries); (2) collected along stream corridors and valley bottoms, burying pre-settlement streams, floodplains, wetlands, and dry valleys; and that altered the hydrologic, biologic, aquatic, riparian, and chemical functions of pre-settlement streams and floodplains; (3) accumulated behind ubiquitous low-head mill dams in slackwater environments, resulting in thick accumulations of fine-grained sediment, which distinguishes "legacy sediment" from fluvial deposits associated with meandering streams; (4) can also accumulate as coarser grained, more poorly sorted colluvial (not associated with stream transport) deposits, usually at valley margins; (5) can contain varying amounts of total phosphorus and nitrogen, which contribute to nutrient loads in downstream waterways from bank erosion processes. Widespread indicators of impaired streams and watersheds due to legacy sediments include high banks, rapid rates of bank erosion, high sediment loads in streams, habitat degradation (aquatic and riparian), and diminished recharge of groundwater and denitrification capability." The Greene County Watershed Alliance was awarded \$230,964 in Growing Greener grant money in 2006 for natural stream channel design to rectify bank

erosion and channel migration on the South Fork of Ten Mile Creek Watershed.

Abandoned Mine Drainage

Abandoned Mine Drainage (AMD) is a source of NPS from a complex interaction involving sulfides and oxygen during the mining process. After mines are abandoned, drainage flowing from these sites often decreases the pH of streams and rivers affected by the drainage. Additionally, it can elevate concentrations of heavy metals and suspended solids within impacted waterways (Frey, 1996). AMD remains the single biggest source of surface water impairment in the state of Pennsylvania. Many serious problems arise from AMD, including contaminated drinking water, plant and animal growth and reproductive problems, and corrosion of infrastructure. AMD is both a severe ecological and economical problem. Sources of AMD are scattered throughout the county as a result of past mining. **Figure 4-5: Hydrology** illustrates the location of the identified mine problems in the project area, as identified in the Natural Infrastructure Project completed by the Southwestern Pennsylvania Commission (SPC). Each site numbered (0-24) and the details of each are listed in Table 4-3: Identified Abandoned Mine Drainage (AMD) Problem Areas. In addition, Dunkard Creek is identified as a fishery (warm water fishery) that is impacted by AMD. As the fourth largest coal producing state, Pennsylvania has more than 250,000 acres of abandoned mine lands, refuse banks, old mine shafts and other relics, according to the DEP. As a result of these abandoned lands and subsequent mine drainage, more than 2,400 miles of stream are polluted and don't meet water quality standards because of this pollution. Thus, besides sedimentation, AMD remains as the single biggest source of surface water impairment in the state of Pennsylvania.



Abandoned Mine Drainage (Mackin, 2007)



Table 4-3: Identified Abandoned Mine Drainage (AMD) Problem Areas

Site #	Location	Owner	Funding Source	Mine Type	Priority	Cost of Completed Project	Cost of Funded Project	Cost of Unfunded Project	Type
0	Nardei Construction	Private	Interim Coal Site Funding	Surface	2	\$344,944	\$0	\$0	Dangerous Highwall
1	Chartiers	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$0	\$103,697	Surface Burning
2	Rices Landing	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$0	\$3,000	Vertical Opening
3	Ten Mile Creek	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$19,070	\$0	\$0	Portal
4	Dry Tavern	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$65,265	\$0	Dangerous Impoundment
5	Dry Tavern	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$5,000	\$0	Portal
6	Dry Tavern	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$16,436	\$0	Dangerous Highwall
7	Ten Mile Creek	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$7,474	\$0	Portal
8	Waynesburg	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$1,640	\$0	\$0	Portal
9	Ten Mile Creek	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$14,275	\$0	\$0	Portal
10	Stoney Point	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$8,060	\$0	Portal
11	Barbe	Private	Rural Abandoned Mine Program	Underground	1	\$0	\$0	\$10,000	Portal
12	Ten Mile Creek	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$58,513	\$0	\$0	Portal
13	Menear	Private	Rural Abandoned Mine Program	Underground	1	\$0	\$0	\$15,000	Portal
14	Juracko	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$0	\$11,050	Portal
15	Taylorstown	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$5,000	\$0	\$30,000	Portal
16	Taylorstown	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$15,924	\$0	\$0	Subsidence-Prone Area
17	Taylorstown	Private	Rural Abandoned Mine Program	Surface & Underground	1	\$0	\$0	\$393,958	Dangerous Highwall
18	Mather	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$0	\$105,000	Hazardous Equipment or Facilities
19	Mather	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$2,440,000	\$6,255,000	Dangerous Pile or Embankment
20	Mather	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$0	\$1,200,000	Surface Burning
21	Chartiers Southwest	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$0	\$10,000	Gases: Hazardous or Explosive
22	Chartiers Southwest	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$0	\$1	Vertical Opening
23	Monongahela River E.	Unknown	Pre-SMCRA Coal Grant Program	Underground	2	\$0	\$0	\$100,000	Dangerous Pile or Embankment
24	Poland Mines	Private	Pre-SMCRA Coal Grant Program	Surface & Underground	2	\$91,019	\$0	\$0	Dangerous Highwall

Source: Natural Infrastructure Atlas, SPC 2005

To combat AMD in the state, several programs have been created. These most recent efforts started in 1992 with the establishment of the “10 Percent Set Aside Program,” which utilizes federal abandoned mine land grant funds to address AMD. Additional funding in the state has also come from the Appalachian Clean Streams Initiative, bond forfeiture, and Pennsylvania’s new “Growing Greener” program. As a result of these programs and funding, 19 separate treatment facilities have been constructed in cooperation with other agencies, including the Natural Resources Conservation Service, the U.S. Army Corps of Engineers, the Environmental Protection Agency’s 319 non-point source program, county conservation districts, and local watershed associations.

Agriculture

Because approximately 40 to 45 percent of the project area is classified as agriculture, pollution from unmanaged agricultural practices contributes to the degradation of the waterways and groundwater (for more information on Agriculture, see Chapter 11). Fertilizers, manure, pesticides, and silt from agricultural lands can contribute to heavy siltation, nutrient accumulation, and suspended solids within stream and groundwater systems. In addition, unrestricted access of livestock into streams also creates harmful effects, such as, stream bank erosion, sedimentation and excessive nutrient enrichment.



Agricultural Land (Mackin, 2004)



Sewage Discharge

Sewage discharge is another form of non-point source pollution. The majority of the County, particularly in the west and southeast, does not have public sewerage. Raw sewage discharge often results in elevated levels of fecal coliform bacteria, which can lead to potential health risks. In addition, untreated sewage discharge leads to an increase in nutrients in a stream system leading to an increase in Biological Oxygen Demand (BOD) making it more difficult for macroinvertebrates and fish to survive.

Urban Runoff

Increased urban development results in an increased pollution load that reaches area water bodies, and therefore, is considered another form of non-point source pollution. Natural landscapes, such as forests, fields, and wetlands, are porous and act as natural filtering systems that help to carry rainwater and snowmelt runoff gradually toward receiving waters. Urban areas, on the other hand, are nonporous and, as a result, storm drains are installed to quickly channel runoff from roads and other impervious surfaces into receiving streams and/or treatment areas (in cases of Combined Sewer Overflow systems). This runoff contains sediment from development and new construction; oil, grease and toxic chemicals from automobiles; nutrients and pesticides from turf management and gardening; viruses and bacteria from failing septic systems; road salts; and heavy metals and reaches receiving waters quickly, traveling at a high velocity. This large volume of quickly flowing runoff has the potential to erode stream banks, damage streamside vegetation, widen stream channels, and carry pollutants such as directly to the stream (USEPA, 2004).

Extraction

An additional non-point source of water pollution in the project area may arise from oil and gas extraction (for more information on energy and extraction, see Chapter 12). Because water is used as a primary lubricant or coolant during all phases of extraction—exploration, well development, production and site abandonment—the water has the opportunity to mix with a variety of chemicals and materials. Although all these processes create waste water, the majority is produced during production and site abandonment. In addition to improper disposal of waste water, this water pollution can also be in form of brine, waste pit sludge, and erosion and sedimentation.

Chloride, sodium, calcium, magnesium, and potassium are typically found in high concentrations, within waste water that is produced during oil and

gas extraction. Some other substances found in waste water include:

- Organic compounds: benzene, naphthalene, toluene, phenanthrene, bromodichloromethane, and pentachlorophenol;
- Inorganics: lead, arsenic, barium, antimony, sulfur, and zinc (EPA, 1992).

Because this waste water is contaminated with a wide variety of chemicals, it can pose a threat to water resources and the natural environment in general, if not discarded properly. However, the PA Clean Streams Law helps to minimize such impacts through its regulation over oil and gas wells operations.

In regards to abandoned or orphaned wells, the concern over water pollution is due to the potential of reservoir fluid migrating to fresh water aquifers and contaminating drinking supplies. When this occurs, the primary contaminant would be saline formation water that could pollute fresh water aquifers and possibly even surface waters.

An estimated 7,563 wells in Pennsylvania had been identified and approved as orphans, as of December 10, 1997. Since 1988, only ninety-four orphan wells have been plugged, which still leaves 7,469 more that need addressed. 550 of those wells are known to be causing health, safety or environmental problems. These orphan wells have been identified in 25 counties. According to the DEP, Greene County has approximately 1,164 oil and gas wells. Thirty-nine are known to be orphaned wells, of which only one has been plugged, leaving the others as a potential threat to water resources and the surrounding environment.

The Pennsylvania DEP maintains copies of oil and gas well locations and any environmental violations or contamination as a result of production; however, concerning environmental impacts from byproducts, the DEP doesn't maintain any documentation. This information as well as other information relating to the wells within the County is available through the PADEP, Southwest District Office. For information on oil and gas wells, see **Chapter 12: Energy & Extraction**.



Stormwater Management

Both the quality and quantity of water resources are impacted by the natural occurrence of precipitation and the ability of surface waters to handle the additional flow as well as groundwater to recharge itself. Surface waters and groundwater can both be impacted negatively by human development and/or activities. For instance, development can reduce the effective infiltration of water through soil to provide the necessary recharging of aquifers. Certain development activities can reduce the effectiveness of natural systems to accommodate large water flows thereby causing flooding and erosion.

In populated areas, sewer systems have been constructed to accommodate rain events and transport water via underground sewer lines to locations away from developed areas. Oftentimes the end distribution point is directly into surface waters such as creeks or rivers. Typically, the stormwater is collected once it runs off of streets, buildings, construction areas, etc. which leaves the water contaminated by the pollutants present in these areas. The **MS4 Stormwater Management Program** is a plan to reduce polluted stormwater conveyed by municipal separate storm sewer systems (MS4) into local waterways. The National Pollutant Discharge Elimination System (NPDES) program provide procedural steps for MS4's that to prevent or treat stormwater prior to release into the environment. Small MS4 programs (MS4's not serving populations greater than 100,000) are charged to reduce the discharge of pollutants, protect water quality, and comply with the Clean Water Act. At this time, Greene County does not have any MS4 communities.

The Stormwater Management Act of 1978 (Act 167) provides the legal authority for counties to prepare a stormwater management plan for the management of stormwater based on the physical and hydrologic characteristics of a watershed. The goal of the legislation is to control the non-point pollution of streams and tributaries. Act 167 plans are designed to limit the negative effects of rain events on streams, groundwater, floodplains, and storm sewers by controlling increased volumes and rates of stormwater runoff. Act 167 requires that counties develop and adopt stormwater plans and update those plans every five years. The management of storm events, water runoff, and flooding must be undertaken from a regional level, beyond political boundaries so as to encompass the watershed that directs the flow of the water. It has been found that the most effective method to address concerns with stormwater and flooding is to enhance the infiltration of water or storing excessive water for a period of time until the water flows can be accommodated. Such methods include both built and natural tools.

County governments are responsible for the development of a watershed stormwater plan. The development of such a plan must occur following consultation with municipalities and residents. The public involvement component includes establishing a Watershed Plan Advisory Committee. Additionally, the County is responsible for reviewing and updating the watershed stormwater plan a minimum of every five years. Greene County initiated their Act 167 Plan in 2008.

The implementation of a Stormwater Management Plan is at the local municipal level. Each municipality enacts or amends local ordinances to comply with recommendations contained within the County Stormwater Plan. Municipalities are to undertake such action within two years of the County's adoption of the Plan. In the event that a municipality fails to take the appropriate legislative action, the DEP can authorize the State Treasurer to withhold any Commonwealth funds that the municipality may be receiving.

Municipalities are obligated to enforce the County's plan through municipal ordinances. The Act 167 Plan should not be considered a comprehensive land use plan, but a supplement to a municipally directed Comprehensive Plan. The municipal level of control is essential to the overall success of the Act 167 Plan due to the interconnected element of the watershed. It should be noted that the Act 167 plan serves as an enforcement mechanism for future development that could increase stormwater flows. While existing problems related to stormwater runoff or flooding would be identified in an Act 167 Plan, there is no legal obligation for municipalities to correct existing drainage deficiencies only to prepare remediation measures for future development.

The Pennsylvania Department of Environmental Protection (DEP) is the state agency responsible for coordinating the completion of Act 167 Plans. DEP works closely with the County to identify watersheds for study, the scope of the study, and all reviews and approvals of the plan. DEP also makes available model ordinances to ease the implementation of the Plan at the local level. DEP has prepared a single purpose stormwater ordinance, a single purpose stormwater ordinance for rural municipalities, an amendment to a subdivision and land development ordinance, and amendment to building codes, and an amendment to a zoning ordinance. DEP advises municipalities to coordinate their legislative review of the model ordinances with the County Planning Commission and County Conservation District. Examples of a few of the requirements contained in the model ordinances include the following:

Suggested amendments to the building code include:

1. Add:
 - a. Roof Top Storage of Stormwater
 - i. The design of large roof surfaces shall consider the storage of precipitation on the roof structure.
 - b. Parking lot surfaces—parking lots shall be graded with rolled or compacted cinders, gravel or other approved materials including porous pavement, where feasible.
 - c. Stormwater drainage of parking lots—this revision addresses the design of parking lots to include seepage pits and/or detention basins to control runoff of water.



Suggested methods of implementation through municipal zoning

1. Alternative no. 1— general provisions to amend an existing zoning ordinance
 - a. Define impervious surface, define Peak Rate of Stormwater Runoff, add district regulations to limit impervious surfaces and control Peak Rate of Stormwater Runoff.
2. Alternative no. 2— create an overlay district for stormwater management within the municipal zoning ordinance
3. Alternative no. 3— enact performance zoning
 - a. The property owner or developer is required to identify and map natural features and adhere to specific buffering standards.

Suggested amendments to Subdivision and Land Development Ordinance

1. Amend the purpose of the ordinance to include stormwater management principles.
2. Amend the ordinance to include provision for developers to determine stormwater management criteria and complete a preliminary plan and final plan.
3. Enact design criteria to follow within specific areas of the municipality.

Enact a Single Purpose Ordinance

1. This is a stand-alone ordinance to regulate the rate and quality of stormwater, control accelerated soil erosion, to stormwater districts, to review stormwater management plans, to issue land disturbance permits and collect fees, and insure the maintenance of permanent stormwater management structures.

Enact a Single Purpose Ordinance for Rural Municipalities

1. DEP provides a simplified model ordinance and is developed in consultation with the County Planning agency and Conservation District.

Design standards can be enacted to reduce stormwater runoff on buildings and encourage infiltration of water into the soil. Septic systems management programs can be implanted to ensure that human waste or the treatment chemicals do not pollute groundwater through the malfunction of treatment systems.

The quality of water in streams, rivers, lakes, ponds, and groundwater is important because it impacts the biological, physical, and chemical processes that take place in these waters directly. Because all water within a watershed and across watershed boundaries is directly or indirectly related, any impacts to one form bear an influence on all of the other forms. Human impacts are typically in one of two forms of pollution—point source and non-point source.

Ecological Habitats & Environmentally Sensitive Areas

State Game Lands

The State Game Lands (SGL) system was established in 1920 by the Pennsylvania Game Commission (PGC) to ensure wild animals always have food and shelter. This system currently contains about 300 separate tracts comprising a total of about 1.4 million acres (PGC, 2008).

Three SGL, #179, #223, and #302, are located within Greene County, as shown on *Figure 4-6: Ecological Habitats*. The SGL's attract hunters, especially in the fall and winter, which can help the local economy. The SGL's also help protect wildlife and preserve hunting and provide recreational opportunities for local residents. Each SGL has an individual management plan designed to improve wildlife habitat and provide recreational opportunities. However, according to the PGC, Greene County SGL are under-hunted and underutilized.

SGL	Location	Size (acres)
#179	Aleppo, Gilmore, and Jackson Townships	5,386
#223	Cumberland, Dunkard, Greene, and Whitley Townships	7,223
#302	Richhill Township	1,084

Source: Greene County Website, 2008

SGL #179 includes a 300 yard rifle range on Rinehart Road in Jackson Township and in 2005, was voted one of the top ten hunting spots in Pennsylvania by WTAE Channel 4 news (www.pittsburghchannel.com).

SGL #223 includes a rifle range and Wetland Restoration Project. The Wetland Restoration Project is being completed by the PGC in cooperation with Ducks Unlimited, Greene County Prison, Greene County Vo-Tech School, Izaak Walton League of America, PennDOT, Pheasants Forever, and the U.S. Fish & Wildlife Service. An observation platform is available for citizens for bird watching. Recently, the PGC announced that it has approved an oil and gas lease with Atlas America LLC to drill for gas in 2,031 acres of SGL #223 in Dunkard and Greene Townships. Atlas will be permitted to drill up to 13 wells on the lease site and they must comply with state regulations, the standard lease agreement, and post a \$25,000 performance bond. Reclamation after the drilling will be completed and must enhance the habitat for wildlife. Part of the agreement includes the Game Commission receiving 139 acres of land adjacent to SGL #265 in Fayette County, royalties and free natural gas (Observer-Reporter article on 4-29-08).



SGL #302 is the smallest SGL in the County but home to an Audubon Important Bird Area. The area has breeding populations of Cerulean, yellow-throated, and Kentuck warblers; Louisiana warbler, Acadia flycatcher, and summer tanager. (Sources-Greene County's website and www.pa.audobon.org)

SGL #223 contains 5.5 miles of designated routes for horses and bicycles that are in compliance with regulations that went into effect on February 1, 2003. Under the regulations, anyone who rides a non-motorized vehicle, conveyance or animal on State Game Lands must do so only on designated routes. Such riding activities will not be permitted, except on Sundays or on roads open to public travel, from the last Saturday in September to the third Saturday in January, and after 1 p.m. from the second Saturday in April to the last Saturday in May. This does not apply to anyone lawfully engaged in hunting, trapping or fishing on State Game Lands.

There are no designated routes for snowmobiles in any of the three State Game Lands in Greene County. State Game Lands 179 and 223 contain public shooting ranges which are open year-round, from 8 a.m. until sunset, except for Sunday mornings, unless otherwise posted.



SGL 179 (Mackin, 2004)

Important Bird Areas

An Important Bird Area (IBA) is a site of special significance to breeding or non-breeding birds, which, on some basis, can be distinguished from surrounding areas (PA Audubon Society, 2004). It is also a site that is recognized globally for its bird conservation value. The National Audubon Society administers this program in the United States and these areas are monitored by volunteer efforts. IBAs were established to promote habitat conservation by focusing attention on ways to avoid habitat fragmentation, suburban sprawl, and over browsing by deer.

One IBA is located in Greene County and is shown on *Figure 4-6: Ecological Habitats*. Enlow Fork (located within State Game Land #302), also known as Enlow Fork Natural Area, is an approximately 1,000-acre publicly owned IBA. Special representations by the IBA include a Pennsylvania Species of Special Concern—Summer Tanager (*Piranga Rubra*) and the habitat type is considered to be rare, threatened, or unusual within the state or region. In addition, this habitat is found to be an exceptional representative of a characteristic natural or near-natural habitat within its physiographic province (PA Audubon Society, 2004).

Natural Heritage Inventory Areas

The Greene County Natural Heritage Inventory (NHI) is a record of the native biological diversity within the political boundaries of Greene County. The major purpose of this inventory is to provide county and local governments and community groups with a valuable tool to assist them in their planning efforts. Not only can this inventory guide local development, it can also give suggestions for protecting significant natural heritage resources in Greene County. Greene County's NHI was completed in May 2005 by the Western Pennsylvania Conservancy (WPC). The NHI lists seven general recommendations for protecting Natural Heritage Areas (NHAs) within Greene County:

1. Consider conservation initiatives for NHAs on private land;
2. Prepare management plans that address species of special concern and natural communities;
3. Protect bodies of water;
4. Provide for buffers around NHAs;
5. Reduce fragmentation of surrounding landscape;
6. Encourage the formation of grassroots organizations; and
7. Manage for invasive species.

The Natural Heritage Inventory has not only located areas of significance, it has also ranked them according to amount, degree, and rate of protection (Exceptional, High, and Notable). This Inventory utilizes two classifications of Natural Heritage Areas and suggested development restraints: Biological Diversity Areas (BDA) and Landscape Conservation Areas (LCA). *Figure 4-6: Ecological Habitats* illustrates the locations of



both the BDAs and LCAs. Most of the 'exceptional' BDAs and LCAs are located along Ten Mile Creek and Dunkard Creek, making these two critical areas in need of protection.

Biological Diversity Areas (BDA)

A Biological Diversity Area (BDA) is defined as "an area containing plants or animals of special concern at state or federal levels, exemplary natural communities, or exceptional native diversity. BDAs include both the immediate habitat and surrounding lands important in the support of these special elements" (Greene County NHI, 2005). BDAs are given attributes according to their sensitivity to human activities and their significance.

Special Species Habitat – An area that includes natural or human influenced habitat that harbors one or more occurrences of plants or animals recognized as state or national species of special concern.

High Diversity Area – An area found to possess a high diversity of species of plants and animals native to the county.

Community/Ecosystem Conservation Area – An area that supports a rare or exemplary natural community (assemblage of plants and animals), including the highest quality and least disturbed examples of relatively common community types.

The Inventory suggests that disturbances, except for special cases, associated with all land uses be eliminated from the site and its buffer. If a disturbance is necessary, the Inventory suggests contacting the appropriate resource agency.

BDAs are also categorized according to their significance for protecting biological diversity and ecological integrity in the region. Significance ranks are 'Exceptional', 'High', 'Notable', and 'County', in order of importance. According to the Greene County NHI, sites of exceptional significance merit quick, strong and complete protection. **Six** "Exceptional", **five** "High", and **42** "Notable" BDAs have been recognized within the County. **One** BDA, Cumberland Wetland BDA, has "County Significance."

Landscape Conservation Areas (LCA)

An LCA is defined as "a large contiguous area that is important because of its size, open space, habitats, and/or inclusion of one or more BDAs" (Greene County NHI, 2005). Although an LCA includes a variety of land uses, it typically has not been heavily disturbed and thus retains much of its natural character. LCAs are given attributes according to their type and significance. LCAs can be either Forest Block LCAs, which are the most feasible places for the development of large,

contiguous forest ecosystems, or Watershed LCAs, which are watersheds that support important aquatic resources.

The Inventory suggests that certain land-uses, including construction of new roads and utility corridors, non-conservation timber harvesting, clearing or disruption of large pieces of land, and other activities that divide and alter the character of the landscape, should be avoided.

LCAs are also categorized according to their significance for protecting biological diversity and ecological integrity in the region the same way BDAs are, with significance ranks of 'Exceptional', 'High', 'Notable', and 'County', in order of importance. The contiguous nature of LCAs is essential to its character and importance, so care must be taken that fragmentation is minimized during development. **Three** "Exceptional", **one** "High", and **one** "Notable" LCA have been identified within the County. **Seven** LCAs have "County Significance."

Environmental Concerns

Air Quality

Air pollution is the nation's largest environmental health risk. Two hundred million tons of toxic emissions pollute the air in the United States each year. Much of this pollution is created by human influences, such as industry, power plants, cars, and trucks. Since air pollution is not confined to a specific area, it affects everyone.

Two of the largest sources of air pollution in the county are from Allegheny Energy's Hatfield's Ferry and Fort Martin power plants (NRDC, 2004). Hatfield's Ferry power station is located in Monongahela Township along the shore of the Monongahela River; Fort Martin power station is located in Madsville, West Virginia. Although Fort Martin is not within the political boundary of Greene County, the power station's emissions affect the human and animal population of the county.

Each year, the two power stations release nitrogen oxides, sulfur oxides, heavy metals, and particulate matter (NRDC, 2004). High emissions of these chemicals result in negative health effects on humans and animals. Lung damage, heart disease, asthma, respiratory illness, and cancer are documented effects from acute and chronic exposure to some or all of these toxins.

Hazardous or Nuisance Areas

An inventory of hazardous and toxic waste sites was conducted for Greene County using the US Environmental Protection Agency's (USEPA) Right-to-Know Network database (USEPA, 2004). This query system identifies waste management facilities listed within the following regulatory databases:



1. Resource Conservation and Recovery Information System (RCRIS)
2. Comprehensive Environmental Response, Cleanup, and Liability Information System (CERCLIS)

RCRIS Sites

Resource Conservation and Recovery Act (RCRA) allows the federal government through the auspices of the USEPA to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous wastes (USEPA, 2006). The Right-to-Know Network database was used to identify any Large Quantity Generators (LQG) located within the county. LQGs are operations that produce >2,200 lbs. of hazardous waste in any given month of the year. Results of this search indicated that there are 12 LQGs in the county; none of these LQGs were noted as having any current violations as of June 2004.

A review of RCRIS was also used to identify the number of Small Quantity Generators (SQG) located within the watershed. There were 34 SQGs identified in the County. No SQGs were found to have current violations as of June 2004.

No Treatment, Storage, and Disposal (TSD) facilities were located within the County.

CERCLIS Sites

Comprehensive Environmental Response, Cleanup, and Liability Act (CERCLA) provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through the Act, EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup (USEPA, 2006). The CERCLIS database provides listings of regulated hazardous waste sites along with the federal environmental legislation related to these sites. Using a CERCLIS query, no Pennsylvania Superfund Sites (NPL) or active CERCLIS sites were identified within Greene County.

Landfills

There are no active municipal waste landfills located within Greene County. Allegheny County and Greene County are the only two counties in southwestern Pennsylvania that do not have land suitable for a landfill while Butler, Indiana and Armstrong Counties offer the most land suitable for a landfill, as per the Natural Infrastructure Project (PEC et al, 2005). There are 14 inactive landfills located in Greene County.

Table 4-5: Inactive Landfills

Municipality	Facility Name	Location
Cumberland	Cumberland Township Landfill	Air Shaft Road
Cumberland	Nemacolin Landfill	Old Side Road
Cumberland	Rices Landing Boro Dump	Hathaway Road
Center	Center Township Landfill	School Road
Dunkard	Shannopin Disposal Facility	Holbert Stretch Road
Franklin	Waynesburg	North Woodland Avenue
Gray	Gray Township Landfill	School Road
Monongahela	Kois Landfill	Kois Road
Morgan	Morgan Township Landfill	Short Street / First Street
Morris	Morris Township Landfill	T479
Perry	Perry Landfill	Hobbs Run Road / Haines Ridge Road
Richhill	Richhill Township	T347
Washington	Washington Township Landfill	Tower Road
Wayne	Wayne Township Landfill	Morris Run Road

Source: DEP

Illegal Dumping / Littering

Littering has significant environmental, economical, and aesthetic impacts to an area. Both the aquatic and terrestrial environment is affected by both physical and chemical littering. Water pollution results from the improper or illegal disposal of chemicals. Littering impacts a community economically by increasing the cost to the taxpayer. Cleaning up litter is approximately nine times more expensive than collecting trash from trash receptacles (PADEP, 2004). Trash could also potentially reduce property value in a community. The presence of litter has a negative impact on the aesthetic value of a community and can reduce the quality of life for some individuals.

Littering and illegal dumping is a problem in Greene County; abandoned tires, cans and bottles, scrap lumber, furniture, and even appliances are found at various locations around the County. The Greene County Conservation District completed the removal of illegal dumps throughout the Dunkard Creek Watershed. The Conservation District has publicized this issue in newspapers, the District's newsletter, and the GreeneSaver. The PA Cleanways of Greene County, Inc. and its volunteer have contributed a significant amount in the reduction of these dumps and littering havens. Reporting illegal dumps via



the PA Cleanways website (<http://www.pacleanways.org/greene/illegaldumpsurvey.html>) alerts the volunteer group to specific areas that need attention (PA Cleanways, 2006).

Areas of Unstable Geology

Sinkholes

Sinkholes are a feature of subsidence, which is when the Earth's surface moves downward as a result of chemical and physical weathering of carbonate bedrock in Pennsylvania (DCNR, 2004). This subsidence can also occur as a result of underground mining, excessive pumping of groundwater, and subsurface erosion due to the failure of existing utility lines.

A review of the DCNR Bureau of Topographic and Geologic Survey Limestone and Dolomite Distribution in Pennsylvania map indicates that the majority of the county is underlain by flat-lying, generally thin, but locally thick, limestone beds, which are discontinuous in places and are commonly interbedded with shale. An on-line review of the sinkhole inventory (DCNR, 2007) indicates that no sinkholes have been reported within the County, however Greene County reported a sinkhole in Taylortown, Dunkard Township, due to previous mining activity.

Landslides

Landslides are defined as the movement of an unstable mass of rock, unconsolidated earth, or debris down a slope. Both natural and human factors can affect the stability of slopes within the county. These include slope steepness, water sources, old landslides, support removal, and alternative of surface and subsurface drainage. Earthquakes can be a landslide trigger in many areas of the world, but are not known to cause landslides in Pennsylvania. The cause of a landslide is nearly always a combination of effects working together.

According to the DCNR Bureau of Topographic and Geologic Survey Areas of Pennsylvania that are susceptible to landslides mapping, the majority of Greene County falls within the highest susceptibility to landslides in the Commonwealth. This is due to the Permian with Dormont-Culleoka soils that can be found throughout the County (see **Figure 4-4: Soil Associations**). Only the most southeastern portion of the county falls within the high to moderate category.

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C. Development Strategies

The impacts of resource extraction, land development, and agricultural practices have also had a major impact on the natural environment and water quality. Many mitigation and remediation projects are underway throughout Greene County in an effort to “clean up” the environment and maintain the rural character that is cherished by residents and visitors alike. The most important lesson to be learned is the County and its municipalities must plan today in order to implement enforcement measures that ensure that the quality of life and natural resources are preserved for the future. Land use decisions must take the natural environment into account and future development should not have a negative impact on these integral resources.

The protection and conservation of natural resources and the rural integrity of Greene County is precious to the residents. Throughout the public involvement process, residents noted the need to protect and enhance watershed quality, the Monongahela River and other waterways, green and open space throughout the County, and other vital resources. The most important issues regarding open space and the environment were the need to prevent new and clean up old damage to the environment from mining and other related activities and the need to clean up illegal dump sites and roadside litter.

GOAL: Identify & mitigate issues that affect water quality & quantity

Strategy Develop and implement a countywide water resources inventory and evaluation program. The program will address the following:

1. Floodplain Monitoring Program (DCED) – monitor and prevent development in the floodplain and assure municipalities are overseeing proper permit and ordinance requirements.
2. Stormwater Management Plan (DEP) – provide for the correct conveyance of water to enhance water quality and minimize pollution.

Strategy: Direct efforts to Dunkard Creek and implement the recommendations contained in the Dunkard Creek River Conservation Plan.

Strategy: Conduct a Rivers Conservation Plan for Ten Mile Creek, Whiteley Creek, Little Whiteley Creek, Muddy Creek, and Pumpkin Run.

Strategy: Begin Phase 1 and 2 activities pursuant to achieving compliance with PA Act 167 (Stormwater Management) with technical and funding assistance from PADEP.

Strategy: Seek a greater state allocation to address problem areas identified through the County’s Dirt & Gravel Roads Program and encourage municipalities to participate in the program.

Strategy: Continue support of the Erosion and Sediment Control permitting program and evaluate the possibility of enforcement.

Strategy: Support and pursue funding for a monitoring program that involves local conservation organizations and local schools and universities to monitor upgrading designations of streams throughout the county.

Strategy: Obtain funding to complete Total Maximum Daily Load (TMDL) remediation plans on a watershed basis. The plans should identify the necessary corrective actions to achieve the reductions called for by TMDL studies, set milestones for these actions in a ten- year time frame, and outline funding strategies for implementation.

Strategy: Encourage PADEP to approve innovative technologies for septic treatment.

Strategy: Continue to implement recommendations contained in the Monongahela River Conservation Plan (RCP, 1998):

3. Develop a watershed database to coordinate conservation activities among governmental agencies, private organizations, and the general public
4. Establish a relationship with the Appalachian Clean Streams Initiative
5. Implement a volunteer trash removal or land stewardship program to clean and preserve the river corridor
6. Coordinate with PADEP's Bureau of Abandoned Mine Reclamation to identify "problem area" abandoned mine sites within the study corridor for reclamation and funding prioritization
7. Investigate the potential for utilizing abandoned tipples and other structures as public fishing piers
8. Develop fishing access at public parks
9. Encourage citizen monitoring and reporting of industrial and residential effluent violations
10. Encourage the preservation of the ecological and visual quality of the river corridor by planting a vegetative barrier along the river's edge where feasible
11. Identify or create a regional land trust to preserve and protect sensitive ecological habitats or historical properties
12. Coordinate with local officials and private industry to enforce stormwater management regulations and erosion control methods
13. Enforce deficient municipalities to establish compliance with existing sewage treatment regulations by preparing and updating formal Act 537 sewage facilities plans and prioritizing construction of sewage treatment facilities and/or sewage line extensions in unserved areas



GOAL: Assess & mitigate negative impacts from resource extraction

Strategy: Develop a GIS database to identify and track resource extraction activities and planned extraction areas.

Strategy: Identify and nominate significant hydrological units in the County to a PADEP Regional Committee for consideration as a Critical Water Planning Area (CWPAs) under the Water Resources Planning Act, Act 220 of 2002 (Act). The Act provides for identification of CWPAs, defined as "significant hydrologic unit where existing or future demands exceed or threaten to exceed the safe yield of available water resources."

Strategy: Track subsidence in streams caused by mining that result in increased wetlands and changing floodplains.

GOAL: Address abandoned mine drainage (AMD)

Strategy: Direct efforts to obtain funding to address identified abandoned mine drainage (AMD) problem areas as listed in Table 4.3 in Chapter 4 Natural Resources of the Greene County Comprehensive Plan.

Strategy: Pursue funding to inventory and map all AMD discharge sites.

Strategy: Participate and cooperate regarding interstate and state efforts to identify, quantify, and treat surface eruptions of AMD from deep mines in the Monongahela Basin.

Strategy: Research methods to treat AMD on a large-scale. Potential partners include the West Virginia University Water Institute; Pennsylvania, the federal government along with state, county and municipal governments within the Monongahela River Watershed (both in Pennsylvania and West Virginia); and companies currently involved in AMD treatment and remediation. Funding should be pursued through government avenues, regardless of its ultimate source (such as a tax on coal production).

Strategy: Research methods to treat AMD similar to natural gas as follows:

- Find point sources where high volume recovery can be affected while simultaneously ensuring that recovery from these areas will not permit an increase in elevation of the overall subterranean AMD pool (thus eliminating the possibility of future eruptions);
- Connect these point sources by pipeline;
- Economically connect these pipelines to (ideally) one central treatment facility. The concentrated volume of AMD will lower the cost of recovery of marketable products (ferric oxides, manganese, and concrete additives to name a few), and

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provide a large source of water for consumptive, industrial, agricultural, or non-potable use.

GOAL: Assess & mitigate negative impacts from landslides

Strategy: Continue to update the GIS database to identify, prioritize, and track the status of landslides in Greene County.

Strategy: Educate landowners and municipal officials on proper disposal of fill that reduce the chance of landslides

Strategy: Provide funding to assist municipalities to mitigate landslide issues.

GOAL: Reduce the negative environmental effects and damage to community character caused by littering & illegal dumping

Strategy: Identify a responsible party to organize watershed organizations, local college level and high school level environmental clubs, and other interested members of the public to develop a program.

Strategy: Implement a public education campaign on economic impacts from damage to environment as well as to the image/aesthetics of Greene County.

Strategy: Increase fines for littering and dumping.

Strategy: Develop and enforce a county or municipal ordinance for littering prevention.

Strategy: Develop a GIS database to identify and track illegal dump sites and prioritize for clean up activities with the PA CleanWays of Greene County, Inc.

Strategy: Provide funding to the PA CleanWays of Greene County, Inc. to assist with the clean ups of illegal dump sites.

GOAL: Incorporate environmental protection concepts into County planning & development

Strategy: Become active members in the Pennsylvania Planning Association (including the local chapter, the Southwestern Pennsylvania Chapter).



- Strategy:* Increase knowledge of staff by sending them to training opportunities and conferences.
- Strategy:* Ensure that all plans reviewed by the planning staff are checked for compliance to MPC requirements, county plans, and local ordinances and comprehensive plans.
- Strategy:* Provide staff to meet with municipal governments and planning commissions to review plan submissions and compliance with the County Comprehensive Plan and County SALDO.
- Strategy:* Implement the recommendations from the Greene County Comprehensive Recreation, Parks and Trails/Greenways Plan (2008) to develop a greenways network.
- Strategy:* Implement the recommendations from the Monongahela River Conservation Plan.
- Strategy:* Revisit existing site development ordinances, with the aim of incorporating "green development" incentives, which will reduce the volume of stormwater, beautify the landscape, and facilitate the recharging of groundwater resources.
- Strategy:* Prepare the development of written memorandums of understanding between the County and municipalities to review all developments requiring earth disturbance or affecting the resource base or existing / planned infrastructure.

GOAL: Increase the availability & effectiveness of recycling efforts

- Strategy:* Support efforts to develop recycling events throughout the County.
- Strategy:* Hire a Recycling Coordinator.
- Strategy:* Establish a permanent recycling site with convenient weekend and evening hours.
- Strategy:* Develop a partnership with stores or sites in the County where recycling containers can be placed in locations that are easily accessible to the public (i.e. shopping areas).
- Strategy:* Encourage municipalities to include recycling costs in garbage fees and implement mandatory recycling.
- Strategy:* Revise the County Web Page to include highly visible and attractive sites that can provide information on recycling and waste removal.

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GOAL: Improve cooperation & coordination between environmental & conservation groups to increase public support & involvement

Strategy: Encourage the establishment of Environmental Advisory Councils.

Strategy: Increase public education and support through an Environmental Education Specialist in the conservation district to educate the general public, municipal officials, teachers etc.

GOAL: Protect ecologically sensitive areas

Strategy: Encourage municipalities and developers to use the Greene County Natural Heritage Inventory as a tool when planning for future development.

Strategy: Promote the reuse of vacant, underutilized and/or abandoned industrial sites and brownfields.

Strategy: Ensure that planning staff or other county agency has the knowledge to educate site owners and host municipalities about reuse opportunities (i.e. funding sources, partners, and remediation efforts).

Strategy: Develop literature that can be distributed to the general public and municipal officials on reuse of industrial sites.

Strategy: Create a GIS database of all potential sites for reuse which would include acreage, ownership, utilities, infrastructure available, taxes, etc.

Strategy: Ensure that economic strategies incorporates environmental issues and actions.

Strategy: Establish incentives to develop or reuse sites (model zoning incentives, financial, etc).

Strategy: Encourage landowners to enroll ecologically important land into the Conservation Reserve Enhancement Program (CREP) through the Farm Service Agency, in partnership with the Western Pennsylvania Conservancy (WPC), USDA Natural Resource conservation Service and Pennsylvania Game Commission. For more information on CREP, visit <http://www.pgc.state.pa.us/crep/site/default.asp>.



GOAL: Minimize the impacts of flooding

Strategy: Develop and implement a Countywide Stormwater Management strategic plan.

Strategy: Update the County SALDO to include stormwater best management practices.

Strategy: Protect floodplains by establishing the floodplain monitoring program through the Greene County Conservation District and Greene County Department of Economic Development and encourage municipalities to at minimum follow floodplain ordinances and possibly update ordinances to be more stringent.

Strategy: Adopt a County Riparian Buffer policy that aligns with the Commonwealth's criteria for streamside buffer restoration, established through the efforts to restore the Chesapeake Bay Watershed with the following criteria:

1. A buffer must be at least 35 feet wide from the top of the streambank to the buffer's uphill edge (a width of 50 to 100 feet is strongly encouraged);
2. A buffer must contain at least two species of trees or shrubs, or a combination of trees and shrubs; natural regeneration is acceptable where nearby trees native to the area can provide a natural source of seeds, and where invasive plant species can be controlled; buffers established around wetlands may also count towards the goal; and
3. Conservation of existing forested streamside areas should occur within at least a 100-foot wide corridor.

Strategy: Develop a model Riparian (Stream) Buffer Ordinance for use by Greene County municipalities.

Strategy: Conduct a municipal education program to present the model Riparian Buffer Ordinance at municipal Planning Commission and governing body meetings. The educational program should include the benefits of wetlands in minimizing flooding and stream channel flooding regulations.

GOAL: Encourage maintenance & management of forested or wooded open space & promote the conduct of forestry as a sound & economically viable use of forested land

Strategy: Encourage the use of sound logging techniques and educate municipalities and landowners of the benefits associated with forestry activities.

Strategy: Assist municipalities to develop land use regulations that implement Best Management Practices that address logging and forestry.

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Strategy: Contact the Bureau of Forestry Service Forester for assistance. This bureau has a forester assigned to every county in Pennsylvania and is available to provide technical assistance.

Strategy: Improve enforcement of logging sites for Erosion and Sediment control through the Greene County Conservation District.

GOAL: Avoid the loss of open space & greenspace from development & transportation improvements

Strategy: Develop a "mitigation bank" for the replacement of wetlands impacted by transportation projects.

Strategy: Develop transportation projects that allow for strategic wildlife passage in a manner that does not harm the traveling public. Such methods can include elevating a road structure, installing larger culverts, and building bridges.

Strategy: Transportation mitigation measures should include trails and bicycle lanes to allow for alternative transportation modes, such as walking and bicycling, to take place in urban settings and along transportation corridors previously designed exclusively for automobiles.

Strategy: Request that future transportation improvements include reforestation of hillsides and right-of-ways with native vegetation.

Strategy: Request that future transportation improvements include mitigation measures for greenspace such as steeping slopes to minimize right-of-way requirements, creating a vegetation clear zone along the edge of the roadway to discourage wildlife entry, and preserving existing habitat within the proposed right-of-way whenever possible.

Strategy: Utilize Transportation Enhancement monies for the purchase of easements to protect and extend greenways.

Strategy: Support transportation legislation that includes protection of open space and habitats (currently done with wetlands).



A. Background

Historically, transportation corridors have directed patterns of development and they continue to play a fundamental role in the quality of life and economic prosperity of any community. The connectivity among residential areas, recreational and commercial centers, and industrial hubs is often a central factor to the quality of life for residents and is a determining factor for employers in choosing new business locations. Perhaps the most obvious is the aspect of industrial and heavy manufacturing land uses that rely on regional transportation networks to move freight and other goods. Such intense development uses require accessibility to rail, regional highways, waterways, and airports, which often generates noise, air quality, traffic, and/or safety concerns that are not compatible with residential uses.

The ability to move people and goods from one location to another in a manner that is effective, efficient and safe is one of the primary goals of transportation planning. Future transportation planning for Greene County will be most affected by its existing road network and the desired future development scenario specific for each area of the County. Commonly accepted practices directing state and regional policies today favor compact, cluster type development that reduces the length of roadways and cost of supporting infrastructure. According to the Institute of Transportation Engineers (ITE), a Transportation Plan should address "local, regional, and state mobility and development objectives, as well as federal air quality standards, to improve the quality of life (p. 23. 2003)." Such a lofty goal necessitates the involvement of many levels of partnerships—municipal officials, metropolitan planning organizations, councils of governments, county planning agencies, state transportation departments, conservation districts, etc. Ultimately, the transportation plan should incorporate issues of "connectivity, accessibility, mobility, and multi-modal travel options" (ITE, 2003).

The ITE identifies the following parameters for the connectivity, mobility and multi-modal travel (ITE, 2003):

- Connectivity is what makes an area accessible and mobile, both of which affect the overall quality of life, but also there must be a compatibility with local and system-wide objectives.
- Accessibility is the ease in which people can reach their destinations.
- Mobility is the ability of people to freely and easily travel to their destination.
- Multi-modal travel is a concept that incorporates many transportation elements into one cohesive system. Common modes of travel that are often identified in a multi-modal approach include pedestrian, bicycle, public transit, freight, water, and aviation as well as automobiles and trucks.

The ITE has also issued the following goals in relation to "Smart Growth" initiatives:

1. Pursuing compact, efficient land-use patterns to maximize transportation efficiency and improve neighborhood environment;
2. Improving multi-modal mobility within developed areas;
3. Improving the accessibility within existing built-up areas;
4. Making the most efficient use of transportation infrastructure; and
5. Supporting smart growth through pricing and sustainable funding.

The Smart Growth concept, applied in this manner, seeks to integrate all modes of transportation with land use planning in an effort to improve mobility and foster well-planned communities (Transportation Research Board, 1996). Incorporating these concepts into transportation planning has created a new way of thinking that has shifted from the traditional, cost-benefit and utility paradigm to a more inclusive approach that also encompasses aspects of aesthetics, access management, and the health of the social and economic character of a community. In March of 2008, PennDOT and the New Jersey Department of Transportation partnered to develop the Smart Transportation Guidebook. The goal is to integrate the planning and design of transportation systems in a manner that fosters development of sustainable communities.

Transportation planning is legislated through acts passed by the United States Congress, including the Clean Air Act Amendments (CAAA) of 1990, and most recently the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The CAAA requires planners to explore modes of travel other than personal vehicles to improve air quality and meet the population's transportation demands. SAFETEA-LU is in effect from August 10, 1995 to September 30, 2009 and includes guaranteed funding for highways, highway safety and public transportation totaling \$244.1 billion, which represents the largest surface transportation investment in the nation's history. SAFETEA-LU requires an emphasis on improving mobility and increasing the number of options available for moving people and goods. Transportation planning has to be multi-modal and inter-modal. In addition, transportation plans and programs must conform to fiscal and air quality requirements, and incorporate a proactive public participation process.

Existing Studies

Greene County Comprehensive Plan: Part I - Background Analysis and Part II - Final Report (1979)

The comprehensive plan focused on regional location analysis; physical features and existing land use; population and economy; housing analysis; thoroughfares; and community facilities. The background study found that the steep topography and poor access has inhibited development; that a substantial amount of developable land along the County roadways is classified as flood hazard areas; and that the County's road system is underdeveloped. The final report recommended that the County encourage planned growth at efficient densities for the development of new utilities, roads, and community facilities; locate new development in areas with suitable topography, access to utilities, and access to employment; and foster coordination between various planning and administrative bodies in the county to avoid conflicts between land use, transportation, housing, utilities, services, conservation, and community facilities.

2035 Transportation and Development Plan for Southwestern Pennsylvania

The Southwestern Pennsylvania Commission (SPC) is responsible for long-range transportation planning of the region. The most recent plan is the "2035 Transportation and Development Plan for Southwestern Pennsylvania." The Long Range Plan is updated every three years and targets transportation projects that are "waiting in line" for funding.



Transportation Resources

Transportation planning and programming for Greene County is coordinated at the regional and state level through the Southwestern Pennsylvania Commission (which serves as the County's Metropolitan Planning Organization) and PennDOT, the state transportation agency. PennDOT also serves as the design, construction and maintenance agency for all state and some federally owned transportation facilities. Also, all dedicated transportation funds are directed through PennDOT.

Southwestern Pennsylvania Commission

The Southwestern Pennsylvania Commission (SPC) is the federally-designated Metropolitan Planning Organization (MPO) for a ten-county region of Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland Counties and the City of Pittsburgh. The responsibilities of a MPO include the planning and prioritizing of all state and federal transportation funds allocated to the region. Therefore, SPC, in cooperation with PennDOT, the Greene County Board of Commissioners, and other SPC Planning Partners, is responsible for conducting the transportation planning process for the region. In addition, SPC has a role in assisting Planning Partners with aviation, rail, ports, trails, and other modes. SPC also serves as the Local Development District (LDD) and Economic Development District for Southwestern Pennsylvania (as designated by the U.S. Appalachian Regional Commission and the U.S. Department of Commerce), to establish regional economic development priorities.

SPC approves funding for projects, through coordination with its planning partners by establishing priority needs on the federal and state highway systems. Funding is decided through the SPC Transportation Improvement Program (TIP). The TIP is a four-year budgeting tool that directs federal and state highway funding based on specified project schedules and budgets. The program does not typically include any roadways under local ownership and maintenance control. The SPC TIP is updated biannually in conjunction with the State TIP and the Twelve Year Transportation Program (TYP) of PennDOT.

Project costs often have to be amended between the TIP cycles due to new information discovered through environmental studies, engineering design, increases in construction costs, or market changes. The capacity to complete transportation projects in a timely manner is directly related to the number and size of the projects that are being advanced and the amount of federal and state gas tax revenue available to the TIP. Often, construction costs outpace transportation revenues thereby creating a situation where there is more priority regional transportation projects with project costs in excess of the revenues dedicated in the TIP.

To change the TIP, each cost increase has to be offset by removing funding from another TIP project to keep the program in financial balance. Thus, the TIP is a dynamic document

that requires constant attention to meet the changing needs of a large and diverse region. The current SPC TIP is the "2007-2010 Transportation Improvement Program for Southwestern Pennsylvania." Testimonies for the 2009-2012 TIP were recently heard and SPC is now soliciting applications for candidate transportation projects to be considered for funding under the Congestion Mitigation and Air Quality (CMAQ) Improvement Program in the 2009-2012 TIP. The purpose of the CMAQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (PM). The Waynesburg Borough Signal Retiming Project is the only eligible project in Greene County on the current TIP for CMAQ funds

Pennsylvania Department of Transportation (PennDOT)

Greene County is included under the PennDOT Engineering District 12, which also oversees state related transportation projects in Fayette, Washington, and Westmoreland Counties. District 12 is responsible for over 3,715 miles of highway, more than 103 miles of interstate and 2397 state bridges. PennDOT cooperates within the framework of SPC to establish priorities for transportation projects.

Pennsylvania Act 120 (1970) established the Department of Transportation; State Transportation Commission and the Twelve Year Transportation Program. The Act requires PennDOT to "prepare and submit every even numbered year prior to the first day of September, to the State Transportation Commission for its consideration, a program which it recommends to be undertaken by the Department of Transportation during the following twelve fiscal years." The State Transportation Commission, PennDOT, MPOs (Metropolitan Planning Organization) and LDDs (Local Developmental District) conduct public involvement activities to identify candidate projects for consideration in the upcoming program cycle. The MPOs, LDD's and PennDOT share candidate lists of highway, bridge and transit projects for possible inclusion into the new program. MPOs and LDDs meet individually with PennDOT to review all candidate projects and to negotiate/resolve any remaining issues. A public comment period is completed prior to the final determination of the program. PennDOT provides a schedule for the new program update, procedural guidance and financial guidance to the members within each transportation district.

PennDOT has established the Agility Program to help local governments, school districts, fire companies, and public utilities with special projects related to transportation needs. Activities can include boom mowing, street sweeping, bridge cleaning, meeting facilities, graphics, and storage. PennDOT also works to remove litter and beautify roadways. Keep PA Beautiful is a PennDOT program that organizes volunteers to pick up trash and litter. PennDOT sponsors an annual clean up day, which is held the last Saturday in April.

Transportation Enhancements and Home Town Streets & Safe Routes to School are cost reimbursement programs operated by PennDOT that provides funding to federal or state agencies, county or municipal governments, school districts or non-profit organizations for



transportation related projects. Eligible projects include, among others, pedestrian and bicycle trails; scenic easements / historic sites; landscaping or other beautification projects; preservation of abandoned railway corridors. Enhancements applications are typically accepted every two years (in odd years) through a process administered by PennDOT and SPC, however SPC does not anticipate conducting another funding cycle for these programs until at least the fall of 2009. The current focus of SPC and its Planning Partners is delivery of previously awarded projects.

Transportation Snapshot

The road network in Greene County has not changed much since 1978, with Interstate 79, State Route 21, and State Route 88 continuing to be the major thoroughfares in the County. Besides Interstate 79, State Route 21 between Waynesburg and Fayette County remains the most heavily traveled road. The traffic on this road is a result of both local Waynesburg traffic and "through" traffic, or motorists using State Route 21 to access Interstate 79. The 1979 Comprehensive Plan called for the widening of State Route 21 and a by-pass to be constructed around Waynesburg. While these two projects were listed on PennDOT's Twelve Year Transportation Program, neither has come to a reality. The population has remained steady and therefore there has been only moderate pressure to upgrade the existing road network.

The Greene County Department of Economic Development staff conducted municipal outreach interviews with township and borough officials in the summer of 2008. The municipal officials noted four main issues that they feel are imperative to the future of transportation in Greene County. They first noted the importance of run-off water and its impact on the roads. Recent storms with heavy rains have caused road deterioration in many spots of the county. The second issue noted by municipal officials is the increase of heavy hauling on local roads. The heavy hauling causes many hardships for local residents: dust and dirt, cracked and broken pavement, noise, and safety concerns. The third issue that officials are dealing with directly is the rising costs of equipment and materials within their townships and with limited budgets. The Bid Price Index (BPI) has increased over 80 percent from 2003 to 2008 and local officials are finding out that they need to find creative ways to secure funding for equipment and materials. It will be important for planners to focus on these issues as they development transportation projects into the future.

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B. Data & Analysis

Regional Transportation Network & Road Classifications

The Pennsylvania Department of Transportation (PennDOT) classifies all road systems within the Commonwealth according to the federal functional classification system developed by the Federal Highway Administration (FHWA). Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide (http://www.fhwa.dot.gov/planning/fcsec2_1.htm). The classification of a roadway relates to its basic relationship to traffic levels of service and land access. For instance, Arterials provide a higher level of service and a greater degree of access control, while Local Roads provide the highest level of access to adjacent properties but provide a much lower level of service. Collector roadways provide a balance between mobility and land access. For the purposes of the Greene County Comprehensive Plan, PennDOT Functional Classifications will be used to describe the roadway inventory (PennDOT, 2009). The road network is shown graphically in *Figure 5-1: Transportation Network*.

Interstate Highways

The federal interstate system in Pennsylvania meets the federal interstate geometric and construction standards for future traffic demands. This designation is one of the highest classifications of roadways and provides the highest level of service at the highest speed for the longest uninterrupted distances (PennDOT, 2007). Designed to be the safest, all-weather highway network in the United States, the interstate system was originally designed for national defense.

Interstate 79



Interstate 79 (I-79) is a limited access, Interstate Highway that traverses Greene County in a north to south direction and provides regional connections south to Morgantown and Charleston, West Virginia; and north to Pittsburgh and Erie, Pennsylvania. Interstate 79 enters the northern edge of Greene County in Washington Township and exits at the southern border in Perry Township for a total distance of 21.9 miles of interstate roadway in Greene County.

I-79 in Greene County (Mackin, 2005)

Interchange access points along I-79 are at State Route 221 and U.S. Route 19 in Washington Township, State Route 21 in Franklin Township, S.R. 2018 in Whiteley Township at Kirby, and S.R. 2009 in Perry Township at Mount Morris. There is one Welcome Center, the Kirby Welcome Center, located along I-79 in Whiteley Township just north of Exit 1.



Kirby Welcome Center (Mackin, 2004)

The Pennsylvania Tourism Signing Trust administers the PA Logo Signing Program for PennDOT. The program was established to provide logo signing along interstate highways and other freeways for gas, food, lodging, camping services, and general attraction destinations. The cost to the Participant is based on the number of mainline, ramps and/or trailblazers required to direct motorist from the interstate or limited access highway to the entrance of the facility. The cost to participate is paid up-front when adding the logo to an existing sign. Specific criteria exist for each of the services. More information on the program along with applications to participate can be found online at: www.palogo.org.

Other Principal Arterials

Other Principal Arterials provide statewide or interstate travel between metropolitan and urbanized areas. They provide integrated movements without stub connections. Design of the roadway usually consists of two (2) or more 12-foot lanes with 8-10 foot shoulders with speeds typically ranging from approximately 45-65 miles per hour. State Route 21, between I-79 and the Fayette County border, is classified as an Other Principal Arterial; a total of 12.9 linear miles.

Minor Arterials

Minor Arterials link cities, larger towns and other traffic generators to provide integrated interstate and inter-county service. Minor arterials are spaced at proper intervals consistent with population density. Design of the roadway usually consists of two (2) 12-foot lanes with 8-10 foot shoulders and with speeds typically ranging from approximately 35-45 miles per hour. State Route 88, State Route 21 (between I-79 and the West Virginia border), and State Route 188 are classified as Minor Arterials; a total of 57.4 linear miles.



Rural Major Collector

Major collectors are highways or streets that provide connections within towns by distributing trips to small areas or neighborhoods. They provide for a greater amount of mobility and land access and are intended to convey traffic from medium travel distances (generally greater than one mile) and serve motorists between local streets and arterial roads. The design of major collectors usually consists of two (2) 12-foot lanes with 8-10 foot shoulders and design speeds of approximately 35 miles per hour or greater. The roadways that are classified as a Rural Major Collector include US Route 19, State Route 18, State Route 218, State Route 221, S.R. 1004, S.R. 1011, S.R. 2003, S.R. 2010, S.R. 2011, S.R. 2016, S.R. 2017, S.R. 2018, S.R. 3001, S.R. 3007, S.R. 3009, S.R. 3012, S.R. 3013, S.R. 3014, S.R. 3016, S.R. 3018, S.R. 3020, S.R. 3022, S.R. 4012, and S.R. 4015; a total of 212.2 linear miles.

Rural Minor Collector

Rural Minor Collector roads enable moderate quantities of traffic to move between arterial and local roads. These roadways provide for an equal amount of mobility and land access, providing access to adjacent properties. Rural Minor Collector roads are usually designed with two (2) 12 foot lanes and 4-10 foot shoulders and design speeds of approximately 30 miles per hour. Within Greene County, some of the Minor Collector roads are Ackleys Creek Road, Nebo Ridge Road, Wagon Run Road, Pink Bank Road, Dunkard Creek Road, Taylortown Road, Oak Forest Road, Swarts Road, Castile Run Road, and Bobtown Road; a total of 81.2 linear miles.

Local Roadways

The principal function of a local roadway is to provide direct access to adjacent properties. Local roads are intended to provide mobility within a particular neighborhood, or to one of the other road types. Local roads are usually designed to be 20-22 feet wide (one lane in each direction) with 2-8 foot shoulders and design speeds of approximately 25 miles per hour. Local Roads can include lesser four digit state routes, County roads, township roads, and other municipally owned roadways. Greene County has 1,130.7 linear miles of local roads.

Roadway Mileage & Demand

Table 5-1: Mileage Jurisdiction (2007) provides an understanding of the roadway network of Greene County as compared to the SPC Region. There are 1,516.3 linear miles of roadway within the political boundaries of Greene County, which is the lowest linear mileage of roadways of all other counties in the SPC Region, with the exception of Lawrence. The majority of roadways in Greene County are owned and maintained by the local municipalities while PennDOT owns approximately one-third of the roads.

Table 5-1: Mileage Jurisdiction, Linear Miles, 2007

	Land Area (sq. miles)	PennDOT (Linear miles)	Other Agencies	Turnpike	Toll Bridges	Local Municipal	Total
Allegheny County	730.2	1,180.5	6.7	38.6	0.0	4,574.8	5,800.6
Armstrong County	654.0	657.3	14.1	0.0	0.0	1,149.2	1,820.6
Beaver County	435.3	604.1	23.6	24.4	0.0	1,034.4	1,686.5
Butler County	788.6	654.3	44.2	4.4	0.0	1,591.5	2,294.4
Fayette County	790.1	758.6	14.7	6.2	0.3	1,301.7	2,081.5
Greene County	575.9	573.7	13.5	0.0	0.0	929.1	1,516.3
Indiana County	829.5	798.7	29.7	0.0	0.0	1,262.5	2,090.9
Lawrence County	360.5	385.3	2.7	17.4	0.0	791.5	1,196.9
Washington County	857.1	1,094.0	10.9	21.0	0.0	1,747.1	2,873.0
Westmoreland County	1,022.6	1,201.7	34.6	54.4	0.0	2,366.1	3,656.8

Source: PennDOT, Bureau of Planning and Research 2007



The number of linear roadway miles affects the County in terms of federal reimbursement of Liquid Fuels tax revenues and in regards to the level of service needed for maintenance and to address safety needs. **Table 5-2: Travel Highway Functional Classification (2007)** displays the Federal and Non-Federal Aid levels based upon the Daily Vehicle Miles of Travel (DVMT) per functional classification. Greene County has the lowest DVMT in the SPC Region. Greene County receives federal aid for 800,455 linear miles of roadways, which is also the lowest in the SPC Region.

Table 5-2: Travel Highway Functional Classification, 2007										
	Allegheny County	Armstrong County	Beaver County	Butler County	Fayette County	Greene County	Indiana County	Lawrence County	Washington County	Westmoreland County
Federal Aid Daily Vehicle Miles of Travel (DVMT)										
Interstate	5,706,487	0	355,683	1,001,296	0	445,138	0	280,522	2,194,706	2,226,905
Other Freeway/ Expressway	2,491,365	98,441	652,430	160,080	275,044	0	49,783	30,932	165,921	655,190
Other Principle Arterial	6,797,028	553,376	1,031,450	1,128,736	1,034,042	105,865	911,550	769,199	906,589	2,228,640
Minor Arterial	5,094,800	517,676	830,666	1,219,265	409,929	249,452	484,375	428,457	1,229,769	1,821,932
Total Federal Aid DVMT										
	20,089,680	1,169,493	2,870,229	3,509,377	1,719,015	800,455	1,445,708	1,509,110	4,496,985	6,932,667
Non Federal Aid DVMT										
Major Collector	2,234,769	201,578	517,584	614,296	558,576	219,422	399,212	404,662	666,371	1,262,571
Minor Collector	14,025	76,674	58,902	126,814	98,897	24,666	92,952	39,857	148,377	129,991
Local	3,281,317	272,501	630,954	579,388	568,495	228,228	376,115	271,651	844,664	1,303,525
Total Non Federal Aid DVMT										
	5,530,111	550,753	1,207,440	1,320,498	1,225,968	472,316	868,279	716,170	1,659,412	2,696,087
Total DVMT										
	45,709,471	2,889,739	6,947,898	8,339,252	4,663,998	2,073,226	3,759,695	3,734,390	10,653,382	16,561,421
Source: PennDOT, Bureau of Planning and Research 2007										

Table 5-3: Greene County and SPC Region – DVMT 2007 displays the comparison of daily vehicle miles traveled (DVMT) per functional classification between Greene County and the SPC Region. Within Greene County, almost half of the DVMT are on Other Principal Arterials, which is State Route 21 between I-79 and Fayette County; while the next highest percentage of DVMT is on I-79. The remainder DVMT is split between Minor Arterials, Major Collectors, and Local Roads. Just over 62 percent of DVMT in Greene County receive federal aid. Greene County accounts for just over two percent of DVMT within the SPC Region.

<i>Table 5-3: Greene County and SPC Region - DVMT 2007</i>				
	Greene County			SPC Region
DVMT by Functional Classification	VMT	% of Greene Co VMT	% of Regional Total	VMT
Interstate	445,138	35.0%	3.65%	12,210,737
Other Freeway/ Expressway	0	0.0%	0.00%	4,579,186
Other Principal Arterial	105,865	8.3%	0.68%	15,466,475
Minor Arterial	249,452	19.6%	2.03%	12,286,321
Major Collector	219,422	17.2%	3.10%	7,079,041
Minor Collector	24,666	1.9%	3.04%	811,155
Local	228,228	17.9%	2.73%	8,356,838
All Roads	1,272,771	100.0%	2.09%	60,789,753
Federal Aid Total	800,455	62.9%	1.80%	44,542,719
Non Federal Aid Total	472,316	37.1%	2.91%	16,247,034

Source: PennDOT, Bureau of Planning and Research 2007



Annual Average Daily Traffic (AADT) AADT is the typical daily traffic on a road segment for all the days in a week, over a one-year period. PennDOT collects traffic data at approximately 30,000 sites statewide on various collection cycles: annually, every three or five years, depending on priority of the highway system (PennDOT website, 2008). Traffic volume represents total traffic, BOTH directions per road segment. **Table 5-4: Greene County Traffic Volume (2007)** depicts the traffic volume along major roadways in 2007.

Table 5-4: Greene County Traffic Volume, 2007		
Interstate 79	Washington County to West Virginia Border	14,000
US 19	Washington County to Ruff Creek	600
US 19	Ruff Creek to Waynesburg	2,600
I-79 Exit 19 Ruff Creek (east)	S.R. 221 between I-79 & Lippincott	2,000
S.R. 221	Lippincott to S.R. 188	2,100
I-79 Exit 19 Ruff Creek (west)	S.R. 221 between I-79 & Ruff Creek	2,000
S.R. 221	Ruff Creek to Washington County	400
I-79 Exit 14 Waynesburg (east)	S.R. 21 between I-79 & Baileys Crossroads	8,100
S.R. 21	Baileys Crossroads to Paisley (S.R. 88)	9,300
S.R. 21	Paisley to Fayette County	9,400
S.R. 188	I-79 to Jefferson	6,600
S.R. 188	Jefferson to Dry Tavern (S.R. 88)	3,400
I-79 Exit 14 Waynesburg (west)	S.R. 21 between I-79 & Morrisville	17,000
S.R. 188	I-79 to Morrisville	5,600
S.R. 21 / US 19	Morrisville to Waynesburg	11,000
S.R. 21	Waynesburg to West Waynesburg	9,500
S.R. 218	Waynesburg to White Barn	3,100
S.R. 218	White Barn to West Virginia	1,100
S.R. 21 / S.R. 18	West Waynesburg to Rogersville	5,300
S.R. 21	Rogersville to Wind Ridge	2,900
S.R. 21	Wind Ridge to West Virginia	1,900
S.R. 18	West Waynesburg to Nineveh	2,000
S.R. 18	Nineveh to Washington County	1,600
S.R. 18	Rogersville to Holbrook	2,600
S.R. 18	Holbrook to Nettle Hill	1,300
S.R. 18	Nettle Hill to West Virginia	900
I-79 Exit 7 Kirby (east)	S.R. 2018 / S.R. 2011 between I-79 & Garards Fort	2,000
I-79 Exit 7 Kirby (west)	S.R. 2018 between I-79 & Kirby (US 19)	1,200
US 19	Waynesburg to Kirby	500
US 19	Waynesburg to Mount Morris	350
I-79 Exit 1 Mount Morris (east)	S.R. 2009 between I-79 & Bald Hill	800
I-79 Exit 1 Mount Morris (west)	S.R. 2009 between I-79 & Mount Morris	4,600
US 19	Mount Morris to West Virginia	2,000
S.R. 88	Washington County to Dry Tavern	5,700
S.R. 88	Dry Tavern to Carmichaels	4,900
S.R. 88	Carmichaels to Paisley (S.R. 21)	6,100
S.R. 88	Paisley to West Point Marion (Fayette County)	4,000

Source: PennDOT Greene County 2007 Traffic Volume Map, published 2009

As shown in Table 5-4, the following holds true for 2007 traffic volumes in Greene County:

- S.R. 21 between I-79 and Morrisville is the most heavily travelled roadway in Greene County, with a traffic volume in 2007 of 17,000.
- I-79 has the second highest traffic volume, at 14,000.
 - Exit 14 / Waynesburg experiences the highest traffic volume (25,100)
 - Exit 1 / Mount Morris experiences the second highest (5,400)
 - Exit 19 / Ruff Creek comes in third (4,100)
 - Exit 7 / Kirby is last (3,200)
- S.R. 21 / US 19 between Morrisville and Waynesburg has the third highest traffic volume, at 11,000.
- Traffic volumes on S.R. 21 east of I-79 remain fairly constant to the Fayette County border.
- Traffic volume on S.R. 21 significantly decreases past West Waynesburg.
- US 19 is not that heavily travelled, except between Ruff Creek and Waynesburg (2,600)
- Traffic volume S.R. 88 remains fairly constant throughout Greene County.

With this information, an analysis can be made regarding roadway demand and the daily traffic trips to various geographic destinations. This data can also be used to predict potential for residential and business growth. Therefore, county officials can coordinate with SPC and PennDOT to direct funding to high volume areas to mitigate for traffic impacts that may occur from additional new development.

Transportation Improvements

Transportation Improvement Program

The 2009-2012 Transportation Improvement Program for Southwestern Pennsylvania (2009-2012 TIP) identifies the priority highway and transit improvements programmed for advancement from October 1, 2008 through September 30, 2012 (federal fiscal years 2009-2012).

The 2009-2012 TIP specifies the priorities for the region and includes reasonable estimates of both available funds and anticipated project expenditures. The TIP lists all transportation projects that intend to use federal funds, as well as non-federally funded projects that are regionally significant. Individual improvement projects must be included on the 2009-2012 TIP to become eligible for federal funding. Not all projects are individually identified however, as small scale projects may be grouped into project line items by project type, to permit fluidity in program implementation. The list of projects is multi-modal, including highway.

The TIP is authorization to seek funding. A project's presence in the TIP represents a critical step in the authorization of funding to a project. It does not, however, represent a



commitment of funds, an obligation to fund, or a grant of funds. Nor is the TIP a final schedule of project implementation. The time frame shown in the TIP is the best estimate at the time of TIP development, which is six to nine months prior to the beginning of the first fiscal year of the TIP period. Projects quite often cannot maintain that schedule and are reprogrammed to later years, (SPC, 2008).

Each project on the 2009-2012 TIP is listed in Table 5-5: **Transportation Improvement Summary (Greene County Projects)**, listed by funding and year completed. Greene County is earmarked for \$78,019,234 in the 2009-2012 TIP. The majority of the projects in Greene County are either bridge rehabilitation or bridge replacement projects. Greene County has to continue to lobby for the projects that are listed on the TIP but are not fully funded.

SOUTHWESTERN PENNSYLVANIA COMMISSION
YEAR 2009 - 2012 TRANSPORTATION IMPROVEMENT PROGRAM
GREENE COUNTY

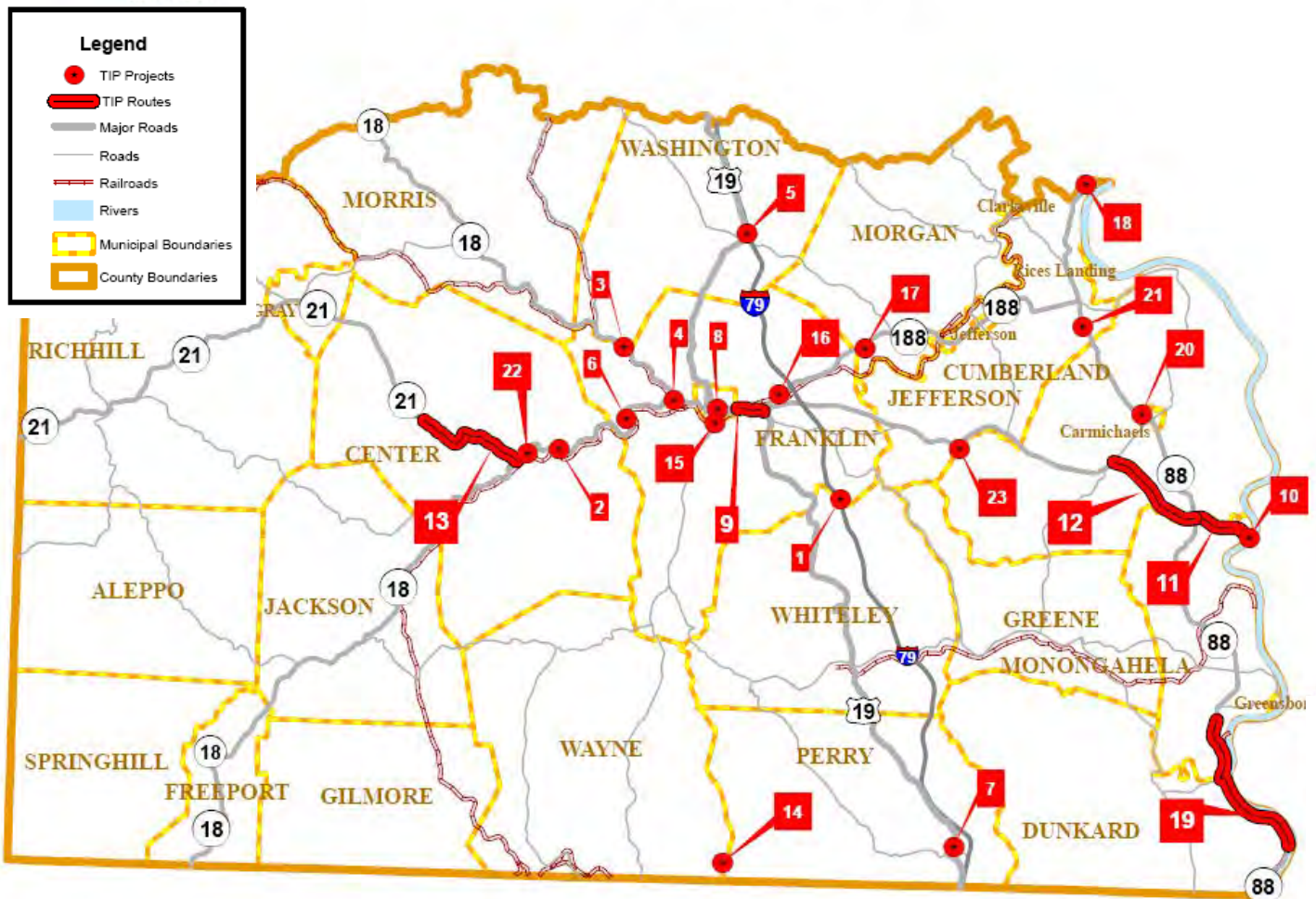


Table 5-5: Transportation Improvement Summary 2009-2012 (Greene County Projects)

Map #	Project	Type	Location	Est. Year of Construction	Est. Total Project Cost
1	Tower Road Bridge	Bridge Rehabilitation	I-79	2012	\$6,649,293
2	Ten Mile Creek Bridge 2	Bridge Replacement	Center Township (SR 18)	2010	\$2,797,520
3	SR 18 over Garners Run	Bridge Rehabilitation	SR 18	2010	\$1,119,040
4	Brown's Creek Bridge	Bridge Rehabilitation	Franklin Township	2011	\$2,444,480
5	Boyd Run Bridge	Bridge Rehabilitation	SR 221	2009	\$1,058,000
6	Eastview Bridge	Bridge Replacement	Franklin Township (SR 18)	2011	\$1,155,040
7	US 19 over Dunkard Creek	Structure Replacement	Perry Township (US 19)	2010	\$3,203,200
8	Waynesburg Signal Update	Signal Improvement	Franklin Township (US 19)	2010	\$468,000
9	Morrisville Corridor	AQ project, transportation study, reconstruction, widening, lane additions	Waynesburg Borough (US 19)	Final Design - 2010	\$31,861,742
10	Masontown Bridge Roadway	Highway Reconstruction	Cumberland Township (SR 21)	2012	\$3,000,000
11	Paisley to Masontown Bridge	SR 21 Highway Restoration	Cumberland Township (SR 21)	2009	\$4,763,200
12	Junction Deli to Paisley	SR 21 Betterment Improvements	Cumberland Township (SR 21)	2012	\$3,262,106
13	PA 21: SR 4017 to PA 18	SR 21 Betterment Improvements	Center Township (SR 21)	2012	\$2,648,105
14	Rudolph Run Bridge	Structure Replacement	Perry Township (SR 2001)	2009	\$1,645,000
15	SR 218 Structure	Bridge Replacement	Franklin Township (SR 218)	2011	\$9,854,001
16	Jefferson Road Bridge II	Bridge Replacement	Franklin Township (SR 188)	2010	\$4,759,999
17	Children's Home Bridge	Bridge Replacement	Morgan Township (SR 188)	2009	\$2,582,000
18	SR 88 Ten Mile Creek Bridge	Bridge Rehabilitation	Jefferson Township (SR 88)	2010	\$7,555,000
19	Pt Marion to Dilliner	SR 88 Betterment Improvements	Dunkard Township (SR 88)	2010	\$3,785,600
20	SR 88 over Muddy Creek	Bridge Replacement	SR 88	2012	\$2,682,974
21	Dry Tavern Bridge	Structure Replacement	Jefferson Township (SR 21)	2009	\$1,829,000
22	SR 21 Bridge #1	Bridge Replacement	Center Township (SR 21)	2009	\$2,140,000
23	Muddy Creek Bridge	Bridge Rehabilitation	Cumberland Township (SR 2013)	2011	\$1,170,000
0	District 12 ITS Line Item	ITS Projects District Wide	Waynesburg Borough	Pre-engineering 2009-2012	\$6,431,800
0	Branch of Browns Creek Bridge	Bridge Rehabilitation		2011	\$1,137,040
0	SR 18 Bridge #3 over Branch of Browns Creek	Bridge Rehabilitation		2011	\$1,155,040
0	Greene County Local Bridges	Local Bridge Line Item	Greene County	Pre-engineering 2009-2011	\$1,900,000
Total Funding					\$79,019,324

Source: SPC, 2008



The TIP is updated biannually in conjunction with the state's Twelve Year Transportation Program. A project must appear on the TIP before it can receive financial support. The Southwestern Pennsylvania Commission in conjunction with their member Agencies or Counties has established Public Participation Panels (PPP) for each county to update the TIP. The PPP's primary purpose is to take public testimony on transportation project and convey them in a logical manner to the State Transportation Commission. John Kendralla, co-chairman of the Greene County Public Participation Panel presented the following testimony of transportation needs for the 2009-2012 Transportation Improvement Program (TIP) to the State Transportation Commission on August 29, 2007. The order of the transportation needs is not meant to convey a prioritization, with the exception of Point Marion Bridge, which is Greene County's top priority project. The other transportation needs will advance in the design process as programmed funding and scope of work allow.

- 1. The number one priority transportation project presented by Greene County is the replacement of the Point Marion Bridge. The County is in support of District 12's efforts to provide a "right size" design for the new bridge and urge its speedy completion. This bridge is an integral part of the direct route traveled daily by hundreds of Greene County residents who are employed or seek medical services in West Virginia.*
- 2. The County, as well as a number of residents of the county, advocate for the completion of the S.R. 218 / Morgan Street Grade-Separated Crossing of the Norfolk Southern Railroad line in Franklin Township and Waynesburg Borough. PennDOT has coordinated closely with the county through the design process for this project and the county supports their efforts to advance this project to construction in 2008.*
- 3. The Greene County Commissioners continue to advocate strongly for additional funding to advance the replacement of the Masontown Bridge and complete associated improvements on S.R. 21 between Uniontown and Waynesburg.*
- 4. In 2006, the County Commissioners responded to the public outcry to alleviate congestion in the Morrisville area of Franklin Township. They appealed to PennDOT to consider "right-sizing" in Morrisville and narrowly focus on two bridge structures in the project area – the Norfolk Southern Railroad Bridge over S.R. 21 and the Freedom Bridge which carries S.R. 21 over Ten Mile Creek. Following a meeting with Senator Stout, Representative DeWeese, the County Commissioners, representatives from Norfolk Southern Railroad and staff from PennDOT District 12, we strongly urge that the "right-sizing" alternatives for these two bridge projects be programmed and advances through design and construction as soon as possible. The alleviation of the congestion in this area is critical to the advancement of numerous economic development projects, including the major retail shopping complex being constructed in Franklin Township.*
- 5. The County Commissioners are requesting consideration for assistance to alleviate a serious transportation problem which is associated with flooding from Jackson Run at the intersection of Woodland Avenue and S.R. 21. This is just one area of concern because state routes and principal arterials have experienced numerous episodes of severe flooding which have had a profound impact on the delivery of emergency*

- services and safe travel for our citizens and caused substantial financial losses and property damage to businesses located along state highway corridors. The Commissioners feel that PennDOT, working closely with the county, can correct this particular problem area. They also request the support of District 12 as they seek solutions for stormwater management and flood control planning that impacts state highway corridors throughout the county.*
- 6. Another unfortunate situation that beleaguers Greene County is the combination of excessive rainfall and transient soils. Our municipalities are fighting an uphill battle to repair slides that have created unsafe situations along a number of our narrow, winding and steep township roads. The Commissioners respectfully request engineering support and a modified formula that will increase the municipal Liquid Fuels Allocations for those municipal governments plagued by these slide situations.*
 - 7. Congressman Jack Murtha has spearheaded an effort for the designation of a federal earmark to allow for special attention to the Realignment of Route 21 in Cumberland Township. The County is requesting that District 12 work with the county to develop an alternative alignment that allows for S.R. 21's uninterrupted dominant flow of traffic through that area and reconfigures the township road intersections for improved safety and operation. This project will optimize the opportunity to provide a gateway to the Carmichaels area and will enhance the development interest on adjoining properties which include the site of the former Buckeye Coal Company Mine.*
 - 8. During last year's TIP Update, testimony was heard from residents of western Greene County describing a serious problem with a curve on S.R. 18, Browns Creek Road, in Morris Township between Nineveh Road and Route 4019, Andrew Road. Substandard roadway geometry on the curve, coupled with an increase in truck traffic in the area from both coal trucks and tractor trailers, have created a dangerous situation at this location. The commissioners urge District 12 to work with affected residents and Morris Township officials to advance short and long term safety improvements in this area.*
 - 9. Two of the Interstate 79 Interchanges in Greene County are in need of attention. The county, through its Economic Development Department, is advancing a planning effort in partnership with Perry Township to improve safety, traffic flow, signage and aesthetics at the Mt Morris Interchange. This project will further the development efforts at the Meadow Ridge Business Park, located along S.R. 2009 in Perry Township.*
 - 10. The Ruff Creek Interchange also commands attention as the county advocates for the construction of the programmed Park N Ride facility at the interchange, the critical next step for the enhancement of development opportunities in this area.*
 - 11. Transportation Enhancement – Hometown Streets/Safe Routes to School funding has supported a number of efforts in Greene County and the Commissioners now wish to address the need for additional funding through this source. The Greene River Trail continues to be a priority of the Board of Commissioners, strongly supported by the communities where the presence of the trail has or will provide benefit. The next phase of this project will also provide major accomplishment in efforts to enhance river town tourism and recreational opportunities to create the quality of life for which we strive.*



12. *The county expresses its appreciation for the recent grant award for the Waynesburg Streetscape, Phase 1 which will complement current downtown Waynesburg Revitalization efforts, working with the Borough, Waynesburg Prosperous and Beautiful, (the Main Street project) and the Blue Print Community Team. Construction is anticipated in 2008. We expect to request funding for the second phase of the streetscape project in the next grant round.*
13. *Also in Waynesburg Borough, but separate from the Streetscape project, local residents are concerned about the timing and interconnection of the traffic signals on High Street (Route 21) in the business district. Their concerns have not fallen on deaf ears. We respectfully request that a study be conducted to evaluate the timing and condition of the traffic signals in the Borough of Waynesburg.*
14. *As part of the retail development taking place in Franklin Township, widening for a left turn lane is anticipated at the intersection of Rolling Meadows Road and Murtha Drive. Program dollars are needed to construct the improvements, which will allow for two full access points to the retail development and relieve traffic congestion on Route 21.*
15. *Last, but by no means least, the County respectfully requests funding to continue the Local Bridge Program over the life of the 2009-2012 TIP. This small rural county contains 500 miles of roadway and over 500 bridges, 85 of them county owned, including seven covered bridges. This extraordinary responsibility falls on the shoulders of commissioners who recognize the need to sustain the infrastructure already in place, emphasizing the need to reconstruct a minimum of five local bridges annually.*

Transportation Enhancement Program (TE)

Rather than listing projects from the Transportation Enhancement Program (TE), the Hometown Streets Program (HS) and the Safe Routes to School Program (S.R.TS) individually in the 2009-2012 TIP, the TIP includes line items that will be drawn down on a first-come, first-served basis as project sponsors are ready to proceed, as long as the funds are available in the line item. The projects that have been determined to be eligible to use the line item funds are identified in the following project lists. The eligible federal funding amount is identified for each project. These projects have previously been approved for federal funding through the Transportation Enhancements and/or Hometown Streets / Safe Routes to School Programs.

The only project eligible in Greene County is the Nathaniel Greene Trail (Greensboro Borough), which was selected in 1994. The project is eligible for \$428,000 of federal transportation enhancements monies.

2035 Transportation and Development Plan for Southwestern Pennsylvania

The "2035 Transportation and Development Plan for Southwestern Pennsylvania" is the means for linking the goals of the region with the purposes and uses of the federal and state funding sources. The 2035 Plan contains a transportation financial plan which identifies funding that is anticipated to be available from 2007 to 2035 and that will be committed to deliver projects or programs within the Southwestern Pennsylvania region. Intergovernmental planning processes coordinated by SPC and resulting in the Long Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP) are the means for defining the projects that will receive the available funding. PennDOT is the largest implementing agency and recipient of program funding. Additionally, SPC member counties, local governments, transit authorities, and non-profit agencies, each produce transportation projects and deliver services using state and federal revenues. Projects are selected based on eligibility for the funding programs, their ability to meet program and regional goals, and their priority relative to other similar projects. Greene County participated in this process by providing testimony to SPC through their public outreach program, "Project Region," to identify transportation projects that are in need of funding (SPC, 2007).

Projects listed in the plan for Greene County include the Point Marion Bridge Replacement Project and the US 19 Morrisville Corridor. Construction of the Point Marion Bridge began in December of 2007 and is expected to be completed in November of 2009. The contract amount is \$20,971,655.40. The new bridge will be just upstream from the existing bridge which will remain open during construction, with no detour. The typical bridge section will be two 11' lanes, with 3'-6" shoulders and a 10' sidewalk.

The Morrisville Corridor Project is estimated to cost a total of \$31,861,742, of which \$936,000 is included on the TIP to fund final design (including a transportation study, reconstruction, widening, and lane additions for US 19 in Waynesburg Borough) in 2009 and 2010. Greene County will need to continue lobbying for additional funding for the construction of the project.

All projects included on the 2009-2012 TIP must be drawn from, or be consistent with, the "2035 Transportation and Development Plan for Southwestern Pennsylvania." The TIP is the mechanism for the implementation of the transportation goals, objectives and strategies of the 2035 Plan.

County Liquid Fuels

Funding for County roadway and bridge construction and maintenance is generated through the Liquid Fuels Tax collected by the Commonwealth of Pennsylvania. The County Liquid Fuels Tax Act of 1931 provides all counties, which are in compliance with PennDOT guidelines, with semi-annual allocations in June and December of each year. One-half cent of the tax collected on each gallon of liquid fuels is allocated to a special fund known as the Liquid Fuels Tax Fund for distribution to counties. The Act provides



that these funds be used for road and bridge construction, reconstruction and maintenance projects, or may be allocated to their political subdivisions for these same purposes. In order to receive the Liquid Fuels Tax Fund, each county must submit an annual report showing the receipt, expenditure and encumbrances for the preceding 12 months ((PennDOT Bureau of Municipal Services, 2003). Examples of what County Liquid Fuels Tax Funds may be expended for include:

1. Construction, reconstruction, maintenance, and repair of public roads/ streets or bridges for which the County or Municipality is legally responsible.
2. Costs of property damages resulting from road and/or bridge construction, reconstruction or maintenance.
3. Purchase of right-of-way for road and/or bridge construction, reconstruction or maintenance.
4. Compensation of viewers for services in eminent domain proceedings involving roads, highways, and bridges.
5. Interest and principal payments on road or bridge loans and bonds, or sinking fund charges for such bonds becoming due within that current calendar year.
6. Any road or bridge work by order of the Public Utility Commission.
7. Culverts and drainage structures.
8. Acquisition, maintenance, repair, electrification, and operation of traffic signs and traffic signal control systems at intersections and/or railroad crossings.
9. Street lighting in excess of taxes, bridge and interchange lighting.
10. Minor equipment, equipment rentals, or repair parts for road maintenance vehicles.
11. Road drags and snow fence.
12. Purchase of PennDOT approved materials.
13. Major Road and Bridge Equipment (equipment costs in excess of \$4,000.00).
14. County Engineer's salary and benefit costs for road or bridge work.
15. Debris removal from the roadway and its gutters and shoulders.
16. Erection of street name signs, traffic directing signs and traffic signal control systems.
17. Brush removal to improve sight distance.
18. Lane and crosswalk painting and marking.
19. Cleaning of inlets and culverts.
20. Certain structures such as salt storage sheds or buildings built to house county or municipal owned road equipment.
21. Engineering Fees (fees in excess of 10% of the total contract price must be documented and justified to the satisfaction of the Department).
22. Curb ramps to provide access by individuals with disabilities.
23. Drive way grade adjustments due to construction or reconstruction.
24. Liability insurance for road and bridge equipment and vehicles when the named beneficiary is the entity's Liquid Fuels Tax Fund.
25. Administrative costs to a maximum of 10% of that year's total allocation, including benefits, overhead, and other administrative charges for county employees directly involved in activities covered by the Act.
26. Indirect engineering and transportation planning costs.
27. Ferry boat operations, where applicable.

28. Appraisal fees for infrastructure assets.
29. Curbs that are part of the drainage system.

Municipal Liquid Fuels

Funding for road maintenance and construction at the local municipal level is also generated through a Liquid Fuels Tax. The Liquid Fuels Tax Act 655, dated 1956 and as amended, provides all municipalities other than counties, which are in compliance with PennDOT guidelines, with annual allocations on April 1 of each year from the State's Motor License Fund. The amount of this fund for municipalities is based on: 20% of 11 1/2 cents of the Liquid Fuels Tax Receipts; 20% of 35 mills of the Oil Franchise Tax, Section 9511 (c) of the Vehicle Code; and, \$5,000,000.00 (Act 68 of 1980) under Section 9301 of the Vehicle Code, plus 12% of Act 26 of 1991, Oil Company Franchise Tax plus 12% (38.5 mills) of Act 3 of 1997, Oil Company Franchise Tax.

The allocation of these funds to municipalities is based on the ratios of mileage and population of the municipality to the state totals, and the revenues must be used on the roads and streets for which the municipalities are legally responsible. That is, 50% of the funds are distributed based on a municipality's proportion of local road mileage to the total local road mileage in the state, and 50% on the proportion of a municipality's population to the total population of the state.

To qualify for the annual liquid fuels tax allocation a municipality must prepare and submit its annual reports and make its deposits and payments or expenditures in compliance with the Act. The Act provides that these funds be used for road and bridge construction, reconstruction and maintenance projects (PennDOT Bureau of Municipal Services, 2003). Examples of what Municipal Liquid Fuels Tax Funds may be expended for include:

1. Construction, reconstruction, maintenance, and repair of public roads or streets, including curb ramps from a road to provide access by individuals with disabilities, bridges, culverts and drainage structures for which they are legally responsible.
2. Advertising costs for competitive bidding requirements of projects, materials and equipment purchases.
3. Attorney and other legal fees required for road and bridge projects.
4. The purchase of road machinery and road equipment that costs in excess of \$4,000 (subject to the limit of 20% of the annual Liquid Fuels Tax Allocation) and the repair, maintenance, and insurance for this equipment when the named beneficiary is the entity's Liquid Fuels Tax Account.
5. Minor equipment, equipment rentals, and repair parts for road maintenance vehicles.
6. Acquisition, maintenance, repairs and operation of traffic signs, street signs, traffic signals and control systems, including metric conversion signs.
7. Electricity for signals and streetlights.
8. New Products for low volume local roads, with prior approval of District Municipal Services Representatives.
9. Small tools, road drags and snow fences.



10. Debris removal from the roadway and its gutters and shoulders.
11. Brush removal to improve sight distance.
12. Lane and crosswalk painting and marking.
13. Road Materials approved by department specifications.
14. Salary and benefit costs of road crews or employees performing work on municipal roads.
15. Contracts for rented equipment needed for roadwork described above.
16. Salt storage buildings. NOTE: Does not include plumbing, heating or electricity.
17. Bank Loan and Bond Issues used exclusively for highway purposes.
18. Payment of Engineering Fees (fees in excess of 10% of the total project cost must be documented and justified to the satisfaction of the Department).
19. Guide rail and pipe in accordance with department specifications.
20. Purchases of surplus equipment from the Commonwealth and Federal Governments.
21. Purchases of materials and equipment from State Contracts (piggy-back purchases), Councils of Governments and other purchasing consortiums.
22. Traffic calming activities in accordance with Pub 383, dated January 2001.
23. Traffic and engineering studies.

Bridges

Bridges in Greene County are of two types: grade separation for highways and railroads, and waterway crossings. Bridges are critical to the full use of a transportation network. Bridges must comply with the following general criteria to satisfy their functional part of a transportation system and the class of roadway being carried:

- Adequate waterway opening
- Vertical grade clearance
- Pavement and shoulder width aligned with roadway function
- Parapet impact strength
- Deck drainage
- Load sufficiency rating and support both dead and live loads

Bridges failing to satisfy these criteria become functionally inadequate and limit the highway networks' ability to serve the public. The most serious inadequacy is loss of structural strength that limits a bridge's ability to carry the desirable loads. When a bridge becomes structurally inadequate, the bridge must be posted for a lower safe load, or closed, if a safe load is less than three tons. A typical ambulance is seven tons, school busses 12 to 15 tons, fire engine 15+ tons, and delivery trucks 5+ tons. The only vehicles permitted on a three-ton posted structure are automobiles and small pick-up trucks. A three-ton posting is a hardship on the quality of life for residents and businesses using the posted structure. Closed structures cause a greater hardship on residents by denying access or forcing lengthy detours. Posted and closed bridges cause safety, inconvenience, and restricted mobility problems for residents, motorists, and public service (fire, police, utility, and parcel delivery).

As of February 2007, PennDOT listed three closed bridges, of which two are county owned bridges and one is owned by PennDOT.

- Township Road 684 Bridge over Muddy Creek (87 feet long)
- Township Road 568 Bridge over Ten Mile Creek (123 feet long)
- S.R. 2001 Bridge over Rudolph Run (55 feet long)

In addition to the three closed bridges, there were 74 posted bridges in the County, of which 45 are owned by Greene County, one is owned by Dunkard Township, one is owned by Perry Township, one is owned by Wayne Township, and 25 are owned by PennDOT. The combined total of 77 posted and closed bridges are affecting safety and quality of life for County residents. These bridges must be programmed for rehabilitation and/or replacement to make the highway network, which is vital to motor vehicle dependent Greene County, a whole transportation system. Funding for bridge rehabilitation is available from federal, state, and county budgets. Bridges that meet federal criteria for length, traffic volume, and sufficiency rating can qualify for 80 percent federal, 15 percent state, and five percent local funds for bridge rehabilitation and/or replacement. Bridges not meeting federal criteria may qualify for state funds at 80 percent state and 20 percent local funds.

Greene County receives approximately \$125,000 annually from liquid fuel taxes that has historically been allocated for bridge repair and replacement. Liquid fuels revenue for bridge replacement and rehabilitation is inadequate in addressing the continuous deterioration of Greene County's bridge infrastructure. This is the primary reason 77 bridges are either posted or closed in Greene County.

Pennsylvania Act 26, signed into law August 5, 1991, specifies criteria for funding county-owned bridges based on county unemployment rates. The legislation provided for increasing the Oil Franchise Tax and designating funding for various road and bridge project categories, which included the allocation of 2 percent to County Bridges. Act 26 has effectively provided sufficient funds to cover the 100 percent of the costs of bridge replacements. On June 14, 1999, the Program Management Committee (PMC) approved the following programming and budgeting requirements based on the 1998 county unemployment rates:

1. A bridge must be included in an approved Bridge Bill or Capital Budget and programmed on the appropriate MPO/LDD Transportation Improvement Programs.
2. A bridge must be included in the Commonwealth's Twelve Year Transportation Program.
3. Act 26 funds and all other transportation funds will be made available only for project phases(s) included in the first four years of the Twelve Year Transportation Program.



The dedication of funding to County Bridges was intended to use state funds in lieu of local funds for the replacement or rehabilitation of county-owned bridges in "poor counties" and to preserve covered bridges. All County-owned covered bridges are eligible for Act 26 Funds. All other County-owned bridges are eligible only if both of the following criteria are met:

1. The County's unemployment rate is within the top quartile of the state.
2. The County's revenue/expenditure ratio must indicate financial distress.

In Southwestern Pennsylvania, Fayette County and Greene County are both included in Act 26. To access Act 26 funds, a written request must be submitted to the PennDOT District Office (District 12 governs both counties) and the bridge project must meet all programming and budgeting requirements. The Pennsylvania Public Utilities Commission (PUC) will review the written request and determine if the project meets eligibility criteria and programmatic requirements. Approval by the PUC results in no cost to the county as all bridge project funds are either 100 percent state funded or a blend of state and federal dollars.

A structure over eight feet is eligible for state funding while federal standards for a bridge are those structures that are 20 feet in length or more. Local bridges that qualify for funding receive 80 percent state with a 20 percent local match or 80 percent federal, 15 percent state, and 5 percent local funds. Act 26 funds will replace the local share (either 5 percent or 20 percent) on County-owned bridges. Therefore, while Act 26 is enacted, municipalities should petition their County Government to accept qualified local structures as County Bridges until Act 26 is repealed or modified to the point or condition that Fayette and Greene Counties no longer are eligible for a no-cost status for their bridges. This action will permit both local and county bridges that qualify to be 100 percent funded with state or federal funds to be rehabilitated or replaced at no cost to either the local or county entities.

Road Landslides

In 2005, PennDOT District 12 noted that the landslide problem in Greene County was the most severe it had been in 20 years. Located in the Waynesburg Hills Section of the Appalachian Plateaus Province, Greene County, along with Washington County and portions of Allegheny, Fayette, and Westmoreland Counties, experiences the highest susceptibility to landslides. The most common types of landslides associated with the geologic setting in and around Greene County include earth flows, debris flows, slumps, and rockslides, (Delano and Wilshusen, 2001).

Hurricane Ivan in 2004 and heavy rainfall in January of 2005 combined for over 10 inches of rainfall, which was above average for the region. There were 307 landslides documented in Greene County in 2005 that were in need of repair and 146 landslides after January 2005; the locations of which are depicted in *Figure 5-2: Landslides*. The landslides caused six road closures, 48 road encroachments and 120 soil movements on local road systems. On state roads, landslides caused another 13 road closures, 125 lane restrictions, ground movement on 265 roads, and 33 catastrophic embankment failures. Currently, there is no revenue stream in place for municipalities to make the necessary repairs.

Table 5-6 provides cost estimates for all landslides reported in Greene County after January of 2005.

Table 5-6: Landslide Damage - Cost Estimates					
Municipality	PennDOT Estimates (May 05)	Local Road Estimates (Sept 05)	Municipality	PennDOT Estimates (May 05)	Local Road Estimates (Sept 05)
Center	\$1,774,070	\$873,200	Richhill	\$1,123,500	\$239,164
Franklin	\$455,600	\$195,500	Whiteley	\$224,500	\$224,500
Morris	\$1,432,300	\$1,193,952	Dunkard	\$386,000	\$164,255
Perry	\$833,800	\$962,275	Gilmore	\$389,800	\$112,500
Morgan	\$663,750	\$86,000	Monongahela	\$0	\$55,000
Washington	\$373,500	\$282,500	Wayne	\$208,500	\$45,000
Jefferson	\$584,300	\$244,500	Freeport	\$65,000	\$65,000
Jackson	\$382,500	\$241,880	Springhill	\$770,000	\$318,000
Aleppo	\$618,650	\$460,226	Cumberland	\$990,000	\$340,000
Total:	\$10,820,170	\$6,103,452			

Source: PennDOT (2005), Greene County (2005)

To prevent landslides from incurring high costs associated with repairs to roads, infrastructure, buildings, etc., the County and municipalities need to work together in education, awareness, and proper planning to anticipate and avoid problem areas. Local governments may adopt landslide consideration as part of their local zoning and building codes to address this problem. While the costs of extra planning and construction modifications can be higher, the overall cost will be less when potential landslide-prone areas are avoided.



Scenic Byways

PennDOT initiated the Pennsylvania Byways Program in 2001 as a way to preserve and promote unique resources throughout the Commonwealth. PA Byways are designated by PennDOT at the request of local communities, who wish to highlight cultural, historical, recreational, archaeological, scenic, and natural qualities. The intent of the program is as follows:

- Support local planning efforts to achieve byway designations
- Protect and enhance the visual quality of designated routes
- Maintain byway resource qualities along designated routes
- Educate residents and visitors about the history and culture of the Commonwealth
- Promote tourism and enhance economic development potential on designated Pennsylvania Byways

There are no designated Pennsylvania Byways located in Greene County. Regional examples include the National Road (US Route 40) in Washington, Fayette and Somerset Counties and the Laurel Highlands Scenic Byway (Routes 711 and 381) in Washington and Fayette Counties. In Greene County, a few organizations have expressed interest in designating US 19, S.R. 21 and S.R. 88 as Pennsylvania Byways, citing the scenic ride between Ruff Creek and Waynesburg along US 19 (alternate route to Waynesburg from the north); historical sites and landmarks along S.R. 21 (Greene County Historical Museum, covered bridge, Waynesburg Historic District, etc.); and the recreational qualities along S.R. 88 (Greene River Trail, Greensboro Trail, Warrior Trail, boating, etc.) as supporting evidence. The first step in designating a PA Byway is for the sponsor to submit the PA Byways Interest Form to PennDOT, which is reviewed by PennDOT District 12, the Southwest Pennsylvania Commission (SPC), and the Pennsylvania Department of Community and Economic Development (DCED). After review, a site evaluation will be conducted and a letter will be sent to the sponsor detailing observations made and indicate whether the applicant is ready to move forward with the next step of preparing the application.

Since both S.R. 21 and S.R. 88 are classified as Federal Aid Primary (FAP) roadways, new outdoor advertising would be prohibited if these roads were designated as PA Byways. A local ordinance would be required from each municipality along the corridor that specifies how the placement of new signs, displays, or devices will be prohibited on the byway in conformance with 23 U.S.C. 131 (s). No outdoor advertising that is visible from the main-traveled way of the byway is allowed, except official signs and notices, signs advertising the sale/lease of property on which they are located, signs advertising activities conducted on the property on which they are located, and directional signs to points of interest that conform to the national standards.

Pennsylvania Byways must be nominated by a government entity and all the municipalities and counties through which the byway passes must pass resolutions and letters of support for the designation. In addition, letters of support may be submitted by local legislators, regional planning agencies, and tourist promotion agencies. Therefore, local support for the designation of US 19, S.R. 21 and/or S.R. 88 as Pennsylvania Byways must be established prior to any action by a governmental entity.

Bicycle Access & Trails

Bicycling has become extremely popular throughout the United States and in Pennsylvania. Funding for a wide variety of pedestrian and bicycle projects improvements is administered through SPC, PennDOT and other regional planning partners through the Transportation Enhancements and Hometown Streets/Safe Routes to School Programs. This funding is a 10 percent set aside from the federal Surface Transportation Program.

Greene County is fortunate to have a variety of pedestrian and bicycle paths and trails, as depicted on *Figure 5-1: Transportation Network*. More information regarding existing and proposed pedestrian and bicycle projects can be found in the *Greene County Comprehensive Recreation, Parks, and Trails / Greenways Plan* which was adopted in 2008 as a companion to this document.

BicyclePA Route A

BicyclePA Routes are signed routes that direct long distance bicyclists along state roadways with improved shoulders and other features designed for bicycle riders. In some cases, these routes divert from existing roadways onto improved rail trails to bypass difficult sections. U.S. Route 19 doubles as BicyclePA Route A and traverses Greene County in a north-south direction through Waynesburg.



BicyclePA Route A – Greene County (Mackin, 2004)

BicyclePA Route A is one of seven officially designated bicycle routes located in Pennsylvania. The bikeway is 199 miles, beginning in Greene County at the Pennsylvania / West Virginia border and ending at Lake Erie in Erie County, PA. Of the 199 total miles, 26.2 are located within Greene County. The northern portion in Greene County is generally flat while the southern half is gently rolling to hilly. While the BicyclePA routes are designed to serve the transportation needs of the long distance bicyclist, they are not necessarily intended for use as local recreational rides.



Greene County Bicycle Paths

The Greene County Tourist Promotion Agency publishes a bicycling map for the County that depicts six bicycle rides of varying degrees of difficulty. The bicycle paths vary in length and each ride provides access to areas of beautiful. All six bike rides are located along public roadways, as noted below (mileage was calculated using GIS):

1. Waynesburg Workout Ride (13.8 miles)
2. The Road to Prosperity (32.4 miles)
3. Crucible Cruise (12.4 miles)
4. The Ryerson Roundabout (18.7 miles)
5. The Brave Ride (30.7 miles)
6. Mt. Morris to the Mon (43.8 miles)

Greene River Trail

Just over four miles, the Greene River Trail was constructed along an abandoned railroad line that parallels the Monongahela River along the County's eastern border. The trail is owned and maintained by the Greene County Board of Commissioners through the Greene County Department of Recreation. The trail begins at the Greene Cove Yacht Club in Jefferson Township at the Washington County line and ends south of Rices Landing Borough. The Greene River Trail has a twelve-foot wide, smooth crushed gravel surface used for walking, jogging, and bicycling. The trail is adjacent to the Monongahela River with fencing along portions of the trail. Trail access points are located at the Greene Cove Yacht Club and in Rices Landing. The next section will extend the trail through the Dilworth and Crucible mine properties and cost approximately \$500,000.



Greene River Trail (Mackin, 2004)

Future plans to extend the trail to Nemacolin will increase the length of the trail to a total of 9.3 miles and include a section from Nemacolin south through the western side of the Hatfield Ferry Power Plant to State Route 21 near the Miner's Monument. This will provide

the potential for a trail to cross the Masontown Bridge and link to the Sheepskin Trail and the Great Allegheny Trail. Fayette County supports the development of a bike / pedestrian route along the Masontown Bridge. Plans also include the eventual extension of the trail on a new proposed S.R. 88 bridge across Ten Mile Creek and linking to Washington County.

Warrior Trail

Warrior Trail is a 45-mile trail that crosses the County in an east-west fashion from Greensboro on the Monongahela River to the border of Marshall County, West Virginia. The trail is located approximately five miles north of the West Virginia border along a ridge top for its entire length, never crosses a body of water, and crosses through Monongahela Township, Dunkard Township, Greene Township, Whiteley Township, Perry Township, Wayne Township, Jackson Township, and Aleppo Township. Beyond Greene County, the Warrior Trail extends to its western terminus on the Ohio River in Flint Ridge, near the town of Zanesville, Ohio. The trail runs. The trail is recognized as one the Major Greenway Corridors in Pennsylvania by the Department of Conservation of Natural Resources (DCNR). It is estimated that the trail has been in use for over 5,000 years and was first used by Native Americans to obtain supplies of flint from the Flint Ridge area in Ohio. The Warrior Trail is located entirely on private property and is marked with yellow paint blazes. The trail is partially maintained by the Warrior Trail Association and trail users hike at their own risk. In December of 2006, the Warrior Trail Association celebrated the 40th anniversary of the trail.

Catawba Path

The Catawba Path runs from New York through Pennsylvania in a north-south direction. The path cuts through the eastern portion of Greene County, connecting Uniontown in Fayette County to Morgantown, West Virginia. The path then continues on to the Carolinas, Kentucky and Tennessee. The Greene County portion of the Catawba Path is approximately 17.2 miles long, traversing through Rices Landing Borough, Cumberland Township, Greene Township, Dunkard Township, Whiteley Township, and Perry Township. It is important to note that the path is neither marked nor maintained; the only indication of it in Greene County is a sign marked "Catawba Path" on an overpass along I-79 near Mount Morris in Perry Township.

Ryerson Station State Park Trails

Ryerson Station Park, located in Richhill Township in western Greene County, is owned and operated by the Pennsylvania DCNR. has 11 miles of hiking / cross-country skiing trails throughout the park that are open all year round. The trails include the Pine Box Trail, Polly Hollow Trail, Three Mitten Trail, Iron Bridge Trail, Sawdust Trail, Bluebird Trail, Lazear Trail, Orchard Trail, Tiffany Ridge Trail, Fox Feather Self-Guided Trail, and a six-mile unnamed snowmobile trail



Upper Mon Water Trail

The Upper Mon River Water Trail (UMWT) is a 65-mile section of the Monongahela River that begins in Fairmont, West Virginia and ends at the Washington County border where Ten Mile Creek empties into the Monongahela River. The trail is recognized by DCNR as one of the Major Greenway Corridors in Pennsylvania. The trail is a project of the Morgantown Area Chamber of Commerce Vision 2020 and the Monongahela River Recreation and Commerce Committee. A map of the trail can be found online at <http://www.monriversummit.org/UMWT/>.

Proposed Connector Trails

Trails that connect to population centers such as Waynesburg, Carmichaels, and Greensboro are lacking in the County. As this is currently the County's biggest need in regard to trails, two Connector Trails, the Greensboro Trail and Canoe Launch and Central Waynesburg Trail, are being discussed in addition to extensions to the Greene River Trail.

Greensboro Trail and Canoe Launch

The Greensboro Trail and Canoe Launch project consists of a trail extending approximately 1-mile north along the Monongahela River, from former Lock No. #7, along Water Street, to Second Street, to Diamond Street, extending along the road shoulder to Mon-View Community Park. Greensboro Borough received a \$500,000 trail grant and is under contract with a firm to perform the necessary engineering and design work. The key components of the project include providing for a safe and economical trail design, including providing for adequate and safe road crossings, trail access facilities and improved road shoulders, drainage, and providing for a non-motorized boat-canoe launch facility in the vicinity of the former Ferry Boat Landing site at State Route 2014 (County Street). The proposed trail provides a possible connection to the Warrior Trail.

Central Waynesburg Trail

The proposed Central Waynesburg Trail project is in its infancy but the proposal is to develop a hiking and biking trail along Ten Mile Creek from the Waynesburg University fields at East View to EverGreene Technology Park. The trail would connect Central Greene High School, the Greene County Fairgrounds, the Greene County Airport, the Greene County Historical Museum, the proposed Wal-Mart development site, and other recreation and community sites. A project committee has been established to examine the potential of this trail. The next step is to acquire funding to conduct a feasibility study.

Proposed Water Trails

Whitewater streams, designated as those that can be used as a recreation source for kayaking and boating, include Ten Mile Creek, Dunkard Creek, Whiteley Creek, and the Monongahela River. While the Monongahela River has already been designated as a water trail, the Greene County Comprehensive Recreation, Parks, and Trails/Greenways Plan recommends the other three streams for designation as water trails, particularly along Ten Mile Creek from Waynesburg to the Monongahela River in Washington County. The plan notes that local sponsors and feasibility studies would be needed.

Transit

Within the SPC Region there are ten mass transit providers serving Lawrence County, Butler County, Armstrong County, Indiana County, Beaver County Allegheny County, Westmoreland County, Washington County, and Fayette County. Greene County has no Mass transit provider. While residents noted the need for public transportation throughout the planning process, the County's sparse population and the cost to provide this service are inhibiting factors.

Mountain Line Transit Authority is the largest public transit operator in West Virginia and based in Morgantown. The "Grey Line" bus route provides service from downtown Morgantown to Westover, Fairmont, Clarksburg, downtown Pittsburgh, and the Pittsburgh International Airport. In February of 2007, representatives from Greene County met with Mountain Line Transit to discuss the possibility of adding a stop to the Grey Line at the Greene County Airport. This would allow both residents and students at Waynesburg University to travel to the Greyhound Station in the City of Pittsburgh and the Pittsburgh International Airport. Fees would be approximately \$20 to the Greyhound Station and \$25 to the Pittsburgh International Airport. Reservations could be made online at <http://www.busroute.org/> and buses are wheelchair accessible and disabled and senior friendly.



Park-n-Rides

Table 5-7: Means of Transportation to Work provides an overview of how Greene County residents get to work. As Greene County does not offer public transit, the majority of people drive to work. Approximately 11 percent of workers in the County carpool, despite there not being a formal Park-n-Ride located in Greene County. Park-n-Rides provide an essential sub-component of the transportation system as it relates to the reduction of passenger vehicles on area roadways. Greene County Human Services provide over 49,000 trips per year for disabled and seniors.

Table 5-7: Means of Transportation to Work	
Total:	14,878
Car, truck, or van:	13,758
Drove alone	12,124
Carpooled	1,634
Public transportation:	22
Bus or trolley bus	20
Streetcar or trolley car	0
Railroad	2
Bicycle	0
Walked	500
Other means	111
Worked at home	487
U.S. Census Bureau; Census 2000	

There is an informal Park-n-Ride located on Lippencott Road just off the Ruff Creek Interchange on I-79. The site is privately owned and has roughly 20,000 square feet of gravel surface.

Freight

Freight service is characterized by the distribution of large amounts of goods by highways, rail, water, and air. The economic value of the product being shipped, its weight or bulk, and the time sensitivity of its delivery schedule determine the most efficient mode of shipping. Low value, high bulk products such as coal, or aggregate materials used in construction are frequently shipped by barge, the most cost effective method of shipping. Products such as automobiles and other large consumer goods are often shipped by rail, also a cost effective means of transporting large bulky products. Extremely valuable, low bulk items such as computer component, or time sensitive materials such as cancelled checks, or parts for emergency repairs, are frequently shipped by air. Trends for freight service include "just in time" delivery. Such methods place an emphasis on timely delivery for business operations with low storage capacity. Such a method requires an efficient transportation network and the well-planned coordination of freight centers from which to transfer goods from one transportation mode to another. Connectivity is the key for freight centers as it reduces the dependency on costly improvements by raising productivity through linkages.

Historically, shipping by water was the first mode of freight. Today, water freight remains an important component of the freight network of the Southwestern Pennsylvania Region due to the presence of the Monongahela River and the close proximity of the Port of Pittsburgh in Allegheny County. Freight movement by commercial trucking or "heavy trucks" (trucks with five or more axles-PennDOT 2005) is dependent upon the interstate system and supported by the local road system to provide door-to-door service. Rail freight is cost effective for large, bulky goods. Rail freight provides connections to commercial trucking so that deliveries can be made to various locations inaccessible by rail.

For Greene County, freight needs are met primarily through trucking, rail and barges. The Pennsylvania Motor Truck Association estimated that 12 percent of all vehicles on Pennsylvania roads in 2000 were trucks. On some roads, such as the Interstate Highways, the percentages are much higher. Trucks on local roadways carry materials to manufacturers, finished product to market, and merchandise to customers. In each case, the timely delivery of freight is critical. In isolated cases, local manufacturers and retailers may rely on "just in time" delivery of needed materials, which eliminates the need for the local manufacturer to keep every component used in their production process stocked locally. Instead, items can be delivered when they are needed, eliminating the need to warehouse them locally.

Truck traffic is expected to increase substantially in coming years. As freight activity and truck traffic grows in the region, local roads will be subjected to increased wear and tear as a result of the high truck densities, and may experience increased delay as a result of the mix of truck and automobile traffic. The safe accommodation of trucks on these roadways may suggest the need for increased roadway design standards for the most heavily utilized truck routes, such as Interstate 79.

Recent legislative changes have placed strict limits on truck drivers' "hours of service." These new hours of service limitations have resulted in an increased need for truck rest areas along long distance truck routes, including Interstate routes. There is one highway rest area in Greene County, the Kirby Welcome Center, located on Interstate 79 just north of the West Virginia Border. Unfortunately, this rest area does not offer amenities such as fuel, convenience retail, showers or other facilities that serve the personal needs of the long distance truckers. The nearest such facility is located off Interstate 70 in New Stanton, Westmoreland County.

For the following freight shipper identification each has been identified as providing intra-state, regional, national or international services. The designation of Intra-state indicates local or within Pennsylvania shipping, Regional refers to shippers that have regional markets but do not serve the entire continental United States. National indicates shippers that serve regional markets throughout the continental United States and International refer to shippers that serve Mexico or Canada as well as the continental United States. There is one trucking company that was identified as headquartered in Greene County.



Higgins Hauling Company

Headquarters: 338 Sy Huffman Hill, Waynesburg, PA 15370

Phone: (724) 852-2400 / FAX: (724) 852-2686

Contact(s): John Higgins Owner, Established: 1969

Markets Served Intra State (PA), Northeastern States (Ohio, West Virginia, Virginia, and Maryland)

County Wide Employment: 6

An important link in the freight transportation network for Southwestern Pennsylvania is the waterborne barge traffic on the Monongahela, Ohio and Allegheny Rivers. River Terminals are an essential component of the freight-shipping network. A river terminal handles cargo before and after the cargo is shipped by one method to another. Some terminals serve only as distribution modes while others are actual production centers for the goods that are shipped. Cargo is shipped upon the water by a barge that has the cargo carrying capacity of 15 rail cars, or 60 trucks, making river transport a key contributor to congestion reduction on local roadways. Greene County has no river-oriented freight companies or terminals. However, data provided by the Port of Pittsburgh Commission lists three public river terminals located on the Monongahela River in Washington County – the Mon Valley Intermodal facility at Donora, the McGrew Welding and Fabrication Company in the Mid Mon Valley Industrial Park in Donora, and Three Rivers Marine and Rail Terminal in Charleroi.

Rail

Pennsylvania has an extensive system of railroads that provide freight service within the Southwestern Pennsylvania area through two national (Class 1) railroad systems - Norfolk Southern Railway (NS) and CSX Transportation (CSX) and one short line railroad, the Wheeling and Pittsburgh Steel railroad as shown in *Map 5-1: Transportation Network*. Services include shipping coal and other goods to distribution and manufacturing destinations along the East Coast.

The Class I rail lines serve the region by connecting Greene County to the rest of the North American market. Greene County is served by the Norfolk Southern line, which extends in a mostly East West direction, connecting Chicago and points west with the New York City area.

Norfolk Southern—Norfolk Southern is a Virginia-based holding company, which operates in 22 Eastern States. Norfolk Southern has 12,500 miles of road and 31,300 miles of rail track nationwide. Norfolk Southern has a rail line along the Monongahela River in Washington County and a spur that enters Greene County along Ten Mile Creek in Morgan Township. The rail line extends to Waynesburg where it splits into two lines extending northwest to the Washington County line and south to West Virginia.

Short line and regional railroads are dispersed throughout the SPC Region and provide connections to the Class 1 railroads. Short line systems are one of the most important elements of the rail transportation system. The short line railroads provide access to local industrial properties

and function as an economic development tool for businesses that want to locate on industrial sites. Pennsylvania is served by seventy regional and short line railroads, more than any other state (PennDOT, 2004).

Regional and shortline railroads are smaller than the Class I railroads, with less than \$250 million in annual revenues, and generally having less than 350 miles of track. They frequently connect to the Class I railroads, providing opportunities to "transload" materials from a regional to a national distribution network. Shortline railroads are much smaller operations, often serving a single customer. The Wheeling Pittsburgh Steel line is such an example, serving the Monessen coke works exclusively. Shortline and regional railroads are one of the most important elements of the transportation system. They provide access to many excellent business properties and function as an economic development tool for businesses willing to locate on these industrial sites. There is no regional rail line serving Greene County. There is one short line rail road within Greene County – the Cumberland Mine rail line. It should be noted the Cumberland Mile rail line crosses the Monongahela River to connect to the Norfolk Southern rail line in Fayette County.

The Pennsylvania Rail Freight Assistance Program assists railroads in maintaining the rail network. This program uses Commonwealth General Fund monies to provide matching grants to railroad companies and others for projects which preserve essential rail freight service where economically feasible, and/or preserve or stimulate economic development through the generation of new or expanded rail freight service.

Aviation / Airport

The economic impacts of aviation facilities are a result of many aspects of an existing airport – private or public. Such economic benefits include employment, governmental spending, visitor spending, and supporting service costs. While airfreight does not have a large role in terms of the amount of freight, it is valuable for low-weight and high cost items that must be shipped in an expedited fashion. No other mode of freight can match air for efficiency in time. In 2004, the U.S. Department of Transportation-Bureau of Transportation Statistics (Smallen, D. 2004) reported that the total value of airfreight doubled from 1993 to 2002.

Greene County Airport (WAY) is a general service airport located at 417 E. Roy Furman Highway (State Route 21) in Franklin Township just east of Waynesburg. The facility encompasses 152 acres and is accessible from Interstate 79. The Greene County Airport is owned by the County of Greene and is operated by the Department of Recreation, Office of Airport Administration. A full-time Airport Manager is employed to oversee operations.

According the recently completed Greene County Airport Master Plan (2007), the airport is classified as a General Service Airport that is functionally classified as a Basic Facility by the Statewide Airport System Plan. The facility has a 3,500 by 75 foot runway that is lighted from dusk to dawn. The airport facility provides major repair; hangar rental; tie-downs; flight instruction; aircraft rental; and bulk oxygen. Accommodations at Greene County airport include an Administration Building, restrooms, and restaurant. The Greene County Airport does not handle air



cargo on a scheduled basis, although local companies may use the Airport for occasional emergency deliveries in corporate aircraft.

The Greene County Airport has a Twelve-Year Plan and an Airport Capital Improvement Plan that is reviewed twice a year with an annual final submission. Projects included on the two plans include new building construction, rehabilitation of the taxiway, runway extensions, expansion of the parking facilities, and the installation of a wildlife perimeter fence. As of 2005, the Greene County Airport had four aviation-related tenants on the premises, two of which provide revenue for the Airport. The primary source of terminal revenue is AJ's Landing Restaurant, which accounts for approximately 84 percent of total revenue; Eagle One Flight School accounts for the remaining 16 percent. The two other tenants, Flight Level Aviation Flight Simulator and District Justice / Office of Tourism, do not provide revenue. The Airport accounts for over 32 jobs with a payroll of \$305,600 to the local economy, with an overall total output of \$984,400. The Airport Master Plan documented 36 aircraft based at the facility, which were primarily single-engine aircraft.

The Airport Master Plan yielded some interesting results based on information provided by pilots and other interested parties. There were 38 total responses and the stakeholders stated that they make 16 trips per month on average, with an average of 57 miles per trip from or to the airport. The survey noted many issues and concerns of the pilots. One item that was noted in great detail was the stakeholder's belief that there were issues surrounding the runways and taxiways. According to the stakeholders, 23 did not mention any issues or concerns and 15 responded that there were issues surrounding the runways and taxiways. Of these issues seven respondents noted issues with no instrument approach, four noted inadequate lighting on the runways, three noted issues with the Runway 27, three noted issues with fuel service, two noted paving issues on the taxiways, one response noted an issue with runway length, and one respondent noted an issue with large amounts of deer on all runways in the evenings.

Overall, the respondents' issues were varying and the County is in the process of addressing all the issues and concerns. As of January 2007, the lighting issues were being corrected, the paving and instrument approach was being planned through the Federal Aviation Administration, and Runway 27 was focused on to provide more safety. After the Airport Master Plan is completed in late 2007, the document will address all the issues and recommend strategies to correct them.

Future considerations for Greene County planners and elected officials include improvements to the Airport's existing facilities. The Airport Master Plan identifies the following physical improvements to the existing facilities:

1. Long Term: The airport runway is rated good, meaning it will require rehabilitation or replacement in 10-15 years.
2. Short Term: The airport access taxiway areas are in poor condition and will need replacement in 0 to 5 years.
3. Short Term: Hangars 17 and 18 are in poor condition and will need replacement in 0 to 5 years.

Greene County planners and elected officials will also need to prepare for improvements, or take action, that will enhance the accessibility and development potential of the Greene County Airport. The Airport Master Plan identifies the following improvements:

1. Develop one or more instrument approaches.
2. Implement the recommended Runway Protection Zone (RPZ) Control Plan.
3. Remove noted obstructions to air navigation.

Greene County has identified one transportation related improvement to the Airport that is included on the Long Range Plan for Economic Development projects for SPC. The identified improvement is an extension of the Norfolk Southern rail line to service the Greene County Airport and adjacent EverGreene Technology Park.

Typically, general aviation airports require federal and state subsidy for airport improvement projects and capital maintenance. The Commonwealth of Pennsylvania's Bureau of Aviation administers three grant programs for airport development: the Pennsylvania Block Grant Program, the Aviation Development Program, and the Capital Budget /Transportation Assistance Program.

Commercial Waterways

The Monongahela River flows north from the confluence of the West Fork and Tygart rivers at Fairmont, West Virginia to the City of Pittsburgh where it joins with the Allegheny River to form the Ohio River. The Monongahela River serves many purposes including transportation, recreation, and a source of water for many municipalities within the County. Historically, the Monongahela River has been considered a significant form of transportation for all of Southwestern Pennsylvania. During the pre-Revolutionary times, individuals utilized this waterway as a method of traveling westward to the Ohio River. During the industrial era, the Monongahela River was a source of moving materials from the busy coal mines located along its shores to industrial centers. Today, the river still is considered a commercial waterway due to the number of barge companies that transport coal, petroleum products, scrap metal and other materials.

The Monongahela River was improved for year round transportation by the Monongahela Navigation Company in 1837 when a series of seven locks and dams from Pittsburgh towards the West Virginia state line were built. The U.S. Army Corps of Engineers took control in 1897 and began operation of the nation's oldest continuously operating slack-water river navigation systems (US Army Corps of Engineers, 2004). The present navigation system has nine locks and dams of several sizes and types constructed by the U.S. Army Corps of Engineers between 1902 and 1994. These locks allow boats to travel in a series of steps to accommodate the 147-foot difference in pool elevation from Fairmont to Pittsburgh (US Army Corps of Engineers, 2005). Together the U.S. Army Corps of Engineers and the Port Authority of Pittsburgh oversees 200 miles of commercially navigable waterways in an eleven county area including Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland Counties.



Locks and Dams

The Lock and Dam system is an important component of the Inland Waterway Navigation System. According to information supplied by the US Army Corps of Engineers (2005), the Locks and Dams 2, 3 and 4 are the three oldest operating navigation facilities on the Monongahela River and experience the highest volume of commercial traffic. The Lower Monongahela River Project is a series of planned improvements by the Army Corps of Engineers to the Locks and Dams 2, 3 and 4. Locks and Dam 2 (Braddock, Allegheny County) was recently replaced which will allow the removal of Locks and Dam 3 in Elizabeth, Allegheny County, following the replacement of Locks and dam 4 in Charleroi. The Lock and Dam #4 improvements include the replacement of the existing 70-year-old structure with a larger 110 foot wide chamber system, which will result in an increase in the lock-through capability thereby improving the overall efficiency and capacity. The removal of Locks and Dam 3 will result in a 30-mile long pool of water between Braddock and Charleroi. Other improvements to the Braddock Locks and Dams include dredging Pool #3, which will cause a 3.2-foot drop in water elevation between Elizabeth Borough, Allegheny County and Charleroi Borough, Washington County (US Army Corps of Engineers, 2004). The Lock and Dam system affecting the Monongahela River in Greene County includes facilities in Washington County, Greene County, and in West Virginia as noted below:

Locks and Dam 4

A two-chamber lock and gated dam located on the Monongahela River near Charleroi, Washington County, approximately 41.5 nautical miles from Pittsburgh. The facility was originally built in 1930-1931 and renovated in 1967. According to the US Army Corps of Engineers, Pittsburgh District, Lock and Dam 4 allows for the movement of 19 million tons of freight each year. The pool located upstream to the Maxwell Lock and Dam is 19.7 miles of slack water, which is also available for recreational use and as a source of municipal water supply. There are no public facilities located at this site.

Maxwell Locks and Dam

Also a two-chamber lock and gated dam located at river mile 61.2 approximately 5 miles south of Brownsville, Fayette County. The lock chambers and operations buildings are situated along the right bank of the river. Road access to the project is from a local legislative route south of Brownsville. Construction of Maxwell Locks and Dam began in 1960 and was completed in 1965 to replace the Lock and Dam 6 at Rices Landing, Greene County. The Maxwell Lock and Dam creates a pool of navigable water for 20.8 miles up to Grays Landing Lock and Dam. According to the US Army Corps of Engineers, Pittsburgh District, the Maxwell Locks and Dam accommodates approximately 18 million tons of freight each year.

Grays Landing Lock and Dam

The Grays Landing Lock and Dam is located at river mile 82 near the community of Grays Landing in Fayette County. Access to the lock chamber and operations buildings is on the right descending bank of the Monongahela River off State Route 166 South. The facility was constructed between 1988 and 1993, at a cost of \$96 million; opened May 1993 with the dam completed by June 1995. The Dam is 576 feet in length and serves to create a body, or Pool, of water that is 8.8 miles from Grays Landing to the Point Marion Lock and Dam. The Lock system is 84 feet wide by 720 feet long providing a 15 feet rise in elevation and serves about 7.5 million tons of freight annually. The Grays Landing Lock and Dam consists of one lock chamber and a fixed-crest dam. This type of dam is basically a concrete weir or wall across the river which keeps the river channel upriver of the project deep enough for navigation -- at least nine feet. Water flowing over this type of dam cannot be controlled locally and consequently cannot provide any control over flood waters although the body of water formed by the dam is a source of municipal and industrial water supply.

Point Marion Lock and Dam

The Point Marion Lock and Dam is located 90.8 miles upriver from Pittsburgh, PA, between the Cheat River at Point Marion and the West Virginia border. The facility was first constructed in 1923-1926 at an original cost of \$2.08 million. The dam was reconstructed in 1958-59 for \$3.3 million and a new lock in December 1993 for a construction cost of \$94 million. The dam structure is 560 feet in length, which creates a pool of water that is 11.2 miles in length from its beginning above Point Marion, across the state border and past Morgantown, WV, to Morgantown Lock and Dam. The Point Marion Lock and Dam provides a lift of 19 feet and experiences annual traffic flow of approximately 10 million tons of freight.

Morgantown Lock and Dam

Located at Morgantown, West Virginia and is 102 miles upriver from the mouth of the Monongahela at Pittsburgh. The Morgantown Lock and Dam was built in 1948-1950 at a cost of \$8.8 million. The 410 foot dam structure creates a six mile pool of navigable water to the Hildebrand Lock and Dam. The Lock and Dam system provide a rise in elevation of 17 feet and experiences an annual traffic level of approximately 300,000 tons of freight.



Port of Pittsburgh

The Port of Pittsburgh is the second busiest inland port in the nation. It is the 13th busiest port of any kind in the nation—larger than Baltimore, Philadelphia, and St. Louis in terms of shipping tonnage. The Port district includes the following 11-county service area—Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland. The service area for the Port of Pittsburgh includes over 200 miles of commercially navigable waterways and connects over 200 river terminals and water freight suppliers (Port of Pittsburgh, 2005).

The primary commodities shipped through the Port of Pittsburgh are “steam and metallurgical coal for uses in utilities and steel mills, chemicals and petrochemicals for uses by local chemical companies, sand and gravel used in construction and cement production, and petroleum products for local gasoline stations, and to the Pittsburgh International Airport (Martin Associates, 1998, p 1-2). Coal remains the largest product shipped through the Port of Pittsburgh with over 75 percent of all traffic constituted by this commodity (Martin Associates 1998).

Waterway Access

The ability of residents to use the river or other waterways, as a source of recreation is partly dependent upon the availability of public boat launches. Currently, the only public access to waterways is in Rices Landing Borough at the boat docks in Pumpkin Run Park. Private boating facilities include:

- Greene Cove Yacht Club—Jefferson Township
- Jessop Boat Club—Cumberland Township
- Koci Tavern Marina—Jefferson Township
- Sunset Marina—Jefferson Township
- Two Rivers—Dunkard Township

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C. Development Strategies

Greene County is fortunate to have a variety of major transportation thoroughfares, such as Interstate 79, which provides easy access to the City of Washington, the City of Pittsburgh, and the City of Morgantown; the Monongahela River, which is a designated water trail; and the Greene County Airport. Assessing public opinion regarding the transportation system in Greene County was undertaken during public and focus group meetings.

Identified **assets** of the transportation network include:

1. Greene County Airport
2. Interstate 79
3. State Route 21
4. State Route 18
5. US Route 19
6. Shared Ride Program
7. Railroad
8. Monongahela River
9. Greene River Trail

Identified **deficiencies** of the transportation network include:

1. State Route 21
2. State Route 88
3. State Route 218
4. State Route 21 junction with US Route 19
5. Congestion in Waynesburg
6. Airport does not have facilities to accommodate Corporate Jets/Aircraft
7. Lack of a public transportation system
8. Poor access to western portion of Greene County

Identified **needed improvements** of the transportation network include:

1. Construction of Park-n-Rides
2. Development of a public transportation system
3. Upgrades to the Greene County Airport

Throughout the public participation process, the most pressing issues that residents wanted addressed were the following:

1. Safe and efficient travel on clearly marked roadways.
2. Diverse transportation systems that encompass an expanded air traffic operation, an extensive pedestrian network, and public transportation option for residents of Green County to access employment, medical centers, shopping, and entertainment.
3. Physical road improvements to major thoroughfares.
4. Improved access to western Greene County.

It is vital for the County to coordinate transportation planning with economic development and land use planning, in order to ensure "smart growth" and efficient use of resources. There are many actions that must be taken by the County to improve the transportation network and direct development to appropriate areas. It is important to understand that County officials must balance the needs of the residents with the proper appropriation of limited resources. Recommendations have been developed that take these factors into account and offer the best solutions to needed transportation improvements.

GOAL: Preserve the function of major thoroughfares

Strategy: Develop subdivision and land development guidelines that improve access management by requiring internal local and collector street systems in new residential subdivision so as to avoid direct access from individual parcels to state routes.

Strategy: Apply development policies that will require cross access easements or a network of parallel roads so as to discourage strip development along State Route 21.

Strategy: Require that large-scale developments that are auto-oriented in nature be located near interstate highways or regional arterials.

Strategy: In conjunction with the local municipalities, complete an Access Management Plan for State Route 21, US 19, State Route 88, S.R. 18, S.R. 221, and S.R. 188 to address impacts of rural development and subdivisions along these transportation routes.

- Access plan should include:
 - i. Policies controlling access
 - ii. Issues related to dimensions and location of driveways, street intersections and detailed lane dimensional data
 - iii. Requirements for traffic studies

GOAL: Lessen the capital expense to the County for access management

Strategy: Require developers to provide safe and adequate access to roadways.

Strategy: Require new developments to bear the cost of needed transportation and utility improvements.



GOAL: Implement the major transportation projects submitted to SPC as Greene County's priority projects

Strategy: Focus investment on major road corridors and bridges and coordinate planned improvements with economic development strategies.

Strategy: Continue to focus lobbying efforts and interaction with PennDOT to ensure that the S.R. 21 Corridor Improvement Project aligns with County transportation and economic development goals.

Strategy: Establish formal criteria for prioritizing maintenance and improvements to existing roads and bridges according to safety and mobility factors.

Strategy: Continue to involve SPC Public Participation Panel (PPP) in setting prioritization criteria for Greene County transportation projects.

Strategy: Continue activities to support selected projects by giving presentations at the PPP Transportation Improvement Plan (TIP) public meetings.

Strategy: Continue active involvement with SPC.

Strategy: Actively engage Congressional delegation to help move projects forward.

GOAL: Promote tourist attractions & other amenities along major thoroughfares

Strategy: Encourage local businesses and attractions within close proximity to the I-79 interchanges to participate in the PA Logo Signing Program. Examples of signing include the following:

- Exit #14: Waynesburg / Masontown – “Roy E. Furman Highway,” Waynesburg Business District, Waynesburg Historic District, EverGreene Technology Park, Greene County Historical Museum, Ryerson Station State Park, Greene County Airport, Foundation Coal Water Park, Southwest Regional Center, Waynesburg University, Greene County Fairgrounds, and the Greene River Trail
- Exit #19: Ruff Creek – Waynesburg Business District, Waynesburg Historic District, Waynesburg University

GOAL: Continue to improve transportation accessibility to and on the Monongahela River

Strategy: Collaborate with West Virginia entities, Washington County and Fayette County to support infrastructure improvements on the Monongahela River.

Strategy: Support the development of public access to the Monongahela River via boat launches and riverfront development (recreation, commercial, and housing).

Strategy: Increase the awareness and use of the Upper Monongahela River Water Trail.

GOAL: Establish a multi-modal transportation approach

Strategy: Implement the recommendations contained in the Greene County Airport Master Plan.

Strategy: Support the extension of the Greene River Trail.

Strategy: Support rail banking to plan for conversion to trails (avoiding conflict with economic goals for rail infrastructure necessary to support industrial sites).

Strategy: Lobby PennDOT to include shoulders suitable to support bicycle traffic, for example when completing routine maintenance or rehabilitation projects (minimum 6 to 8 foot shoulders with buffers when possible) on the following roadways: (PennDOT capital or county maintenance funds can be used for these projects).

- S.R. 21
- US 19
- S.R. 88
- S.R. 188

Strategy: Encourage retail commercial around multi-modal hubs, where amenities such as grocery stores, coffee shops, video stores, etc. are clustered.

Strategy: Support the inclusion of bike/pedestrian improvements to S.R. 21/Masontown Bridge and S.R. 88/Point Marion Bridge.

Strategy: Support the development of the proposed Central Waynesburg Trail that would connect Waynesburg University to EverGreene Technology Park (feasibility study necessary).

Strategy: Continue to work with SPC and County economic development agencies to identify rail improvements.



- Strategy:* Identify opportunities to improve connectivity between rail and other transportation modes such as air, road, water, and transit.
- Strategy:* Extend the Norfolk - Southern Rail Line to serve the EverGreene Technology Park Greene County Airport.
- Strategy:* Monitor operations of the Norfolk – Southern Rail Company and their plans.
- Strategy:* Work with industrial and economic agencies and sites to assess rail infrastructure needs.
- Strategy:* Establish a Park and Ride facility at the Ruff Creek Interchange on I-79 (other locations should be identified and established to support long-term multi-modal and economic development goals).
- Strategy:* Work with the Federal Transit Administration and Southwestern Pennsylvania Commission (SPC) to identify opportunities to establish a public transit service for county residents.

GOAL: Ensure that development along major transportation routes align with community character and County goals

- Strategy:* Support the Waynesburg Prosperous and Beautiful Program.
- Strategy:* Establish development and preservation policies for the four interchanges along I-79.
- Strategy:* Enact County Zoning at interchange locations with no municipal zoning controls (Perry Township).
- Strategy:* Support municipal zoning regulations that direct development in a manner compatible with existing infrastructure (water, sewerage, roads) and which align with local character.
- Strategy:* Support infrastructure improvements (and funding applications) in accordance with desired land use goals at each interchange.

GOAL: Develop a long-range transportation plan that parallels the County's economic development strategy & guides the corresponding effect of development

Strategy: Incorporate NEPA considerations into the project planning and prioritizing process.

Strategy: Evaluate the need, feasibility, location and estimated cost for a regional inter-modal freight distribution center (highway, rail, air, barge, etc.).

Strategy: Establish a county policy for the integration of rail, air, and truck modes for freight and barge service.

Strategy: Establish a Greene County Transportation Policy for new road development and road improvements.

Strategy: Counties and Municipalities should petition the state to add additional monies to the ACT 26 budget.

Strategy: County Government could accept qualified local structures as County Bridges until Act 26 is repealed or modified to the point where the County would no longer enjoy a no-cost status for their bridges, However ACT 26 funding is not adequate to take care of all of the county owned bridges in Greene County. .

Strategy: Municipalities should petition their County Government to accept qualified local structures as County Bridges until Act 26 is repealed or modified to the point where the County would no longer enjoy a no-cost status for their bridges.

Strategy: Provide technical assistance to local municipalities regarding negotiations with transportation entities when local projects are consistent with the transportation goals of Greene County.

Strategy: Conduct County review of local transportation and development projects to ensure consistency with County Development Policies and encourage Pennsylvania and/or Federal transportation agencies to support only those projects that are consistent when funding grant requests and development plans.

Strategy: Adhere to the National Environmental Protection Agency's (NEPA) 10-step process to minimize negative impacts to communities.



A. Background

County residents rely on publicly provided services in many aspects of their daily lives. Services provided under County auspices are wide ranging and encompass such issues as marriage licensing, transportation services, judicial administration, waste removal, and emergency services. The County's capacity to provide desired services in an effective and efficient manner will direct future growth in a manner that can either ensure or negate the perception of the County as a desirable place to live, work, and play.

In the Commonwealth of Pennsylvania the provision of certain services falls under the jurisdiction of County Government. This section provides an overview of the services assumed by the County of Greene. Chapter 6-Public Facilities, of the Greene County Comprehensive Plan shall be understood to comply with the requirements specified in the Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247 as reenacted and amended, for "*a plan for community facilities and utilities, which may include public and private education, recreation, municipal buildings, fire and police stations, libraries, hospitals, water supply and distribution, sewerage and waste treatment, solid waste management, storm drainage, and flood plain management, utility corridors and associated facilities, and other similar facilities or uses.*"

Existing Studies

Greene County Comprehensive Plan (Candeub, Fleissig and Associates, 1979)

The 1979 Greene County Comprehensive Plan included a review of the five school districts and vo-technical schools to address public education. Recreation facilities were inventoried and assessed. The 1979 Comprehensive Plan included an inventory of public buildings, both County and Municipal. Volunteer Fire Departments, Hospitals, Libraries, Museums, and cultural facilities were listed and assessed. Finally, the 1979 Plan provided a review of existing public water and sewerage providers, and solid waste management.

Greene County Municipal Waste Management Plan (1994)

This plan was developed to ensure that the County fulfills its obligation with respect to municipal waste management planning according to Act 101: Municipal Waste Planning, Recycling and Waste Reduction Act. It describes existing waste generation and future capacity of landfill sites and examines the benefits of recycling. The study found that the County's recycling rate is only 5.8 percent, well below its goal of 25 percent it set to achieve by 1997.

Greene County Review and Recommendations by the Richard King Mellon Foundation (2000)

The scope of the project was for the author to familiarize himself with the Greene County leadership, human service and economic development issues and opportunities. Based upon the findings, the study recommends a stronger link between Waynesburg College and Greene County; the creation of a new partnership is needed that is capable of receiving and balancing both public and private resources and agendas; a public/private partnership to accomplish strategic initiatives in the area of economic development, planning and tourism; and the creation of a public/private industrial development partnership.

Greene County Education Consortium Educational Master Plan (2004)

The study was undertaken in order to provide a master plan for the consortium, which is comprised of the five school districts (Carmichaels Area, Central Greene, Jefferson Morgan, Southeastern Greene and West Greene), the Greene County Area Vocational-Technical School of Education and the Greene County Economic Development Council. The plan is intended to provide guidance for all entities to "move in a common direction with energy, enthusiasm and resources," by linking educational changes with economic development.

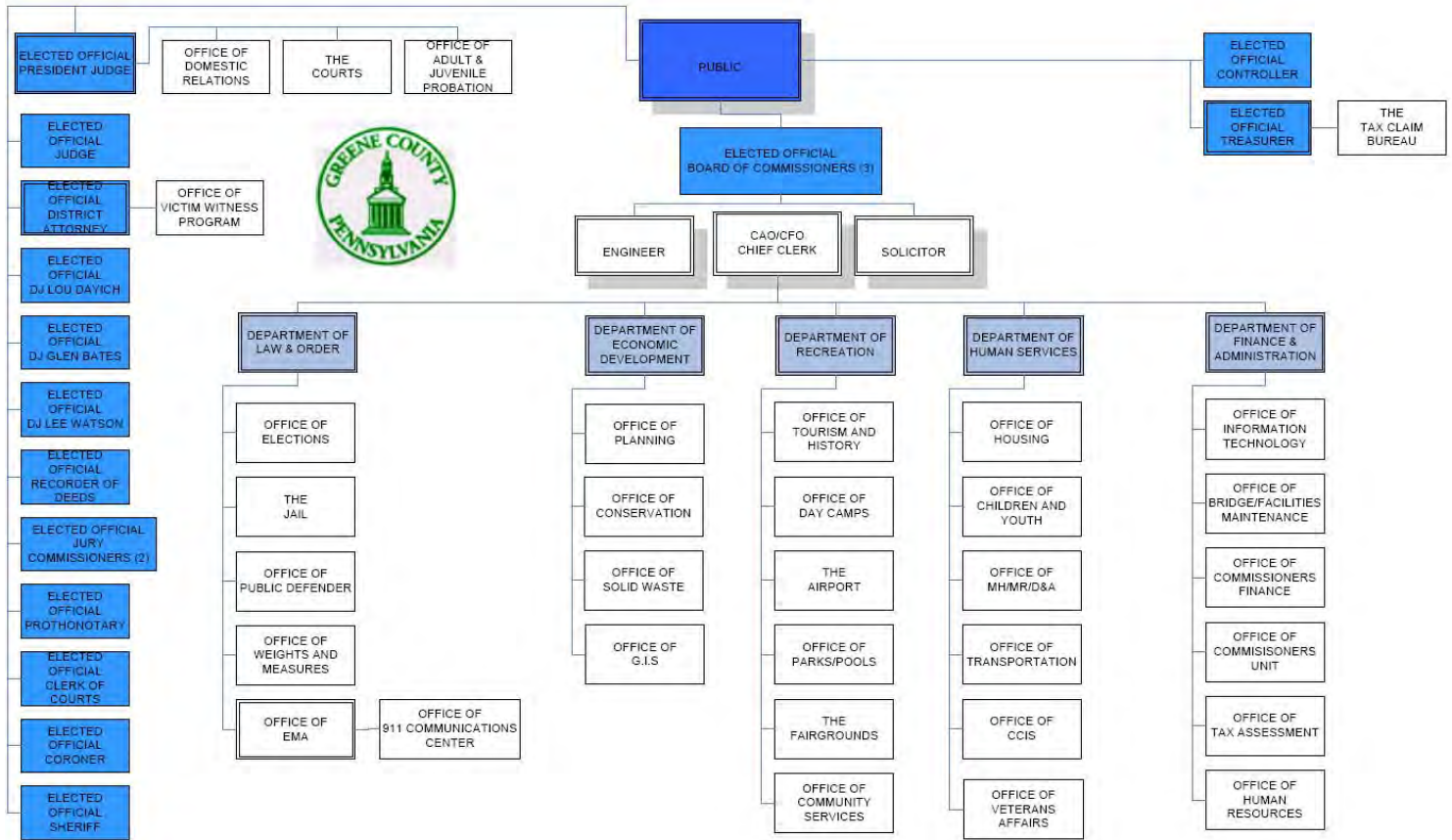
Greene County MAGIC Map (2005)

This study was initiated to provide an examination of assets and needs in Greene County. The county-wide assessment investigated local health and human service organizations, educational institutions, government entities, and business and civic organizations. Discussion groups and surveys were conducted with three groups – community resident, businesses and human service providers. Surveys were mailed to randomly selected households in Greene County, businesses, and service providers. The final report presented findings in seven areas including, Family Stability, Safe Communities, Life Enrichment for Adults and Seniors, Early Care and School Success, Physical Health, Resource Coordination, and Community Infrastructure.



Public Amenities Resources

Counties are required by County Code to provide certain services to their citizens. The following chart displays the organization of Greene County's administration, elected officials, departments, and offices. The public directly elects a Board of Commissioners (3), Controller, Treasurer, President Judge, Judge, District Attorney, District Judges (3), Recorder of deeds, Jury Commissioners (2), Prothonotary, Clerk of Courts, Coroner, and Sheriff.



Elected Offices

Controller ~ elected by the general public and is responsible for the preparation of the annual Controller Report, which upon external audit, becomes the County's financial statements; annual Financial Report to the Department of Community & Economic Development.; annual Liquid Fuel Revenue & Expense Report; Investigates wasteful spending and reports of fraud and abuse; reviews purchase orders, invoices, and code for payment; draft checks; works with Budget Director on compiling information for annual budget; and handles any managerial issues.

Treasurer ~ elected by the general public and is responsible for receipt, custody and disbursing of monies and, as an agent of the state, the issuing of dog, hunting and fishing licenses.

The Tax Claim Bureau was established under Act 542 of 1947 for the consolidation of all delinquent real estate tax claims into one agency as a convenience to local officials, property owners, prospective purchasers, and title searchers. The Bureau collects delinquent real estate County, Township or Borough and School taxes and then distributes the monies back to the various entities. The Tax Claim Bureau conducts Upset, Judicial and Private Sales of unpaid real estate tax properties during the year.

Court of Common Pleas (Judges) ~ Court of Common Pleas is administered by the county. Each county has one or more judges who are elected to sit on the bench and hear criminal and civil court cases. Counties support the courts with corrections and criminal justice programs such as the county prison, juvenile detention center, probation, and/or criminal investigation units.

Domestic Relations Office ~ responsible for assisting victims of domestic violence through community and victim education about both the scope of the problem of domestic violence and available services. The Greene County Women's Center (GCWC) (a satellite office of Washington Women's Shelter, Inc.) provides support groups, children's programs, and training programs.

District Attorney's Office ~ the District Attorney prosecutes criminal cases arising in Greene County, providing necessary legal support to police investigators and continuing to represent the Commonwealth of Pennsylvania through the trial of a case and the years of appeals which may follow.

Magisterial District Judges ~ Greene County has three district judges, who have jurisdiction over summary cases, landlord/tenant cases, civil cases up to \$8,000, vehicle code violations, and crimes code violations. They preside over arraignments and preliminary hearings, set and accept bail, issue search and arrest warrants and presides over dog, fish and game violations.

Recorder of Deeds ~ the repository and record manager for all papers relating to Wills and estates as well as all real estate transactions. These documents are part of Greene County's permanent records and must be protected from loss, theft or damage. It is also the responsibility of this office to provide efficient and timely service to the public while preserving the integrity of public records. The primary requirement of the office is to record deeds, mortgages, liens, surveys, plats, land contracts, condominiums, financing statements, related documents and other miscellaneous real estate documents, instruments pertaining to the transfer and encumbrances of all land and properties within Greene County.



Jury Commissioners ~ responsible for filling the Jury list at the beginning of each year with the names of approximately 1,500 citizens of Greene County. Throughout the year, Court Orders are issued requesting that a certain number of jurors be impaneled to hear the Civil and Criminal cases coming before the court. The Jury Commissioners then select the appropriate number of jurors who are to report for the scheduled term.

Prothonotary's Office ~ the keeper/clerk of the civil records/division for the court. The Prothonotary is elected to serve a four-year term as the legal custodial of documents filed with the County Court of Common Pleas and the Prothonotary's filing duties are set by Pennsylvania statutes, the Pennsylvania Rules of Civil Procedure, and the Greene County Local Rules of Court.

Clerk of Courts Office ~ responsible for keeping records for the criminal courts, bail bonding, collection of court fines, costs and restitutions, issuing and keeping records of marriage licenses, final accounts of estate, settlement of small estates, guardianship for incarcerated person(s) and other miscellaneous tasks.

Coroner's Office ~ responsible for investigating all deaths of a suspicious or violent nature. When inquests are warranted, the Coroner is empowered to perform autopsies, subpoena witnesses, administer oaths, and issuance of certificates of death where death occurs without medical attention or attendance.

Sheriff's Office ~ The Sheriff's Office was formed to enforce the laws of the Commonwealth of Pennsylvania, administer the civil process, serve and enforce court orders, issuance of licenses to carry firearms, and provide security for the courthouse and all county property.

Board of Commissioners

Greene County citizens elect a Board of Commissioners, comprised of three members, who are responsible for the oversight of the County. The Board of Commissioners directly supervises the County's engineer, chief clerk, and solicitor.

Chief Clerk ~ appointed by the Board of County Commissioners to oversee the County departments. The responsibilities of the Chief Clerk are to keep the books and accounts of the board of county commissioners, the salary board, and the pension board; to record and file all proceedings and papers from meetings; to attest all orders and voucher checks issued by the county commissioners; and to perform all other duties pertaining to the office as chief clerk. The Chief Clerk ensures that everything is done legally under the County Code and finalizes documents with the "County Seal."

Solicitor ~ appointed by the Board of County Commissioners to represent them as their General Counsel. The Solicitor is the legal advisor to the Commissioners and attorney for

the County and its officials. The solicitor draws up contracts and assures a legal basis for all County governmental functions.

Department of Finance & Administration

Office of Information Technology (IT) ~ provides administrative services, systems and programming, technical services, network services, computer services, operations functions, production support, user support, and web support. As of January of 2007, the County began offering municipal website hosting, where Greene County municipalities can provide information to the IT department and gain a webpage on the County's website.

Office of Bridge / Facilities Maintenance ~ responsible for maintenance, repair and cleaning of all County-owned buildings, which includes the County Courthouse, Fort Jackson Building, Ben Franklin Building, the County Office Building, Greene County Jail, the Airport, county Transportation facility, County Pools, and the Fairgrounds. The department aids in facilities planning, coordinates a county-wide safety program, works with outside contractors, develops and maintains ongoing and long-term facilities maintenance activities, installs common cabling systems, provides a work site for community workers. The Department also maintains bridges and facilities throughout the county; is responsible for major renovation projects to county-owned buildings; and handles the building and maintenance requirements for all 87 of the County's bridges.

Office of Commissioners Finance ~ comprised of a Finance Director, Purchasing Agent, Budget Director, and Accounts Receivable Clerk.

Office of Tax Assessment ~ the Greene County Assessment Office determines the Fair Market Value of all taxable property within the county. The office is responsible for the production and maintenance of high quality, accurate, timely and unbiased records of property ownership, description, mailing addresses and assessment as well as the maintenance of the existing Geographical Information System (GIS) to make available accurate and detailed information for the assessment function, planning and development functions, analysis and other needs of county, state and federal officials.

Office of Human Resources ~ responsible for recruiting for open positions, managing the employment classification and compensation system, employee benefit programs such as medical and dental insurance, payroll, administering personnel policy and procedures, and working to resolve employee relations issues.



Human Services Department

The Human Services Department provides administrative capability so that the county can properly exercise its management and control responsibilities to assure that public funds are used properly, effectively and efficiently; improves coordination between services; and identifies needs in the county and actively pursues public and private resources to meet them.

Office of Housing ~ the housing coordination program assists individuals and families by referring them to the appropriate agencies who utilize HAP (Homeless Assistance Program) dollars, McKinney/Vento funds to prevent homelessness, and/or Emergency Food & Shelter funds through FEMA such as Community Action SW or the Salvation Army, and if eligible refer them to the Emergency Shelter Assistance Program through the County Assistance Office. Referrals are made to Southwestern Pa Legal Aid Services, Inc. for landlord issues such as evictions, foreclosures, habitability cases, and credit repair. For mortgage default counseling, Homeowners Emergency Mortgage Assistance Program (HEMAP), and credit /budget counseling, referrals are made to Community Action Southwest. The department also packages grants / loans to provide eligible persons the opportunity to buy or build a decent, safe, and sanitary dwelling or to assist very low-income owners of modest single-family homes in rural areas, for home improvements to remove health and safety hazards or to make a home accessible for household members with disabilities.

Office of Children and Youth ~ Children and Youth Services (CYS) supports families through education and preventive services and to protect children from abuse, neglect and dependency when families cannot or do not provide adequate parental care. Program responsibilities focus on the following areas: assessment and determination of risk; monitoring; placement; foster care services; and family visitation.

Office of MH / MR / D&A ~ administrative oversight of Mental Health Services (MH) in the County, including program contracting and monitoring; oversight of the commitment process; child and adolescent service system program (CASSP) coordination; and County consumer support program (CSP).

The Mental Retardation (MR) Services Program includes program contracting and monitoring; generic case management; waiver case management; and early intervention service coordination and monitoring.

The County also provides Drug & Alcohol (D&A) Services to County residents at no cost; and all information is kept strictly confidential. The primary function is to increase client retention in and completion of treatment in order to move clients toward recovery and self-sufficiency; and to increase client access to core services such as primary health care, mental health care, stable and secure living environment, positive support networks, vocational training and employment.

Office of Transportation ~ transports eligible riders to and from destinations in and around Greene County; the program is available to anyone living in Greene County once they have pre-registered. Advance reservations are required; shared-ride transportation services and specialized transportation for handicapped individuals are offered.

Office of CCIS ~ provides Subsidized Child Day Care Services for low income families in Greene County in which the parent(s) are working or in a qualifying training program. There is a CCIS for Subsidized Child Day Care available to residents of every County in the state of Pennsylvania.

Office of Veterans Affairs ~ provide a network of veterans assistance programs and services to Greene County Veterans, their spouses, and their dependents. These services include but are not limited to, compensation and pension claims, healthcare applications (VA hospitals and Champ VA), DIC and pension claims, life insurance, funeral and burial benefit claims; providing flags and holders for deceased veterans and to organizations for Memorial Day. In addition to cemeteries, emergency assistance, education benefits, home loans, veterans license plates.

Department of Recreation

The Department of Recreation was established to oversee the daily operation of recreation in Greene County. The County owns 798 acres of land, of which 201 acres are County Parks.

Office of Tourism & History ~ promotes and markets tourism in Greene County as an economic development tool. Currently, the department is developing a marketing strategy to attract more visitors to the many tourist attractions located in Greene County.

Office of Day Camps ~ six week day camp program that begins in the middle of June and ends the last of July. Hours of operation are from 10:00am - 3:00pm and the camp is free to all children of Greene County, ages 5 - 15.

The Airport ~ provides the aviation community a clean, safe and efficient environment enhancing the recreational and/or working relationship with the County.

Office of Parks / Pools ~ mission is to provide adequate facilities and programs that will create a variety of activities enabling the general public to spend their leisure time within Greene County.

Fairgrounds ~ create a clean and safe environment that will enable the Fairgrounds facility to be fully utilized to its maximum potential.



Office of Community Services - develop an atmosphere that will create a sense of well being and self-respect for the designated clients.

Department of Economic Development

The Greene County Department of Economic Development serves as the administrative umbrella for a number of County departments. The main responsibilities include countywide grant coordination, small business development, preparation and administration of grants for small municipalities; housing rehabilitation services; solid waste and recycling; and conservation district for the county. The department is also responsible for the preparation of comprehensive plans for development within the county; the administration of the county subdivision and land development ordinance (SALDO); reviewing proposals for all municipal and county requests for state and federal assistance; to act as liaison between the Pennsylvania Department of Transportation and Greene County Government; provide data and maps of the county; and to publish an annual directory of county, township and borough officials.

Office of Planning - the Greene County Planning Commission was formed nearly 50 years ago to oversee the subdivision of land and the land development activity in Greene County.

The Greene County Industrial Development Authority (GCIDA) is responsible for the creation, attraction and retention of business by offering financial assistance through bond issues, Pennsylvania Industrial Development Authority (PIDA) loans, Machinery and Equipment Loan Financing (MELF), conventional financing, bridge financing, etc. The GCIDA is the lead agency for industrial recruitment and expansion and through the support of local government, GCIDA provides "one-stop shopping" for manufacturing and distribution investors interested in site locations for new or expanding operations.

Office of Conservation - the Greene County Conservation District was formed on July 18, 1956, at the request of county citizens to provide for the conservation of soil and watershed protection and flood protection, preserve woodland and wildlife, protect public lands, preserve the tax base, and to protect and promote the health, safety, and general welfare of the people. Responsibilities include promoting the awareness of conservation practices and their effects; figure prominently to any activities that have an effect on the natural resources; offer technical assistance to private landowners and municipalities that request help; and provide an assessment of environmental complaints.

Office of Solid Waste - the solid waste office maintains a working relationship with the waste haulers who are licensed to pick up, and landfills that are authorized to accept municipal waste from, which involves ongoing contact with these businesses; processing of the tonnage information, remaining capacities, and quarterly fees that are received by the County based on the tonnage of waste received at the landfills from the municipalities. The recycling office spearheads recycling efforts in the county, including maintaining a

working relationship with the only recycling processing facility in the county, GreeneARC recycling at Ruff Creek.

Office of GIS ~ the Community GeoPortal is an internet-based geographic information system (GIS) that will allow efficient sharing of geospatial data among subscribers and part of an economic development strategy to attract high technology business to Greene County. Geospatial technologies are widely recognized as essential public policy and management tools that enable more informed decision-making, greater efficiency, increased accountability, and better management. County officials, municipal government officials and senior management of regional institutions are aware that geospatial data plays a critical role in public administration of emergency management, monitoring public health and public safety, crime control, tax assessment, fleet, traffic, facilities and municipal infrastructure management, environmental assessment, and economic development.

Department of Law & Order

Elections ~ oversees all elections to ensure a democratic process and fluid voting system, including maintaining the Voter Registration, inspection of election equipment, and ensuring the accessibility and availability of polling locations.

The Jail ~ The Greene County Prison is overseen by a Prison Board while daily operations are run by the warden and corrections officers. The prison had a daily population rate of 108 in 2006.

Office of Public Defender ~ established to provide constitutionally required representation of indigent criminal defendants. In Juvenile Court, the Public Defender's Office represents minors accused of being delinquent.

Office of Weights & Measures ~ responsible for inspecting and monitoring all transactions in which a commodity or service is bought or sold and a weighing and measuring device is used. The purpose for the Weights and Measures Office is to assure the rights of the consumer are protected from deliberate fraud and unintentional errors. The office also protects the business owner by detecting errors that are affecting him and his business in a negative way.

Office of EMA ~ The Greene County Emergency Management Agency (EMA) is responsible for the creation and implementation of plans to respond and recover from emergencies such as storms, floods, explosions or other disasters including response to hazardous material spills or release into the environment and/or acts of terrorism.

The 911 Communications Center system provides emergency dispatch service to everyone in the county, making sure the police, ambulance or fire companies get to where they are needed.



Public Amenities Snapshot

Greene County, like most counties in Pennsylvania, is governed by a board of three County Commissioners elected every four years by the registered voters. The Board of Commissioners oversees the function and operation of the County and represents the best interests of the citizens. Other officials are also elected to perform administrative functions within County Government: the Controller, Treasurer, Coroner, Register & Recorder, Prothonotary, Clerk of Courts, Sheriff, District Attorney and two Judges, three District Justices, and Jury Commissioners. Under the direction of these officers, the County maintains important legal records such as real estate deeds, marriage licenses, adoption papers and court records.



Greene County Courthouse (Mackin, 2007)

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B. Data & Analysis

Public Safety

Local emergency response services are not offered as a County-provided service. The Greene County Emergency Management Agency (911) is responsible for managing the delivery of emergency communications (Act 78 of 1990, Public Safety Emergency Telephone Act), emergency management (Title 35, Emergency Management Services Code), hazardous materials (Act 165 of 1990, Hazardous Materials Emergency Planning and Response Act), emergency medical services (Act 45 of 1985, Emergency Medical Services Act), and general public safety related education. The Greene County 911 Center is located 55 West Greene Street in Waynesburg Borough.

Emergency Management

Emergency Management was created in 1978 as the lead agency or entity, to coordinate multi-organizational community planning, response and recovery. Emergency Management personnel assist in times of disaster; educate others in handling emergency situations; and help people plan and prepare for unexpected natural events and/or terrorist attacks.

Emergency Management is a comprehensive, integrated program of mitigation, preparedness, response and recovery, for emergencies and disasters of any kind. No public or private entity is immune to disasters and no single segment of society can meet the complex needs of a major emergency or disaster of its own.

Part of the Emergency Management responsibility is the response to a hazardous materials release. The County has entered into a contract with Weavertown Environmental Group to provide hazardous materials response services for the County. Weavertown is available 24 hours a day 7 days a week. Weavertown is dispatched through the Greene County 911 Center. Weavertown is a certified hazardous materials team by the PA Emergency Management Agency. Weavertown maintains a professional working relationship with the County Emergency Management Agency and the local volunteer fire companies.

PA Region 13 Task Force

The idea for the PA Region 13 Task Force came from the exploration of the ideas and philosophies developed during 3 years of discussion in the Pittsburgh Allegheny County-Weapons of Mass Destruction working group. The group realized that during any significant "All Hazards" or terrorism event the entire Region or multiple Counties could be called upon to assist the local responders.

The foundation of PA Region 13 is set in place by an unprecedented intergovernmental agreement between the 13 Counties and City of Pittsburgh in Southwestern PA.

The strength of PA Region 13 comes from the strong support and leadership from our 36 County Commissioners, Allegheny County Chief Executive, and Pittsburgh Mayor. Our County/City Elected Officials have empowered the 14 Emergency Management Coordinators to represent the interests of the individual County/City governments on a daily basis.

The Inaugural meeting was held on November 9, 1998, at the Allegheny County Emergency Management Office Coordinators from 12 counties and one from the City of Pittsburgh convened to prepare and plan for a potential domestic terrorism event from a regional perspective. Mercer County was admitted into the working group on May 20, 1999, resulting in a total of thirteen counties.

The PA Region 13 Task Force is recognized under State Law Act 227 as one of 9 in the Commonwealth. PA Region 13 covers a population of 3.1 million over a 9,550 square mile area. There are 706 local Municipalities, 713 Fire Departments, 392 Police Departments, 203 EMS Agencies, 65 Hospitals, 15 State Certified Hazardous Materials Teams, and 2 Explosive Teams. The Region 13 Task Force prides itself in have a strong relationship between Local, County, State, and Federal Organizations.

To the credit of all PA Region 13 Task Force members, the Federal Bureau of Investigation, Federal Emergency Management Agency, National Association of Counties, and the National Domestic Preparedness Office have recognized the organization as a model organization for intergovernmental cooperation in fighting the threat and consequences of terrorism.

PA Region 13 has been working hard to secure funding, training, and equipment for the group's initiatives. Current activities include: implementing and supporting the U.S. Department of Homeland Security and the Pennsylvania Office of Homeland Security WMD programs and equipment distribution. U.S. Department of Health and Human Services, Office of Emergency Preparedness, Metropolitan Medical Response System development, training and equipment acquisition and working with the Pennsylvania Emergency Management Agency and Federal Emergency Management Agency in developing a region- wide plan and comprehensive training exercises.



Greene County 911

All requests for emergency assistance is available through Greene County 911. The 911 Center is a fully Enhanced 911 Wireline System. Wireline Enhanced 911 means that a person calling from a wired telephone in Greene County will be connected to a Greene County 911 Telecommunicator. Along with the voice connection the telephone number from the caller's phone and the location of that phone will be displayed on a computer screen in the 911 Center in front of the Telecommunicator.

The 911 Center is a fully Phase 2 Compliant 911 Wireless System. When a person dials 911 from a cellular phone the cellular tower is programmed to forward the 911 call to the most appropriate 911 Center. This call is connected to a Greene County 911 Telecommunicator. Along with the voice connection the Telecommunicator is also provided automatically with the location of the cellular tower, provider of the cellular service, and the callers telephone number. The Telecommunicator can then activate a Phase 2 rebid and request location information of the cellular caller. The voice connection is maintained the entire time however data is now provided that shows the probable location of the cellular caller. The location is usually within a radius of 20 meters.

Greene County 911 recently added a mapping function to our Computer Aided Dispatch System (CAD). Now the Telecommunicator not only sees the text data identifying the callers location but now it automatically appears on a digital map on a screen in front of them.

County Animal Response Team

In 2004, the State Animal Response Team (SART), the Pennsylvania State Animal Response Team (PASART), and the CART programs were implemented into Pennsylvania by a large network of organizations, businesses, federal and state government agencies and local coordinators and volunteers to meet the animal-related disaster response needs of the Commonwealth. PASART, SART, and CART are not only there to protect cats and dogs; they also protect the \$4.6 billion agricultural industry in Pennsylvania. Protecting the livestock industry is critical to our state and national economy and food supply". Goals of PASART are as follows:

1. To facilitate a rapid, coordinated, and effective response to any emergency affecting animals
2. To decrease the health and safety threat to humans and animals
3. To minimize the economic impact of emergencies affecting animals
4. To prevent or decrease the spread of disease during emergencies affecting animals

Greene County Bio-Security

Beef Quality Assurance (BQA) is a national program that provides guidelines and education for the beef cattle production. The program raises consumer confidence through offering proper management techniques and a commitment to quality within every segment of the cattle industry. Producers have embraced BQA because it is the right thing to do; but they have also gained through increased profitability. The Pennsylvania BQA program is designed to bring best management practices to the farm that, along with HACCP principles applied at slaughter and processing facilities will ensure a safe, wholesome, uniform sized beef product for consumers. Hazard Analysis Critical Control Point program (HACCP) is a process of determining what could go wrong, planning to avoid it, and documenting what you have done, with the additional step of validation and monitoring success. As of January 1, 2000, all livestock processing plants have developed HACCP programs according to USDA guidelines, which include food borne bacterial pathogen control. Voluntary producer driven programs have proven very successful and will continue to allow industry the flexibility needed to produce safe, wholesome food in an economical manner. There are 80 BQA Certified Farmers/Producers in Greene County.

Police Coverage

The majority of Greene County receives police coverage through the Pennsylvania State Police. The State Police provides police services for municipalities without police departments. The Waynesburg Barracks can be contacted at 724-627-6151 or 911. Three of the 26 municipalities have their own police departments: Waynesburg Borough, Carmichaels Borough, and Cumberland Township. The police department coverage areas are depicted on **Figure 6-1: Police and Fire Coverage**.

Greene County maintains a Sherriff's Office, which has seven full-time deputies that perform the following duties:

1. Issue licenses to carry firearms
2. Serve bench warrants
3. Protect citizens from abuse
4. Provide courtroom security
5. Receive / provide law enforcement training
6. Transport prisoners



Fire Protection

Greene County has sixteen volunteer fire departments, whose coverage areas are also shown on *Figure 6-1: Police and Fire Coverage*.

- Bobtown / Dunkard Volunteer Fire Company (724-839-7140)
- Carmichaels & Cumberland Township Fire Company (724-966-5700)
- Center Township Volunteer Fire Company (724-499-5259)
- Clarksville Fire Department (724-377-1460)
- Crucible Volunteer Fire Company (724-592-5359)
- Graysville Volunteer Fire Company (724-428-4171)
- Greensboro Volunteer Fire Department (724-943-3800)
- Jefferson Volunteer Fire Department (724-883-3901)
- Morris Township Volunteer Fire Department (724-428-4321)
- Mt. Morris Volunteer Fire Department (724-324-2015)
- Nemacolin Volunteer Fire Company, Carmichaels (724-966-7408)
- New Freeport Volunteer Fire Company (724-447-2541)
- Rices Landing Fire Department (724-592-5765)
- Richhill Township Volunteer Fire Company (724-428-4242)
- Wayne Township Fire Company (724-451-8222)
- Waynesburg Franklin Township Volunteer Fire Company (724-627-5426)



Clarksville VFD (Mackin, 2007)

Emergency Service Responders

Advanced life support service is provided through EMS Southwest, which maintains stations in Franklin Township and Cumberland Township. Basic life support service is then provided the following entities:

Bobtown Dunkard Township Volunteer Fire Company
Clarksville Volunteer Fire Company
Greensboro Monongahela Township Volunteer Fire Company
Jefferson Volunteer Fire Company
Mt. Morris Legion EMS
Nemacolin Volunteer Fire Company
Rices Landing Volunteer Fire Company
Richhill Township Volunteer Fire Company

Figure 6-2: EMS Providers identifies the response areas for each of the providers. EMS – Southwest also responds as backup to all of the municipalities in Greene County.

Solid Waste Management

Counties are responsible for the disposal of solid waste and are required to prepare a plan that addresses solid waste management as mandated by the Municipal Waste Planning Recycling and Waste Reduction Act. The Greene County Commissioners last prepared a Municipal Waste Management Plan in 1994 and are in the process of completing an update to this plan. The County received a grant of \$2,000 to underwrite the revision of the county municipal waste management plan through the Municipal Waste Planning, Recycling and Waste Reduction Act.

Landfills

In 1994, the County projected that 24,700 tons of municipal waste would be generated by 2004. Municipal waste was transported to seven collection sites (four in Pennsylvania and three in West Virginia). The following seven landfills are currently authorized to accept municipal waste from Greene County as provided for in the Greene County Solid Waste Plan, five are located in Pennsylvania while Wetzel County Landfill is located in West Virginia:

- BFI Waste Systems of North America
- ONYX Waste Services
- Greenridge Reclamation
- Kelly Run Sanitation, Inc.
- Sanitary Landfill
- Wetzel County Landfill



Haulers

The Municipal Waste Plan for Greene County noted that the County operates on an open market system to dispose of waste; meaning that, independent haulers collect municipal waste and dispose of the waste at a landfill of their choice. Municipalities may enact solid waste ordinances to regulate trash and garbage storage, none of the Greene County municipalities provided municipal trash collection services as of the writing of the 1994 plan. As of December of 2006, there were 26 solid waste haulers providing service to Greene County, as shown in Table 6-1.

Table 6-1: solid waste Haulers				
Name	Address	County	PADEP Authorization	Vehicles
Clarksville Sanitation	540 Center Street, Fredericktown, PA 15333 (724) 377-1929	Washington	WH5796	1
Waste Management of PA Inc	Arden Station Road, Washington, PA 15301 (724) 222-3272	Washington	WH1436	11
Rozner's Refuse	1070 Wayne St, Washington, PA 15301 (724) 222-7711	Washington	WH0964	2
Onyx Waste Services CBF Inc.	1184 McClellandtown Road, McClellandtown, PA 15458 (724) 437-7336	Fayette	WH1502	29
J C Sanitation	McClellandtown PA 15401 (724) 425-9702	Fayette	WH2442	7
Kathryn Trucking	McClellandtown PA 15401	Fayette	WH2119	3
Fayette Waste	632 Old Route 51, Waltersburg, PA 15488 (724) 430-0100	Fayette	WH3215	8
Lynch Sanitation	Perryopolis	Fayette	WH0591	2
Marilungo's Disposal Service	15401 LeMont Furnace (724) 438-2602	Fayette	WH0111	1
D. B. Disposal	433 Rehobath Church Rd, Perryopolis, PA 15473 (724) 736-0937	Fayette	WH0161	11
County Hauling Corporation	901 Tyrol Boulevard, Belle Vernon, PA 15012 (724) 929-7694	Fayette	WH0048	10
Agape Trucking	RR 906, Belle Vernon, PA 15012 (724) 684-7388	Fayette	WH3443	5
Walls Sanitation	Blacksville, WV 26521 (304) 432-8300	West Virginia	WH3234	5

Recycling

Recycling efforts are overseen by the Greene County Department of Economic Development. The only recycling processing facility in the County is at Greene County Association for Retarded Citizens (Greene ARC) in Ruff Creek. As of 2007, only six municipalities sponsored voluntary recycling programs within their communities. However, there are eleven recyclable drop-off locations throughout the County. In conjunction with the PA CleanWays of Greene County, the County also organizes and conducts a number of recycling events, including, but are not limited to:

- Collection events for tires, used motor oil, and white goods
- Chemsweep in cooperation with the PA Department of Agriculture and Penn State Cooperative Extension
- Overseeing the operations of the eleven recycling trailers in the County
- Identification and cleanup of illegal roadside dumpsites
- Speaking engagements to civic organizations and school groups to educate and promote recycling
- Addressing individual citizen's needs in regards to solid waste and recycling issues through daily phone calls and direct contact

Public Education

The public education system in Greene County is divided into five school districts. *Figure 6-4: School Districts* depicts the district boundaries along with the location of the schools.

[Carmichaels Area School District \(CSD\) - www.carmarea.org](http://www.carmarea.org)



Carmichaels Area Junior / Senior High School (Greene County, 2007)



Carmichaels Area School District is comprised of two municipalities:

- Carmichaels Borough
- Cumberland Township

In 1979, this school district had plans to replace three elementary schools with one facility and rehabilitate its Junior High School. Currently, CSD operates just two facilities – the Carmichaels Elementary Center and the Carmichaels Junior / Senior High School.

Carmichaels Area Elementary Center

Carmichaels Area School District has one elementary school, located at 225 North Vine Street in Carmichaels Borough, houses kindergarten through sixth grade. The Elementary Center was constructed in 1991 to replace the three elementary schools. The school has its own gymnasium, cafeteria, playground area, library, music suite, and computer labs.

Carmichaels Area Junior / Senior High School

The Carmichaels Area Junior / Senior High School is located at 300 West Green Street in Carmichaels Borough and is home to all students in grades seven through 12. Once a student enters the tenth grade, he or she must choose one of two possible career paths - academic or technology. The academic curriculum requires a class every year in math, English, social studies, science and at least two years of a foreign language. The technology curriculum requires applied math, English, social studies and applied science. Students in this program attend the Greene County Vocational Technical School for their specialized courses.

Central Greene School District (CGSD) – www.cgisd.org

Central Greene School District (CGSD) became a merged district in 1962 when six municipalities agreed to the jointure:

- Franklin Township
- Perry Township
- Washington Township
- Wayne Township
- Waynesburg Borough
- Whiteley Township

The district is comprised of two elementary schools (K-5), one middle school (6-8), and one high school (9-12). The 1979 Comprehensive Plan noted the significant travel times experienced by children who attend this school district. The plan noted minor problems with insufficient recreational facilities, but no serious facility concerns.

Perry Elementary School

The Perry Elementary School is located in Mt Morris, Perry Township. The school houses students who live in Perry, Whiteley and Wayne Townships.

Waynesburg Central Elementary School

Waynesburg Central Elementary School is located at 90 Zimmerman Drive in Waynesburg Borough. The school houses students who live in Franklin Township, Washington Township, and Waynesburg Borough.

Margaret Bell Miller Middle School

Margaret Bell Miller Middle School is located at 126 Lincoln Street in Waynesburg Borough. The Middle School is for all students in the school district.

Waynesburg Central High School

Waynesburg Central High School is located at 30 Zimmerman Drive in Waynesburg Borough. The High School is for all students in the school district.

Jefferson-Morgan School District (JMSD) - www.jmsd.org

Jefferson-Morgan School District is comprised of five municipalities:

- Clarksville Borough
- Jefferson Borough
- Jefferson Township
- Morgan Township
- Rices Landing Borough

In 1979, the Jefferson-Morgan School District was noted to have two elementary schools in poor condition and recommended that the Junior-Senior High School be remodeled. The School District was proposing to construct a new elementary school and consolidate all elementary students into a new building. Currently, the School District operates two facilities: the Jefferson-Morgan Elementary School (K-6) and the Jefferson-Morgan Junior-Senior High School (7-12), both of which are located in next to each other in Jefferson Township. School facilities can be rented by outside groups for a fee.

Jefferson-Morgan Elementary School

In the 1980's, the elementary schools were consolidated into one building, located at 1351 Jefferson Road in Jefferson. The building was most recently renovated in 2002. The building has 36 classrooms, including an art room, library, gymnasium, two computer labs and four special education classrooms.



Jefferson-Morgan Junior-Senior High School

The junior-senior high school is located next to the elementary school at 1351 Jefferson Road. The district administration offices are also located in the junior-senior high school. The building itself is over 50 years old and has 38 classrooms, which include an art room, library, gymnasium, technology education, music room and four special education classrooms. The school also has a new baseball field.

Southeastern Greene School District (SEGSD) - www.segsd.org



Mapletown Jr. / Sr. High School (Mackin, 2007)

Southeastern Greene School District is comprised of four municipalities:

- Dunkard Township
- Greene Township
- Greensboro Borough
- Monongahela Township

The 1979 Comprehensive Plan noted the Southeastern School District as having three elementary schools that lack adequate utility services and were obsolete or in poor physical condition. The Middle and High School buildings were in need of additional space to accommodate special activities.

Bobtown Elementary School

The Bobtown Elementary School is located in Dunkard Township.

Penn Pitt Elementary School

The Penn Pitt Elementary School is located in Dunkard Township.

Mapletown Middle / High School

The Mapletown Middle / High School is located in Monongahela Township.

West Greene School District (WGSD) - www.wgsd.org



West Greene Middle-Senior High School (Mackin, 2005)

West Greene School District is the largest geographically of the five districts in Greene County. It is comprised of eight municipalities:

- Aleppo Township
- Center Township
- Freeport Township
- Gilmore Township
- Gray Township
- Jackson Township
- Morris Township
- Richhill Township
- Springhill Township

The 1979 Comprehensive Plan identified overcrowding in every school building. At that time, school officials were planning to convert the Junior-Senior High School into a Middle School and build a new High School building. Currently, the School District operates two elementary schools (K-5), a middle school (6-8), and a high school (9-12).



Graysville Elementary School

Built in 1970, Graysville Elementary is a unique structure recognized for its round design located at 1029 West Roy Furman Highway in Gray Township. One of two elementary schools in the West Greene School District, Graysville elementary houses 311 students ranging from all-day.

Springhill / Freeport Elementary School

The Springhill / Freeport Elementary School is located at 1011 Deep Valley Road in Springhill Township.

West Greene Middle-Senior School

The West Greene Middle-Senior School is located at 1352 Hargus Creek Road in Center Township.

Greene County Career and Technology Center - www.grvt.org

The Greene County Area Career and Technology Center is located at 60 Zimmerman Drive in Waynesburg Borough. The Vo-Tech school offers 13 courses in occupational training and vocational and technical fields:

- Automated Accounting Classroom
- Auto Body Classroom
- Auto Mechanics Classroom
- Building Construction Occupations Classroom
- Culinary Arts Classroom
- Child Care Classroom
- Computer Information Technology Classroom
- Cosmetology Classroom
- Drafting Classroom and Spacestars GIS
- Electrical Occupations Classroom
- Health Assistant Classroom
- Machine Shop Classroom
- Welding Classroom

Enrollment

Table 6-2: Greene County School District Enrollment compares each school district in terms of student enrollment from 2002 through 2007. Central Greene has the largest enrollment while Southeastern Greene has the smallest. Geographically, West Greene is the largest of the districts and operates five schools, although it ranks third in terms of enrollment. Of the five school districts, Carmichaels Area is the only one that has not seen a large decrease in enrollment between 2002 and 2007. West Greene has experienced the largest enrollment decrease.

Table 6-2: Greene County School District Enrollment					
	Carmichaels Area	Central Greene	Jefferson-Morgan	Southeastern Greene	West Greene
2002-2003	1,139	2,268	975	739	1,069
2003-2004	1,130	2,310	942	687	1,007
2004-2005	1,084	2,316	939	682	963
2005-2006	1,112	2,224	895	688	936
2006-2007	1,138	2,147	888	719	878

Source: PA Dept of Education (2007)

Table 6-3: Greene County School District Enrollment Projections shows estimated enrollment for the next ten school years. Jefferson-Morgan and West Greene are expected to experience the largest enrollment decreases, while the other three districts are expected to see slight increases.

Table 6-3: Greene County School District Enrollment Projections					
	Carmichaels Area	Central Greene	Jefferson-Morgan	Southeastern Greene	West Greene
2007-2008	1,162	2,164	836	699	842
2008-2009	1,161	2,156	829	692	778
2009-2010	1,159	2,174	831	698	738
2010-2011	1,166	2,164	800	709	703
2011-2012	1,165	2,175	779	723	655
2012-2013	1,173	2,199	774	738	610
2013-2014	1,171	2,230	753	756	576
2014-2015	1,194	2,267	736	772	549
2015-2016	1,221	2,325	721	795	524
2016-2017	1,216	2,375	695	818	501

Source: PA Dept of Education (2005 & 2007)



School District Performance

Table 6-4: Greene County School District Performance relates current information regarding graduation rates, teacher qualifications, and testing scores for mathematics and reading.

Table 6-4: Greene County School District Performance						
	Carmichaels SD	Central Greene SD	Jefferson-Morgan SD	Southeastern Greene SD	West Greene SD	PA Average
Met or Exceeded State Graduation Rate	92%	91%	90%	91%	90%	88%
Male	89%	92%	89%	92%	94%	86%
Female	94%	90%	92%	88%	87%	89%
Percent of Highly Qualified Teachers	100%	98%	100%	100%	100%	96.99%
District's Overall Results in Mathematics*	49%	61%	41%	35%	60%	45%
Male	59%	59%	41%	36%	62%	
Female	38%	64%	42%	34%	57%	
District's Overall Results in Reading*	55%	62%	51%	48%	55%	54%
Male	59%	57%	44%	42%	52%	
Female	51%	68%	58%	55%	57%	

* As captured by performance and participation results of students who took the PSSA in Grades 5, 8, 11
Source: Pennsylvania Department of Education, Bureau of Assessment and Accountability, 2006

Overall, graduation rates fare well in comparison to averages posted by the Pennsylvania Department of Education as do teacher qualifications. The testing Scores in Jefferson-Morgan and Southeastern Greene School Districts fall below the statewide average for Mathematics for both male and female students. Carmichaels Area males rank very high in Mathematic testing scores, while female scores are much lower. Jefferson-Morgan and Southeastern Greene are lower in district wide scores but females outscored the state average and their male counterparts in the category of Reading. Reading testing scores show that female students in Carmichaels test lower than the male students. Male students perform lower than the females in West Greene School District in Reading.

School District Concerns

The 1979 Greene County Comprehensive Plan identified four priority concerns of the public education system serving the County.

1. Small elementary schools throughout the County that were in deteriorated physical condition
2. Long travel times of children on school buses
3. Uneven rate of property tax levees between western and eastern sections of the County

4. The system of division of the five school districts created inefficiencies and duplication of effort

While many of the physical deficiencies of school buildings have been addressed, the other issues continue to surface, particularly low enrollment and the tax disparity. Table 6-5: Greene County School District Millage compares millage rates within the Greene County public school system. West Greene offers the lowest rate while Jefferson-Morgan and Southeastern Greene maintain the highest. None of the school districts offer a low-income exemption for taxes, making the burden on families all the more.

Table 6-5: Greene County School District Millage Rates

	Carmichaels Area	Central Greene	Jefferson-Morgan	Southeastern Greene	West Greene
Millage Rates 2007-2008	20.20	22.27	23.09	23.00	19.50
% in Free Lunch Program	46%	46%	44%	68%	44%

Source: PA Dept of Education (2007)

Comparing millage rates to school districts in neighboring Fayette County, Greene County taxes are extremely high. Fayette County has seven (7) school districts, whereby millage rates range from 11.08 in Brownsville to 16.16 in Belle Vernon.

The National School Lunch Program is a federally assisted meal program that operates in public and non-profit private schools and residential daycare institutions throughout the country. School districts and independent schools that choose to take part in the lunch program receive cash subsidies from the Pennsylvania Department of Education and U.S. Department of Agriculture (USDA) commodity from the Pennsylvania Department of Agriculture for each meal served. In return, the schools must serve lunches that meet Federal requirements and offer free or reduced-price lunches to eligible children (<http://www.agriculture.state.pa.us/>).

The Federal Poverty Guidelines set the poverty level in 2006 at \$20,000 for a family of four (<http://aspe.hhs.gov/poverty/06fedreg.htm>). Children from families with incomes at or below 130 percent of the poverty level (about \$26,000 for a family of four), children in families receiving Temporary Assistance for Needy Families (TANF), and children in families receiving food stamp benefits are eligible for free lunches. Children in families whose income is between 130 percent and 185 percent of the poverty level (between \$26,000 and \$37,000 for a family of four) are eligible for reduced price lunches (http://www.pde.state.pa.us/food_nutrition/cwp/). All of the districts have more than 40 percent of students in the program, although Southeastern Greene has the highest percentage of students enrolled in the free lunch program, at almost 70 percent. . With



Southeastern Greene also having the highest millage rate, it is likely that many families living in the district struggle to pay their school taxes.

Educational Consortium

The Greene County Educational Consortium completed an Educational Master Plan in 2004. The Greene County Educational Consortium refers to “an informal agreement among school and economic development leaders to seek a focused, united effort by the five school districts, the vocational-technical school and regional business and industrial representatives to accomplish a common set of goals, strategies and tactics that will both enhance the quality of life across the county and improve the public education system.” The Master Plan included a survey of a group of selected external stakeholders to assess the various strengths, weaknesses and needs of the Greene County schools. While the responses do not reflect a reliable sample for the County as a whole, they can be used to provide insight into the perceived concerns regarding the school districts.

Common issues shared by the public schools:

- Lack of diversity in schools and region
- Need more advanced academic coursework for all students to prepare them for college and the workforce
- Need to address drug and alcohol issues
- Need to improve academic achievement of all students, especially related to No Child Left Behind and Pennsylvania standards
- Need to address financial issues related to the declining tax base
- Need to address decreasing enrollment issues
- Need to create a variety of career paths for students and develop options for alternative education
- Need to create the infrastructure to network technology
- Need to consider a consolidation of school districts
- Lack of other educational agencies in the County to supplement public schools

In addition to the external stakeholder survey, the Educational Master Plan also surveyed an internal group of representatives from all five school districts and the vocational-technical school. This internal assessment centered around common areas including the maintenance of community centers; staff training in technology; reinventing the vocational technical school; enhancing basic skill; educating the whole child; and familiarizing participants with the “edunomics” concept. “Edunomics” refers to a “rural economic development approach with a primary focus on adjusting to a competitive, service-based global economy through a holistic approach and incorporating the strategies of total comprehensive community planning and development within the dimensions of education, the economy, and the environment.” In addition, the consolidation of school districts and the more efficient use of resources also emerged as long-term considerations.

The Greene County Educational Consortium is responsible for implementation and evaluation of these goals with technical assistance from the Tri-State Area School Study Council. The Educational Master Plan identified seven educational, organizational, and economic goals for 2004-2009, which were developed from the concerns of both the internal and external stakeholder surveys.

1. Continue the development of community centers and connect the day and evening programs.
2. Educate all staff and stakeholders on the "edunomics" concept.
3. Provide training of all district staff on appropriate technology skills.
4. Establish the vocational-technical school as a legitimate response for workforce development.
5. Review and revise the vocational-technical school to more accurately reflect the "Keys to Work" and job skills needed for the "edunomics" concept.
6. Initiate efforts to improve skills of all students in reading, writing and mathematics in all schools.
7. Initiate efforts to concentrate on the education of the "whole child," building self esteem to include a focus on substance abuse concerns.

Integrating the Educational Consortium and Master Plan into the Greene County Comprehensive Plan will be essential for the County to achieve the goals as summarized here. The Educational Master Plan notes strategic issues that the County should address to support implementation of the plan.

1. Enhance public transportation
2. Improvement roads
3. Improve infrastructure
4. Create a more desirable housing stock
5. Increase employment opportunities
6. Increase opportunities for retail development



Higher Education

Waynesburg University

Waynesburg University is a four-year private Christian university that offers doctoral, graduate and undergraduate programs in more than 70 academic concentrations. Founded in 1849 as Waynesburg College, it became renamed Waynesburg University in 2007. Waynesburg has its main campus in Waynesburg Borough and has three satellite adult centers located in the Pittsburgh region (Southpointe, Monroeville, North Hills). Between undergraduate, graduate, and adult education programs, there are over 2,000 students enrolled at Waynesburg University.



Waynesburg University (Mackin, 2005)

Greene County Education Center

Westmoreland County Community College offers educational services at seven satellite locations in southwestern Pennsylvania, in addition to their main campus in Greensburg. Established in the fall of 1999, the Greene County Education Center is located in the EverGreene Technology Park. Classes are conducted in the evenings at the Greene County Vocational Technical School and at each of the five high schools. Courses offered include accounting, allied health, biology, business, computers, early childhood, economics, electronics, English, human services, mathematics, nursing, psychology, sociology and speech.

Library System

The Greene County Library System is headquartered in the historic Thomas Hughes House, located in Jefferson Borough. The formal public library system is comprised of Bowlby Library in Waynesburg Phone: 724-627-9776 and the Flenniken Library in Carmichaels Phone: 724-966-5263. Questions may be directed to 724-852-1878.



Thomas Hughes House (Mackin, 2005)

Other Library locations:

- Greene County Law Library located at the County Courthouse in Waynesburg: 724-852-5290 Hours: Monday-Friday 8:30am - 4:30pm
- Bobtown Library Phone: 724-839-7325
- Citizens Library Phone: 724-222-2400
- Fredericktown Area Public Library Phone: 724-377-0017
- Waynesburg College Library Phone: 724-852-3278 / 724-627-8191



Hospitals

Greene County is home to the Southwest Regional Medical Center, which is located at 350 Bonar Avenue in Waynesburg Borough. The facility, formerly the Greene County Memorial Hospital, was purchased by Essent Healthcare in the fall of 2005. Since that time, nearly \$2 million was invested into the facility and services. The hospital has 74 beds, including a five-bed intensive care unit and 15-bed behavioral health care unit. In addition, the hospital has donated \$50,000 to support community activities, such as the American Cancer Society's Relay for Life, the Humane Society, the GCMH Foundation, the Waynesburg and Carmichaels Chambers of Commerce, Waynesburg College and local high schools. For more information on the Southwest Regional Medical Center, visit their web page online at <http://www.sw-rmc.com/>.



Southwest Regional Medical Center (Mackin, 2007)

Senior or Assisted Living Institutions

There are three assisted living facilities located within Greene County.

1. Beverly Healthcare (Waynesburg) 111 beds are available. Contact (724) 852-2020
2. Rolling Meadows (Waynesburg) 121 beds are available. Contact (724) 627-3153
3. Southwest Regional Medical Center (Waynesburg) 20 beds available. Contact (412) 627-3101

Senior Citizen Centers

There are ten senior citizen centers located within Greene County.

1. Bobtown: 24-839-7133
2. Carmichaels: 724-966-2290
3. Clarksville: 724-377-1144
4. Jefferson: 724-883-4144
5. Mt. Morris: 724-324-5396
6. Waynesburg: 724-627-6366
7. West Greene: 724-852-1510
8. Greene County Elder Care Center (Waynesburg): 724-852-2012
9. Waynesburg Senior Center: 724-627-6366
10. Mt. Morris Senior Citizen's Center (Mt. Morris): 724-324-5396

Recreational Facilities & Services

The Greene County Recreation, Parks, Trails and Greenways Plan was developed concurrently with the Comprehensive Plan update and is a stand alone document that can be reviewed by contacting the Greene County Department of Economic Development. For the purposes of the Comprehensive Plan, only a brief summary is included.

The Greene County Department of Recreation was established to oversee the daily operation of recreation in Greene County. The County owns 798 acres of land, of which 201 acres are County Parks. Responsibilities of the department include running the Fairgrounds, the Central Greene Pool, the Carmichaels Pool, seven Day Camps, the Greene River Trail, the Greene County Airport, and Community Service in the County. In addition, on June 2, 2005 the County Commissioners approved the transfer of ownership of Mon View Park in Greensboro from the Greensboro-Monongahela Township Volunteer Fire Company and Monongahela Recreation Federation, Inc. to the County. The Department is overseen by a full-time director, who reports to the County Commissioners. The Recreation Director is responsible for the development of programs at each of the County parks, providing technical assistance to local municipalities and all maintenance at County-owned facilities.

The department is also charged with the responsibilities of future park development and open space acquisition. For approximately five years, the acquisition of open space in the County has been a major responsibility for the Recreation Director. Negotiations with coal companies to obtain additional open space have been a primary focus for both the Commissioners and the Recreation Director. The County has taken over the ownership of two former mining areas which will become recreation focal points for residents to use in their leisure time.

Another important function of the Department of Recreation is to provide technical assistance to local municipalities within the County boundaries. This comes in the form of recommendations from the Recreation Director for local park / facility development. Municipalities are able to obtain,



through a County Park Grant Program, up to \$3,000 for local projects. This particular program is a cooperative venture of the Department of Economic Development and the Department of Recreation in an effort to assist local park development.

State-Owned Parks and Recreation Facilities

In Greene County, the largest publicly owned park and recreation facilities are owned by the Commonwealth of Pennsylvania. Within the County, there are over 13,000 acres of State Game Lands (SGL). In addition to the State Game Lands, the Pennsylvania Game Commission also owns approximately 1,000 acres of land in the southern tip of Wayne Township. Hunting is open to the public along with fishing on this property.

Ryerson Station State Park

Ryerson Station is located in the northwest portion of Greene County in Richhill Township. The entire park encompasses over 1,000 acres and is the largest park in the County. In April of 2004, "Friends of Ryerson Station State Park" was established to focus on issues and concerns facing Ryerson. Friends of Ryerson is a non-profit 501(c) 3 organization and has become an incorporated chapter of the Pennsylvania Parks and Forest Foundation. As a non-profit organization, Friends of Ryerson can accept donations on behalf of the Park for DCNR-approved projects and is currently working on obtaining funds to improve the Park, as well as to bring in tourism dollars to western Greene County. A Board of Directors has been established to oversee the organization, with Pennsylvania State Representative DeWeese serving as the Chairman of the Board. To date, Friends of Ryerson has raised funds including \$25,000 from Representative DeWeese, \$6,000 from Duke Energy, and \$3,000 from the Greene County Tourist Promotion Agency.

The highlight of the park used to be the 62-acre Duke Lake, which was the main recreational lake for Greene County residents until July 2005, when DCNR and DEP uncovered cracks and water seepage during inspections in the dam's spillway. Within days, the lake was drained for safety reasons and in August of 2005, a section of the dam spillway was removed to prevent the reservoir from refilling after heavy rains.

A Task Force of local and state representatives was formed immediately by DCNR and local elected officials to assure that factual information was available to the public and to guide the process of rebuilding and restoring Ryerson Station State Park. As the Task Force was initiating their actions, Representative H. William DeWeese and Senator Barry Stout crafted a survey for county residents that solicited comments about recreation in the western Greene area as well as the county as a whole. The goal of the survey was to gather feedback that would create goals and objectives for the Task Force to work towards and implement.

The results were compiled and 536 responses were received. A summary of the results follows:

- 33.15% visit Ryerson primarily for fishing
- The largest percentage of visitors (17.11%) engaged in fishing, with picnicking a close second
- The largest percentage had enjoyed swimming over the past two years, with fishing a close second
- 37.47% visit Ryerson more than 11 times per year
- Duke Lake received the highest number of votes as the facility that would cause people to visit the park more than once a week
- The majority of respondents (62%) prefer that Duke Lake be dredged and replaced in its entirety (62 acres), while 1/4 felt it should be replaced larger
- The largest percentage of respondents felt that there should not be additional recreational facilities developed at the Park, while some would like bike trails and horse riding trails
- The majority (54%) would volunteer time and/or labor to help the "Friends of Ryerson" with Park projects or events
- The majority (58%) would be willing to serve on a focus group to assist with planning and projects to improve the Park
- Respondents were divided (46% to 45%) over whether they would be willing to travel to other county lakes and ponds that were sufficiently stocked by the Fish & Boat Commission for fishing and/or non-motorized boating

Additionally, legal proceedings have begun against CONSOL Energy Inc. in regard to the structural failure of the dam. Consol's local mine, Bailey Mine, had mined as close as 900 feet to the dam, and this mining may have played a role in the damage to the dam. Design and construction of a new dam will be conducted through the Pennsylvania Department of General Services and is expected to begin during 2008. Governor Edward Rendell and Secretary DiBerardinis have committed to advance the dam reconstruction concurrently as legal action advances.



Greene County-Owned Parks and Recreation Facilities

Greene County Department of Parks and Recreation owns and operates eight recreational facilities, which includes three swimming pools. The county airport is included as a recreation facility due to the fact that recreational events are held at the site and it has the potential to expand its recreational capacity.

Foundation Coal Aquatic Center

In 2007, Greene County replaced the Central Pool Complex with the Foundation Coal Aquatic Center, which offers free parking, new playground equipment, picnic areas, pavilions, and the following features:

- Nine (9) Certified Lifeguards on-duty
- Snack Bar
- Special events room—\$40 rental fee for 3 hours. (12:30 - 3:30 p.m. or 4:30 - 7:30 p.m.). Admission to pool is sold separately; one free admission per rental.
- Bath house complete with lockers, restrooms, showers and changing facilities;
- 300,000 gallon competition-sized pool with eight (8) lap lanes, 2 diving boards and a 12' diving pool;
- 40'x40' Children's play area;
- 148' spiral water slide;
- 25' straight water slide;
- 180' "lazy river" with tubes for floating;

The park is open Sunday through Thursday from 11:00 a.m. to 8:00 p.m. and Friday and Saturday from 11:00 a.m. to 9:00 p.m.

Eastern Pool Complex

The Eastern Pool Complex is located on a ten-acre parcel adjoining the Wana B Park in Cumberland Township. The pool was constructed in 1980 in a Z-shaped configuration and is handicapped accessible. Swim lessons and various competitions are held at this facility. A wading pool is located next to the main pool. Also located on the complex are a concession area, restrooms, and a large pavilion. The pavilion is available to all residents for rental fee.

The pool facilities are in good condition and in need general maintenance. The County installed new fencing in 2007 and is planning on installing a new water slide in the fall of 2008.

Dreamer Memorial Park

Dreamer Memorial Park is located along Majorsville Road in the northwest corner of Richhill Township. Donated to the County by the Dreamer family, the park occupies approximately ten acres of property, most of which is wooded. The park consists of a large stone monument, which pays tribute to four wars: Revolutionary War, Civil War, Spanish American War, and World War (I). Four small stone memorials recognize the Marines, Soldiers, Sailors and Nurses. Also present is a small family (Dreamers) cemetery.

Greene County Fairgrounds

The Greene County Fairgrounds are located along PA Route 21 in Franklin Township, east of Waynesburg. The Fairgrounds site encompasses 47 acres and is also home to the Greene County Department of Recreation. Fairgrounds facilities include the following:

1. Department of Recreation Building—houses offices for the Recreation Director, Secretary, Maintenance Foreman, and Community Service Coordinator.
2. 4H Building—a 60'x60' two-story building that is the most rented facility in the Fairgrounds. The downstairs is a rental facility, comprised of an open hall with a kitchen, restrooms, mechanical room, and storage room. The upstairs is a large open room with restroom, mechanical room, and is handicap accessible. There is no access between floors.
3. Auction Building—a 36'x100' building with a kitchen, restrooms, and tables and chairs. The building is the second most rented facility, with flea markets twice a week, Sunday Bingo by the Humane Society, and auctions as scheduled.
4. Agricultural Building / Arena Barn—a large building that contains bleacher seating for approximately 800 people, a concession area, restrooms with showers, and a horse corral. This building is utilized for motor cross shows, cattle shows, and other events.
5. Race Horse Barn—48 stalls, county performs general maintenance while the boarders are responsible for cleaning.
6. 4H Barn—the local 4H club operates the building and rents it from the County. It has dirt floors, wash stalls, and horse stalls.
7. Covered Bleachers—seat 1800 people with a concrete observatory deck that is 2/3 the length of the bleachers. There is also a supply room in the bleachers. The flea market is held under the bleachers and the County charges a \$6.00 set-up fee.
8. Two Pole Buildings—42'x108' each, one has a concrete floor and one has a dirt floor. There are 12 picnic tables with a small landscaped area around the front of the buildings.
9. Maintenance building—used to store equipment and is also rented out.



Mason Dixon Historical Park

Approximately 287 total acres, Mason Dixon Park spans across state borders from Greene County, Pennsylvania into Monongalia County, West Virginia. The West Virginia side of the park encompasses 153 acres and is more developed. The Pennsylvania portion of Mason Dixon Park is approximately 134 acres and consists of beautiful wooded hillsides and open space. Dunkard Creek transverses through the park and contains large mouth, small mouth, and spotted bass. The PA side also contains an archaeological and historically sensitive protected area. The southern end of the Catawba Trail in Greene County runs through the park and one of the Adirondack shelters is located on the property. One of the original Mason Dixon markers is on the trail, with the following engravings on each side: PA, W VA, MD, and 1883. An historic oil derrick is also located along the Catawba Path in the park.

Mon View Park

In June of 2005 the ownership of Mon View Park was transferred from the Greensboro-Monongahela Township Volunteer Fire Company and Monongahela Recreation Federation Inc. to Greene County. Facilities at Mon View Park include two ball fields, a basketball court, a sand volleyball court, two horseshoe pits, a swimming pool, a roller rink, a bath house, six pavilions, a concession stand, restrooms, and playground equipment.

The Mon View Park Project involves four stages. The first two stages, which have already been completed, involved updating the pump station and the roller rink. Currently, the County is updating the playground facilities, which is expected to be completed by the end of 2008. The final stage will involve the removal of the decking around the pool facility and replacing the gutters, with an expected completion date of the end of 2009.

The Roller Rink and Community Center was officially opened on April 11, 2008 and welcomed over 200 skaters for its opening night. The facility has a snack bar / concession area, skate rental area, updated sound system, a large wooden skate floor, and newly reconstructed ceiling. The facility can house special events such as parties and larger community events (concerts, speakers, etc.) of over 250 persons. Currently the facility is only open on the weekends, but the overall plan has for special events to be reserved during the week with advance notification. The Department of Recreation hired a Park Manager, whose role is to oversee this facility.

Greene County Tennis Courts

The new tennis courts were relocated in 2007 and are currently being utilized by many parties including local residents, athletes traveling from outside the county, as well as the local school districts. The surface is state of the art and contains three new courts, new fencing, and a new lighting system. Later this year the Department of Recreation will be adding bathrooms that will be available to the public.

Greene County Airport

The Greene County Airport is located adjacent to Route 21 just east of I-79. Occupying 140 acres, the Airport contains the following facilities:

- 36 hangers—there are 34 planes and one hanger used for equipment and one for community service.
- Runway – 75'x 3500'
- Restaurant
- District Justice Office
- Tourism Office
- Maintenance area
- Flight School Office—operated separately
- Full motion simulator—also has a helicopter landing area and a remote control area.

The maintenance for the Airport is handled by the maintenance workers from the Fairgrounds. Approximately 30 percent of the area at the Airport is mowed. The Airport is utilized for recreation as host of Airport Days, plane rides, and by Waynesburg University and Waynesburg High School for their women's Cross Country teams.

In 2004, the Greene County Commissioners commissioned L. Robert Kimball and Associates to complete a Master Plan Update for the Greene County Airport. The Update is scheduled to be completed in 2008 and will include a business plan and marketing plan and will contain strategies to maximize the potential of the Airport in terms of economics and recreation.

In 2007, the Department of Recreation hosted a successful drag racing event at the Airport. On three days between July and September, the Airport welcomed street legal drag racers to race head to head on the airport runway.



C. Development Strategies

Public facilities is a very broad subject, ranging from public safety services to education. The focus of the development strategies for the Greene County Comprehensive Plan are those strategies that the **County** can implement in order to improve the public facilities and services that fall under the auspices of County government.. The public survey, public meetings, and focus groups for the comprehensive planning process were designed to gather public opinion regarding the provision of County services and identify areas that need improvement. The priority issues identified by the public were the need for more cooperation among municipalities to plan for future development and growth and the need for more County provided services (grant writing, technical assistance, etc.).

GOAL: Ensure the effectiveness of County Government

Strategy: Improve communication among county agencies, departments, and municipalities.

Strategy: Adopt and implement the Greene County Solid Municipal Waste Management Plan.

Strategy: Adopt and implement the Greene County Comprehensive Recreation, Parks, and Trails/Greenways Plan.

GOAL: Improve emergency preparedness & response

Strategy: Develop cooperative relationships between public safety and other community agencies and governments.

Strategy: Support efforts to educate the public, government, and businesses on how to prepare and react to community-wide emergencies.

Strategy: Encourage and support efforts of health care providers and emergency responders to coordinate emergency preparedness plans and to run practice drills to assure that such plans are practical and user friendly.

Strategy: Expand the Greene County CART resources and develop a written plan of action.

GOAL: Strengthen the provision of health & human services

- Strategy:* Develop cooperative relationships between social service agencies and governmental entities.
- Strategy:* Support efforts to address issues identified in the Greene County MAGIC Map: Charting a course for healthier families and communities in Greene County.
- Strategy:* Assess the feasibility of offering human service programs at satellite locations within Greene County communities.
- Strategy:* Increase service provider awareness of Greene County Find-Out, an online resource for Greene County residents and service providers (www.greenefindout.org).
- Strategy:* Continue to offer and expand cross systems training of ambulance providers.
- Strategy:* Examine ways to improve communication among organizations in Greene County—consider the Fayette County example of the electronic Shared Intake form managed by the Fayette County Community Action Agency.

GOAL: Maintain the viability of municipal emergency service providers

- Strategy:* Create a forum to identify shared facility and service opportunities.
- Strategy:* Provide grant writing and technical assistance to municipal service providers.
- Strategy:* Create a regular evaluation of local service provider capabilities.
- Strategy:* Identify and develop sources of public safety related funding.
- Strategy:* Coordinate a forum to identify and resolve the financial conflicts for reimbursement of public safety providers.



GOAL: Support & strengthen the education system

Strategy: Support efforts to position the vocational-technical school as a premier educational institution equipped with advanced technological tools to ensure a well-rounded and skilled workforce.

Strategy: Support the efforts of the Greene County Educational Consortium to coordinate school district activities and improve the public education system.

Strategy: Recognize and address the key issues identified by the Greene County Educational Consortium which include the lack of public transportation, need for better housing and road and infrastructure improvements, lack of employment opportunities, and need for additional retail development.

GOAL: Support & enhance access to libraries

Strategy: Increase awareness of the Pennsylvania Bureau of Library Development to offer subsidies and grants for improved services, technology, public library construction and networking.



A. Background

Public utilities are regulated under Title 52 (Public Utilities) of the Pennsylvania Code.

The Pennsylvania Public Utility Commission balances the needs of consumers and utilities to ensure safe and reliable utility service at reasonable rates; protect the public interest; educate consumers to make independent and informed utility choices; further economic development; and foster new technologies and competitive markets in an environmentally sound manner.

Pennsylvania consumers may have the opportunity to choose who generates their electricity, supplies their natural gas and provides their local telephone service. In 1996, the electricity market in Pennsylvania was deregulated and the Federal Communications Commission (FCC) issued an Order that established competition in the local telephone market. Competition for all gas customers in Pennsylvania began November 1, 1999, after House Bill 1331 became law (Act 21). Act 21 allows all gas customers the option of purchasing natural gas services from a natural gas supplier, just as customers currently purchase electricity from an electric supplier under the Electric Choice Program.

Existing Studies

Greene County Comprehensive Plan (Candeub, Fleissig and Associates, 1979)

The 1979 Greene County Comprehensive Plan included a review of the five school districts and vo-technical schools to address public education. Recreation facilities were inventoried and assessed. The 1979 Comprehensive Plan included an inventory of public buildings, both County and Municipal. Volunteer Fire Departments, Hospitals, Libraries, Museums, and cultural facilities were listed and assessed. Finally, the 1979 Plan provided a review of existing public water and sewerage providers, and solid waste management.

East Dunkard Water Association Monongahela River Source Water Assessment Report (2002)

This study was conducted to meet the 1996 Safe Drinking Water Act that requires a Source Water Assessment and Protection Program (SWAP) to evaluate all drinking water sources that serve public drinking supplies and to provide a mechanism for development of local protection programs. East Dunkard Water Association (EDWA) provides water to the town of Dilliner and Dunkard Township and serves a population of approximately 4,000. EDWA is permitted to withdraw up to 1.15 MGD.

The study found that potential sources for contamination (PSOCs) include point (water and sewer treatment plants, "wildcat sewers," mining, power plants, chemical plants and non-point sources (major transportation corridors and run-off from urban/developed areas. The most serious PSOC is accidental release of materials along the transportation corridor. The study recommended the development of a community based source water protection

program to safeguard the public drinking supply based on the threats identified in the assessment.

Southwestern Pennsylvania Water Authority Monongahela River Source Water Assessment Report (2002)

This study meets requirement under 1996 Safe Drinking Water Act that requires a Source Water Assessment and Protection Program (SWAP) to evaluate all drinking water sources that serve public drinking supplies and to provide a mechanism for development of local protection programs. The Southwestern Pennsylvania Water Authority provides water to the Boroughs of Clarksville, Rices Landing, Jefferson and Waynesburg and Center, Cumberland, Franklin, Jefferson, and Morgan Townships in Greene County and has 11,000 customers serving a population of about 45,000. The SPWA is permitted to withdraw up to 10.0 MGD. This study contains the same findings and recommendations as the East Dunkard Water Association Monongahela River Source Water Assessment Report.

Public Utilities Resources

PA Department of Environmental Protection (PA DEP)

PA DEP is the primary agency in Pennsylvania responsible for administering environmental laws and regulations and thereby protecting water quality and supply and making sure waste is disposed of and handled properly. Among other things, PA DEP is responsible for coordination of the State Water Plan as required by Act 220 of 2002, timely and effective planning and management of domestic wastewater treatment needs, assures a safe and reliable supply of drinking water through the regulation of over 10,000 public water systems, and builds financial management and technical capability through the administration of licensing and certification programs covering over 25,000 water supply and wastewater treatment plant operators and sewage enforcement officers (SEO).



Public Utilities Snapshot

Public utilities play a vital role in the daily lives of residents as well as affecting development patterns. The availability of public utilities influences where people live and work and is one of the key factors that attract companies and developers to an area. In today's world, the accessibility of high speed internet service and reliable cellular phone service coverage are necessary rather than perks. Greene County has widespread access to high speed internet but there are portions of the County without cellular phone service. However, the overwhelming impediment to development is the inefficient provision of water and sewerage service.

In Greene County, public water and sewerage service is not widespread. It is predominantly found in the central and eastern portions of the County; there is no public service in the western municipalities. The lack of dense development throughout the County and the steep and varying topography prohibits the extension of public water and sewer lines, as it would not be cost-effective.

While public water is much more widespread than the provision of sewerage service, this causes a problem as in most areas of Greene County; soil conditions do not support on-lot systems. Sewage enforcement officers (SEO) cannot issue building permits based on lack of suitable soils, even that for an alternative system. Wildcat sewers (sewer lines running directly to the ground or streams) can be found throughout the County and pose a health and safety hazard to residents. It is vital that Greene County develop a plan that effectively and efficiently addresses the treatment of sewage throughout the County and work with the local municipalities to identify priority areas and address these issues.

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B. Data & Analysis

The following provides a summary of public utilities available in Greene County. For an up to date lists of providers, see the following website:

<http://www.puc.state.pa.us/utilitychoice/listofsupp.aspx?ut=ec&ShowSupp=1>.

Electricity

Electric customers in Pennsylvania were among the very first in the United States to be able the ability to choose the company that generates their electricity. In 1996, the state legislature passed, and Governor Tom Ridge signed into law, the Electricity Generation Customer Choice and Competition Act, which gives Pennsylvanians this right. As of 2007, there was just one electric company providing service to Greene County.

Allegheny Power

Allegheny Energy is an investor-owned utility with over \$3 billion in annual revenues and more than 4,000 employees. The company has two major businesses, Allegheny Energy Supply Company, LLC, and Allegheny Power. It owns and operates generating facilities and delivers electric service to over 1.5 million customers in Pennsylvania, West Virginia, Maryland, and Virginia.

Natural Gas

On June 22, 1999, the Natural Gas Choice and Competition Act was signed into law. Now, all Pennsylvanians, even residential and small commercial customers, can choose who supplies their natural gas. Choice can be based on price, services and incentives. Competitive offers from natural gas suppliers do not exist in all areas of Pennsylvania. As of 2007, there were two gas companies providing service to Greene County.

Columbia Gas Company

Columbia Gas of Pennsylvania and Columbia Gas of Maryland bring expert service to more than 410,000 customers in 452 Pennsylvania communities in 26 counties and 32,000 customers in 40 communities in three Maryland counties.

Equitable Gas Company

Equitable Gas Company provides natural gas distribution services to over 260,000 residential, commercial and industrial customers located mainly in the city of Pittsburgh and surrounding municipalities in southwestern Pennsylvania, plus a few municipalities in northern West Virginia and field line sales in eastern Kentucky.

Telephone & DSL Communications

Changes in federal telecommunications law have opened the local telephone service market, and you can choose your local service provider (LSP) in Pennsylvania. LSPs will offer customers the basics – dial tone, 911 emergency access, directory assistance, etc. Each LSP may offer optional services and calling plans in addition to basic service.

Windstream Communications

Windstream Communications (formerly Alltel and VALOR Telecom) provides local phone service, digital television, and DSL high speed Internet service to many rural areas in Greene County.

Comcast

Comcast Fiber also offers a high-speed Internet line that was originally meant to connect businesses at EverGreene Technology Park, but is now open to other businesses so they can access the high-speed line without being physically located at EverGreene.

Atlantic Broadband

Atlantic Broadband provides cable and high speed internet service to many areas within Greene County.

Cable Television

As of 2007, there were four cable television companies providing service to Greene County including DuCom, Inc., Comcast, Helicon Cablevision, and Cablevision Communications.



Public Water Service

Public water supply systems can range from large regional systems (common in urban and suburban areas) to small systems (serving less than 3,300 persons), which may serve individual developments or mobile home parks. Smaller systems typically use groundwater for their water supply, while larger systems may use surface water. Water supply systems can be either public or private and can also be implemented on a municipal, multi-municipal, or county level (Local Governor's Services, 2000).

Existing service areas for public water service are shown on *Figure 7-1: Infrastructure*. Public water service areas are primarily located in the eastern portion of the county from I-79 to the Monongahela River. Linear extensions of public water service are located west of Waynesburg along major transportation routes of SR 21, SR 18, SR 218, and portions of US 19. The immediate area surrounding Waynesburg Borough and the borough itself also has public water service.

Public water facilities are usually under the oversight of an authority or the municipality itself. Authorities are not governmental entities, but do have the ability to borrow money and provide services to residents on behalf of the municipality. It should be noted that authorities are established by the action of a governing body, which remains ultimately accountable for actions taken by the authority.

In Greene County, there are eight authorities that provide public water service to Greene County.

Brave Water & Sewer Authority

The Brave Water Authority serves approximately 200 persons and purchases water from the Morgantown Utility Board, which draws raw water from the Monongahela River and Cobun Creek Reservoir. The Morgantown Utility Board is responsible for providing the primary water treatment of water and monitoring of water quality.

Carmichaels Municipal Authority

The Monongahela River serves as a municipal water source for the Carmichaels Municipal Authority. Although no areas of concern were identified, possible sources of water contamination include discharge from local power plants, cumulative release of petroleum products from marinas along the river and storm water runoff (Natural Resources Defense Council, 2004).

The Authority provides water service to approximately 1,800 customers in Carmichaels Borough and Cumberland Township. Of the 1,800 customers, the majority are residential (1,519) while 91 are commercial and 42 are industrial. There is no mandatory tap-in in either community and the cost of a tap-in to the consumer is \$1,000. Costs are six dollars per 1,000 gallons, which provides average monthly costs of \$22.20 for residential, \$89.40 for commercial, and \$38.50 for industrial and public customers. The treatment plant was

constructed in 1949 and is located at the end of Browns Ferry Road on the Monongahela River in Cumberland Township. The plant was upgraded in 1978 and most recently in 1994. Since the water source is the Monongahela River, the Authority has concerns with water contamination of the River and drought.

Clay Battele

No information was provided.

Dunkard valley Joint Municipal Authority

The Dunkard Valley Joint Municipal Authority provides public water service to approximately 500 customers in Greensboro Borough and portions of Monongahela Township. There is no mandatory tap-in however residents pay \$400 plus any additional costs to tap into the public water system. Average monthly cost to consumers are \$25.00 for residential and commercial customers and \$40.00 for industrial. The water treatment plant was constructed in 1945 and planned improvements include the replacement of the main water line.

The Dunkard Valley Joint Municipal Authority uses the Monongahela River as its source water to provide drinking water to approximately 1,400 customers in Greensboro Borough and Monongahela Township. Although no areas of concern were identified, possible sources of water contamination include wildcat sewers (Natural Resources Defense Council, 2004).

East Dunkard Water Association

The East Dunkard Water Association draws water from the Cheat River and serves approximately 3,400 people in Dunkard Township, Monongahela Township, Greene Township, and Cumberland Township. Identified concerns include unacceptable filtration and treatment of water, possible water contamination from wildcat sewers and the need for water lines along the length of Walnut Hill Road. There is a \$40,000 upgrade to the pump station planned for 2007.

Mount Morris Water/Sewage Authority

The Mount Morris Water/Sewage Authority serves approximately 1,500 residents in Perry Township. There is a mandatory tap-in fee of \$1,000 and customers pay a minimum of \$19.00 per month for service and an additional \$8.50 per 1,000 gallons over 3,000 gallons. Source water is purchased from the Morgantown Utility Board whose water sources are the Monongahela River and Cobun Creek Reservoir. No concerns were identified for this water provider. Planned expansions include an 8.3 mile waterline extension along Big Shannon Run Road.



Morgantown Utility Board

Morgantown Utility Board is a large water and sanitary sewer utility provider with over 22,000 water customers primarily in Morgantown and Monongalia County West Virginia. In the Planning Area the Morgantown Utility Board provides public water service to a small portion of southern Wayne Township along Rush Run Road and Smith Creek Road. There is a planned extension along Sheppards Run Road.

Southwestern Pennsylvania Water Authority

Jefferson Borough and Jefferson Township created the Southwestern Pennsylvania Water Authority (SPWA) in December of 1951 and its headquarters remain located in Jefferson Borough. Since that time, the Authority has acquired numerous water companies and authorities and now serves 22 municipalities in Fayette, Greene, and Washington Counties. The SPWA currently serves approximately 12,500 households in the three-county region. The water treatment plant is located in Cumberland Township on the Monongahela River and serves the entire system (<http://www.spwawater.com/index.htm>). The municipal water source is the Monongahela River and although no areas of concern were identified, possible sources of water contamination include agricultural activity, storm water runoff of developed areas, sewage treatment plants, and wildcat sewers (Natural Resources Defense Council, 2004).

Within Greene County, SPSW provides service to Center Township, Clarksville Borough, Cumberland Township, Franklin Township, Jefferson Borough, Jefferson Township, Morgan Township, Rices Landing Borough, and Waynesburg Borough. There is no mandatory tap-in; however customers must pay a tap-in fee of \$1,500 to connect to the public water systems and approximately \$25.00 per month for service. Planned water line expansions in Greene County can be found in Wayne Township along Jay Phillips Hill Road and Yeager Road. SPWA also plans to expand distribution to Mt. Morris over the next 5-10 years

Sewerage Service

Domestic sewage and wastewater are treated and disposed of by various methods, ranging from large municipally-owned sewage treatment plants to community or individual onlot disposal systems (OLDS), also called "septic systems," (DEP, 2006). **Table 7-1: Methods of Sewage Disposal in Southwestern Pennsylvania, 1990** shows how Greene County compares to its counterparts. According to the 1990 Census, 46 percent of Greene County households utilized public sewerage services. Compared to the other counties in southwestern Pennsylvania, Greene County is comparable to Armstrong, Indiana, and Somerset; but significantly lower than Allegheny, Beaver, Lawrence, Washington, and Westmoreland.

However, a reported four percent of households disposed of sewage using methods other than public sewerage systems or on-lot septic systems. According to the PA DEP, homes without public sewers or on-lot septic systems typically use sewer pipes that are not connected to a sewer system, which create cesspools. This figure is the highest of all the counties, with Fayette, Indiana, and Somerset at three percent. Raw sewage can have a significantly negative impact on water quality and its surrounding environment.

Table 7-1: Methods of Sewage Disposal in Southwestern PA, 1990

County	Public Sewage		On-lot Septic Systems		Other*	
	Households	Percent	Households	Percent	Households	Percent
Allegheny	553094	95	26163	5	1481	0
Armstrong	12,983	41	18068	57	706	2
Beaver	52,708	69	23265	30	363	0
Butler	29,616	50	28602	48	843	1
Fayette	30,241	49	29510	48	1655	3
Greene	7,321	46	7963	50	698	4
Indiana	14762	42	18993	55	1015	3
Lawrence	24,523	63	13862	36	459	1
Somerset	15,164	42	19353	54	1196	3
Washington	59,397	63	29434	35	1282	2
Westmoreland	102768	67	49195	32	1591	1
TOTAL	896577	76	264408	23	11289	1

Source: 1990 Census

* Homes without public sewers or on-lot septic systems typically use sewer pipes that are not connected to a sewer system, or cesspools.



Public Sewerage Service Providers

Figure 7-1: Infrastructure graphically displays the public sewerage coverage areas in Greene County. As can be seen, the availability of sewerage is much more limited than water. Locations of sewerage are constrained to areas of concentrated population. For instance, Waynesburg Borough has the largest sewerage service area with the Carmichael's-Cumberland Joint Sewer Authority having the second largest capacity. Reflective of public water service locations, sewerage is concentrated on the eastern portion of the county and at the County Seat of Waynesburg, though there is much less availability throughout the County for public sewerage service.

According to the Pennsylvania Department of Environmental Protection (PA DEP), there are ten sewage treatment plants located in Greene County.

Table 7-2: Sewage Treatment Plants

Facility Name	Present Population	Future Population	Existing Flow	Present Design Flow	Future Design Flow
	Receiving Collection	Receiving Collection			
			* Millions of Gallons per Day *		
Brave STP	398	423	0.03	0.05	0.05
Carmichaels STP	4,156	4,659	0.39	0.6	0.44
Dunkard Township STP	1,055	1,050	0.18	0.1	0.1
Franklin Township STP	3,004	4,659	0.3	0.5	0.5
Greensboro STP	1,440	3,145	0.3	0.3	0.3
Mather STP	1,737	2,212	0	0.2	0.3
Nemacolin STP	274	1,112	0.03	0.15	0.11
Rices Landing STP	2,044	2,044	0.2	0.25	0.25
Waynesburg STP	5,208	9,018	0.63	0.8	0.8
Center Township		210			0.02

Source: PA DEP

In Greene County, there are twelve authorities that provide public sanitary sewage services to Greene County. Of the twelve, three are joint authorities that provide service to more than one municipality.

Brave Water & Sewer Authority

The Brave Wastewater Treatment Plant provides service to the village of Brave in Wayne Township with a service area of approximately two miles. The biggest concern of the Authority is the condition of the treatment plant and old sewage lines that need to be replaced.

Carmichaels – Cumberland Joint Sewer Authority

Carmichaels – Cumberland Joint Sewer authority serves 1,514 customers in Carmichaels Borough and Cumberland Township. There is a mandatory tap-in fee of \$300 plus the cost of installation for the service area. The Authority's sewage treatment plant was built in 1976 and is currently operating under capacity. The system utilizes nine (9) pumping stations all of which are reported to be in good working condition. Current plans for expansion include a line extension along SR 88 north towards Dry Tavern at a cost of approximately \$2,000,000.

Crucible Sewer Authority

The Crucible sewage treatment plant currently serves 200 customers in the village of Crucible, located in northern Cumberland Township. There is a mandatory tap-in fee of \$500 and average monthly cost to consumers is \$17.00. The plant currently requires two (2) pumping stations which are reported to be in good working condition with no operational problems. The Authority recently extended service to the village of Serbiantown, serving approximately 20 additional homes. The system is operating under capacity and there are no plans for additional expansions.

Dry Tavern Sewer Authority

Dry Tavern Sewer Authority has a two square mile service area and provides sanitary sewerage service to 200 customers, 180 residential and 20 commercial, in and around the village of Dry Tavern in Jefferson Township. There is a mandatory tap-in fee of \$1,500. Monthly cost to residential customers is \$50 / month while commercial customers pay by consumption. The treatment facility was built in 1992 and is currently working with DEP to complete an upgrade to the plant so as to remedy existing environmental concerns. The plan is hydrologically and organically overloaded every month and must construct a new facility to accommodate the existing customer base. The authority is applying for Penn Vest funds.



Dry Tavern Sewer Authority is not in compliance with the Pennsylvania Sewage Facilities Act (Act 537). Future plans will be to prepare an Act 537 Plan once the existing plant is in compliance. Following the completion of an Act 537 Plan, the authority expects to extend new sewer lines to connect existing residential development that currently relies on septic-systems. The Authority plans to expand service in the future to Fern Cliff Road and the Szojka Plan subdivisions.

Dunkard-Bobtown Municipal Authority

Dunkard-Bobtown Municipal Authority has a one square mile service area with 354 customers. There is a mandatory tap-in fee of \$500.00 and customers pay \$25.00 monthly. The current treatment plant was constructed in 1992, is considered to be in good condition, and operates under capacity.

Dunkard Township is in the process of undergoing an Act 537 Study for the expansion of sewer service into the Budapest and Dillner communities. The study will determine if these adjacent villages can be incorporated into the existing plant or if alternatives will be needed.

Franklin Township Sewer Authority

The Franklin Township Sewer Authority provides service to approximately 1,600 customers in Franklin Township. Mandatory tap-in fee is \$1,300 and customers pay \$4.90 for every thousand gallons used. The sewage treatment plant was constructed in 1979, with updates and expansions most recently occurring in 1993. The Authority recently completed a feasibility study that will allow for the extension of sewage service to Sugar Run in 2009 and plans to replace the East Franklin Pumping Station in 2008. The biggest concern for the Authority is meeting effluent limits set by the PA DEP and replacing old lines around the Bonner District in West Waynesburg that have old terra cotta lines.

Greensboro-Monongahela Joint Sewer Authority

Greensboro-Monongahela Township Joint Sewer Authority provides public sewerage service to approximately 270 residents of Greensboro Borough, and the communities of Glassworks, Hillman, Penn Pitt (Dora Village) and Seventh Pool in Monongahela Township. There is a mandatory tap-in with a fee of \$1,000 and average monthly cost to consumer is \$33.00. The sewage treatment plant was constructed in 1997 and most recently expanded service to include Seventh Pool in July of 2005. The system operates (3) pump stations and frequent replacement of the pumps has become a concern. There are concerns regarding the lack of public sewerage in the village of Alicia, which sits on the Monongahela River north of Greensboro. Planned projects include the extension of sewage lines to provide service to Cabbage Flats / SR 88 and the Mapletown area in Monongahela Township by 2008-2009, however funding is not yet secured for the entire project.

Lower Ten Mile Joint Sewer Authority

The Lower Ten Mile Joint Authority provides sewage treatment services to 1,391 dwelling units within East Bethlehem, Jefferson, and Morgan Townships, and Clarksville and Jefferson Boroughs. Tap in fees are \$1,500 with a monthly consumer cost of \$40.00. The physical sewage treatment facility was built in 1989 and has an Act 537 plan that was adopted in 2002. The Lower Ten Mile Joint Sewer Authority has two plants to accommodate the service area — Mather Wastewater Treatment Plant and the Williamstown Wastewater Treatment Plant. Both treatment facilities are under a DEP mandated ban on new tap-ins.

There were no reported concerns relating to the authority. Future plans will include improvements to both treatment facilities and, depending upon funding, a planned extension of lines along SR 188. These extensions will provide sewerage to an additional 664 dwelling units. Currently, old sewage lines are being replaced in the Pitt Gas area.

Mount Morris Water & Sewage Authority

The Mt. Morris Water and Sewer Authority serves 350 customers in and around the village of Mt. Morris and the I-79 interchange in Perry Township. There is a mandatory tap-in fee of \$845.00 and customers pay a minimum of \$24.00 per month for service, with an additional \$9.00 for ever additional 1,000 gallons after 2,000 and \$11.00 per 1,000 after 3,000 gallons. Constructed in 1989 the sewage treatment plant operates below capacity and is considered to be in good condition.

Nemacolin Sewer Corporation

Nemacolin Inc. is the public sewerage provider for 379 customers in a 1/10 square mile area in the village of Nemacolin, Cumberland Township. The physical plant was built in 1985 and has not undergone any significant repairs because of funding shortages. The cost to tap in is unknown and the monthly residential customer cost is \$13.00. The sewerage system in Nemacolin is one of the oldest and the Corporation's biggest concern is the age of the sewage lines, which are deteriorating and in need of replacement.

Rices Landing Borough Sewage

The Rice's Landing Sewage Treatment Plant was constructed in 2000 in response to their 1997 Act 537 Plan. The facility provides sewerage to the entire Borough of Rices Landing, approximately 250 customers. The treatment facility is municipally owned and operated and operates under capacity. Monthly costs to consumers is \$45.00 and there is a mandatory tap-in fee of \$2,000.



Rogersville

No information was provided.

Wayne Township Sewer Authority of Blacksville

The Wayne Township Sewer Authority of Blacksville serves 39 customers in a 1.5 square mile area in Southeastern Wayne Township. The Authority is part of a larger system connected to the treatment plant in Blacksville West Virginia. There is a mandatory tap-in fee of \$1,300 and monthly cost to consumers is \$23.50. Solids are currently collected in a 1,000 gallon tank and water is piped across the state line for treatment. Growth on the West Virginia side has placed the treatment plant at operational capacity. There may be a need to construct a second plant to adequately treat the sewage and have the ability to handle free solids. The cost to tap in is \$1300.00 and the monthly residential customer cost is \$23.50.

Waynesburg Borough Sewage Treatment Plant

The entire Borough of Waynesburg is served by the municipally owned and operated Waynesburg Borough Wastewater Treatment Plant. There are approximately 4,452 customers over 3.5 square miles. There is a mandatory tap-in fee and monthly costs to consumers is approximately \$26.00. The treatment plant was constructed in 1942 with most recent upgrades occurring in 1990. Current plans to expand include over the next five years, another biotower will be built, an additional final clarifier will be built, and the system will convert from chlorine disinfection to UV, which will increase plant capacity. The Borough's biggest concern is stormwater in-flow and over the next three years, the Borough has plans to separate the sewer and stormwater systems. In addition, there are many areas of old lines that are in need of replacement.

On-lot Disposal Systems

In areas that are not served by public sewerage facilities, on-lot disposal systems must be used. The type of system selected and permitted depends on the site conditions and the type of soil on the lot. Approximately four feet of suitable soil is needed under the gravel layer of the on-lot system in order to treat sewage effectively and meet the standards of the PA DEP. Suitable soils must be free of rock and not saturated with water. Since groundwater is the primary source of drinking water in areas served by individual and community wells, it is very important to keep groundwater free of contamination. If the soil conditions are not suitable, the sewage will only be partially treated and will enter the water supply, depositing viruses into the water supply, which can survive in groundwater in excess of one year, (PA DEP Act 537 Fact Sheet). There are five basic conventional on-lot systems permitted for use on residential lots:

- in-ground trench
- in-ground seepage beds
- subsurface sand filters
- elevated sand mounds
- spray irrigation

As part of the evaluation of a building lot to be served by a septic system, the municipal sewage enforcement officer (SEO) must examine and test the soils by conducting a soil profile on the lot. If the tests show that the soils are suitable to properly treat sewage, the SEO will issue a permit for the installation of an on-lot system. If however the soils are deemed unsuitable, the SEO will not issue a permit for an on-lot system. If there are at least 20 inches of suitable natural soil on the lot, the SEO may issue a permit for an elevated sand mound, where the remainder of the required four feet of suitable soil (28 inches) is comprised of a sandy fill material to form the sand mound.

In some cases, when a lot is not suitable for a conventional on-lot disposal system, the homeowner may consider an alternate system. It is important to note that there are specific requirements that must be met when using an alternate system. DEP-approved alternate on-lot system types include:

- elevated sand mound bed on slopes between 12 and 15 percent
- non-infiltration, evapotranspiration bed contained within a greenhouse
- separation of blackwater/greywater sewage flows
- flow equalization (commercial only)
- subsurface sand filter (trenches)
- shallow absorption area with pressure distribution
- peat based filter systems
- leaching chambers
- at-grade bed systems
- the A/B soil system
- various recirculating sand filters



However, some lots are not suitable for any type of disposal system due to inadequate soils, high water table, steep slopes, or other important factors (PA DEP, 2006).

Act 537 Program

The sewage facilities program, often referred to as simply the "Act 537 program," is largely administered by individual municipalities, groups of municipalities, local agencies including County Health Departments and groups of local agencies (known as joint local agencies). These agencies receive technical and financial assistance and oversight from the Department of Environmental Protection (DEP).

Table 7-3 lists each municipality in Greene County, along with the date that they adopted their Act 537 Plan and the current status of the plan. Act 537 requires that all municipalities must develop and implement an official sewage plan that addresses their present and future sewage disposal needs. These plans are to be modified as new land development projects are proposed or whenever a municipality's sewage disposal needs change. DEP reviews and approves the official plans and any subsequent revisions. The Act 537 plan must address existing sewage disposal needs or problems; account for future land development; and provide for future sewage disposal needs of the entire municipality. As can be seen in Table 7-3, only three municipalities have an adopted plan less than five years old, and the majority of the municipal plans are older than 20 years. Older plans may mean that sewage disposal is not adequately addressed and could pose future problems for the municipality.

Table 7-3: Greene County Status of Act 537 Plans

Municipality	Plan Approval Date	Status
Aleppo Township	9/1/1971	Plan older than 20 years
Carmichaels Boro	9/1/1971	Plan older than 20 years
Center Township	11/1/2002	Plan less than 5 years old
Clarksville Boro	9/1/1971	Plan older than 20 years
Cumberland Township	9/1/1971	Plan older than 20 years
Dunkard Township	9/1/1971	Plan older than 20 years
Franklin Township	8/12/2003	Plan less than 5 years old
Freeport Township	9/1/1971	Plan older than 20 years
Gilmore Township	9/1/1971	Plan older than 20 years
Gray Township	9/1/1971	Plan older than 20 years
Greene Township	9/1/1971	Plan older than 20 years
Greensboro Boro	9/1/1971	Plan older than 20 years
Jackson Township	9/1/1971	Plan older than 20 years
Jefferson Boro	9/1/1971	Plan older than 20 years
Jefferson Township	12/6/2002	Plan less than 5 years old
Monongahela Township	9/1/1971	Plan older than 20 years
Morgan Township	9/1/1971	Plan older than 20 years
Morris Township	1/12/1966	Plan older than 20 years
Perry Township	9/1/1971	Plan older than 20 years
Rices Landing Boro	1/15/1998	Plan between 5 and 10 years old
Richhill Township	9/1/1971	Plan older than 20 years
Springhill Township	9/1/1971	Plan older than 20 years
Washington Township	9/1/1971	Plan older than 20 years
Wayne Township	9/1/1971	Plan older than 20 years
Waynesburg Boro	9/1/1971	Plan older than 20 years
Whiteley Township	9/1/1971	Plan older than 20 years

Source: DEP, 2006



Infrastructure Project Funding

Greene County issued a bond in 2006 to make funding available to contribute towards local water and sewerage improvements. The following eighteen projects were submitted to the County for funding consideration:

- Ceylon Road Sewage Overload Elimination Project – Cumberland Township
- Route 88 Sewer Line Extension – Cumberland Township
- Serbiantown Sewer Line Extension – Cumberland Township
- Sewage Feasibility Study for Newtown – Dunkard Township
- Porter Street Waterline Extension – Franklin Township
- Sewage Treatment Plant Expansion – Franklin Township
- Dry Tavern Sewer Extension-Phase 2 – Jefferson Township
- Mt Morris Water and Sewer Expansion – Perry Township
- Cabbage Flats – Route 88 Sewer Extension – Monongahela Township
- Poland Mines Sewer Project – Monongahela Township
- Lower Ten Mile Joint Sewer Authority-Phase 1 – Morgan Township
- Two Waterline Extensions – Morgan Township
- Sycamore-Nineveh Waterline Extension – Morris Township
- Ruff Creek Waterline Extensions) – Washington Township
- Sewage Feasibility Study – Washington Township
- Shepherds Run Waterline Extension – Wayne Township
- Brave-Blacksville Water Project – Wayne Township
- Combined Sewer Overflow Separation Project – Waynesburg Borough

Since the total cost of each project exceeded the amount of funding available from the County, the projects were evaluated to establish funding needs and determine how best to leverage additional dollars from outside sources. The County sent questionnaires to each municipality that submitted a project to gather more information on each project. A selection committee chose projects based on funding considerations, residents' needs, and environmental impacts.

In September of 2006, the County announced a first round of awards, which included the following projects:

- Construction Projects:
 - Serbiantown Sewer Line Extension – Cumberland Township (\$20,000)
 - Woodies Run Waterline Extension – Morgan Township (\$200,000)
 - Route 88 Sewer Line Extension – Cumberland Township (\$50,000)
 - Lower Ten Mile Joint Sewer Authority - Phase 1 – Morgan Township (\$225,000)
- Planning Projects:

Areas that received funding for Act 537 planning are shown on *Figure 7-1: Infrastructure*.

- Act 537 Planning for Center Township (\$20,000)
- Act 537 Planning for Dilliner Area in Dunkard Township (\$20,000)
- Act 537 Planning for Poland Mines in Monongahela Township (\$20,000)
- Act 537 Planning for Alicia in Monongahela Township (\$20,000)
- Act 537 Planning for Washington Township (\$20,000)

Regional Water Management Task Force

The Regional Water Management Task Force is an 11-county effort to improve water management and water quality in Southwestern Pennsylvania. The following are the top water challenges as defined for the Regional Water Management Task Force in Greene County:

- Aging infrastructure in boroughs that need to be upgraded/replaced, as well as combined systems that need to be separated
- On-lot/alternative technologies that are prohibitively expensive for the residential property owner and have a limited service life
- Rural low-income populations that cannot afford an additional utility fee for water and sewer and municipal elected officials that cannot and should not be put in a position to make such a difficult and unfavorable decision for their people
- It all comes down to expense in Greene County- how do we build systems that meet the regulations but do not cost a burdensome amount to the land owners



C. Development Strategies

GOAL: Protect water supply & ensure quality

Strategy: Work the Pennsylvania Department of Environmental Protection (PA DEP) and the Greene County Conservation District to properly manage groundwater sources throughout the County by participating in wellhead protection programs and the master well owner network using source water protection plans and applying for grants for implementation.

Strategy: Develop a community based source water protection program to safeguard the public drinking supply based on the threats identified in watershed assessment already completed.

Strategy: Maintain an up-to-date and accurate list of all registered well drillers and inspectors for new and prospective residents within Greene County.

Strategy: Support the expansion of public water service only to areas with failing systems or areas without a dependable water supply.

GOAL: Ensure that the treatment of sewage is adequately planned for

Strategy: Continue dedicating money to the County bond issue program and direct to prioritized areas for expansion of water/sewer infrastructure.

Strategy: Review land development plans to ensure that sewage facilities planning is incorporated.

Strategy: Coordinate with the recorder of deeds to ensure that land development plans comply with sewage facilities plans.

Strategy: Incorporate watershed planning into water resource management and sewage treatment expansion decisions.

Strategy: Update the County's Act 537 Plan to include all township updates and amendments and include regulations for addressing septic system maintenance issues.

Strategy: Maintain an accurate and up-to-date GIS system containing existing water and sewer line data, proposed extensions, and parcels currently served.

"Strategy for a Greene Tomorrow"

Strategy: Support the implementation of the Southeastern Greene Multi-Municipal Comprehensive Plan and demonstration projects for communal on-lot sewage systems.

Strategy: Update the County Act 537 Plan to include all municipal updates and amendments to ensure consistency.

Strategy: Develop a countywide sewage agency (or support the development of regional sewage agencies) to oversee the regulations and administration of on-lot systems and sewage enforcement officers (SEO).

Strategy: Coordinate with PA DEP to provide annual training of sewage enforcement officers for the education of new regulations, alternative systems, etc.

Strategy: Lobby Pennsylvania legislators to revise the definition of sewage in Act 537 studies to include varying degrees of wastewater and thereby allow the different types to be treated differently.

Strategy: Open lines of communication with PA DEP regarding regulations for varying soil types and issues.

GOAL: Increase the capability of cellular service

Strategy: Maintain an accurate and up-to-date GIS system that maps the locations of all existing cellular towers and coverage.

Strategy: Work with telecommunications providers to expand cellular service within the County.



D. Implementation Plan



A. Background

The housing element of a comprehensive plan assesses housing needs to identify deficiencies and predict future demands. An evaluation of the housing stock provides an indication of the quality of life for residents and the economic vitality of the county. The results of this evaluation are used to develop specific housing programs, services, and strategies to address identified needs. The Comprehensive Plan includes an inventory of residential units in Greene County to assess the availability of dwelling units, the density of the development, and the affordability of housing.

Existing Studies

Greene County Comprehensive Plan (Candeub, Fleissig and Associates, 1979)

Greene County last completed a countywide comprehensive plan in 1979. The plan consisted of a background analysis and a final report. The final report contained detailed plans for land use, housing, recreation, thoroughfare, utility, and capital improvement projects. In addition, the comprehensive plan contained information taken from the Greene County Housing Market Analysis, which was completed by the Greene County Industrial Development Authority in 1978. Data, analysis and projections from both of these studies are referenced and included for comparative basis in this section of the Comprehensive Plan.

Housing Resources

Greene County offers housing resources to residents to assist with purchasing, renting, and repairing homes. The following resources and/or programs are available to Greene County residents; eligibility criteria may be required for access to some programs. The Greene County Housing Resource Manual is available for download at www.greenefindout.org or by contacting Greene County Findout at (724) 852-1943, 1-800-433-1943 or at the Fort Jackson Building located at 19 South Washington Street in Waynesburg Borough.

Housing Rehabilitation Program

Greene County operates a Housing Rehabilitation Program, which supports repairs to owner occupied dwellings in accordance with Federal guidelines. Low/Moderate income homeowners (owner-occupied only) are the target for the project and interested persons may obtain guidelines and an application package by contacting the Greene County Office of Housing Rehabilitation. Eligibility varies with different grant requirements, and documentation is program dependent.

In 2006, Greene County received \$500,000 in funding from the Pennsylvania HOME Program for home rehabilitation. The County proposes to rehabilitate at least 20 owner-

occupied homes located in the 15370 zip code; comprised of Waynesburg Borough, Center Township and Franklin Township, over the next three years, in order to bring the homes into compliance with the Pennsylvania Uniform Construction Code and the Pennsylvania Department of Housing and Urban Development (HUD) Section 8 Housing Quality Standards.

The Greene County Housing Authority

The overriding mission of all Housing Authorities throughout the country is to meet the housing needs of population groups that are at risk, in difficult life situations, challenging to serve, and who need help to help themselves, generically referred to as "special needs" populations.

The Housing Authority of Greene County, located at 170 East Greene Street in Waynesburg, focuses their work on serving low-income individuals and families, and disabled populations. They maintain, with high quality standards, and in an exceptional manner, 290 public housing units and 30 Section 8 vouchers. They have five FTE and ancillary cleaning and maintenance contracts. They provide intake and monitor the needs of their housing clients and apartment complexes. According to Board Members, the compliance with complex federal reporting guidelines and financial tracking is impeccable.

The shortfalls of the Greene County Housing Authority include their list of 130 applicants waiting to get into public housing (as of May, 2006) and the list of 40 clients waiting to be served with Section 8 vouchers. They have no long range strategy to overcome these shortfalls and the capacity of current staff to solve this shortage of housing units is limited.

Habitat for Humanity, Greene County

Greene County's Habitat for Humanity, located at 32 Church Street (suite 104) in Waynesburg, assists families who are living in substandard or inadequate housing, and do not have conventional financial ability to buy a home. Potential buyers are expected to contribute 175 hours of volunteer labor (per adult living in the home) during construction of the house. Homes are purchased with a low-interest mortgage. To be eligible, applicants must currently be living within Greene County in a dwelling that is unsafe or too small; able to make payments on a house within a range of \$160-200 per month plus utilities; and verification of income is required along with an application.

Greene County Housing Options Partnership (GCHOP)

The Greene County Housing Options Partnership was developed in order to create safe and affordable housing solutions to meet the needs of Greene County residents by:

- Addressing the housing needs of priority populations;
- Assessing all housing related services, resources, and supports;
- Collaborating and coordinating existing resources to maximize impact;



- Accessing a mixture of public and private funding;
- Educating younger and older adults about good credit and home ownership; and
- Advocating for legislative changes that impact housing

Greene County Local Housing Options Team (LHOT)

A subsidiary of GCHOP, the primary focus of the Greene County Local Housing Options Team is mental health and the LHOT allows the County to concentrate on the housing needs of people with disabilities.

Housing Snapshot

As it has been well documented, Greene County has been economically dependent upon the coal mining industry. By examining housing construction and economic data, it is easy to see that housing growth rates have mirrored the rise and fall of the mining industry. The population of Greene County grew in the early 20th Century as a result of the mining industry and the jobs that were created as a result. During the 1950's and 1960's the industry began declining causing the County to lose population. In the year 2000, the median year that homes were constructed was 1955, coinciding with the County's population peak in 1950. Since 1960, both Greene County's population and housing construction peaked between 1970 and 1980, during the boom of the mining industry. The planners of the 1970's did not foresee the downturn that mining would take over the next two decades, rather the bituminous coal mining industry was expected to grow substantially and cause an influx of population growth in the County by 2000. Instead, the population evened out during the 1980's and 1990's and thus there was less demand for growth in the housing market. Since 1999, Greene County reflects the third highest percent of structures being built, trailing only Butler and Monongalia. The rate of housing growth in Greene County between 2000 and 2006 is 2.7 percent, or 444 new housing units (US Census).

- 2000 - 16,702 units
- 2001 - 16,800 units
- 2002 - 16,871 units
- 2003 - 16,909 units
- 2004 - 16,965 units
- 2005 - 17,068 units
- 2006 - 17,146 units

According to new privately owned residential building permits issued in Greene County, 607 new housing units were constructed between 2000 and 2006. With an average of 87 homes built each year, there will be 870 new housing units constructed between 2000 and 2010. According to US Census, 2,775 new homes were built during the 1970's, 1,810 during the 1980's, and 1,746 were constructed between 1990 and March of 2000. While construction may have slowed, one factor that has increased is the value of new housing. In 2006, the average value of a new housing unit was \$116,865 while in 2001 the average new home constructed in Greene County was \$64,563, an increase of 45% over this 6 year period (Greene County Tax Abatement Office, 2008). Higher

value homes may indicate higher income for residents as well as the ability to attract a wealthier population into the County.

The United States Office of Housing and Urban Development (HUD) defined a fluid housing market as one having a vacancy rate of four to eight percent, where vacant only included those units for sale or for rent. A vacancy rate below four percent is considered to be a tight housing market. In 1977, the housing market in Greene County was considered to be tight, as only 2.4 percent of the housing units were classified as vacant. The tight market led to an estimated 20 to 35 percent increase in the sales price of homes between 1967 and 1977. In 2000, Greene County had a vacancy rate of 3.2 percent, which means that while the housing market is slightly more open than in 1977, it remains tight. There are just 42 more homes for sale and 125 more rental units in 2000 than in 1970. The lack of available vacant housing units for sale or rent may lead to an inflation of housing values due to the demand for housing and thereby cause a shortage of affordable homes.

The housing market vacancy rate only accounts for units that are vacant and for sale or for rent, whereas the U.S. Census counts include units that are vacant for other reasons, such as for recreational or occasional use; personal reasons of the owner; use by caretaker or janitor; settlement of estates; and awaiting occupancy and similar reasons. The overall vacancy rate in Greene County was 9.7 percent in 2000. In 2000, Greene County had 417 homes, or 2.5 percent of total housing units, vacant due to homes being only used for seasonal / recreational uses. While it is unknown whether these homes are owned by residents of Greene County or elsewhere, it is rather significant that the County has seen such a large increase in homes being used for seasonal / recreational uses. While the Census does not inventory the type of vacant homes, it would be interesting to see if mobile homes comprise a large percentage of the seasonal homes, as mobile homes are often used for camps. If so, this would at least account for a portion of the high percentage of mobile homes in the County.

Greene County maintains a 74 / 26 percent ratio of owner to renter occupied homes. The 1979 Comprehensive Plan predicted the need for a substantial number of rental units to be constructed in order to house the influx of inexperienced miners and low to moderate income workers. Census data shows that rental units increased by less than 600 units between 1970 and 2000. One explanation may be that, due to the decline of the mining industry, Greene County never experienced the population growth that was projected. Another explanation is that quick and cheap housing was offered at an affordable price, such as mobile homes, which allowed residents to purchase homes and negated the need for the construction of rental units.

Comparing housing affordability is somewhat difficult due to inflation and other factors that contribute to differences in income and value. However, by using some standards regarding multipliers and percentages of household income, the change in affordability can be demonstrated. Banks typically use a multiplier of either 2.4 or 2.6 times a family's annual income to determine the maximum amount that it can spend on purchasing a home. Note: the multiplier may be lowered if a small or no down payment is made on the home. In 1970, the median family income was \$7,337 as compared to \$37,435 in 2000. By using 2.4 as a multiplier, the median family could afford a home costing \$17,608 in 1970 and \$89,844 in 2000. The 1979 Comprehensive Plan cites new homes in 1977 generally starting at \$40,000 and typically selling between \$50,000 and \$65,000.



Modular “no frills” homes could be purchased as low as \$21,000, which is still higher than what most families could afford. In 2000, the median housing value in Greene County was \$56,900, with 42.0 percent of homes valued at less than \$50,000 and 42.5 percent of homes being valued between \$50,000 and \$99,000. By looking at just these figures, it appears that while housing has become more affordable in 2000, the housing available to residents is worth much less than many families can afford. Over 80 percent of the housing stock is valued at less than \$99,000, while the median family can afford a home valued at \$89,844.

A multiplier used in determining affordability for rental housing is that a family's monthly housing expenses should not exceed 25 percent of their monthly income. A household is considered by HUD to be *cost burdened* if the total monthly housing costs are 30 percent of the monthly income and *severely cost-burdened* if it exceeds 35 percent. While data is not available for 1970, in 2000 32.5 percent of renters were cost burdened, with 25.3 percent of them severely cost burdened. Median monthly rent was \$367 in 2000, meaning that almost one third of renters had trouble affording the rent.

Families and households that cannot afford to purchase homes or even rent homes based on these figures are in need of public assistance. In 1977, it was estimated that over 3,000 low- and moderate-income households were in need of housing in the \$18,000 to \$30,000 range or rentals for between \$100 and \$300 a month. Low-income households are those whose annual income does not exceed 80 percent of the area's median household income. In 2000, it is estimated that just over 6,000 households were considered to be low-income, or having a household income less than \$24,999. Approximately 37 percent of Greene County households are low-income, however a household making \$24,999 annually can afford a \$59,997 home, which is still higher than the median housing value in Greene County.

What will the impact be?

According to the County Profile for Greene County by the Center for Rural Pennsylvania, there were 647 new homes constructed between 2000 and 2005. With an average of 108 homes built each year, there will be 1,079 new housing units constructed between 2000 and 2010 for a 6.5 percent increase in housing units. Between 1990 and 2000, housing units increased at a 4.4 percent rate, indicating that the housing market is once again increasing. Another factor that has increased is the value of new housing. In 2005, the average value of a new housing unit was \$77,184, compared to a median value of \$56,900 in 2000. Higher value homes may indicate higher income for residents as well as the ability to attract a wealthier population into the County (Center for Rural Pennsylvania Greene County Profile, 2007).

One area that the County should focus on is the quality of the housing stock. A low median housing value indicates that there may be many homes in the County that are in poor condition. In 1975, the Greene County Industrial Development Authority (IDA) conducted a Greene County Housing Market Analysis. As part of this, homes were assessed structurally and rated on a scale ranging from good to very poor. The assessor rated 19.2 percent of the housing stock as good, 56.4 percent as fair, 21.0 percent as poor, and 3.4 percent as very poor. Homes rated poor were considered to be “very cheap constructed residential units, usually built by owner with or without

skilled help. Second or third grade materials often used; no built-in features; present day construction prohibited in many cases." Very poor indicated that "minimal and very substandard construction, quite frequently built with rough sawn native material, minimum of improvements and confined generally to one story construction."

In 1975, Aleppo Township, Jackson Township, and Morris Township were rated as having over 50 percent of their homes as either poor or very poor. Another ten municipalities in Greene County contained a housing stock with over 25 percent of homes rated either poor or very poor. With half of the County's municipalities containing significant percentages of poor housing, the Analysis found that 2,957 of occupied dwelling units, approximately 20 percent, were in need of rehabilitation and 200 units in need of replacement. The Analysis also estimated an additional 800 units needing replacement by the year 2000.

Where are people living?

In 1970, less than 10 percent of Greene County's land was deemed "readily developable" for residential construction, since the remaining land contained slopes in excess of 15 percent (Greene County Comprehensive Plan, 1979). Residential growth in the County was occurring mainly in Franklin Township and Cumberland Township, and to a lesser extent in Jefferson Township. These areas had land suitable, adequate road access, and the availability of public water and sewerage (with the exception of sewerage in Jefferson Township). The Plan stated that areas in the County that have steep slopes between 16 and 24 percent can be developed, however more extensive site preparation work is required, which increases construction and maintenance costs. Areas that are considered to be unsuitable for development contain steep slopes greater than 25 percent, which are mainly found in the southwestern portion of the County.

The 1979 Comprehensive Plan developed a concept plan for future land use based on a consensus of local politicians and residents. The housing plan proposed that medium density residential development (5-10 units per acre) should expand outward from existing urban centers in the eastern and central portions of the county based on access, topography, and the potential for utilities. These areas included:

- Waynesburg Borough / Franklin Township
- PA Route 188 / Ten Mile Creek from the Morgan Township / Franklin Township border to Clarksville Borough
- The village of Dry Tavern in Jefferson Township and the village of Crucible in Cumberland Township
- Carmichaels Borough / Cumberland Township
- Greensboro Borough / Monongahela Township
- The village of Mount Morris / Perry Township
- Area around the intersection of I-79 / Legislative Route 30014 in Whiteley Twp
- Unincorporated villages in the western portion of the County, including:
 - Wind Ridge in Richhill Township
 - Graysville in Gray Township
 - Between Rogersville in Center Township and Waynesburg Borough

The presence of steep slopes still inhibit development in Greene County, although slope data from the Southwestern Pennsylvania Commission (SPC) in 2000 cited almost 38 percent of the land having a slope less than 16 percent. According to land cover data provided by SPC in 1992, residential development accounted for just 1.36 percent of the total land cover in Greene County. Low-density rural residential development accounted for the overwhelming majority (1.13%) of all residential lands. According to the Greene County Tax Assessment Office (2003), 5.79 percent of Greene County land is classified as residential.



B. Data & Analysis

The housing plan element incorporates a comparison of the County's existing housing stock to that of surrounding counties. Housing is defined by the US Census Bureau (2000) as:

"A housing unit may be a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or, if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall...Both occupied and vacant housing units are included in the housing unit inventory."

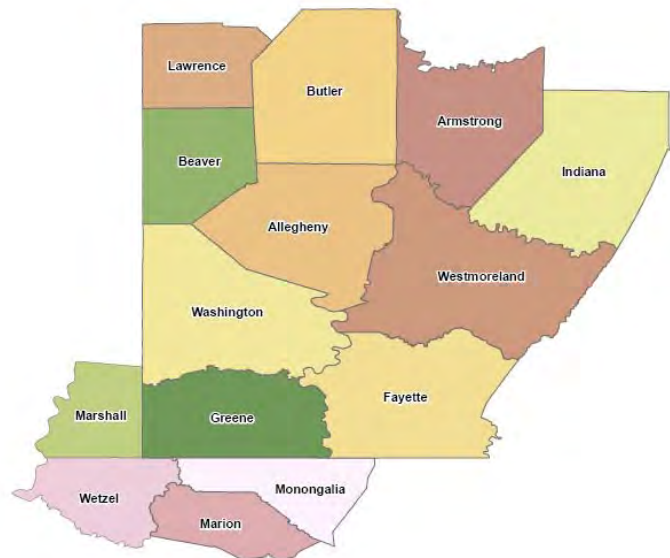
Determining which counties to include in the cross-sectional analysis was completed by combining two regions to which Greene County belongs. **Figure 8-2: Planning Region** depicts the counties that are included in the Planning Region.

How does Greene County stack up against surrounding Counties?

In order to fully analyze the housing situation in Greene County, it is important to not only understand how it has changed over time, but also how it compares to the surrounding region. Full comparisons for Greene County and the Planning Region using Census 2000 data regarding various housing statistics can be found in tables 8-1 through 8-16 at the end of this chapter.

After comparing Greene County to the other counties in the Planning Region, it stands out that Greene is most similar to Armstrong County, Fayette County, and to a certain extent Indiana County in the SPC Region. The housing conditions are also extremely similar to Marion County, Marshall County and Wetzel County in West Virginia.

Figure 8-2: Planning Region



- Greene County has 90.3 percent occupied housing units, ranks 8th in occupied housing and is similar to Armstrong, Fayette, and Indiana in PA and Marion, Marshall in WV
- o Rental units account for 20 percent of vacant units (second lowest in SPC Region; higher than three WV counties – not Monongalia)
- o For sale units account for almost 13 percent of vacant units (lower than all in SPC Region except Armstrong and Fayette, Marshall, Wetzel in WV)
- o Seasonal units account for over 25 percent of vacant units – lower than Armstrong (42 percent), Marshall and Wetzel



- Greene County has the second lowest occupied housing units (15,060) – similar to Marshall, WV
- o 1-unit detached account for 69 percent (lower than all but Indiana and Monongalia)
 - o 2-units account for 2.8 percent (lowest in SPC Region – higher than only Wetzel)
 - o 3-4 units is lowest in entire planning region (comparable to Wetzel)
 - o 5-9 units is second lowest in PA (behind Armstrong, comparable to Marshall, Wetzel)
 - o 10-19 units is sixth in PA (comp to Beaver, Washington, Westmoreland) and comp to Marshall and Wetzel, WV
 - o 20+ units are comparable to Armstrong, Fayette, Marion, and Wetzel
 - o Mobile homes are comparable to Monongalia, Wetzel, WV – Indiana closest in PA

Housing Occupancy

Table 8-1: Housing Occupancy shows the percentages of housing units as either occupied or vacant for the counties in the Planning Region in 2000. Additional information is included for vacant housing units, including whether the unit is for sale; for rent; rented or sold but unoccupied; for seasonal, recreational or occasional use; and for other reasons. Greene County at 90.3 percent ranks sixth (out of the 14 counties) in terms of percentage of housing units that are occupied. With 9.7 percent (or 1,618 units) vacant housing units, Greene County has the third highest percentage in the SPC Region and sixth overall.

Table 8-1: Housing Occupancy, 2000

	Total: Housing Units	Occupied Housing Units	Vacant Housing Units	Vacant, For rent	Vacant, For sale only	Rented or sold, not occupied	Vacant, For seasonal, recreational, or occasional use	Other vacant *
Allegheny	583,646	92.0	8.0	37.1	14.6	10.0	4.5	33.7
Armstrong	32,387	89.6	10.4	14.9	11.3	5.5	42.0	26.2
Beaver	77,765	93.3	6.7	28.8	17.4	11.6	6.6	35.5
Butler	69,868	94.3	5.7	28.0	19.6	11.0	20.6	20.7
Fayette	66,490	90.2	9.8	25.5	10.4	9.8	22.8	31.6
Greene	16,678	90.3	9.7	20.2	12.7	9.5	25.8	31.8
Indiana	37,250	91.6	8.4	24.7	13.0	7.5	20.6	34.2
Lawrence	39,635	93.6	6.4	26.5	18.7	12.5	11.9	30.4
Washington	87,267	93.0	7.0	31.7	18.1	14.9	5.3	30.0
Westmoreland	161,058	93.0	7.0	26.4	16.0	10.3	14.4	32.8
Pennsylvania	5,249,750	91.0	9.0	22.3	11.8	7.9	31.4	26.5
Marion	26,660	88.7	11.3	29.4	17.4	7.9	10.5	34.7
Marshall	15,814	89.8	10.2	13.4	8.5	9.4	33.1	35.6
Monongalia	36,695	91.1	8.9	33.7	15.6	7.4	12.1	31.1
Wetzel	8,313	86.2	13.8	14.7	8.7	12.5	36.6	27.5
West Virginia	844,623	87.2	12.8	16.9	11.3	7.4	30.3	34.1

Source: U.S. Census, 2000; * includes housing units that are vacant for any reason other than the other categories listed



Housing Units

Table 8-2: Housing Units provides housing unit data for occupied housing units in 2000. One or more housing units may exist within a single structure and each unit is included in total housing unit count. Dwelling units are categorized as one-unit attached; one-unit detached; two units; 3-4 units; 5-9 units; 10-19 units; 20 or more units; mobile home; and boat, RV, van, etc.

Greene County had a total of 15,060 occupied housing units in 2000. Sixty-nine percent of occupied housing units are a single detached unit, which accounts for the majority of housing types. Monongalia County has the lowest percentage of single detached units, at 53.8 percent. Mobile homes, which account for 17.7 percent of all housing units in Greene County, outpaces all other counties in the Planning Region. Monongalia County (15.9) and Wetzel County (16.8) have comparable percentages of mobile homes to Greene County. Mobile homes comprise 16.9 percent of total housing units in West Virginia, as compared to Pennsylvania at 4.6 percent.

Figure 8-1: Housing Type maps the location of single-family homes (1-unit detached/attached), multi-family homes, and mobile homes in Greene County. Single-family and mobile homes are scattered throughout the County, while multi-family homes (apartments, duplexes, town houses, etc.) can be found in and around the boroughs, such as Carmichaels and Waynesburg.

Table 8-2: Total Housing Units, 2000										
	Occupied Housing Units	Units in Structure (% of Total Occupied Housing Units)								
		1-unit, detached	1-unit, attached	2 units	3 or 4 units	5 to 9 units	10 to 19 units	20 or more units	Mobile home	Boat, RV, van, etc.
Allegheny	537,150	64.3	8.7	5.4	4.6	4.5	3.8	7.9	0.8	0.0
Armstrong	29,005	76.8	2.8	3.5	2.3	1.3	0.4	2.0	10.8	0.1
Beaver	72,576	75.0	3.2	3.9	4.3	3.3	1.6	3.2	5.5	0.0
Butler	65,862	70.3	3.8	3.4	2.9	2.2	2.2	2.9	12.3	0.0
Fayette	59,969	69.5	5.2	4.1	3.0	2.6	0.7	2.2	12.7	0.0
Greene	15,060	69.0	3.2	2.8	2.1	1.8	1.4	2.0	17.7	0.1
Indiana	34,123	68.0	2.4	3.6	3.0	3.2	2.9	2.8	14.0	0.0
Lawrence	37,091	76.3	2.2	4.0	3.1	2.6	1.0	2.7	8.0	0.0
Washington	81,130	74.8	4.8	3.9	3.0	2.1	1.4	3.0	6.9	0.0
Westmoreland	149,813	75.9	3.2	4.0	2.7	2.2	1.5	3.0	7.5	0.0
Pennsylvania	4,777,003	57.0	18.0	4.9	4.3	3.3	2.5	5.4	4.6	0.0
Marion	26,660	73.8	1.1	4.2	3.9	2.7	1.0	2.0	11.4	-
Marshall	15,814	77.0	1.7	3.9	3.7	1.7	0.5	1.2	9.8	0.5
Monongalia	36,695	53.8	3.2	5.5	6.5	6.1	4.2	4.8	15.9	-
Wetzel	8,313	73.5	0.9	2.4	2.3	1.7	0.8	1.5	16.8	0.1
West Virginia	844,623	69.1	1.6	2.6	2.9	2.6	1.5	2.4	16.9	0.4

Source: U.S. Census, 2000

Age of Structure

The age of the housing units can predict the condition of the housing stock in terms of physical needs and historical significance. Housing units built before current building codes may present potential hazards from faulty wiring or lead based paint. On a positive note, older homes can also indicate that the structures have historic significance, which can lend to a desirable community character. **Table 8-3: Year Structure was Built** provides the age in which housing structures were built, prior to March of 2000. Table 8-2 also provides a comparison between the Planning Region communities in terms of the median year in which the structure was built. Since 1999, Greene County reflects the third highest percent of structures being built, trailing only Butler (2.0) and Monongalia (2.4). Prior to 1999-2000, the highest level of new structures being built compared to the Planning Region was during 1970 to 1979. However, the primary development years occurred prior to 1959 resulting in a median year for housing structures at 1955. This Median Age of Structure places Greene County slightly ahead of Allegheny, Armstrong, Fayette, and Lawrence.

Table 8-3: Year Structure was Built, 2000									
	1999 to March 2000	1995 to 1998	1990 to 1994	1980 to 1989	1970 to 1979	1960 to 1969	1940 to 1959	1939 or earlier	Median Age of Structure
Allegheny	0.6	2.0	2.8	6.6	11.3	13.0	32.5	31.2	1953
Armstrong	0.9	3.8	3.6	9.1	14.1	9.4	22.2	36.8	1953
Beaver	0.8	3.0	3.9	6.5	13.5	11.9	32.8	27.6	1955
Butler	2.0	9.3	9.4	12.9	18.1	10.1	18.5	19.7	1972
Fayette	1.1	4.1	4.5	9.1	13.6	7.9	22.5	37.0	1952
Greene	1.3	3.9	5.2	10.9	17.3	7.0	19.4	35.0	1955
Indiana	1.2	4.7	5.9	13.2	19.4	10.2	16.7	28.8	1965
Lawrence	1.0	4.0	3.4	6.4	12.1	9.0	29.4	34.7	1952
Washington	1.1	4.2	4.9	8.6	14.0	11.3	24.8	31.2	1957
Westmoreland	1.0	3.8	4.7	9.0	15.9	13.7	26.0	25.9	1959
Pennsylvania	1.1	4.1	5.2	10.2	13.7	11.3	24.4	29.9	1958
Marion	1.1	5.1	4.7	8.6	14.9	10.5	24.0	31.2	1956
Marshall	0.7	3.8	3.9	8.1	18.3	11.1	22.4	31.5	1957
Monongalia	2.4	7.8	8.8	15.5	19.2	10.6	18.3	17.4	1972
Wetzel	1.0	3.7	6.9	13.7	16.3	13.5	20.8	24.1	1964
West Virginia	1.9	6.9	6.7	14.4	18.6	10.9	21.4	19.3	1969

Source: U.S. Census, 2000



Year Householder Moved into Unit

Table 8-4: Year Householder Moved into Unit displays the year in which the homeowner or renter moved into the structure. Greene County experienced a significant transition period between 1995 and 1998. During this period, most of the study area also had a high rate of people moving into their existing unit. The data also shows that the county has a high rate of persons who have been living in their current home since 1969. This statistic indicates that Greene County enjoys a stable community atmosphere, although it may also result in a lack of housing availability.

Table 8-4: Year Householder Moved into Unit (%), 2000						
	1999 to March 2000	1995 to 1998	1990 to 1994	1980 to 1989	1970 to 1979	1969 or earlier
Allegheny	15.0	23.0	14.5	15.8	12.1	19.5
Armstrong	10.2	19.6	14.6	17.5	14.5	23.6
Beaver	11.1	21.3	15.4	15.4	13.5	23.3
Butler	14.1	26.2	16.8	16.2	11.9	14.8
Fayette	11.7	19.8	14.2	17.5	14.4	22.4
Greene	12.3	20.8	16.2	18.3	14.5	17.8
Indiana	16.2	21.3	12.7	17.6	14.3	17.9
Lawrence	11.7	21.1	14.1	15.6	14.0	23.4
Washington	11.2	21.3	15.1	16.8	13.9	21.7
Westmoreland	10.9	20.4	14.9	17.2	14.0	22.6
Pennsylvania	14.6	23.9	15.4	17.2	12.0	17.0
Marion	15.5	20.6	15.0	15.7	12.5	20.7
Marshall	11.5	20.9	16.3	17.0	16.2	18.2
Monongalia	27.2	26.5	13.7	13.1	9.2	10.4
Wetzel	12.3	21.4	17.2	19.1	13.5	16.5
West Virginia	15.3	24.1	15.8	17.1	12.9	14.8

Source: U.S. Census, 2000

Housing Value

Table 8-5 shows that the Median Housing Value for Greene County falls below that of Pennsylvania by almost \$40,000. With a median housing value of \$56,900, Greene County has the lowest median value in the entire Planning Region. The counties that are somewhat comparable to Greene include Marshall, Marion, Fayette, and Armstrong, although each has a median value at least five thousand dollars higher than Greene. A further review of the data indicates that the available housing with its concentration of lesser value homes suggests that the conditions of the structures maybe suspect. Greene County has the highest level of homes identified as valued less than \$50,000 although it is comparative to the Planning Region for homes values between \$50,000 to \$99,000.

Data showing the lack of higher value homes lends to the assumption that housing options are lacking within the county for persons of higher income earning potential. Greene is most similar to Armstrong County in the percentage of homes valued at \$200,000 or higher. Butler County has the highest median housing value at \$114,100 with Monongalia County next at \$95,500.

Table 8-5: Housing Value of Owner Occupied Units, 2000

	Specified owner-occupied units	Less than \$50,000	\$50,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 to \$299,999	\$300,000 or more	Median (dollars)
Allegheny	331,436	19.5	43.8	20.0	8.2	5.2	3.2	\$84,200
Armstrong	16,785	32.6	50.1	11.3	4.6	1.1	0.3	\$64,500
Beaver	46,498	18.1	47.3	22.5	7.9	3.4	0.7	\$85,000
Butler	38,755	6.4	34.1	30.7	14.3	10.9	3.7	\$114,100
Fayette	34,118	34.1	47.0	12.3	3.6	2.0	1.0	\$63,900
Greene	6,999	42.0	42.5	10.7	3.0	1.4	0.2	\$56,900
Indiana	17,070	27.0	50.5	14.0	5.1	2.2	1.2	\$72,700
Lawrence	23,244	29.1	45.6	15.8	6.2	2.7	0.6	\$72,200
Washington	51,774	19.2	40.6	21.3	9.5	5.8	3.5	\$87,500
Westmoreland	98,739	13.4	45.2	23.5	10.0	5.5	2.4	\$90,600
Pennsylvania	2,889,484	15.1	37.4	24.3	11.9	7.4	3.9	\$97,000
Marion	13,798	34.8	47.8	11.5	3.6	1.7	0.6	\$63,600
Marshall	8,412	35.5	50.7	9.4	3.2	0.8	0.5	\$62,600
Monongalia	14,767	12.4	41.7	23.0	11.9	7.4	3.6	\$95,500
Wetzel	3,792	27.5	56.9	10.5	3.7	1.2	0.3	\$66,000
West Virginia	392,928	26.7	47.0	15.9	5.8	3.2	1.3	\$72,800

Source: U.S. Census, 2000



Mortgage Status

Table 8-6: Mortgage Status provides data on the percentage of owner-occupied homes with a mortgage and the median monthly mortgage payment. The percentage of homes mortgaged can indicate the capacity of residents to own a home. The Counties of Allegheny, Butler and Monongalia have the highest percentage of homes with mortgages. Compared to these counties, Greene fares rather poorly although the County is better off than the West Virginia Counties of Marion and Wetzel. The percentage of homes not mortgaged represents persons who have owned their homes for a long time or have had the home in their family for a long time. The high percentage of homes that are not mortgaged in Greene County (48.7) supports the fact that over 50 percent of householders moved into their homes prior to 1989 (see Table 8-4: Year Householder Moved into Unit on page 8-7).

The median monthly mortgage payment for Greene County is \$713, which is most similar to Armstrong County and Fayette County. Greene is one of eight counties with a mortgage lower than \$800. Butler County has the highest in the Planning Region, at \$1,025, which along with Allegheny County are the only ones comparable to that of Pennsylvania. With the exception of Monongalia County, the counties in West Virginia have the lowest median mortgages in the Planning Region.

Table 8-6: Mortgage Status (owner occupied)

	% With a mortgage	Median (dollars)	% Not mortgaged
Allegheny	60.9	\$971	39.1
Armstrong	48.7	\$729	51.3
Beaver	56.8	\$898	43.2
Butler	66.1	\$1,025	33.9
Fayette	49.3	\$704	50.7
Greene	51.3	\$713	48.7
Indiana	50.6	\$785	49.4
Lawrence	51.7	\$762	48.3
Washington	56.3	\$890	43.7
Westmoreland	57.0	\$899	43.0
Pennsylvania	62.2	\$1,010	37.8
Marion	46.9	\$679	53.1
Marshall	51.0	\$621	49.0
Monongalia	60.9	\$842	39.1
Wetzel	47.7	\$648	52.3
West Virginia	52.3	\$713	47.7

Source: U.S. Census, 2000

Owner Costs

According to the Office of Housing and Urban Development (HUD), a household is considered *cost burdened* if the percentage of total household cost is thirty percent (30%) of the total household income. A household is considered *severely cost burdened* if that percentage is thirty-five percent (35%) or greater. The US Census Bureau (2000) defines selected monthly owner/renter costs as "the sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property (including first and second mortgages, home equity loans, and other junior mortgages); real estate taxes; fire, hazard, and flood insurance on the property; utilities (electricity, gas, and water and sewer); and fuels (oil, coal, kerosene, wood, etc.). It also includes, where appropriate, the monthly condominium fees or mobile home costs (installment loan payments, personal property taxes, site rent, registration fees, and license fees). **Table 8-7: Selected monthly owner costs** provides a comparison of the costs as a percentage of household income.

Table 8-7: Selected monthly owner costs as a percentage of household income, 1999

	Less than 15 %	15 to 19 %	20 to 24 %	25 to 29 %	30 to 34 %	35 % or more	Not computed
Allegheny	38.5	18.1	13.3	9.0	5.3	15.0	0.9
Armstrong	43.9	17.2	12.5	6.9	4.9	13.3	1.2
Beaver	38.9	18.6	13.6	8.8	4.8	14.4	0.8
Butler	38.6	18.4	14.7	8.6	5.6	13.3	0.7
Fayette	47.3	15.5	10.5	7.0	4.2	14.4	1.0
Greene	46.7	16.7	10.9	7.0	4.5	13.1	1.1
Indiana	45.8	15.8	12.3	7.0	4.7	13.7	0.8
Lawrence	43.8	16.8	12.3	8.2	5.6	12.5	0.9
Washington	45.1	16.9	12.7	7.7	4.6	12.5	0.5
Westmoreland	42.2	17.6	12.3	8.2	5.1	13.9	0.7
Pennsylvania	37.8	17.6	13.8	9.1	5.7	15.1	0.8
Marion	52.4	15.3	10.7	5.7	3.9	10.7	1.3
Marshall	57.9	14.6	8.3	5.9	2.8	9.4	1.1
Monongalia	48.5	15.6	11.2	7.5	3.7	12.3	1.1
Wetzel	56.9	12.9	10.9	5.4	2.6	10.2	1.1
West Virginia	50.8	15.5	10.2	6.4	4.0	11.9	1.2

Source: U.S. Census, 2000

With comparative low mortgages and lower housing values, the percentage of Greene County homeowners who are considered to be cost-burdened is less than the majority of its Planning Region counterparts. At less than 18 percent of homeowners who have monthly owner costs in excess of 30 percent of their total household income, Greene has the second lowest percentages of cost-burdened homeowners in the SPC Region, behind only Washington County. All four counties in West Virginia had less than 16 percent of cost-burdened homeowners. In fact, West Virginia has only 15.9 percent of homeowners who pay monthly costs of over 30 percent of their income compared to 20.8 percent of homeowners in Pennsylvania.



Gross Rent

The US Census Bureau (2000) defines gross rent as “the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid by the renter (or paid for the renter by someone else). Gross rent is intended to eliminate differentials that result from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment. The estimated costs of utilities and fuels are reported on an annual basis but are converted to monthly figures for the tabulations. Renter units occupied without payment of cash rent are shown separately as “No cash rent” in the tabulations.” **Table 8-8 Gross Rent** displays the gross monthly rent for the Planning Region.

Table 8-8: Gross Rent		
	Specified renter-occupied units	Median (dollars)
Allegheny	176,537	\$516
Armstrong	6,274	\$395
Beaver	17,979	\$438
Butler	14,181	\$487
Fayette	15,798	\$367
Greene	3,663	\$367
Indiana	9,214	\$426
Lawrence	8,240	\$424
Washington	18,076	\$423
Westmoreland	32,413	\$432
Pennsylvania	1,348,824	\$531
Marion	5,767	\$401
Marshall	3,070	\$347
Monongalia	12,863	\$453
Wetzel	1,432	\$335
West Virginia	176,393	\$401

Source: U.S. Census, 2000

Housing information data also provides an understanding of the affordability and availability of rental units. Rental units are extremely important housing options for residents. Renting is an important component as this housing element often is less expensive in terms of monthly costs and maintenance. Rental units are often a preferred mode of housing for persons who do not want the responsibility of caring for property or who may be transient in nature. With a median monthly rent of \$367, Greene County falls well below Pennsylvania and almost all of the other counties. Greene County has an identical median monthly rent cost as Fayette County and is higher than that of Marshall County and Wetzel County.

Renter Costs

Despite the low gross rent prices, the level of cost burden for renters in Greene County indicates affordable rental units may be difficult to find. As shown in **Table 8-9: Gross rent as a percentage of household income**, the rate of persons who are within the 30-34 percent of gross rent as compared to total housing income is at 7.2 percent, which is higher than Pennsylvania and all counties except for Beaver, Lawrence, and Washington. The rate of persons in the severely cost-burdened falls below the Pennsylvania average, but remains high at 25.3 percent.

Table 8-9: Gross rent as a percentage of household income, 1999

	Less than 15 %	15 to 19 %	20 to 24 %	25 to 29 %	30 to 34 %	35 % or more	Not computed
Allegheny	19.3	14.1	12.1	10.8	6.9	29.9	6.9
Armstrong	23.2	11.3	12.8	9.5	6.9	24.0	12.3
Beaver	25.1	13.6	11.1	9.7	8.0	24.0	8.5
Butler	21.4	13.6	11.9	8.8	6.2	28.7	9.5
Fayette	19.7	11.2	11.5	8.2	5.4	28.6	15.4
Greene	19.9	11.4	12.7	8.0	7.2	25.3	15.4
Indiana	16.9	10.6	8.5	8.7	6.7	35.4	13.1
Lawrence	17.2	11.9	10.0	10.9	7.9	28.8	13.3
Washington	19.8	12.7	11.8	10.3	7.4	26.0	12.0
Westmoreland	22.7	14.2	11.4	10.4	6.4	24.5	10.4
Pennsylvania	19.2	14.4	12.3	10.4	6.9	28.6	8.2
Marion	16.7	9.9	8.9	8.4	7.0	31.6	17.5
Marshall	20.0	13.5	9.8	7.7	6.2	24.1	18.7
Monongalia	12.1	8.8	7.7	7.7	5.5	44.9	13.3
Wetzel	25.0	5.4	7.7	10.5	6.0	25.8	19.7
West Virginia	18.9	11.4	9.9	8.4	6.2	28.3	16.9

Source: U.S. Census, 2000



Housing Tenure

Dwelling unit tenure is a useful variable to describe the housing character of a community as the ownership of a home can lend to improved property maintenance. However, communities must also have rental units for persons who require dwelling units that are smaller or which require less maintenance. **Table 8-10: Housing Tenure** displays the percent of housing units that are owner occupied and renter occupied. Greene County has an owner to renter ratio of 74.1 to 25.9, which is most similar to Beaver County and Marion County. Typically, Counties showing a higher median housing value have higher ratios of owner occupants as compared to renter occupants. However, it is important to take into consideration the presence of institutions, such as colleges and universities, which account for higher percentages of rental units. Additionally, places that are considered to have affordable housing (low taxes, low mortgages, etc.) typically have a higher percentage of home owners.

	Owner-occupied housing units	Renter-occupied housing units
Allegheny	67.0	33.0
Armstrong	77.3	22.7
Beaver	74.9	25.1
Butler	77.9	22.1
Fayette	73.2	26.8
Greene	74.1	25.9
Indiana	71.7	28.3
Lawrence	77.3	22.7
Washington	77.1	22.9
Westmoreland	78.0	22.0
Pennsylvania	71.3	28.7
Marion	74.8	25.2
Marshall	77.6	22.4
Monongalia	61.0	39.0
Wetzel	78.5	21.5
West Virginia	75.2	24.8

Source: U.S. Census, 2000

Age of Householder

Table 8-11: Age of householder reveals the age of homeowners in the study area. The single largest homeowner category for Greene County is in the 45-54 year age bracket, with those persons 35-44 years of age ranking just behind with 21.4 percent and 19.4 percent respectively. Typically, these two segments of the population desire the element of stability that homeownership provides as they either have families and/or are firmly entrenched in careers. Greene County should be aware that it has a higher level of elderly homeowners over the age of 85 than many other communities in the Planning Region. Greene actually has comparatively low percentages of homeowners in the 65 to 74 and 75 to 84 age brackets.

Table 8-11: Age of householder (%), 2000								
	15 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 to 84 years	85 years and over
Allegheny	4.5	15.0	20.0	20.0	13.0	14.0	11.0	3.0
Armstrong	2.7	12.8	20.8	19.9	14.3	14.3	11.9	3.3
Beaver	2.8	12.0	21.0	20.0	14.0	15.0	12.0	2.8
Butler	3.7	14.9	23.7	21.2	13.7	11.2	8.9	2.6
Fayette	3.4	13.0	19.0	20.0	15.0	15.0	12.0	3.3
Greene	3.7	14.4	19.4	21.4	14.3	12.7	10.8	3.4
Indiana	9.1	13.0	19.0	20.0	14.0	12.0	10.0	2.8
Lawrence	3.0	12.2	19.5	19.7	14.3	14.8	13.1	3.5
Washington	3.0	13.0	20.0	21.0	15.0	14.0	12.0	3.0
Westmoreland	2.4	12.3	20.5	20.6	14.9	14.6	11.7	2.9
Pennsylvania	4.1	15.0	21.5	20.1	13.9	12.8	9.9	2.7
Marion	6.3	13.3	17.1	19.7	14.7	13.3	11.6	4.0
Marshall	3.3	13.3	18.4	22.7	15.0	14.5	10.1	2.7
Monongalia	18.4	17.4	17.4	17.6	11.3	9.2	6.6	2.0
Wetzel	2.6	12.3	18.8	20.1	18.4	14.9	9.9	0.9
West Virginia	5.1	14.3	19.3	20.7	15.0	13.4	9.4	2.8

Source: U.S. Census, 2000

The 2000 Census data had 11,159 owner occupied households. There are 3,282 owner occupied where the householder is 65 years of age or older. Therefore, 29.4 percent of all owner occupied units are seniors 65 and older. The Greene County Comprehensive Plan also states the following: While the County should be aware that it has a higher level of elderly homeowners over the age of 85 than many other communities in the Planning Region, Greene actually has comparatively low percentages of homeowners in the 65 to 74 and 75 to 84 age brackets.



Heating Source

Table 8-12: Source of heat, indicates that the predominant heating method for the study area is natural (utility) gas, however at 57.8 percent, Greene has one of the lowest percentages of homes using natural gas. Greene County has a small percent of housing units that rely on bottled tank or LP gas and wood, with an even smaller percentage that rely on either coal or some other type of fuel. A fairly significant portion of county houses rely on electricity (13.9%) and an even larger that rely on fuel oil / kerosene (18.6%). Fuel oil is a common source of heating in rural areas. Higher percentages of households that rely on electricity are around in West Virginia, where it is the source of heat for more than 30 percent of all households in the entire state.

Table 8-12: Source of Heat

	Utility gas	Bottled, tank, or LP gas	Electricity	Fuel oil, kerosene, etc.	Coal or coke	Wood	Other fuel	No fuel used
Allegheny	88.3	0.8	8.5	1.5	0.0	0.1	0.5	0.2
Armstrong	76.1	3.3	6.1	11.4	0.8	1.5	0.5	0.2
Beaver	72.0	2.9	8.4	15.1	0.1	0.9	0.5	0.1
Butler	66.4	4.3	12.4	14.6	0.2	1.6	0.4	0.1
Fayette	44.5	3.8	12.5	35.1	2.1	1.6	0.3	0.1
Greene	57.8	5.1	13.9	18.6	0.8	3.3	0.4	0.1
Indiana	51.7	4.7	12.4	25.8	1.9	2.6	0.8	0.1
Lawrence	62.4	2.5	11.5	21.3	0.4	1.5	0.4	0.1
Washington	67.7	1.6	15.2	13.4	0.2	1.4	0.4	0.1
Westmoreland	65.4	2.0	11.1	19.6	0.4	1.0	0.4	0.1
Pennsylvania	51.3	3.0	16.5	25.5	1.4	1.6	0.4	0.2
Marion	78.1	2.7	14.2	1.7	0.2	2.8	0.4	0.0
Marshall	57.1	5.1	26.1	4.9	0.0	6.3	0.5	0.1
Monongalia	64.0	5.2	22.5	3.8	0.4	3.3	0.5	0.1
Wetzel	73.6	4.2	13.0	1.7	0.1	7.2	0.3	0.0
West Virginia	47.8	5.6	32.2	6.7	1.1	5.9	0.5	0.1

Source: U.S. Census, 2000; All counties had zero or rounds to zero for solar energy

Housing Characteristics

Table 8-13: Selected Characteristics provides information related to specific housing characteristics. Items such as plumbing availability, the presence of kitchen facilities, and telephone service all contribute to the desirability of housing units as well as the overall quality of life within a community. Greene County has the highest percentages of households lacking complete plumbing facilities, tied with Indiana County and Wetzel County. In terms of lacking kitchen facilities, Greene ranks comparatively with the other counties in the Planning Region. At 2.4 percent of households without telephone service, Greene has the highest of the counties in the SPC Region, but is lower than all of the West Virginia counties.

Table 8-13: Selected Characteristics, 2000

	Lacking complete plumbing facilities	Lacking complete kitchen facilities	No telephone service
Allegheny	0.4	0.4	0.9
Armstrong	0.7	0.5	1.1
Beaver	0.4	0.3	1.2
Butler	0.3	0.5	1.0
Fayette	0.6	0.4	1.7
Greene	1.2	0.5	2.4
Indiana	1.2	1.1	2.3
Lawrence	1.0	0.8	1.7
Washington	0.5	0.5	0.9
Westmoreland	0.3	0.4	0.8
Pennsylvania	0.5	0.5	1.4
Marion	0.6	0.4	3.0
Marshall	0.6	0.6	2.7
Monongalia	0.6	0.5	2.9
Wetzel	1.2	0.7	4.2
West Virginia	1.0	0.7	4.7

Source: U.S. Census, 2000



Senior Living

There are three nursing homes located within Greene County, all of which are in or near Waynesburg Borough. Beverly Healthcare is located at 300 Center Avenue in Waynesburg and has been in operation since 1984. It is part of a for-profit chain of nursing homes and offers 111 certified beds. Rolling Meadows is located at 107 Curry Road in Waynesburg and has also been operating since 1984. It is operated by a non-profit corporation and is the largest facility of its kind in Greene County, with 121 certified beds. The third nursing home in the County is located in the Southwest Regional Medical Center, at 350 Bonar Avenue in Waynesburg. The Center is owned and operated by a non-profit corporation and is the smallest of the facilities, with 20 certified beds. (Retrieved Online at: <http://www.medicare.gov/>)

There is also one personal care home located in Mount Morris, close to the I-79 Interchange. Smithley Personal Care Home offers the following services (Retrieved Online at: www.co.greene.pa.us):

- Warm family atmosphere
- 24-hour care
- Patient oriented
- Home-cooked meals
- Affordable quality care
- Day care for elderly
- Accepting SSI and welfare patients

Special Needs Housing

There are many other programs that our Housing Authority could get involved with that relate to "Special needs" housing also, but do not because they have maximized their potential under the current administration and funding resources. These programs include but are not limited to:

- Home Rehab and repair
- Mental Health and Mental Retardation Housing
- Emergency Repair Program
- Landlord Training and Rental Property development
- Homeownership Programs
- Transitional Housing
- Homeless Housing
- Shared Housing (several people living together, with each one using a section 8 voucher)
- Closer collaborations with other human services to move clients to self sustaining living situations

Housing for people with special circumstances is necessary in Greene County. The waiting lists maintained by the Housing Authority are clear indications of this. This population group is only one target audience that requires housing assistance in Greene County. Although the expectation is

that the Housing Authority could serve their current client load in a more comprehensive way, they cannot be expected to serve the low median, median, and market rate sector that is also in need of housing. These needs are better met by a Community Development Corporation/Community Housing Development Corporation such as Threshold. Threshold could for example, in collaboration with the Housing Authority, could begin to build more housing to meet the needs of the Housing Authority client group as well as build housing for first time homebuyers, the elderly, and mixed income neighborhoods that serve a broader cross section of the working family. They could also do rehab of buildings that are located in areas like Waynesburg Borough, where services are within walking distances for not only the special needs population groups but all people. The primary focus of Threshold is to build work force housing.

Future Housing Needs

Washington County, Pennsylvania and Monongalia County, West Virginia are growing at a much higher rate than Greene. It is important that Greene County recognize these high growth counties on its boundaries and plan for residential development as an outcome of their growth. Monongalia County has aggressive economic development strategies through West Virginia University (WVU), the FBI Center, and the West Virginia High Tech Consortium. Three factors are key to projecting this growth:

1. Population growth
2. Total householders
3. Housing Units

The Census Bureau's American Community Survey collects important data between Census years. It is important to note that Washington and Monongalia Counties have been surveyed due to their populations while Greene County was not. The survey provides projections and not complete data. **Table 8-14: County Comparisons** provides an overview of population and housing units for 2000-2006 for Washington, Monongalia and Greene Counties.

Each county will impact Greene County housing as well as the tax base, but in two different ways. First of all, Washington County has increased their population by 1.7 percent over the last six years. Their housing units have increased 4.8 percent over that same time period. With the housing increase higher than the population increase, we can expect a small amount of people to move within our borders. Secondly, Monongalia County is a little different because their population increase of 3.5 percent is slightly higher than their housing increase of 3.1 percent. Greene County can expect a higher rate of new homeowners from this county because their housing needs will not be able to keep up with their growing population.



Table 8-14: County Comparisons

	Washington County	Monongalia County	Greene County
Square Miles	857.0	361.0	576.0
2000 Population	202,897	81,866	40,672
2006 Est. Population	206,432	84,752	40,432
Increase (2000-2006)	3,545 (1.7%)	2,886 (3.5%)	-240 (-.6%)
2000 Housing Units	87,445	36,756	16,702
2006 Housing Units	91,609	37,885	17,146
Increase (2000-2006)	4,164 (4.8%)	1,129 (3.1%)	444 (2.7%)

Source: U.S. Census, 2000, American Community Survey 2006

Table 8-15: County Projections shows estimated projections for 2012 (six year projection), assuming the same estimated rate of growth of population since 2000. Greene County is projected to increase 463 total units by 2012.

Table 8-15: County Projections

	Washington County	Monongalia County	Greene County
2012 Population	209,941	87,718	40,190
2012 Housing Units	96,006	39,059	17,609

Source: Greene County Dept of Economic Development

Other factors that will impact housing growth in Greene County include:

1. Restraints to the land - Morgantown developers are having a difficult time building on slopes and prime land is being used very rapidly.
2. Economic development strategies in place with West Virginia University and the Department of Defense (close proximity and access with I-79).
3. Infrastructure Expansion (water and sewer) along I-79 corridor - Mt. Morris area will have water within two years and sewerage soon after. On the other hand, Ruff Creek northern Greene expects a long term infrastructure upgrade (5+ years).

Over the next six years, Greene County expects 600 new homes to be constructed (building permit data and tax abatement data). A proposed development in the Mt. Morris area would add another 400 housing units to the County. Many of these units can be associated with the increase in population and the inability for the developers to create enough housing in Monongalia County. Steep slopes, crowded conditions, and a housing unit increase rate that is slightly lower than population increase will naturally send some new homes into Greene county. Plus, infrastructure development / expansion (water and sewer) will aid in new development in the Southern Greene region. Washington County, which is effectively balancing their population increase and housing unit needs, will add an additional 100 new homes in this time period.

The average construction cost in Greene County for 2007 is \$127,369.30 (according to Tax Abatement data). The property tax impacts of the 1,100 new units in Greene County are depicted in **Table 8-16: Property Tax Implications**. The overall impact of the 1,100 new units would be \$4,422,976.30.

<i>Table 8-16: Property Tax Implications</i>						
Township	# of Projected New Homes	Average Value of New Home	Tax Implication			Overall Impact
			County	Municipal	School	
Perry	400	\$127,369.30	\$327,084.36	\$172,712.77	\$1,134,605.72	\$1,634,402.85
Various Locations	600	\$127,369.30	\$490,626.54	\$229,264.74	\$1,681,274.76	\$2,401,116.04
Washington / Morris	100	\$127,369.30	\$81,771.09	\$38,210.79	\$267,475.53	\$387,457.41
Total Impact						\$4,422,976.30

Source: Greene County Tax Abatement Office, 2008



C. Development Strategies

The goal of the County is to expand residential development in the County in order to support economic growth. The County has been making a lot of progress in the area of economic development, with the development of the EverGreene Technology Park and expanded retail in Franklin Township. It is recognized that the housing conditions need to be addressed in order to attract new residents into the County. Expansion of public infrastructure, namely water and sewerage, to support new residential development is discussed in Chapter 7: Public Utilities.

GOAL: Enhance the County's knowledge & oversight of residential trends

- Strategy:* Work with HUD to develop a countywide housing study to assess housing needs, availability, and condition of housing units across the entire population.
- Strategy:* Develop a GIS database to record all subdivisions and potential developable sites with access to water and sewerage infrastructure in the county.
- Strategy:* Coordinate with the County Recorder of Deeds to develop an enhanced recording system based on the GIS capabilities and to review sewage management plans prior to approving new subdivisions.
- Strategy:* Work with the county housing authority and PROPOSED development authority, community housing development organization (CHDO) or Community Development Corporation to solicit and direct public subsidies for affordable/workforce housing development, rehabilitation and demolition.

A CHDO is a non-profit, community based service organization whose primary purpose is to provide and develop decent, affordable housing for the community it serves. In order to receive CHDO set-aside funding, or CHDO operating expenses not related to a specific project, a nonprofit must first be certified as a CHDO. Organizations already certified as a CHDO must update their certifications for each year in which funds are sought.

CHDOs may direct funds to a variety of activities to develop and support affordable housing. Eligible activities include: assistance to homebuyers and existing homeowners; property acquisition; new construction; rehabilitation; site improvements; demolition; relocation expenses; tenant-based rental assistance; other reasonable and necessary expenses related to the development of modest housing; the refinancing of certain existing owner occupied units; and the purchase and placement of elder cottage housing opportunity units.

"Strategy for a Greene Tomorrow"

Strategy: Develop a public funding strategy to encourage for-profit and non-profit housing developers to rehabilitate residential dwelling units.

Strategy: Develop a countywide system to compile information related to housing, crime, school statistics, land use regulations, code enforcement, etc.

Strategy: Plan for outgrowth of residential development from the bordering counties of West Virginia.

GOAL: Create a one-stop-shop for housing development

Strategy: Identify responsible agency / county department.

Strategy: Collect and become familiar with all local and county ordinances and permit requirements.

Strategy: Develop an easy to read brochure for all potential developers and residents.

Strategy: Provide information on potential building sites.

GOAL: Encourage a variety of housing options for all populations

Strategy: Develop appropriate infrastructure to encourage housing options ranging from high density to rural residential in the Jefferson Morgan School District, Carmichaels School District, and Central Greene School District.

Strategy: In older communities, identify parcels that can be combined to offer more attractive lots for building new houses or infill development.

Strategy: Develop new housing programs targeted at assisting the special needs population. Potential new programs could focus on the following:

- Home rehabilitation and repair
- Mental Health and Mental Retardation Housing
- Emergency Repair Program
- Landlord Training and Rental Property development
- Homeownership Programs
- Transitional Housing
- Homeless Housing
- Shared Housing (several people living together, with each one using a section 8 voucher)



- Closer collaborations with other human services to move clients to self sustaining living situations

Strategy: Work with developers to identify the feasibility of or market for senior / retirement living communities, possibly in or near Waynesburg Borough and Greensboro Borough.

GOAL: Rehabilitate & revitalize older housing areas

Strategy: Establish a Greene County Redevelopment Authority or similar agency such as a Community Development Corporation (CDC). The Pennsylvania Redevelopment Law allows governing bodies to authorize an entity to redevelop and improve blighted areas under the governing body's jurisdiction. The federal funding that supports the Community Development Program is directed to the following objectives:

1. The elimination of slums and blight and the prevention of blighting influences and the deterioration of property, neighborhood, and community facilities of importance to the welfare of the community, principally for persons of low and moderate income;
2. The elimination of conditions, which are detrimental to health, safety, and public welfare through code enforcement, demolition, interim rehabilitation assistance, and related activities;
3. The conservation and expansion of the nation's housing stock in order to provide a decent home and a suitable living environment for all persons but principally those of low and moderate income;
4. The expansion and improvement of the quantity and quality of community services, principally for persons of low and moderate income, which are essential for sound community development and for the development of viable urban communities;
5. A more rational utilization of land and other natural resources and the better arrangement of residential, commercial, industrial, recreational, and other needed activity centers;
6. The reduction of the isolation of lower income groups within communities and geographical areas and the promotion of an increase in the diversity and vitality of neighborhoods through the spatial concentration of housing opportunities and persons of lower income and the revitalization of deteriorating or deteriorated neighborhoods to attract persons of higher income; and,
7. The restoration and preservation of properties of special value for historic, architectural or aesthetic reasons.

Strategy: Identify parcels that can be combined to offer more attractive lots for building new houses or infill development.

Strategy: Focus housing rehabilitation and revitalization efforts to at-risk areas and locations with appropriate infrastructure. For the most part, the boroughs have the highest

percentage of older homes (at least 30 years old) that have appropriate infrastructure. Neighborhoods identified as being "At-Risk" include, but are not limited to, the Southside of Waynesburg, Bobtown, Nemaocolin, Crucible, Carmichaels, and Clarksville. Locations that have available infrastructure include, but are not limited to, Jefferson Borough, Waynesburg Borough, Greensboro Borough, Rices Landing Borough, Mt. Morris, and Rogersville.

Strategy: Develop a revolving loan program that offers low-interest loans to residents to rehabilitate their homes.

Strategy: Increase the effectiveness of the housing rehabilitation program by developing a public education campaign to increase awareness of this beneficial program.

Strategy: Formally organize the Greene County Housing Collaborative to initiate a grassroots campaign to improve housing conditions.

Strategy: Support community-based efforts to revitalize historic homes by providing information on available funding sources for such programs.

GOAL: Amend the County's SALDO to allow the use of conservation residential subdivisions

Strategy: The County will amend their SALDO to include conservation design requiring:

1. Existing Features and Site Analysis Map
2. Yield Plan to show proposed housing density
3. Conceptual Sketch Plan that show all conservation/preservation areas
4. Comparison of traditional subdivision plan and a PRD sketch plan with cost analysis

GOAL: Increase awareness of the UCC requirements

Strategy: Identify responsible agency / county department.

Strategy: Conduct workshops to educate municipalities of UCC mandates.

Strategy: Develop a list of certified inspectors.

Strategy: Create an easy to read UCC brochure.



A. Background

The economic development element of a comprehensive plan provides a broad understanding of the forces that give shape to the Greene County economy and an overview of ongoing efforts to attract and retain business development. Using the latest available data, trends in the labor force, household income, where County residents are employed, where County workers are living, and industrial production are addressed. The economic plan element incorporates an analysis of the County's local and regional economy. The local economy includes the economic activity occurring within the County's boundaries. The regional economy for the Comprehensive Plan includes the two "regions" to which Greene County belongs.

Greene County is a member of the Southwestern Pennsylvania Commission (SPC), a political region which serves as the metropolitan planning organization for the City of Pittsburgh and ten counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland.

Figure 9-1: Project Study Region



The other "region" to which Greene County belongs is a geographic region centered on Waynesburg, the county seat. By examining counties in close geographic proximity and commuting patterns, this region was determined to include the contiguous counties in Pennsylvania as well as Marion, Marshall, Monongalia and Wetzel Counties in West Virginia. Thus a "Planning Region" was established for the Greene County Comprehensive Plan analysis that encompasses the following 14 counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland Counties in Pennsylvania; and Marion, Marshall, Monongalia and Wetzel Counties in West Virginia. The Planning Region analysis includes comparisons to Pennsylvania and West Virginia when applicable and available to evaluate the effectiveness of current strategies in place and to determine if trends are local, regional or statewide.

Existing Studies

As a review of the past studies indicates, the economy has continued to be the major issue affecting County residents who desire family-supporting jobs. Previously completed efforts documented the dominant role that coal mining plays in the County's economy, more so than for other counties in the Planning Region. Over the years, County officials have realized that the County economic base must be diversified to attract new high-paying jobs that will encourage young people to return and raise families. To identify new opportunities, the County embarked upon a fact-finding effort to develop a diversified economic development strategy. A review of these efforts follows.

Development Strategy & Action Plan for Greene County (1997) prepared by The Brandow Company

This plan identifies target industries for future investment that will provide the backbone for the County's development strategy. The study examines existing industry clusters and core opportunities that will allow the County to get the most from its constrained resource base, shore up a proven asset base, develop spin-off and marketing opportunities, and utilize any number of retention and expansion services in a strategic manner. Opportunity targets include four manufacturing industries (plastics, powder metals, industrial machinery, and wood products) and three non-manufacturing industry targets (recreation and tourism, data intensive firms and senior care). The plan includes demographic and economic conditions, industrial and export service opportunity targets, commercial trends and opportunities, tourism opportunities, site development priorities and an action plan.

"Overview of Greene County Coal Situation" (2000) prepared by the Resource Technologies Corporation

This study was completed in 2000 by Resource Technologies Corporation, however, due to recent energy advances in Greene County, this report is considered out of date. According to information received from a representative of Resource Technologies Corporation (electronic correspondence, 2/27/06) the price increase of natural gas, which has tripled since 2000; oil, which has quadrupled; and coal; which has more than doubled, has so radically changed the economics of energy that there are no reports that have any real credibility in today's world. Recent technological advances have significantly changed coal mining practices and there is now more economically accessible coal. In addition, a significant market has developed for coal bed methane and the utility industry now has over 200 new coal fired power plants in the planning or permitting stage as compared to the two or three plants in 2000. Since 2000, the utility industry has moth-balled a significant number of gas-fired power plants. Nearly every coal fired power plant within 200 miles of the Greene County is slated for some form of pollution control upgrade -- in 2000 virtually none of them were. Coal, gas, and coal bed methane are major industries of Greene County. Greene County, alone, accounts for nearly 20 percent as much annual production as the entire state of West Virginia (RTC, 2006). Greene County is one of the



primary producers of energy in the United States and will need to commission a study to ascertain the future of its energy production.

Greene County Fiscal Analysis: An Opportunity to Change the Future (2001)
prepared by the Pennsylvania Economy League

The purposes of this fiscal analysis were to understand the current fiscal situation at all levels of local government, project the implications for the future, and develop a suggested action plan to ensure the ability of Greene County governments to continue to carry out their mission of public service. The analysis includes demographics, taxation and revenues, expenditure analysis, projected fiscal health, and a summary of findings, recommendations and conclusions. School districts were compared to provide an analysis of different regions of the County and because they represent nearly 70 percent of all local taxes in the County. The study found that the County is more reliant on the coal tax than similar counties and proposes a broad action plan with four objectives for Greene County leaders to accomplish: diversify and expand the economy; control spending; assess the overall approach to tax policies; and pursue new or expanded non-tax revenue sources.

The results of such efforts over the years show the commitment of County Officials to improve the quality of life for residents. The recommendations of each study follow a general theme of diversification of the economy to remove the reliance on coal mining and corresponding tax revenues.

Economic Development Resources

Appalachian Regional Commission (ARC)

The Appalachian Regional Commission is a federal-state partnership that works to create opportunities for self-sustaining economic development and improved quality of life. Appalachia, as defined in the legislation from which the Appalachian Regional Commission derives its authority, is a 200,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. About 23 million people live in the 410 counties of the Appalachian Region; 42 percent of the Region's population is rural, compared with 20 percent of the national population.

The Appalachian Regional Commission implemented a method of classifying counties based upon economic indicators to prioritize areas in need of assistance. The classification has five economic status designations—distressed, at-risk, transitional, competitive, and attainment. These classifications are based on a comparison of county and national averages for three economic indicators—three-year average unemployment rate, per-capita market income, and poverty rate.

Greene County is included within the regional domain of the Appalachian Regional Commission and is classified as Transitional. Transitional defines a county that is worse than the national average for one or more indicator but does not meet the criteria for the distressed or at-risk levels. There are no Pennsylvania counties within the Appalachian Region classified as distressed. Fayette County is the only county within the Planning Region for the Greene County Comprehensive Plan that is classified as At-Risk. Interestingly, the counties of Armstrong, Beaver, Indiana, Lawrence, and Washington are also identified as Transitional. Competitive Counties within the Planning Region include Butler and Westmoreland. Allegheny County is considered an Attainment classification.

The Appalachian Regional Commission directs funding to Local Development Districts to promote economic development projects. The Local Development District is established at the state-level to direct local initiatives. The Southwestern Pennsylvania Commission is the Local Development District to which Greene County belongs.



Southwestern Pennsylvania Commission

The Southwestern Pennsylvania Commission (SPC) is the federally designated Economic Development District (EDD) as authorized by the US Department of Commerce, Economic Development Administration. As such, SPC is responsible for developing and coordinating a comprehensive economic development strategy for the ten county region surrounding Pittsburgh in Southwestern Pennsylvania. This region includes Armstrong, Allegheny, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland Counties as well as the City of Pittsburgh.

The SPC region is also designated a Local Development District by the Appalachian Regional Commission. As the Local Development District, SPC serves as the lead agency to identify priority needs of communities. SPC provide community and economic development assistance to communities under the jurisdiction of the Appalachian Regional Commission. SPC is also designated the Metropolitan Planning Organization by the Pennsylvania Department of Transportation for funding and planning purposes.

SPC's membership includes at least two members from each county's Board of Commissioners. SPC works with its membership as well as PennDOT to produce a Transportation Improvement Program (TIP) every four years. In addition to the TIP, SPC has developed the 2035 Transportation and Development Plan.

Pittsburgh Regional Alliance (PRA)

PRA's mission is to globally market southwestern Pennsylvania and support existing regional employers to grow jobs and capital investment. The Allegheny Conference on Community Development and its affiliates (PRA, Greater Pittsburgh Chamber of Commerce and Pennsylvania Economy League - Western Division) are working in collaboration to stimulate growth in southwestern Pennsylvania's economy and improve its quality of life (SOURCE: Pittsburgh Regional Alliance web site).

Greene County is in the process of reorganizing and consolidating its approach to economic development. The single most significant factor behind this effort is the partnership between the County Government, the Greene County Industrial Development Authority and the Educational Consortium (21st Century Program). Together this group is working towards changing the philosophy of residents to encourage them to gain the necessary skills desired by employers. The Educational Consortium is comprised of the county's five school districts, vocational-technical school and local college, together this group is pushing curriculum that supports those industries that are dependent on technology skills. This focus on work-force development is fostering an environment to help the County diversify its employment base and become less dependent upon its mineral resources.

Greene County Department of Economic Development

The Department of Economic Development (GCDED) serves as the administrative body for the Greene County Planning Commission, Greene County Conservation District, Solid Waste & Recycling Office, grant services and Industrial Development Authority. The mission of the Department of Economic Development is, "...to provide the appropriate services and develop the leadership necessary to assure that all of Greene County is planning for the future." The GCDED also seeks to coordinate services relating to economic planning and development activities in Greene County. It attempts to accomplish this mission by making sure that developers have the resources and information necessary to make meaningful investments in Greene County.

Greene County Industrial Development Authority

The Greene County Industrial Development Authority (GCIDA) is the lead agency for industrial recruitment and expansion in the County. The GCIDA provides "one-stop shopping" for manufacturing and distribution investors interested in site locations for new or expanding operations. The GCIDA's focus is on the creation, attraction and retention of business, offering financial assistance through bond issues, Pennsylvania Industrial Development Authority (PIDA) loans, Machinery and Equipment Loan Financing (MELF), conventional financing, bridge financing, etc. In addition, the GCIDA office offers grant writing, business plan development and training programs for Greene County businesses.

Greene County Industrial Developments Corporation

Greene County Industrial Developments Corporation (IDC) is a 501(c) 3 private non-profit economic development non-profit charged with management of Pennsylvania Keystone Opportunity Zones (KOZ), and loan programs including Pennsylvania Industrial Development Authority (PIDA) and Small Business Administration (SBA) loans. The IDC is tasked with attracting tenants and promoting economic development throughout the county.

Educational Consortium (21st Century Program)

This is a consortium of the superintendents of the five school districts in Greene County. This group includes the Planning Area districts of Waynesburg Central, Carmichaels, and Southeast Greene, as well as the principal of Vocational Educational Center and representatives from Waynesburg University, and was established to direct a countywide educational agenda and drive certain economic development initiatives. This group is pushing curriculum that supports those industries that are dependent on technology skills. This focus on work-force development is fostering an environment to help the County diversify its employment base and become less dependent upon its mineral resources.



Economic Development Snapshot

Greene County has a predominantly rural landscape, with only 31 percent of its population living in an urban setting in 2000 (U.S. Census, 2000). Using land cover data from Southwestern Pennsylvania Commission (SPC, 1992), land-cover acreage and percent of county coverage was estimated using Geographic Information System (GIS) tools. As Table 9-1: a Land Cover Data show, approximately 96.9 percent of the land cover is agriculture, forest or wetland, while only 2.6 percent was developed, strip mines or disturbed. These numbers are very similar to the estimates from the County's 1979 Comprehensive Plan. The result is that 69 percent of the population lives in a rural environment that is difficult to supply with infrastructure and community facilities or for businesses to serve.

Table 9-1: Land Cover Data

Land Cover	GIS Acreage	Percent of Total Cover
Agriculture (Cropland; Pasture & Open)	152,336	41.2%
Forest (Coniferous; Deciduous; Mixed)	205,796	55.6%
Hydrography (Lakes, ponds or streams; River)	1,777	0.5%
Developed (Residential; Non-residential - mixed development; Maintained Grass; Transportation)	8,172	2.2%
Strip Mines or Disturbed	1,508	0.4%
Wetland (Forested; Non-forested)	307	0.1%
Total	369,897	100.0%

Source: Southwestern Planning Commission and Mackin GIS Department

Mining became the County's leading industry when it overtook agriculture in the early 1900's. The mining industry is so large, relative to population in Greene County, that national changes in demand for coal are often followed by direct changes in County population. For example, prior to the completion of the County's Comprehensive Plan in 1979, the energy crisis had reestablished the demand for coal in the 1970's leading the County into an expansion period. This growth period was predicted to continue over the next 25 years, but instead, changes in the demand for coal in the 1980's resulted in the slow decline of the County's population, which has continued to decline ever since.

Regional markets have increased in importance ever since the completion of Interstate 79 in the 1970's. Following the development of this major roadway, Greene County residents could easily access markets to the north in Pennsylvania, like Washington, Pittsburgh and Erie and in West Virginia to the south, including Morgantown, Fairmont, and Charleston. However, Greene County remains fragmented from markets in the west, such as Wheeling, West Virginia and Columbus, Ohio as there are no major transportation routes that offer a higher rate of travel with limited access or stopping points. Even access to Uniontown, Greensburg, and Harrisburg, is considered poor due to the circuitous routes with increased congestion and lower posted vehicle speeds.

Greene County residents have experienced an overall increase in economic prosperity since 1990. **Table 9-2 Relative Prosperity Measures** provides a socio-economic analysis over a ten year period to assess overall prosperity of County residents to other areas. The factors used to identify the prosperity measures reflect those used by the Appalachian Regional Commission to assess County levels of prosperity, excluding unemployment measures. The prosperity measures were expanded to include Percent of Population Living at or Below the Poverty Level, Median Household Income, Median Housing Value, Median Rent, and Per Capita Income (US Census, 1990 & 2000).

Overall the Relative Prosperity Measures for residents of Greene County indicate an improved quality of life. Greene County experienced dramatic improvement in the decrease of persons living in poverty. Increases in Per Capita Income at face value show that the County is keeping pace with state averages, but once adjustments are made to remove the institutionalized population of the State Correctional Institution in Greene County, the adjusted Per Capita Income actually rises above all others in the Planning Region with a 58.1 percent increase. Median Household Income outpaced the Planning Region as well with Greene County showing a 52.2 percent increase.



Table 9-2: Relative Prosperity Measures, 1990 and 2000

		Individuals in Poverty	Per Capita Income	Median Household Income	Median Housing Value	Median Rent
1990 Census	Greene County	21.4%	\$10,005	\$19,903	\$38,400	\$187
	Armstrong County	12.8%	\$10,565	\$22,554	\$44,300	\$205
	Fayette County	20.9%	\$9,791	\$19,195	\$39,700	\$196
	Washington County	12.8%	\$12,744	\$25,469	\$53,600	\$241
	Pennsylvania	11.0%	\$14,068	\$29,069	\$69,700	\$322
	Marshall County	16.0%	\$10,946	\$22,687	\$42,700	\$182
	Monongalia County	20.6%	\$11,772	\$22,183	\$64,600	\$297
	Wetzel County	20.5%	\$10,454	\$28,122	\$50,200	\$183
	West Virginia	19.7%	\$10,520	\$20,795	\$47,900	221
	United States	13.0%	\$14,420	\$30,056	\$79,100	\$374
	2000 Census	Greene County	15.9%*	\$14,959*	\$30,352	\$56,900
Armstrong County		11.7%	\$15,709	\$31,557	\$64,500	\$395
Fayette County		18.0%	\$15,274	\$27,451	\$63,900	\$367
Washington County		9.8%	\$19,935	\$37,607	\$87,500	\$423
Pennsylvania		11.0%	\$20,880	\$40,106	\$97,000	\$531
Marshall County		16.6%	\$16,472	\$30,989	\$62,600	\$347
Monongalia County		22.8%	\$17,106	\$28,625	\$95,500	\$453
Wetzel County		19.8%	\$16,818	\$30,935	\$66,000	\$335
West Virginia		17.9%	\$16,477	\$29,696	\$72,800	\$401
United States		12.0%	\$21,587	\$41,994	\$119,600	\$602
Percent Change 1990 - 2000		Greene County	-25.5%*	49.5%*	52.5%	48.2%
	Armstrong County	-8.8%	48.7%	39.9%	45.6%	92.7%
	Fayette County	-14.0%	56.0%	43.0%	61.0%	87.2%
	Washington County	-23.2%	56.4%	47.7%	63.2%	75.5%
	Pennsylvania	0.3%	48.4%	38.0%	39.2%	64.9%
	Marshall County	3.8%	50.5%	36.6%	46.6%	90.7%
	Monongalia County	10.7%	45.3%	29.0%	47.8%	52.5%
	Wetzel County	-3.4%	60.9%	10.0%	31.5%	83.1%
	West Virginia	-9.0%	56.6%	42.8%	52.0%	81.4%
	United States	-7.7%	49.7%	39.7%	51.2%	61.0%

Source: US Census, 1990, 2000; Appalachian Regional Commission, 2005

*The 2000 Per Capita Census number includes institutionalized populations. Adjusted the Per Capita Rate is \$15,819 to reflect Per Capita excluding the SCI Greene population. This adjustment changes the percent change from 1990 to 2000 to 58.1% increase in Per Capita incomes.

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B. Data & Analysis

Demographic Data

Table 9-3 gives demographic information for Green County, including population, race/ethnicity, gender, age, gender, marital status, education, household and income information.

The total population within the County is projected to decrease from an estimated 2007 number of 39,545 to a 2012 projected number of 38,626 for a growth rate of -2.32 percent. The majority (95.29%) of those who reside in Greene County are White, followed by 3.72 percent (1,473) who are Black/African American. Gender within the County is split evenly with 51.42 percent (20,333) being male and 48.58 percent (19,212) being female. In addition, the two largest age categories in the County are between the ages of 25-34 (13.52%) and between the ages of 35-44 (13.73%). A majority (51.79%) of those who live in Greene County are married with a spouse present, followed by 24.26 percent (8,082) who were never married.

Table 9-3 shows that 47.42 percent of those who reside in Greene County are high school graduates, followed by only a few (15.42%) who have some high school education and 12.17% (3,371) who have some college education but no degree. The number of households in the County is expected to decrease from a 2007 estimated number of 14,981 to a 2012 projected number of 14,776 for a -1.37 percent growth rate. The largest category for household income in the County is less than \$15,000 (19.54%) followed by the \$50,000 - \$74,999 income bracket (17.07%). The 2007 average household income in the County is \$46,496. The largest category of households (32.75%) are married without children, followed by 22.69 percent who are married with children. In addition, 33.92 percent of households in Greene County are two person households. And finally, 2007 estimated projections of those in the population category of 16 and above by occupation shows that 46.31 percent of those who work in the County are white collared followed by 34.97 percent (5,289) who are blue collared and 18.72 percent (2,832) who work in service or farm. Lastly, the 2007 estimated tenure of occupied housing units shows that 73.87 percent of households are owner occupied and 26.13 percent are renter occupied.

Table 9-3: Demographic Data		
	#	%
POPULATION		
2012 Projected	38,626	
2007 Estimated	39,545	
2000 Census	40,672	
1990 Census	39,550	
Growth 2007-2012	-2.32%	
Growth 2000-2007	-2.77%	
Growth 1990-2000	2.84%	
RACE/ETHNICITY		
White	37,683	95.29
Black/African American	1,473	3.72

Table 9-3: Demographic Data		
	#	%
American Indian or Alaskan Native	55	0.14
Asian	101	0.26
Native Hawaiian and Other Pacific Islander	8	0.02
Some Other Race (alone)	22	0.06
2 or More Races	203	0.51
Hispanic/Latino	382	0.97
GENDER		
Male	20,333	51.42
Female	19,212	48.58
Male/Female Ratio	1.06	
AGE		
Age 0-4	1,865	4.72
Age 5-9	1,984	5.02
Age 10-14	2,385	6.03
Age 15-17	1,605	4.06
Age 18-20	1,715	4.34
Age 21-24	2,291	5.79
Age 25-34	5,347	13.52
Age 35-44	5,429	13.73
Age 45-49	3,033	7.67
Age 50-54	3,133	7.92
Age 55-59	2,767	7.00
Age 60-64	2,074	5.24
Age 65-74	2,707	6.85
Age 75-84	2,195	5.55
Age 85 and Over	1,015	2.57
Age 16 and Over	32,782	82.90
Age 18 and Over	31,706	80.18
Age 21 and Over	29,991	75.84
Age 65 and Over	5,917	14.96
2007 Median Age	39.75	
Male	37.74	
Female	42.18	
2007 Average Age	40.24	
Male	38.50	
Female	42.08	
MARITAL STATUS, 15+		
Never Married	8,082	24.26
Married Spouse Present	17,252	51.79
Married Spouse Absent	2,474	7.43
Widowed	2,657	7.98
Divorced	2,846	8.54
Males, Never Married	4,962	14.90
Previously Married	2,263	6.79
Females, Never Married	3,120	9.37
Previously Married	3,897	11.70



Table 9-3: Demographic Data		
	#	%
EDUCATION, 25+	27,700	
Less Than 9th Grade	2,401	8.67
Some High School (no diploma)	4,271	15.42
High School Graduate (or GED)	13,136	47.42
Some College, no degree	3,371	12.17
Associate Degree	1,088	3.93
Bachelor's Degree	2,222	8.02
Master's Degree	836	3.02
Professional School Degree	245	0.88
Doctorate Degree	130	0.47
HOUSEHOLDS		
2012 Projected	14,776	
2007 Estimated	14,981	
2000 Census	15,060	
1990 Census	14,624	
Growth 2007-2012	-1.37%	
Growth 2000-2007	-0.52%	
Growth 1990-2000	2.98%	
HOUSEHOLD INCOME	14,981	
Less than \$15,000	2,928	19.54
\$15,000-\$24,999	2,331	15.56
\$25,000-\$34,999	2,083	13.90
\$35,000-\$49,999	2,440	16.29
\$50,000-\$74,999	2,558	17.07
\$75,000-\$99,999	1,407	9.39
\$100,000-\$149,999	960	6.41
\$150,000-\$249,999	209	1.40
\$250,000-\$499,999	55	0.37
\$500,000 or more	10	0.07
2007 AVERAGE HOUSEHOLD INCOME	\$46,496	
2007 EST. MEDIAN HOUSEHOLD INCOME	\$35,916	
2007 EST. PER CAPITA INCOME	\$18,165	
2007 AVG. HOUSEHOLD TYPE	14,981	
Family Households	10,532	70.30
Non-Family Households	4,449	29.70
HOUSEHOLD TYPE/ OWN CHILDREN	14,981	
Single Male Householder	1,666	11.12
Single Female Householder	2,417	16.13
Married Couple Family/Own Children	3,399	22.69
Married Couple Family/No Own Children	4,907	32.75
Male Householder, own children	331	2.21
Male Householder, no own children	275	1.84
Female Householder, own children	851	5.68
Female Householder, no own children	769	5.13

Table 9-3: Demographic Data		
	#	%
Non-family, Male Householder	242	1.62
Non-family, Female Householder	124	0.83
HOUSEHOLDS BY HOUSEHOLD SIZE	14,981	
1 Person	4,083	27.25
2 Person	5,082	33.92
3 Person	2,685	17.92
4 Person	2,046	13.66
5 Person	785	5.24
6 Person	229	1.53
7 or more Person	71	0.47
2007 AVERAGE HOUSEHOLD SIZE	2.43	
2007 EST. POP 16+ BY OCCUPATION	15,125	
Blue Collar	5,289	34.97
White Collar	7,004	46.31
Service and Farm	2,832	18.72
2007 EST. TENURE OF OCCUPIED HOUSING UNITS	14,981	
Owner Occupied	11,067	73.87
Renter Occupied	3,914	26.13
MEDIAN, ALL OWNER-OCCUPIED, HOUSING VALUE	\$82,311	
MEDIAN YEAR BUILT	1958	



Industry

The North American Industrial Classification System (NAICS), which replaced the Standard Industrial Classification (SIC) system in 1997, was developed by Canada, Mexico and United States to provide new comparability in statistics about business activity across North America. Similar to the SIC, NAICS utilizes a hierarchical system to group industries using similar production processes using a 6-digit system in place of the 4-digit SIC system. NAICS recognizes the new range of services and technological changes that have occurred since the most recent SIC update, by dividing the economy into 20 major sectors and recognizing 1,170 industries. Of the 20 sectors, five are largely goods-producing, while the other 15 are entirely services-producing.

Some caveats of the NAICS system are: individual establishments are assigned an industry according to their primary economic activity; employment figures represent an industry and not an occupation in which employees are engaged; and for confidentiality reasons, data are often not made publicly available when it will identify individual businesses, which happens often in smaller economic regions, such as rural counties like Greene County (www.census.gov 2006).

As shown in **Table 9-4: Goods-Producing Industry and Service-Producing Industry (2004)**, Greene County ranks higher in comparison with the United States for industries which are Goods-Producing. Such industries include manufacturing, construction, and natural resources and mining. The Service-Producing Industry includes trade, transportation, and utilities; information; financial activities; professional and business services; education and health services; leisure and hospitality; other services.

To identify the level from which Greene County produces more goods or services in an economic industry than other geographic areas is completed by determining regional export activity, which involves determining Location Quotients. The location quotient determines the levels of exporting or importing taking place for a particular industry in Greene County as compared to a reference region. The location quotient tells economic development agencies which industry exceeds the local demand for its products and exports the product or service outside of the community itself. When the location quotient of an industry is at 1.25 it is considered an exporting industry, a location quotient of 1.0 reflects a self-sustaining industry, and anything less than 0.75 indicates an importing industry (Shields, 2003).

Table 9-4: Goods-Producing Industry and Service-Producing Industry, 2004

Industry	Greene County		United States		Location Quotient (compared with U.S.)
	Employees	Percent of Total	Employees	Percent of Total	
Total, all industries	9,041	100.0%	108,505,333	100.0%	1.00
Goods-Producing	3,281	36.3%	22,847,530	21.1%	1.72
Service-Providing	5,760	63.7%	85,657,803	78.9%	0.81

Source: U.S. Department of Labor, Bureau of Labor Statistics

Mining

The major economic industry in Greene County continues to be mining, which is an export industry reliant on national markets. In 2004, the mining industry employed 2,441 of the 9,041 workers in the County, roughly 27 percent (U.S. Department of Labor, Bureau of Labor Statistics). The majority of these (68%) are employed in bituminous coal underground mining. As late as 1980, about 20 percent of Pennsylvania’s minable bituminous coal reserves were beneath Greene County. The Greene County Comprehensive Plan from 1979 noted that the County had 8.9 billion tons of coal reserves, of which 5.9 billion tons were considered recoverable. Most of these reserves are located in the western portion of the County and require deep mining. Many industry officials considered this to be one of the last major deposits of high-quality, high-Btu coal left in the United States.

Table 9-5: Industry Size, Greene County (2004) provides a comparison to the national average for specific industries. Again, data reflects the dominance of mining in Greene County. Also ranking high as compared to the national average is the Utility Industry, which reflects a location quotient of 5.17. Other industries that are, at a minimum self-sustaining and may be exporting services, include Other Services Except Public Administration, Transportation and Warehousing, and Retail Trade. Importing industries include Arts, entertainment, and recreation, Professional and technical services, Real estate and rental and leasing, Construction, and Manufacturing. It is significant to note that Construction and Manufacturing, which are traditionally higher paying job-types that do not require employees to be college educated, are importing industries. Also, Real estate and rental and leasing and Construction are related to the housing market, which as shown in **Table 9-2**, the Greene County housing stock is struggling with low values. As demonstrated in **Chapter 7: Housing**, the housing market and demand in Greene County cannot support these industries, causing them to become import industries.



Table 9-5: Industry Size; Greene County Compared with United States, 2004

Industry	Greene County		United States		Location Quotient (compared with U.S.)
	Employees	Percent of Total	Employees	Percent of Total	
Total, all industries	9,069	100.00%	108,490,066	100.00%	1
NAICS 11 Agriculture, forestry, fishing and hunting	10	0.11%	1,155,106	1.06%	0.1
NAICS 21 Mining	2,441	26.92%	519,931	0.48%	56.16
NAICS 22 Utilities	243	2.68%	563,931	0.52%	5.15
NAICS 23 Construction	241	2.66%	6,916,398	6.38%	0.42
NAICS 31-33 Manufacturing	622	6.86%	14,257,380	13.14%	0.52
NAICS 42 Wholesale trade	323	3.56%	5,642,537	5.20%	0.68
NAICS 44-45 Retail trade	1,310	14.44%	15,060,686	13.88%	1.04
NAICS 48-49 Transportation and warehousing	375	4.13%	4,009,165	3.70%	1.12
NAICS 51 Information	81	0.89%	3,099,633	2.86%	0.31
NAICS 52 Finance and insurance	286	3.15%	5,813,299	5.36%	0.59
NAICS 53 Real estate and rental and leasing	48	0.53%	2,077,487	1.91%	0.28
NAICS 54 Professional and technical services	145	1.60%	6,768,868	6.24%	0.26
NAICS 55 Management of companies and enterprises	NC	NC	1,696,537	1.56%	NC
NAICS 56 Administrative and waste services	424	4.68%	7,829,371	7.22%	0.65
NAICS 61 Education services	ND	ND	2,079,232	1.92%	ND
NAICS 62 Health care and social assistance	ND	ND	14,005,731	12.91%	ND
NAICS 71 Arts, entertainment, and recreation	44	0.49%	1,852,920	1.71%	0.28
NAICS 72 Accommodation and food services	527	5.81%	10,614,677	9.78%	0.59
NAICS 81 Other services, except public administration	440	4.85%	4,287,999	3.95%	1.23
NAICS 99 Unclassified	NC	NC	239,179	0.22%	NC

Source: U.S. Department of Labor, Bureau of Labor Statistics

*(NC) Not Calculable, the data does not exist or it is zero; (ND) Not Disclosable

The Greene County Fiscal Analysis: An Opportunity to Change the Future (2001), found that the County is more reliant on coal tax revenues than similar counties. The Fiscal Analysis includes the recommendation that, as coal is a depletable resource, the County must have a plan for a new tax structure. The analysis suggested that real estate taxes would be unlikely to produce the revenue necessary to match the spending because of low market values (Pennsylvania Economy League, 2001).

The Fiscal Analysis (2001) documents the taxing structure of Greene County assesses coal as real property, thus separately taxable to the owner of said coal estate. The study also documents the excessive rate that Greene County assesses coal for property tax purposes. However, when coal tax revenues are removed from the assessment, the tax rates of the County equalize out to reflect comparison municipalities and school districts. Unfortunately, the Analysis predicts a drop in coal revenues as the existing coal resources are depleted. The most severe consequence of the loss of tax revenues from coal will be to the West Greene and Central Greene School Districts, which will lose 50 to 70 percent of coal tax revenues; and, the County, which will experience a loss of 60 percent.

An externality of the coal mining industry is the detrimental impact on water quality in Greene County. In 1987, a study by the United States Geological Survey, Water Resources Division in cooperation with the Pennsylvania Geological Survey and the Greene County Board of Commissioners was undertaken in response to the concern for the potential effects on water resources from coal mining, especially in the western part of the County (Stoner et al., 1987). According to the Pennsylvania Department of Environmental Protection (PA DEP), "(t)he environmental legacy of hundreds of years of coal mining in Pennsylvania is over 2,400 miles of Pennsylvania's 54,000 miles of streams polluted by Abandoned Mine Drainage (AMD) from old mining operations. AMD is the single largest source of water pollution by far in the state." The study by Stoner (1987) found that AMD affected many of the sampled streams in eastern Greene County.

Table 9-5: Greene County Major Employers (2005) further supports the premise that coal mining plays the largest role in the economic picture of Greene County. The top two employers are coal companies that employed a total of 2,274 people, which is almost double that of the remaining top employers listed. When the coal in Greene County is depleted, the County will need to have other high paying jobs available in order to retain their workforce and decrease their unemployment rate.



Table 9-6: Greene County Major Employers

Rank	Employer	Product	Employees
1	Consol Energy	Coal Mining	1,537
2	Foundation Coal Corp.	Coal Mining	1,187
3	Greene County Memorial Hospital	Health Care	300
4	Waynesburg College	Higher Education	265
5	Allegheny Power Service Corp.	Electric Utility	211
6	Kyowa America Corporation	Manufacturing	170
7	Community Bank	Financial Services	135
8	Rolling Meadows Nursing Home	Nursing Home	134
9	Fechheimer Brothers Co.	Clothing Manufacturing	130
10	Beverly Health Care	Health Care	106

Source: Greene County Industrial Development Authority
 Last Updated: January 26, 2005

Industrial Development

Tax-exempt land is part of the Keystone Opportunity Zone (KOZ) program, which provides state and local tax abatement to businesses and residents locating in a designated zone. Through credits, waivers and broad-based abatements, total taxes on economic activity in these zones are reduced to nearly zero. Keystone Opportunity Zones are defined-parcel-specific areas with greatly reduced or no tax burden for property owners, residents and businesses. KOZ's are designated by local communities and approved by the state. The KOZ sites in Greene County are shown on **Figure 9-1: Commercial & Industrial**.

The Greene County Industrial Development Corporation (IDC) owns two industrial parks. Through the IDC, Greene County has 600-acres of tax-free land available for development through 2010.

EverGreene Technology Park

- Owner: Greene County IDC
- Municipality: Franklin Township
- Type of Business Use
- Industrial: No*
- Commercial: No*
- Mixed-Use: No*
- Residential: No*
- School District: Central Greene
- Acreage of Site: 248
- Subzone: KOZ - Greene Industrial Parks
- Expiration Date: December 31, 2010



EverGreene Technology Park (Mackin, 2006)

EverGreene Technology Park encompasses 248 acres of land adjacent to Greene County Airport located off State Route 21 in Franklin Township. Funding for the road, water and sewer lines to the site include a \$700,000 grant from the state Department of Community and Economic Development and a \$479,000 grant from the Appalachian Regional Commission. Greene County also contributed \$450,000 to the project to install a high-bandwidth fiber optic line to the site. The first phase will consist of the development of four building sites on about 25 acres. The anchor tenant for the first building will be RJ Lee Group Inc., who was awarded a contract from the U.S. Air Force and plans to develop a data storage center at the site. Westmoreland County Community College also is expected to lease space in the building. In addition, the fiscal year 2007 Military Quality of Life and Veterans Affairs spending bill includes \$8 million for a Pennsylvania National Guard readiness center at EverGreene Technology Park in Waynesburg, Greene County. (<http://www.co.greene.pa.us/secured/gc/depts/pd/ida/egp.htm>).

Paisley Industrial Park

Owner: Greene County IDC
Municipality: Cumberland Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Carmichaels
Acreage of Site: 72
Subzone: KOZ - Greene Industrial Parks
Expiration Date: December 31, 2010



Paisley Industrial Park (Mackin, 2006)

Paisley is a 72-acre industrial park that is located at the intersection of Routes 21 and 88 in Cumberland Township. Businesses located in the park as of January 2006 include T-Tygart Industries, Inc, Charles Walker North America, Stahls Hotronix Universal Belting Resource, EMS Ambulance Service, and Fresenius Dialysis Center. Paisley Park has full public utilities and is located in Cumberland Township. The Greene County Industrial Development Authority (IDA) owns three KOZ sites in Greene County.

Meadowridge Business Park

Owner: Greene County IDA
Municipality: Perry Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Central Greene
Acreage of Site: 108
Subzone: KOZ - Greene Industrial Parks
Expiration Date: December 31, 2010

Meadowridge is a 90 acre business park located in Mt. Morris in Greene County just off Exit 1 of Interstate 79. As of January 2006, three companies are located at this business park—Bell's Wholesale Grocery, Morgantown Technical Services and ARO Mining.

Mt. Morris / Consol Industrial Park

Owner: Greene County IDA / Private
Municipality: Perry Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Central Greene
Acreage of Site: 25
Subzone: KOZ - Greene Industrial Parks
Expiration Date: December 31, 2010

The Mt. Morris Industrial Park is 23 acres and is located in Mt. Morris in Greene County just off Exit 1 of Interstate 79.

Mather Redevelopment Site

Owner: Greene County IDA
Municipality: Morgan Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Jefferson / Morgan
Acreage of Site: 49
Subzone: KOZ - Coal Site Remediation
Expiration Date: December 31, 2010

Two additional KOZ sites are located in Greene County that are not owned by either the IDC or IDA.

Northern Greene KOZ Site

Owner: Greene ARC
Municipality: Washington Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Central Greene
Acreage of Site: 65



Subzone: KOZ
Expiration Date: December 31, 2010

Eastern Greene / Shannopin Mines

Owner: Private
Municipality: Monongahela Township
Type of Business Use
Industrial: No
Commercial: No
Mixed-Use: No
Residential: No
School District: Southeastern Greene
Acreage of Site: 57
Subzone: KOZ - Coal Site Remediation
Expiration Date: December 31, 2010

Eastern Greene/Shannopin Mines is a 55-acre coal remediation site abutting the Monongahela River in Monongahela Township. Access to public utilities has been an issue at the site. There is currently no public sewerage on site, which seriously hampers the size and intensity of potential tenants, and there are no plans to bring public sewerage to the site. In addition, there is also a sufficient amount of environmental remediation required before businesses can be accommodated at the site.

Labor Force

The state of the economy in Greene County is not represented by one number, but relies on insight provided by using several measures. As defined in the *Chapter 2: Demographics* of this Plan, Greene County's peers consist of 13 counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Indiana, Lawrence, Washington and Westmoreland in Pennsylvania; and Marion, Marshall, Monongalia and Wetzel Counties in West Virginia. Performing a cross-sectional analysis of comparing Greene County with its peers, the SPC Region, the Greene County Region, and the states of Pennsylvania and West Virginia allows for the identification of statewide, regional and local impacts.

In addition, trend analysis is utilized to examine performance over time, which helps communities identify "shocks" to important local indicators. Shocks are when data show some quick, dramatic change, and the key is analyzing why it happened. For example, a high local unemployment rate may be a historic local problem, suggesting that job creation is imperative, or an increase in unemployment may just mirror national business cycle trends. Recognizing the economic factors that influence local industries can strengthen the local ability to prevent shocks, or at least quickly respond to them. Trend analysis is also useful for identifying growth opportunities, by recognizing if some sectors have recently increased in importance.

One tool useful for analyzing trends is an index of growth, which provides a cumulative measure of change over time and is a useful way to investigate local economic behavior relative to other economies. The resulting index allows for a comparison of the level of a particular economic variable to its level at the beginning of the time period. Three useful advantages of this approach are: placing all regional data on an index basis allows a direct comparison between regions; changes in the value of the index from one year to the next can be interpreted as a growth rate, so fast growth and slow growth can be identified; and by examining the index over a period of time, you can establish the relative stability of the local economy. An index of growth is calculated using the following formula:

$$\text{Index}_{r,t} = (Y_{r,t} / Y_{r,\text{base}}) \times 100$$

where Y = an economic variable (employment, population, etc.)
r = region
t = year
base = base year.

Combining cross-sectional analysis with trend analysis of the County's local economic indicators allows for indicators that have shown strength over time or are declining to be evaluated relative to peers, the SPC Region, the Commonwealth of Pennsylvania, three counties in West Virginia, and the state of West Virginia (Penn State, 2003). The following economic indicators offer a more specific examination of Greene County's economy, particularly over the last five-to-ten years, when data are available.



The index of growth for the labor force from 1995 to 2004 is shown in **Table 9-7**. Greene County with a 2004 index of growth of 110.4 has had one of the faster growing labor forces in the Planning Region, behind only Indiana (119.5), Fayette (115.3), Butler (114.5), Monongalia, WV (113.9) and Lawrence (111.9). The data show that despite Greene County's population losses, the labor force has been increasing incrementally since 1995.

Table 9-7: Index of Growth for Labor Force: 1995-2004

County / Region	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Allegheny	100.0	100.8	101.9	101.2	101.0	97.6	98.7	99.4	98.4	98.9
Armstrong	100.0	99.7	99.8	99.4	98.4	102.5	104.2	104.3	103.4	104.7
Beaver	100.0	101.0	102.7	102.6	102.4	104.5	106.0	106.8	105.9	106.4
Butler	100.0	103.4	106.4	107.7	109.6	107.8	110.7	113.0	113.6	114.5
Fayette	100.0	100.6	102.6	101.6	101.7	112.9	114.0	114.8	114.2	115.3
Greene	100.0	102.8	107.3	106.3	104.3	106.4	108.5	110.7	108.3	110.4
Indiana	100.0	101.0	102.4	100.5	98.4	109.3	114.5	117.0	115.7	119.5
Lawrence	100.0	101.6	103.5	103.4	103.3	112.4	111.3	112.0	111.0	111.9
Marion, WV	100.0	100.4	100.6	98.9	100.3	107.4	108.1	105.8	104.9	103.8
Marshall, WV	100.0	100.0	102.3	100.5	101.5	98.9	98.0	95.9	93.8	93.2
Monongalia, WV	100.0	101.6	101.0	100.5	102.5	108.3	109.2	109.4	112.6	113.9
Washington	100.0	101.0	102.7	102.9	103.3	103.8	106.0	107.3	106.7	107.5
Westmoreland	100.0	101.3	102.8	102.7	102.8	100.6	102.2	102.9	102.2	103.2
Wetzel, WV	100.0	101.1	99.4	99.1	104.5	94.7	91.0	90.8	88.8	88.5
Greene Region	100.0	100.9	102.1	101.5	101.6	100.1	101.3	102.0	101.2	101.8
SPC Region	100.0	101.1	102.5	102.1	102.1	101.3	102.8	103.7	102.9	103.7
Pennsylvania	100.0	101.1	101.5	96.9	94.2	98.4	99.7	98.1	98.3	98.4
West Virginia	100.0	101.1	101.9	102.7	103.5	103.0	102.3	101.9	101.2	100.3

*Base year is 1995

Source: U.S. Department of Labor, Bureau of Statistics

Economic Markets

A major force that will impact a county's local economy is the proximity to markets. Waynesburg, the county seat, is approximately 25 miles from Washington, PA; Morgantown, WV; and Uniontown, PA. These three cities are large enough and close enough to serve as market influences to Greene County. However, the transportation corridors connecting these areas to Greene County dictate the time and ease of travel. For instance, State Route 21 connects Uniontown to Waynesburg while Interstate 79 connects to Morgantown, WV and Washington PA. The Interstate is a limited access thoroughfare that offers travelers an accelerated ability to access these two potential employment centers while State Route 21 is a rural arterial that is posted for lower speed limits and restricted travel lanes.

Pittsburgh, PA; New Martinsville, WV; and Wheeling, WV are all within about 50 miles of Waynesburg, as shown in **Table 9-8: Distance from Waynesburg to County Seats**. Table 9-7 also shows the populations of these markets. With over 300,000 people, Pittsburgh is considerably

larger than Wheeling (31,419) or New Martinsville (5,984). Despite being about an hours commute, Pittsburgh has a much larger regional impact on Greene County, providing jobs for residents, while Wheeling and New Martinsville do not (see Table 9-11: Workers Living in Greene County by County of Work). Again, the cause and effect of major transportation routes on economic markets is shown in Table 9-7 as Wheeling and New Martinsville are not easily accessible from Greene County by a major transportation corridor. As such, despite being the second largest county seat within 100 miles of Greene County, Wheeling located in Ohio County, WV was not included in the study area.

Table 9-8: Distance from Waynesburg to County Seats

City	County	Population	Miles
Waynesburg, PA	Greene	4,184	-
Washington, PA	Washington	15,268	22.7
Morgantown, WV	Monongalia	26,809	26.8
Uniontown, PA	Fayette	12,422	27.8
Moundsville, WV	Marshall	9,998	42.0
Fairmont, WV	Marion	19,097	42.4
Pittsburgh, PA	Allegheny	334,563	52.0
New Martinsville, WV	Wetzel	5,984	53.5
Wheeling, WV	Ohio	31,419	55.7
Greensburg, PA	Westmoreland	15,889	63.5
Beaver, PA	Beaver	4,775	72.7
Butler, PA	Butler	15,121	86.7
Kittanning, PA	Armstrong	4,787	93.0
Somerset, PA	Somerset	6,762	94.2
New Castle, PA	Lawrence	26,309	98.3
Indiana, PA	Indiana	14,895	105.8

Distance to Markets

The data shows how regional economies will continue to affect the economic prosperity of Greene County residents. Therefore, it is essential to determine which regional markets are most likely to improve a county's local economy and direct economic development efforts to support those particular market advantages. The data represented in **Table 9-9** shows the spatial distance from Waynesburg to surrounding county seats, including all peer counties and Ohio County, West Virginia and Somerset County, Pennsylvania. MSN Maps & Directions data used in this analysis were obtained by recording the distance and time output from the source point of Waynesburg to each peer county. MSN Maps & Directions also gives time data which can be used to calculate speed. General trends from this data are that shorter trips are often slower, i.e. a lower miles per hour, while longer trips are quicker.



Table 9-9: Distance from Waynesburg to Surrounding Markets

City	County	2000 Population	'As the Crow Flies' Distance Using GIS Miles	Data from MSN Maps and Directions		
				Miles	Minutes	MPH
Waynesburg, PA	Greene	4,184	-	-	-	-
Washington, PA	Washington	15,268	19	22.7	27	50.4
Morgantown, WV	Monongalia	26,809	22	26.8	31	51.9
Uniontown, PA	Fayette	12,422	24	27.8	37	45.1
Moundsville, WV	Marshall	9,998	30	42.0	52	48.5
Fairmont, WV	Marion	19,097	29	42.4	44	57.8
Pittsburgh, PA	Allegheny	334,563	39	52.0	57	54.7
New Martinsville, WV	Wetzel	5,984	40	53.5	82	39.1
Wheeling, WV	Ohio	31,419	31	55.7	58	57.6
Greensburg, PA	Westmoreland	15,889	44	63.5	67	56.9
Beaver, PA	Beaver	4,775	56	72.7	78	55.9
Butler, PA	Butler	15,121	68	86.7	96	54.2
Kittanning, PA	Armstrong	4,787	72	93.0	101	55.2
Somerset, PA	Somerset	6,762	59	94.2	97	58.3
New Castle, PA	Lawrence	26,309	77	98.3	101	58.4
Indiana, PA	Indiana	14,895	74	105.8	114	55.7

Source: MSN Maps & Directions, Mackin Engineering Company GIS Dept.

In addition, time data can be used to approximate the quality of the roads connecting Waynesburg with other county seats. Distances are approximate and vary depending on actual origin and destination. Census 2000 population includes only the population living within the city limits, not a regional measure of market size. For example, Morgantown, WV and Uniontown, PA are 26.8 and 27.8 miles from Waynesburg, respectively. However, it takes about 6 more minutes to get to Uniontown. This can be largely attributed to Morgantown be accessible from I-79, while Uniontown is accessed using State Route 21. Another example shows that Beaver (78 minutes) and New Martinsville, WV (82 minutes) are both approximately 80 minutes from Waynesburg. However, to get to Martinsville would require an additional 19.2 miles. Again, Beaver is located near I-79, while Martinsville is not.

Although I-79 has made Pittsburgh more accessible, this major market remains 52 miles away regardless of speed. In comparison, some areas with closer proximity to Pittsburgh, such as Cranberry Township, Butler County (22.2 miles) and Peters Township, Washington County (19.6 miles) have been growing at a rate much faster than Greene County.

Employment

County of Residence for Persons Employed in Greene County

Table 9-10 shows the number and percentage of workers employed in Greene County by the county in which they reside for 1970, 1980, 1990 and 2000. The percentage of Greene County workers that live in Greene County has remained steadily around 70 to 75 percent. However, the distribution of the remaining 25 to 30 percent of the employees has changed significantly.

Table 9-10: Workers Employed in Greene County by County of Residence

County of Residence	Total Employees				Percentage of Employees			
	1970	1980	1990	2000	1970	1980	1990	2000
Allegheny, PA	0	210	73	144	0.0%	1.6%	0.7%	1.1%
Fayette, PA	1,997	2,543	1,214	1,205	20.4%	19.3%	10.8%	9.3%
Greene, PA	7,073	9,141	8,553	9,330	72.3%	69.2%	76.2%	72.0%
Indiana, PA	0	0	0	8	0.0%	0.0%	0.0%	0.1%
Lawrence, PA	0	0	0	14	0.0%	0.0%	0.0%	0.1%
Washington, PA	384	778	839	925	3.9%	5.9%	7.5%	7.1%
Westmoreland, PA	0	71	100	228	0.0%	0.5%	0.9%	1.8%
Marion, WV	13	27	31	204	0.1%	0.2%	0.3%	1.6%
Marshall, WV	27	20	74	185	0.3%	0.2%	0.7%	1.4%
Monongalia, WV	283	411	336	408	2.9%	3.1%	3.0%	3.1%
Wetzel, WV	6	0	0	76	0.1%	0.0%	0.0%	0.6%
Elsewhere	16	108	122	232	0.2%	0.8%	1.1%	1.8%
Total Employees:	9,783	13,201	11,220	12,959	100.0%	100.0%	100.0%	100.0%

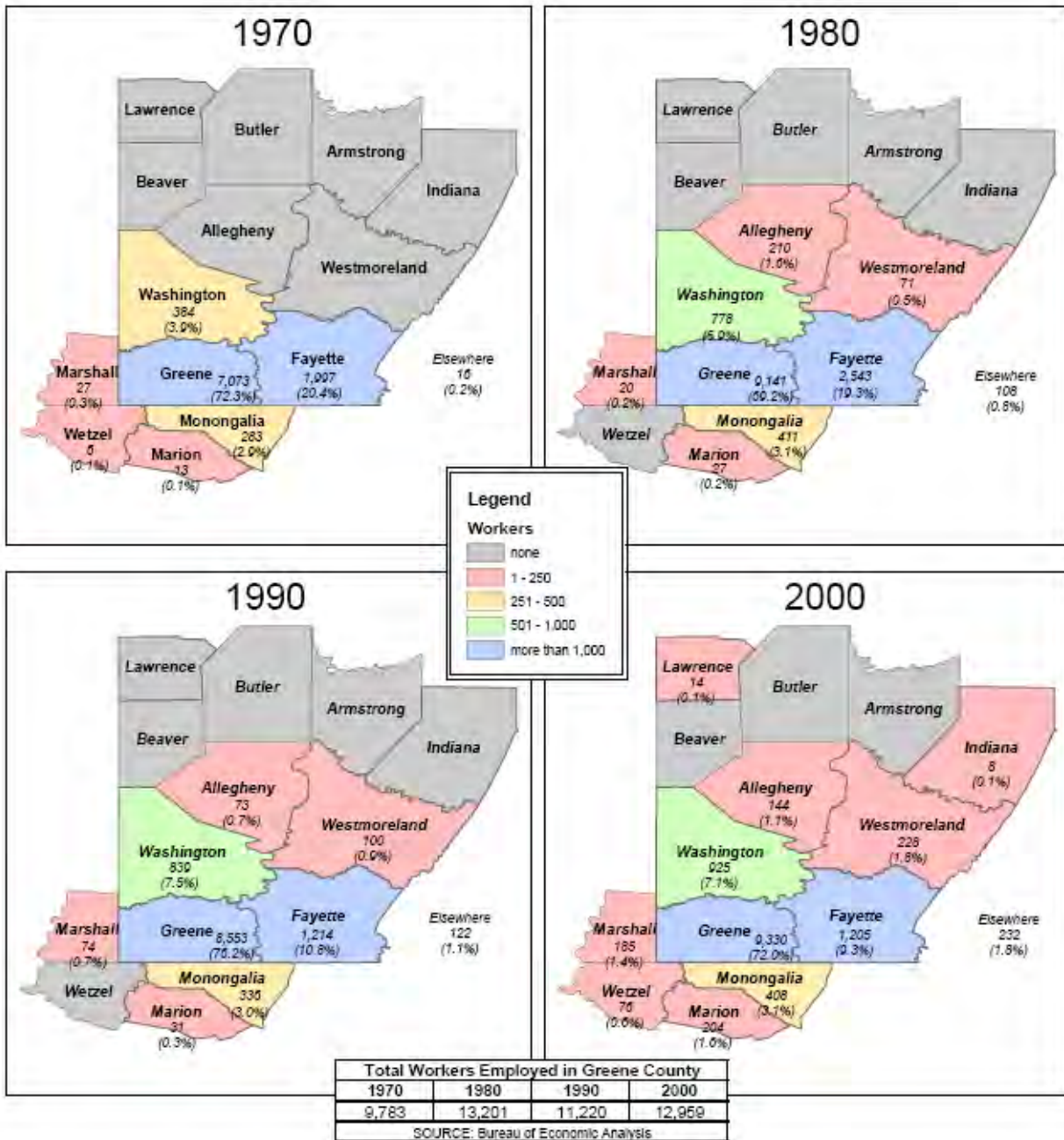
Source: Bureau of Economic Analysis

The most notable decline has been in Fayette County, which was home to 20.4 percent of Greene County employees in 1970, but had fallen under ten percent in 2000. This is probably due to two major factors. The first is the decline in employment of the mining industry, which has been the dominant economic sector in Greene County for the last thirty years. The increase of workers who reside in Fayette County in 1980 followed by the steep drop-off in 1990 correlates to the prospering and then declining mining industry in the preceding decades, respectively. The second factor is an improving national highway and road infrastructure that has given residents of Allegheny, Washington, and Monongalia, WV, all counties with cities along Interstate 79, better access to jobs in Greene County. The improved road network allows residents of other counties to live farther from the employment available in Greene County, although approximately the same percentage of workers continues to live in the County.

Figure 9-2 displays a graphic representation of the data explained in Table 9-9: Workers employed in Greene County by County of Residence.



Figure 9-2: Workers Employed in Greene County by County of Residence



Industry Employment by County of Residence

Examining county of residence data by industry gives a more detailed picture of the commuting patterns of county workers by industry. Table 9-11 shows the number of jobs by industry sector that are available in Greene County, and the number and percentage of those jobs worked by Greene County residents. The sectors employing the most people are services (3,188); state and local government (2,253); and forestry, fishing, agricultural support, farms and mining (2,063). The sectors with the largest percentage of Greene County workers living in Greene County are information, finance and insurance, and real estate (88.7 %); and services (82.5 %), while the lowest percentage of Greene County workers living in Greene County are forestry, fishing, agricultural support, farms and mining (40.5 %), and construction (66.2 %).

Table 9-11: Workers Employed in Greene County by County of Residence by Industry

County of Residence	Industry	Workers	Average Wages	Percentage
Greene County	Construction	390	\$23,994	66.2%
Total	Construction	589		100.0%
Greene County	Federal civilian + Military	195	\$26,402	70.7%
Total	Federal civilian + Military	276		100.0%
Greene County	Forestry + Fishing + Ag support + Farms + Mining	835	\$53,663	40.5%
Total	Forestry + Fishing + Ag support + Farms + Mining	2,063		100.0%
Greene County	Information + Finance and Insurance + Real Estate	455	\$27,569	88.7%
Total	Information + Finance and Insurance + Real Estate	513		100.0%
Greene County	Manufacturing	585	\$22,163	71.1%
Total	Manufacturing	823		100.0%
Greene County	Services (except private households)	2,630	\$19,352	82.5%
Total	Services (except private households)	3,188		100.0%
Greene County	State and local government	1,635	\$29,758	72.6%
Total	State and local government	2,253		100.0%
Greene County	Utilities + Transportation and Warehousing	525	\$34,422	70.8%
Total	Utilities + Transportation and Warehousing	742		100.0%
Greene County	Wholesale Trade + Retail Trade	1,120	\$20,829	75.2%
Total	Wholesale Trade + Retail Trade	1,489		100.0%
Greene County	Total	9,330		72.0%
Total	Total	12,959		100.0%

Source: US Census, 2000

The remaining industries are similar to the County's average of between 70 and 75 percent of Greene County's workers living in the County. The higher wage jobs, such as forestry, fishing, agricultural support, farms and mining are worked by a majority of residents from other counties. In general, Greene County residents tend to earn less than residents of other counties working in the same industries. This data indicates that workers are either leaving Greene County when they earn more money or choosing to commute rather than move to Greene County when they accept high paying jobs.



Place of Work

Although the number of Greene County residents finding employment grew by about 2,300 from 1970 to 2000, the percentage of these workers finding work in Greene County has decreased by about five percent from 68.2 percent to 63.5 percent as shown in **Table 9-12: Workers Living in Greene County by County of Work**. According to the 1979 County Comprehensive Plan, in 1960, 83.6 percent of residents were employed at jobs located within the County which results in a 20 percent decrease in the last forty years. By contrast, the number of Greene County workers employed in Allegheny, Fayette, Washington, and Monongalia counties has increased. This is largely related to improvements to highway and road infrastructure that has allowed people to live longer distances from their work without an equally longer commute time.

Table 9-12: Workers Living in Greene County by County of Work

County of Work	Total Employees				Percentage of Employees			
	1970	1980	1990	2000	1970	1980	1990	2000
Allegheny, PA	285	372	475	704	2.7%	2.9%	3.6%	4.8%
Beaver, PA	13	36	81	37	0.1%	0.3%	0.6%	0.3%
Butler, PA			20	22			0.2%	0.1%
Fayette, PA	448	605	697	774	4.3%	4.7%	5.2%	5.3%
Greene, PA	7,073	9,141	8,553	9,330	68.2%	71.6%	64.4%	63.5%
Washington, PA	866	1,064	1,358	1,949	8.4%	8.3%	10.2%	13.3%
Westmoreland, PA	31	83	40	123	0.3%	0.7%	0.3%	0.8%
Marion, WV		76	79	57		0.6%	0.6%	0.4%
Marshall, WV	44	84	75	75	0.4%	0.7%	0.6%	0.5%
Monongalia, WV	517	1,038	1,424	1,439	5.0%	8.1%	10.7%	9.8%
Wetzel, WV	14	14	29		0.1%	0.1%	0.2%	
Elsewhere	261	256	446	177	2.5%	2.0%	3.4%	1.2%
Not Reported	817				7.9%			
Total Employees:	10,369	12,769	13,277	14,687	100.0%	100.0%	100.0%	100.0%

Source: US Census, 2000

Industry Employees by Place of Work and Place of Residence

Table 9-13 displays the number of County residents working in a given industry sector and the number of employees of a given sector who are employed in Greene County. A comparison of these numbers indicates whether residents of the County work in similar industries as what the employers in the County offer. For example, over 2000 employees work in the forestry, fishing, agricultural support, farms and mining industries, while only 1,000 residents are employed in this sector. On the other hand, only 589 employees work in the construction industry, while there are 966 residents employed in this sector.

When more residents are employed in an industry than jobs available in the area of residence can indicate that the skill level of County residents suffers in a particular area. This situation occurs in the Greene County employment sectors of forestry, fishing, agricultural support, farms and mining industries and state and local government. If there are more jobs in a given industrial sector than residents working in that sector coupled with a high unemployment rate, a situation may exist where the job skills of the residents do not meet the requirements of employers of that given industry sector. For Greene County the suspect industries where job skills of residents may be lacking include forestry, fishing, agricultural support, farms and mining; and state and local government.

Table 9-13: Industry Employees by Place of Work and Place of Residence

Industry	Employees Working in Sector Living in Greene County	Employees Working in Sector Working in Greene County
Construction	966	589
Federal civilian + Military	331	276
Forestry + Fishing + Ag support + Farms + Mining	1,032	2,063
Information + Finance and Insurance + Real Estate	738	513
Manufacturing	1,268	823
Private households	38	30
Self-employed (part) + Unpaid family workers	1,086	993
Services (except private households)	4,287	3,188
State and local government	2,075	2,253
Utilities + Transportation and Warehousing	923	742
Wholesale Trade + Retail Trade	1,943	1,489
Total	14,687	12,959

Source: US Census, 2000



Regional Unemployment Rate

In the last ten years, the unemployment rate has decreased for most of the counties in the region as shown in **Table 9-14: Unemployment Rate Planning Region**. However, most of this decrease occurred between 1995 and 2000. Since 2000, unemployment rates have begun to increase, although at a much slower rate for most counties. The States of Pennsylvania and West Virginia, and Marion and Monongalia Counties are the only areas where the unemployment continued to decrease. Pennsylvania's unemployment rate decreased more from 2000 to 2004 (1.0 percent) than from 1995 to 2000 (0.6 percent). West Virginia, on the other hand, had a much larger decrease between 1995 and 2000 (2.7 percent), and only a 0.2 percent increase between 2000 and 2004. Marion decreased 3.1 percent between 1995 and 2000, and then another 0.8 percent between 2000 and 2004. Monongalia increased between 1995 and 2000 (0.1 percent) and then decreased by 1.0 percent between 2000 and 2004. This data suggests that variances in the County's unemployment rate are more related to changes in the regional economy than the state or national economies, but are related to industry sectors that are thriving nationally.

Table 9-14: Unemployment Rate: Planning Region, 1995, 2000-2004

County / Region	1995	2000	2001	2002	2003	2004
Allegheny	5.3	4.0	4.3	5.3	5.7	5.4
Armstrong	9.4	5.7	6.4	6.7	6.8	7.2
Beaver	6.0	4.3	5.0	6.1	6.2	5.9
Butler	5.5	4.1	4.5	5.3	5.5	5.6
Fayette	9.6	5.7	6.2	7.1	7.7	7.8
Greene	10.4	5.9	5.7	6.2	6.8	6.7
Indiana	9.2	5.8	5.2	6.1	6.1	6.3
Lawrence	7.0	4.9	5.5	6.2	6.2	6.4
Marion, WV	8.8	5.7	5.1	5.9	5.6	4.9
Marshall, WV	7.6	5.7	6.0	6.6	6.4	6.0
Monongalia, WV	4.3	4.4	3.7	4.0	3.9	3.4
Washington	6.7	4.6	5.1	6.0	6.0	5.9
Westmoreland	6.7	4.6	5.1	5.8	6.0	6.1
Wetzel, WV	11.3	8.0	8.2	8.1	8.3	8.7
Greene Region	6.0	4.4	4.7	5.6	5.9	5.7
SPC Region	6.2	4.4	4.8	5.7	5.9	5.8
Pennsylvania	6.0	5.4	5.0	4.9	4.6	4.4
West Virginia	7.9	5.5	5.2	5.9	6.0	5.3

Source: U.S. Department of Labor, Bureau of Statistics

Retail Gap Analysis

The retail gap analysis offers information on where in terms of retail establishments there is a "gap" in the supply and demand for that particular product. This "gap" offers an opportunity for new retail stores to capture the demand that is not being met. The RMP Opportunity Gap – Retail Store Types report provides a comparison between both business sales and household expenditure estimates for a variety of retail outlets. The retail stores contained in this report are derived from the North American Industry Classification System (NAICS). The household expenditure estimates constitute the demand column of the report and the business sales estimates constitute the supply column. The difference between demand and supply represent the opportunity or surplus available for each retail outlet in the specified reporting geography. When the demand is greater than the supply, there is an opportunity for the retail outlet. For purposes of this analysis, Waynesburg was chosen as the central location of the county and a 30 mile radius was used to include retail activities not only within the entire county but also into all the surrounding counties.

Table 9-15 illustrates Greene County's opportunities for retail growth.

Table 9-15: Retail Gap Analysis

RETAIL GAP ANALYSIS	Demand (Consumer Expenditures)	Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Includes Eating and Drinking Places	8,921,020,633	7,903,546,464	1,017,474,169
Motor Vehicle and Parts Dealers	1,834,664,620	1,671,953,766	162,710,854
Furniture and Home Furnishings Stores	217,780,701	153,097,295	64,683,406
Electronics and Appliance Stores	193,962,295	91,055,556	102,906,739
Building Material, Garden Equip Stores	978,787,945	1,026,105,111	(47,317,166)
Food and Beverage Stores	1,108,296,396	819,538,789	288,757,607
Health and Personal Care Stores	441,133,610	524,917,368	(83,783,758)
Gasoline Stations	955,606,341	1,102,636,904	(147,030,563)
Clothing and Clothing Accessories Stores	372,887,237	172,340,715	200,546,522
Sporting Goods, Hobby, Book, Music Stores	151,707,432	113,249,464	38,457,968
General Merchandise Stores	1,065,245,147	891,230,759	174,014,388
Miscellaneous Store Retailers	232,357,093	177,548,751	54,808,342
Non-Store Retailers	581,728,415	491,662,385	90,066,030
Foodservice and Drinking Places	786,863,400	668,209,599	118,653,801
GAFO*	2,092,757,647	1,499,857,699	592,899,948
*GAFO (General merchandise, Apparel, Furniture and Other) represents sales at stores that sell merchandise normally sold in department stores. This category is not included in Total Retail Sales Including Eating and Drinking Places.			



Tourism

Tourism information for Greene County was derived from a report for 2005 commissioned by and available from the Pennsylvania Department of Commerce and Economic Development (DCED). The most recent report published by DCED is for 2005.

Visitor Spending

Table 9-16: Visitor Spending							
Year	Transportation	Food & Beverage	Lodging	Shopping	Entertainment	Other	Total
2005	5.95	6.34	3.11	3.49	0.65	2.17	21.70
2004	6.36	6.91	3.58	3.35	0.60	1.73	22.53
2003	5.99	5.94	3.36	3.15	0.54	1.61	20.59

Source: PA DCED, Global Insight, Inc. in partnership with D.K. Shifflet and Associates, Ltd.

Total visitor spending in Greene County increased by \$1.11 million from 2003 to 2005.

Tourism Wages

Table 9-17: Tourism Wages				
Year	Direct	Indirect	Induced	Total
2005	8,400,328	2,881,381	3,587,021	14,868,730
2004	8,724,665	2,988,232	3,719,399	15,432,296
2003	8,124,007	2,759,124	3,434,233	14,317,364

Source: PA DCED, Global Insight, Inc. in partnership with D.K. Shifflet and Associates, Ltd.

There was a 3.7 percent increase in tourism wages from 2003 to 2005.

Tax Revenues

Table 9-18: Tax Revenues			
Year	Federal	State and Local	Total
2005	3,427,629	2,203,212	5,630,840
2004	3,501,839	2,250,912	5,752,751
2003	3,254,734	2,092,078	5,346,812

Source: PA DCED, Global Insight, Inc. in partnership with D.K. Shifflet and Associates, Ltd.

Tax revenues for Greene County have decreased slightly between 2004 and 2005, from 5,752,751 to 5,630,840.

Tourism Employment

Table 9-19: Tourism Employment				
Year	Direct	Indirect	Induced	Total
2005	330	74	99	503
2004	343	77	103	522
2003	326	72	96	494

Source: PA DCED, Global Insight, Inc. in partnership with D.K. Shifflet and Associates, Ltd.

The number of persons whose employment was directly or in part the result of tourism increased from 494 to 503 between 2003 and 2005, which follows the increase in visitor spending between 2003 and 2005.

Tourism Gross State Product

Table 9-20: Gross State Product				
Year	Direct	Indirect	Induced	Total
2005	10,240,078	4,371,567	5,727,589	20,339,234
2004	10,619,763	4,530,203	5,901,192	21,051,158
2003	9,669,251	4,142,651	5,396,354	19,208,255

Source: PA DCED, Global Insight, Inc. in partnership with D.K. Shifflet and Associates, Ltd.

The increase of over \$11 million in Gross State Product between 2003 and 2005 corresponds to the increase in visitor spending.

Agritourism

Greene County has begun to look at agritourism efforts in order to promote their tourism efforts. Agritourism is a style of vacation in which hospitality is offered on farms. This may include the opportunity to assist with farming tasks during the visit. Agritourism is wide-spread and includes any farm open to the public at least part of the year. Tourists can pick fruits and vegetables, ride horses, taste honey, learn about wine, shop in gift shops and farm stands for local and regional produce or hand-crafted gifts, and much more. Each farm generally offers a unique and memorable experience suitable for the entire family.

Agritourism is being developed as a valuable component of a business model to support many agricultural entities when the farm products they produce are no longer economically competitive otherwise. To help promote the single agritourism operations, some farms get together to form festivals, tours or other events. People are more interested in how their food is produced and want to meet the producers and talk with them about what goes into food production. Children who visit the farms often have not seen a live duck, or goat, and have not picked an apple right off the tree. This form of expanded agritourism has given birth to what are often called "entertainment farms." These farms cater to the pick-your-own crowd, offering not only regular farm products, but also food, mazes, open-pen animals, train rides, picnic facilities and pick-your-own produce (definition of agritourism from www.citydata.com).



C. Development Strategies

Overall, the goal of the County's Economic Development Plan must be to diversify and expand the economy; control spending; assess the overall approach to tax policies; and pursue new or expanded non-tax revenue sources. Opportunity targets include four manufacturing industries (plastics, powder metals, industrial machinery, and wood products) and three non-manufacturing industry targets (recreation and tourism, data intensive firms and senior care). Those interested specifically in recreational development within Greene County should fully research possible impacts related to coal mining, other resource extraction activities, or utility infrastructure early on in the process.

Greene County has the following Capital Budget Projects scheduled for the 2008 / 2008 fiscal year:

- Carmichaels Clinic Expansion
- Tire Recycling in Paisley
- Site Preparation- Cornerstone Health Care Center
- Community Aquatic Center
- Expansion/Addition of Southwest Regional Medical Center
- Mather Gob Pile Reclamation
- Jefferson Township manufacturing facility
- Meadow Ridge Business Park
- Downtown Waynesburg Streetscape
- Greene County ARC Project
- Downtown Waynesburg Revitalization Mixed-Use Impact Project

Encourage Mining-Related Industries

The mining industry is currently the major economic driver in Greene County and this trend is not going to change given that many industry officials believe Greene County to be one of the last major deposits of high-quality, high-Btu coal left in the United States. The mining industry has a very high location quotient for Greene County (as seen in Table 9-4: Industry Size; Greene County Compared with United States, 2004). As seen in Table B in the appendix, data suggests that the industry as a whole in southwest Pennsylvania is experiencing negative growth however, the sub sector "support activities for mining" is projected to have an increase over the next seven years. Support activities for mining can create another industry in the County and working down the supply chain can not only help create economies of scale for local employers, but additional jobs at a variety of wage levels. The available KOZ sites offer potential locations for expanding this support industry.

Coal mining specifically plays the largest role in the economic picture of Green County. The top two employers are coal companies that employ a total of 2,274 people, which is almost double that of the remaining top employers listed. Greene County needs to consider other high paying jobs available in order to retain their workforce so as to not completely depend on the coal as a natural resource to maintain the majority of their economy.

Promote Healthcare Opportunities

Healthcare has a distinct career ladder/lattice and there are a wide variety of growing occupational vacancies at all skill levels. Promoting these opportunities and aligning educational offerings to fill these gaps will have a significant positive impact on the emerging, existing and transitional workforce available to Greene County. In southwest Pennsylvania, community care facilities for the elderly are projected to increase by an astounding 46.2 percent over a seven year period. Waynesburg College and other surrounding educational institutions should promote entry into this growing field and continued training. Waynesburg College's nursing program, including the graduate nursing degree and the nursing doctoral program is an excellent local resource to capitalize on for future growth in this industry.

Expand the Transportation / Warehousing Industry

Transportation has a high location quotient in Greene County (as seen in Table 9-4: Industry Size; Greene County Compared with United States, 2004). There is projected growth within the industry specifically in support activities for transportation, especially support activities for air and road transportation. There is a large amount of workforce and economy that is derived from the manufacturing industry. While the industry is on a decline, there could be the opportunity to create a transportation corridor or offer warehousing specifically outside of Waynesburg. Proximity to cities such as Pittsburgh, Morgantown, even Youngstown and Harrisburg make Greene County a feasible location for the transportation/warehousing industry. Although the data suggests that manufacturing as an industry as a whole is seeing a decline, new industries, such as supporting the mining industry, could bring additional need for this transportation and storage.

Promote Tourism as Economic Development

The strategic vision for Greene County tourism should be to enhance the County's position among Pittsburgh and its Countryside counties. These counties include Allegheny, Armstrong, Beaver, Butler, Fayette, Indiana, Lawrence, Somerset, Washington, and Westmoreland County. Currently, Greene County has the lowest percentage of share in the region in visitor spending with only 0.4 percent. Allegheny County has the highest percentage with 56.1 percent followed by Westmoreland County with 12.2 percent. Indiana and Lawrence Counties have the second and third lowest shares with 2.4 and 2.2 respectively. These percentages are based on a four year average, from 2002-2005.

With 41.2 percent of the land in Greene County being agricultural land, agritourism is an area where Greene County could promote their tourism initiatives in order to achieve growth. The County has numerous farms, several wineries scheduled to be opened in 2008, a blueberry farm scheduled to be open in 2009, and unusual livestock in the area, including alpacas, lamas, buffalos, Scottish highlander beef, limousine cattle, rodeo bulls, short horn cattle, and elk to capitalize on. The County has just begun to expand their agritourism efforts by working with the local alpaca farm and the Scottish highlander beef farm in scheduling tourist group's visits, by having a "Pick Your Own Blueberry" festival and by continuing to identify individuals who might be



interested in promoting items made within Greene County outside of the County or the state. However, this is an area that could be utilized to increase tourism to the area.

Additionally, Greene County could look to the “creative arts” as a strategy for increasing tourism. With proximity to larger cities, Greene County could be a great weekend or day-trip destination for travelers. Data suggests that the growth in accommodations and food services could support the increase in tourism and there is also the opportunity to expand on retail offerings. A variety of creative arts strategies could be pursued, from theater, to art museums, to antique stores, all attracting interested tourists with disposable income. Encouraging local “theme” festivals around the arts and group tours to the region could further expand the tourism industry.

Improve Information Technology

Focusing on this growing industry would involve the need to recruit and retain skilled workers to the area. Several strategies for capitalizing on growth in this sector exist. For instance, a collaborative strategy with local education and training providers should be explored. This industry typically has higher starting wages, which would have a direct effect on all aspects of the economy (for instance, increased retail spending). This industry is innovative and so attracting entrepreneurs to the area with the available KOZ sites should be a priority. These sites could be the site of a “Center For Excellence” or house Research and Development (R & D) companies or companies that feed the information technology industry supply chain. As seen in Table 9-4: Industry Size; Greene County Compared with the United States, Greene County has a low location quotient for information technology, indicating that there is not a significant cluster in the area and so there is the opportunity to create all aspects of the supply chain within the County and improve the regional workforce to create a growing cluster. Supporting this sector also includes supporting internal information technology development across all sectors within existing organizations. Improving internal technology systems will help Greene County employers stay competitive in regional and national markets.

Encourage Retail Expansion

Retail services is an opportunity for growth in Greene County. As seen in Table 9-10: Retail Gap Analysis, retail opportunities exist for Greene County in motor vehicles and parts dealers, furniture and home furnishing stores, electronics and appliance stores, food and beverage stores, clothing and clothing accessory stores, sporting goods, hobby, book and music stores, general merchandise stores, foodservice and drinking places, and finally, non-store retailers. Retail establishments that Greene County should not invest further in include gasoline stations, health and personal care stores, and building material and garden/equipment stores. New retail establishments could be tied into the tourism strategy. In addition, adding retail stores in areas where there is an opportunity for growth will create numerous jobs especially for entry-level or lower skilled workers.

Enhance the Economic Development "System" to Support Key Industry/Cluster Development

Best practice research of economic development systems in rural areas across the country suggests that in order to focus on and enhance economic growth within a region, a deliberate, intentional strategy should be orchestrated through a collaborative, coordinated public/private partnership effort. This effort should be directed toward implementing the key economic development projects and priorities. Ideally, the system would include coordinated efforts toward business recruitment, business retention, workforce development, intelligence/data gathering, sources of funding, marketing, community development, and technology deployment. Greene County would benefit from a dedicated effort to define the ideal model for economic development for the county. From that the county can then develop a specific implementation action plan with specific roles for individual organizations, both private and public, in order to address and achieve the other recommendations in this plan.

Greene County has partnered with local school districts and the Career and Technology Center to develop a workforce development brochure to inform students and parents about existing jobs in technical fields. School superintendents and representatives from the Girl Scouts of America have developed a mentoring program where local high school students can work with current college students to prepare them for interviewing, job performance, as well as life skills.



GOAL: Diversify the Economy

Strategy: Conduct an Economic Development Study that would define the ideal model for economic development for the county with a specific implementation action plan to identify private and public partnerships and responsibilities.

Strategy: Prioritize Greene County KOZ and industrial sites for development for the subsector "support activities for mining."

Strategy: Promote healthcare opportunities and work to align educational offerings to fill the gaps in demand for healthcare positions. Validate the data with local employers, consider primary forecasting, and consider mapping ladder/lattice opportunities.

Strategy: Establish I-79 as a transportation corridor and develop the Mt. Morris Interchange Area to support shipping, freight, and warehousing activities.

Strategy: Conduct a Tourism Development Study that would define aspects such as agritourism and creative arts initiatives in order to grow the tourism industry and create uniqueness to Greene County.

Strategy: Establish a collaborative strategy with local education and training providers to recruit and retain skilled information technology workers.

Strategy: Ensure that educational providers (high school, career and technology center, and colleges / universities) collaborate with workforce and employment sectors to enhance the preparedness of local students for the workforce.

Strategy: Promote the Waynesburg KIZ to foster business innovation and create entrepreneurial opportunities within the Waynesburg / I-79 region.

Strategy: Identify small business development opportunities that would encourage the start-up of new retail establishments and facilitate connections to the tourism economic development strategy.



A. Background

The Land Use section of the Greene County Comprehensive Plan encompasses an analysis of local and regional factors that influence the character and timing of development in Greene County. The land use analysis inventories existing land uses based upon data supplied by Greene County and by land coverage data supplied by the Southwestern Pennsylvania Commission. The analysis describes both the natural and built features that present opportunities for and/or constraints to development, human habitation, or environmental preservation. The detailed discussion of existing land uses coupled with natural and man made constraints lead to County Development Policies that anticipate future land use needs to provide action strategies for County Officials today.

The future land use plan incorporates, where applicable, policy recommendations of prior plans and studies. Areas of the County that have adequate infrastructure in place, or plan to provide such infrastructure, have been identified as target development areas. As a statutory requirement of the Pennsylvania Municipalities Planning Code (MPC – Acts 67 & 68 of 2000), County planning commissions are required to publish guidelines that promote general consistency between municipal and County land use regulations. The Future Land Use Plan contains non-prescriptive land management policies that reinforce community character along with accommodating future growth. An emphasis has been placed upon existing and future land uses that have a regional impact - such as industrial parks, mines, and airports.

Existing Studies

Greene County Comprehensive Plan (Candeub, Fleissig and Associates, 1979)

Greene County last completed a countywide comprehensive plan in 1979. The plan consisted of a background analysis and a final report. The final report contained detailed plans for land use, housing, recreation, thoroughfare, utility, and capital improvement projects. Data, analysis and projections from both of these studies are referenced and included for comparative basis in this section of the Comprehensive Plan. The plan identified six sizable areas of potential development based on slope characteristics:

1. Area between Dry Tavern and Crucible in Jefferson and Cumberland Townships and Rices Landing Borough;
2. Area of Whiteley and Dunkard Township where Lanz Run and Whiteley Creek intersect near I-79;
3. Carmichaels Borough and surrounding areas in Cumberland Township;
4. Waynesburg and Franklin Township along Routes 21 and 188;
5. Mt. Morris Area in Perry Township;
6. Mapletown Area in Monongahela Township.

An additional seventh area was noted as located between Ten Mile Creek and SR 188 in Morgan Township. Finally, smaller but significant areas include 75-200 acres scattered throughout Dunkard, Monongahela, Greene and Morgan Townships.

Recommendations included to encourage planned growth at efficient densities for the development of new utilities, roads, community facilities; to locate new development in areas with suitable topography, access to utilities and access to employment; to protect valuable county land resources including unique natural features, established neighborhoods, prime industrial sites and recreational areas; to foster coordination between various planning and administrative bodies in the county to avoid conflicts between land use, transportation, housing, utility services, conservation and community facilities.

Water Resources and the Effects of Coal Mining: Greene County, PA (J.D. Stoner, D.R. Williams, T.F. Buckwalter, J.K. Felbinger, and K.L. Pattison, 1987)

Mine drainage affected many of the sampled streams in the eastern Greene county; Groundwater is predominant source of domestic water, but in eastern Greene County the water supply is predominantly from the Monongahela River; 20 percent of PA's minable bituminous coal reserves in Greene County (considered one of last major deposits of high-quality, high-Btu coal in the nation); almost 90 percent of the county is considered nondevelopable due to slopes in excess of 15 percent; 63 percent of population in and around Waynesburg, Carmichaels, and other communities in NE part of county (1980 Census); agricultural land (crop farming and pasturing) and woodlands make up 92 percent of land use.

Development Strategy & Action Plan for Greene County (The Brandow Company, 1997)

The Development Strategy and Action Plan for Greene County identified several projects that should be undertaken by the County over the next few years. These projects include the following:

- Development of transitional care facility;
- Specialized senior care services;
- Re-use of the Curry facility;
- Investigate feasibility of a Southwest Wellness Center;
- Create an on-site skill center at industrial park to train labor;
- Work force development entities must develop a work force development consortium to respond to needs of plastics firms from bottom to top, creating an industry-specific skeletal career skill ladder;
- Downtown district needs a modern development plan;
- Development of large-scale regional development off I-79 at airport;
- Select, market and prepare a site positioned as a sub-regional retail center;
- GCID to develop an action plan w/ local financial institutions to project and respond to future site needs in the downtown area;



- Marketing office space downtown – use discussions to entice other data-intensive firms, especially to west of I-79;
- GCID should become involved with downtown Waynesburg visioning process;
- Link tourism with senior citizens (bus tours);
- Maximize tourism opportunities on Mon River, especially Greensboro, including pedestrian / bicycle improvements on old rail lines incrementally;
- Locate and take control of a new potential fairground site closer to river or secondly, in western agricultural district;
- Develop a commercial rehabilitation tax abatement incentive for the commercial strip between I-79 and downtown Waynesburg;
- More aggressive long-term marketing approach to Paisley Industrial Park;
- Market potential housing development opportunities.

Greene County Review and Recommendations (C.P. Smith, 2000)

Findings included in the Greene County Review and Recommendations are as follows:

- MeadowRidge and Paisley industrial parks indicated that they are in need of two general-purpose buildings that are ready to go for possible subdivision to respond to businesses that want to locate in the County
- There are no food processing plants to process sheep or beef
- Local wisdom predicts 20 to 25 years till the coal in the County is depleted, contrary to the 121 years that is estimated, based on four billion tons of coal mined at about 33 million tons per year. Dependence on coal will likely lead to a dwindling tax base.
- Technology infrastructure is growing
- Tourism from riverfront development
- Recommendations include the need for a stronger link between Waynesburg College and Greene County
- The Allegheny Conference on Community Development and the Pennsylvania Economy League indicated that the creation of a new partnership is needed that is capable of receiving and balancing both public and private resources and agendas
- Public and private partnerships are needed to accomplish strategic initiatives in the area of economic development, planning and tourism
- The creation of a public / private industrial development partnership is recommended

Comprehensive Development Plan: EverGreene Technology Park (Delta Development Group, Inc., 2001)

Lack of funds; topography leaves 80-100 of 240 acres as buildable. Types of companies: require OC3 fiber optic cable hook-up; start-up companies w/ little or no assets; limited operating capital; in better position to lease than own. Development plan including public funding options, possible tenants, pre-construction budget, etc. Recommendations include limiting development to technology or tech-support companies due to limited ingress and egress situation; Form development committee; Make proposals to tenants

2030 Transportation and Development Plan for Southwestern Pennsylvania (Southwestern Pennsylvania Commission, 2003)

The plan identified six economic development projects totaling \$81,000,000 in total investment for Greene County, including the Greene County Airport; Paisley Industrial Park; Mount Morris Industrial Park; Nemacolin Industrial Park; the Greene River Trail; and the Mather Redevelopment Project. Highway projects included the US 19 Morrisville corridor widening and lane additions.

FY2005 Federal Funding Priorities for Greene County (Greene County Commissioners, 2004)

List of project priorities for transportation, water/sewer, economic development, and health and human services that require federal funding, a description of each project and a cost.



Land Use Controls

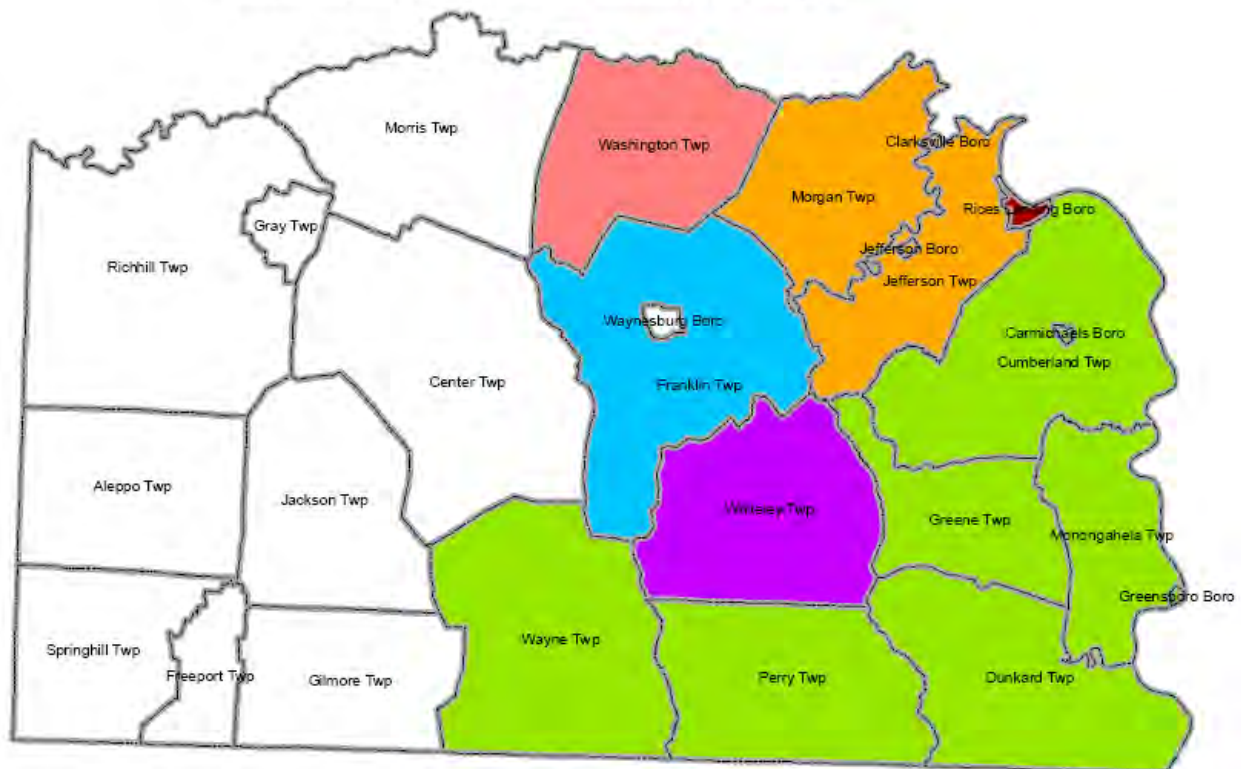
Table 10-1: Greene County Land Use Controls lists each municipality and corresponding status of comprehensive plans, zoning ordinances, subdivision and land development ordinances (SALDO), planning commissions and whether they opted in or out of the Uniform Construction Code (UCC).

Table 10-1: Greene County Land Use Controls					
Municipality	Comprehensive Plan	Zoning Ordinance	SALDO	Planning Commission	UCC
Greene County	Yes - 1979	No	County	Yes	N/A
Aleppo	No	No	County	No	IN
Carmichaels	Yes - unknown (update underway)	No	County	No	IN
Center	No	No	County	Yes	IN
Clarksville	Yes - 2005	Under Development	County	No	OUT
Cumberland	Yes - 1980 (update underway)	Yes - 1994	County	Yes	IN
Dunkard	Under Development	No	County	No	IN
Franklin	Yes	Yes - 2000	Municipal	Yes	IN
Freeport	No	No	County	No	OUT
Gilmore	No	No	County	No	IN
Gray	No	No	County	No	IN
Greene	Under Development	No	County	No	IN
Greensboro	Under Development	Yes - 1999	County	Yes	IN
Jackson	No	No	County	No	IN
Jefferson Boro	Yes - 2005	Under Development	County	No	IN
Jefferson Twp	Yes - 2005	Under Development	County	No	IN
Monongahela	Under Development	No	County	No	IN
Morgan	Yes - 2005	Under Development	County	No	IN
Morris	No	Yes - 2006	County	Yes	IN
Perry	Under Development	No	County	Yes	IN
Rices Landing	Yes - 1997	Yes - 2001	Municipal	Yes	IN
Richhill	No	No	County	No	IN
Springhill	No	No	County	No	OUT
Washington	Yes	Yes - 2000	Municipal	Yes	IN
Wayne	Under Development	No	County	No	IN
Waynesburg	No	Yes - 1995	County	Yes	IN
Whiteley	Yes - 2000	Yes - 2003	County	Yes	IN
Source: Greene County Department of Economic Development, 2007					

Comprehensive Plans

Out of 26 municipalities in Greene County, ten have adopted comprehensive plans while another six are currently in the process of developing plans. To date, one multi-municipal comprehensive plan has been successfully completed and adopted in the County while another is currently in progress. Franklin, Rices Landing, Washington, and Whiteley each separately completed a comprehensive plan. With the exception of Waynesburg Borough, all the municipalities without comprehensive plans can be found in the western portion of Greene County. Each plan is listed in chronological order (by date of adoption) and includes a short summary of the major recommendations for future land use.

Greene County Municipal Comprehensive Plan Status



Legend	
	No Comprehensive Plan
	Southeastern Greene Multi-Municipal (In Progress)
	Jefferson-Morgan Multi-Municipal (2005)
	Whiteley Township (2000)
	Rices Landing Borough (1997)
	Franklin Township (unknown)
	Washington Township (unknown)

Source: Greene County Dept of Economic Development (2007).



Cumberland Township Comprehensive Plan (1980)

Cumberland Township completed a comprehensive plan in October of 1980. At that time, the township was mostly agriculture and woodlands but was projected to see a large increase in population and housing by 2000. The future land use plan directed medium-density residential in and around Carmichaels Borough, the village of Crucible and the village of Nemaquin, with low-density residential found along major thoroughfares. Commercial and industrial uses were directed to major intersections throughout the township. The remainder of the township was slated for agriculture, woodlands and rural residential.

Cumberland Township is currently updating their comprehensive plan as one of the eight municipalities involved in developing the Southeastern Greene Multi-Municipal Comprehensive Plan.

Rices Landing Comprehensive Plan (1997)

Rices Landing developed a comprehensive plan that directed future planning efforts towards housing, economic development, community facilities and utilities, and transportation. The recommendations for future development in the Borough focused on maintaining the small town character and concentrating on the promotion of and continued development of historic and recreational sites within the Borough as economic development pieces.

Whiteley Township Comprehensive Plan (2000)

The Comprehensive Plan for Whiteley Township directed future land use to areas currently served by public infrastructure and to those areas where it can be easily extended. The plan proposed that the Township preserve its rural characteristics, such as farmland and ecologically important areas, but also to diversify the economic base from its reliance on mining.

Jefferson Morgan Multi-Municipal Comprehensive Plan (2005)

A multi-municipal comprehensive plan was prepared and adopted for the Jefferson Morgan COG Region, consisting of Clarksville Borough, Jefferson Borough, Jefferson Township and Morgan Township. The plan focused on directing future development in a manner that protects the quality of life while allowing for growth to increase the municipal tax base. The future land use plan targets PA Route 188, PA Route 21, PA Route 221, and PA Route 88 as growth areas, directing a higher concentration of commercial, light industrial, and village development along these corridors. The plan also identifies the limitations on development

presented by the current sewage system and that upgrades and planned extensions will encourage development surrounding Jefferson Borough and the Village of Mather.

Southeastern Greene Cooperative Communities Comprehensive Plan (in progress)

Eight communities in southeaster Greene County joined together in 2006 to develop a multi-municipal comprehensive plan for the region. The communities include Carmichaels Borough, Cumberland Township, Dunkard Township, Greene Township, Greensboro Borough, Monongahela Township, Perry Township and Wayne Township. While not completed, the communities hope to identify suitable areas to extend infrastructure and develop a plan that will allow the region to expand its tax base and plan for a sustainable future. Of the eight communities, two have comprehensive plans, Carmichaels Borough and Cumberland Township (though no copy of Carmichaels was available for review) while the remaining six are undergoing their first comprehensive plan.

Franklin Township Comprehensive Plan (unknown date)

No copy was available for review.

Washington Township Comprehensive Plan (1989)

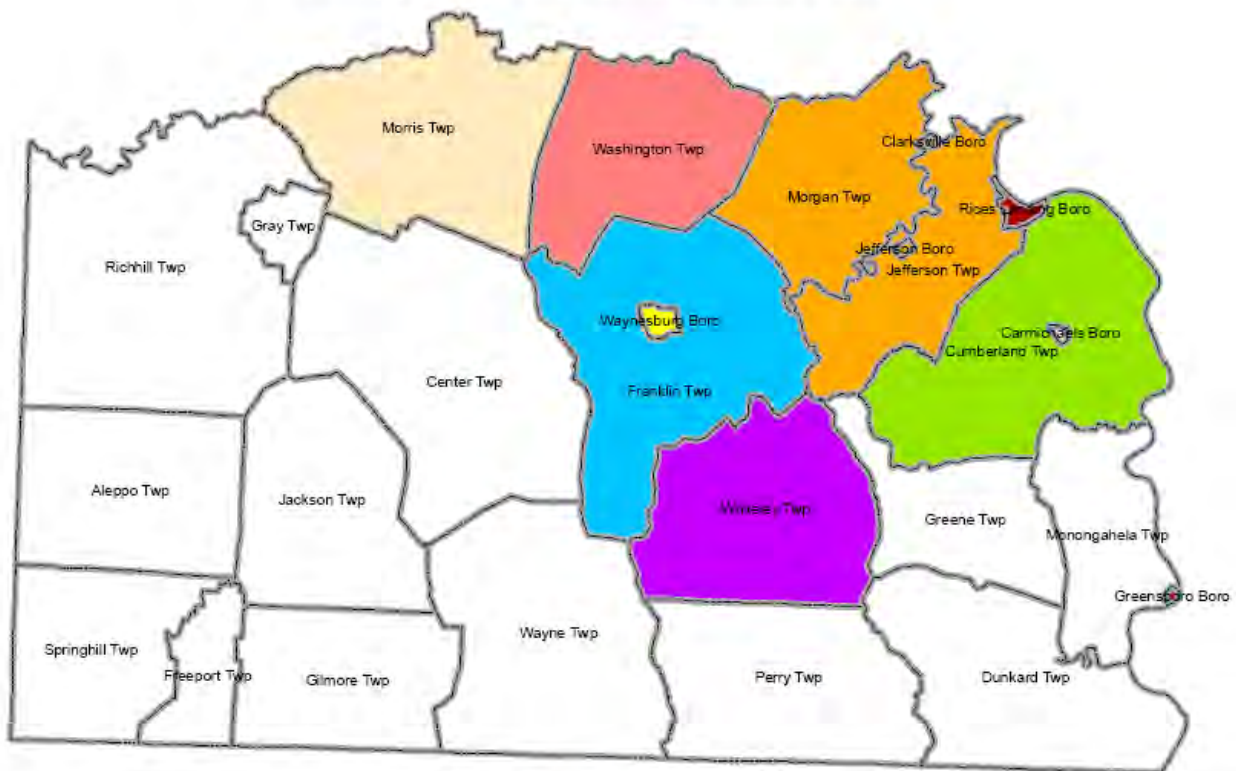
The Development Plan from 1989 depicts Washington Township as a predominantly rural, agricultural community with the Ruff Creek Interchange reserved for small-scale commercial businesses designed to serve population concentrations and highway commercial services. The plan does not call for any larger scale commercial development.



Zoning Ordinances

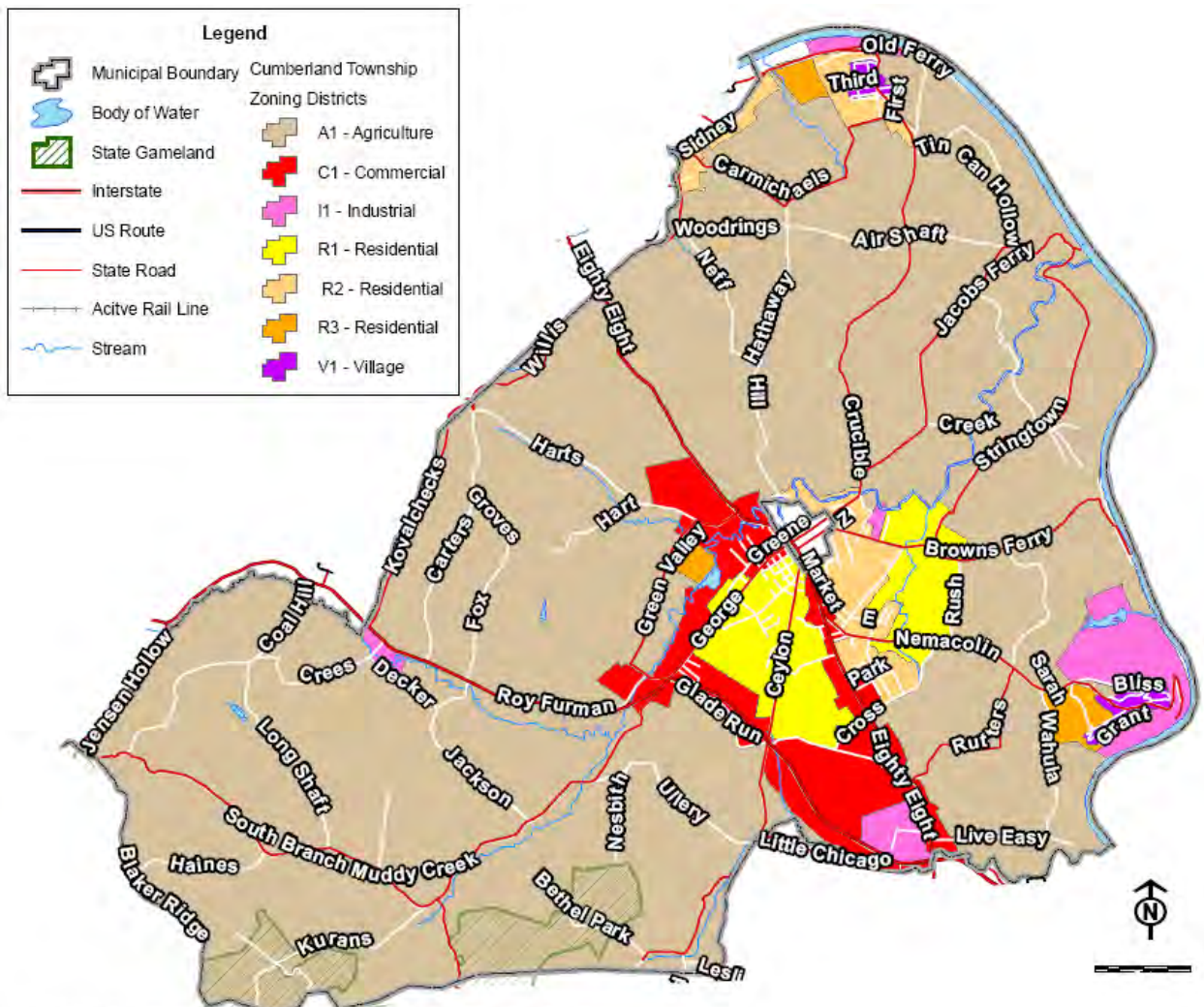
As of 2008, 12 municipalities have enacted zoning ordinances to regulate future growth and land use, including the first Multi-Municipal Zoning Ordinance in Greene County (four municipalities in Jefferson-Morgan). With the exception of Greensboro Borough, all the municipalities with zoning can be found in the north central / northeast portions of Greene County. Each zoning ordinance is listed in chronological order (by date enacted) and includes a short summary of the zoning districts. When available, a map of the zoning districts for the municipality is provided.

Greene County Municipal Zoning Ordinance Status



Cumberland Township Zoning Ordinance (1994)

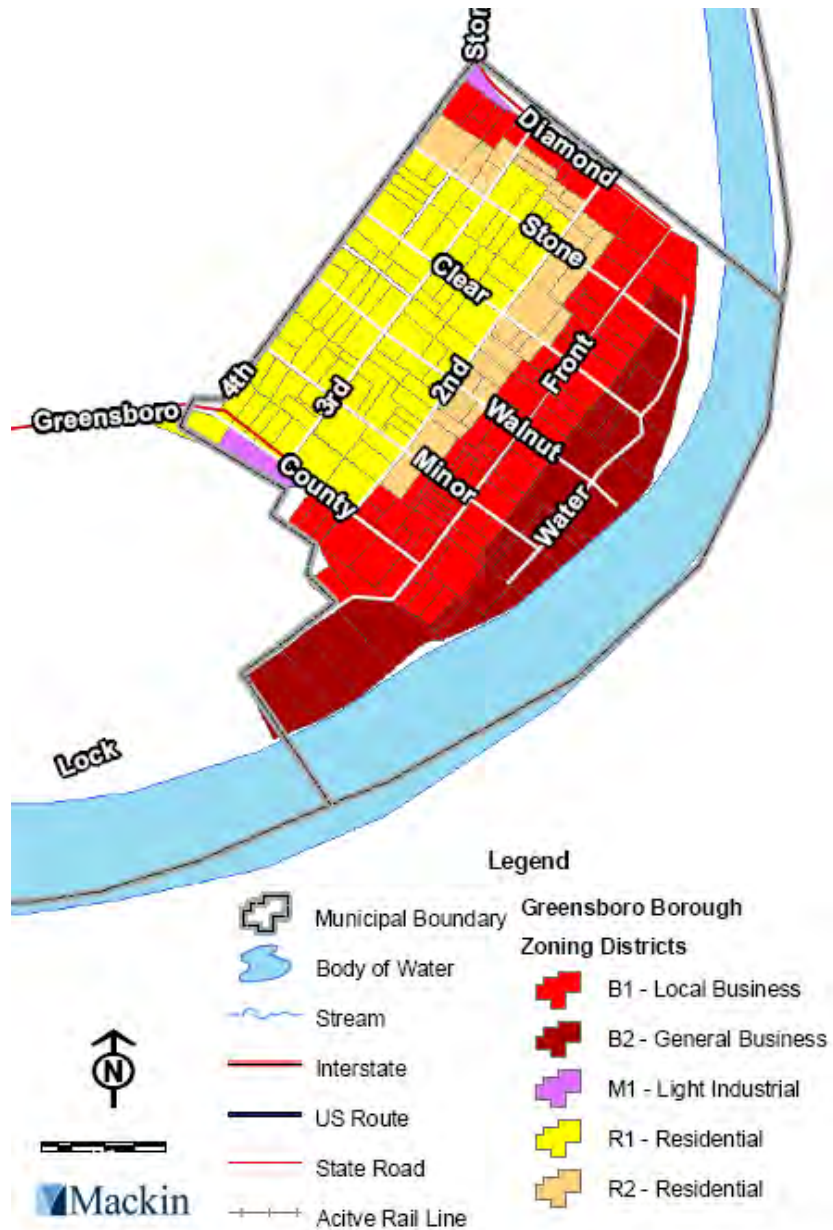
Cumberland Township is divided into seven zoning districts: A-1 Agricultural District; R-1 Residential District; R-2 Residential District; R-3 Residential District; C-1 Commercial District; I-1 Industrial District; and V-1 Village District. Most of the township is zoned agriculture, except for the land closest to Carmichaels Borough, the village of Crucible, and the village of Nemacolin. Commercial zones extend out from Carmichaels along SR 88, SR 21, and Glade Run Road. Higher density residential can be found east of Carmichaels and along Nemacolin Road. Low density residential is found along George Street, Ceylon Road, and Browns Ferry Road. Crucible is zoned for village and higher density residential while Nemacolin is zoned for a mixture of village and higher density residential and surrounded by industrial.



Source: Zoning districts were digitized by the Greene County Dept of Economic Development (2007).

Greensboro Zoning Ordinance (1999)

Greensboro Borough is divided into five zoning districts: R-1 Residential; R-2 Residential; B-1 Local Business; B-2 General Business and M-1 Light Industrial.

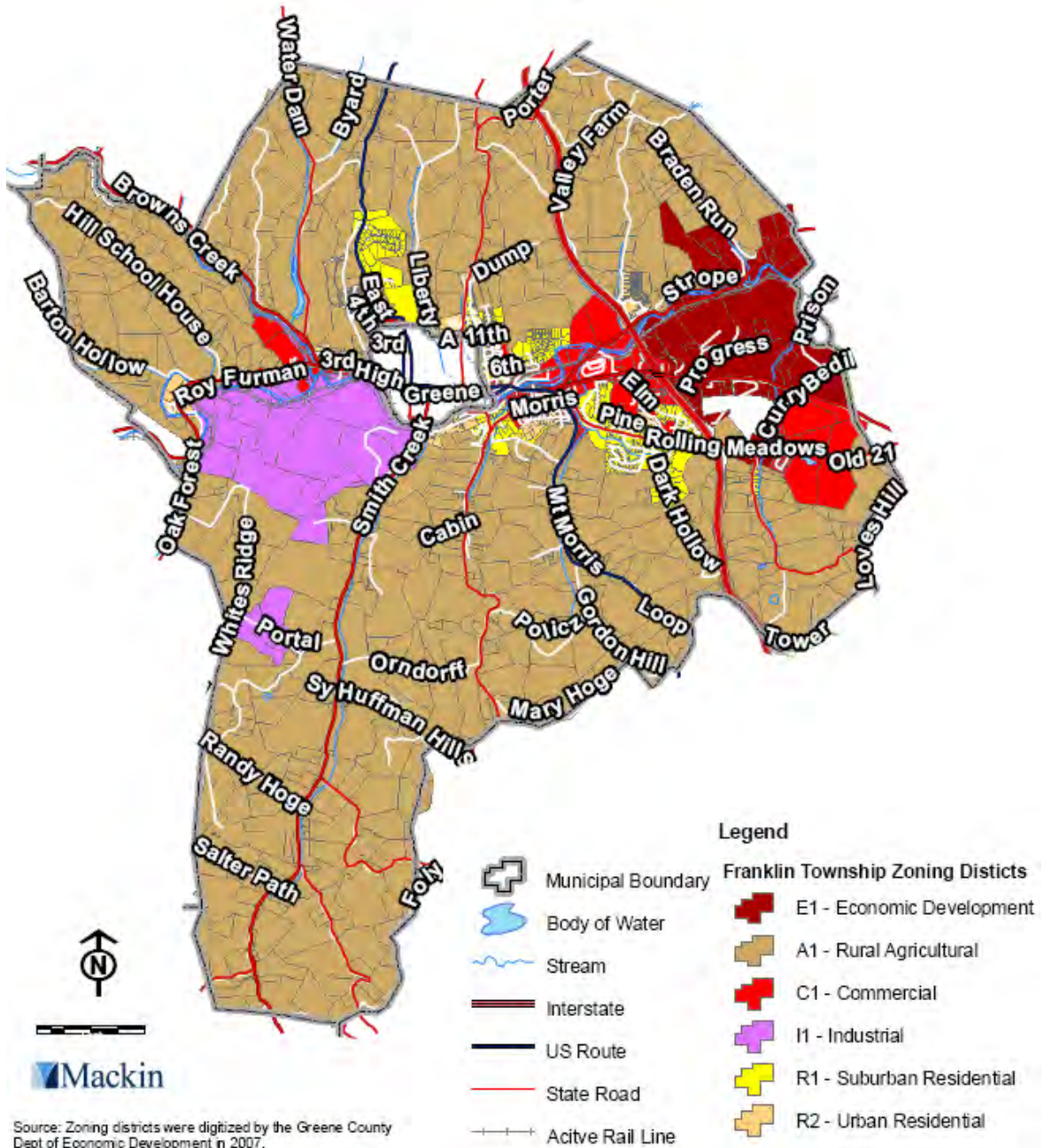


Source: Zoning districts were digitized by the Greene County Dept of Economic Development in 2007.



Franklin Township Zoning Ordinance (2000)

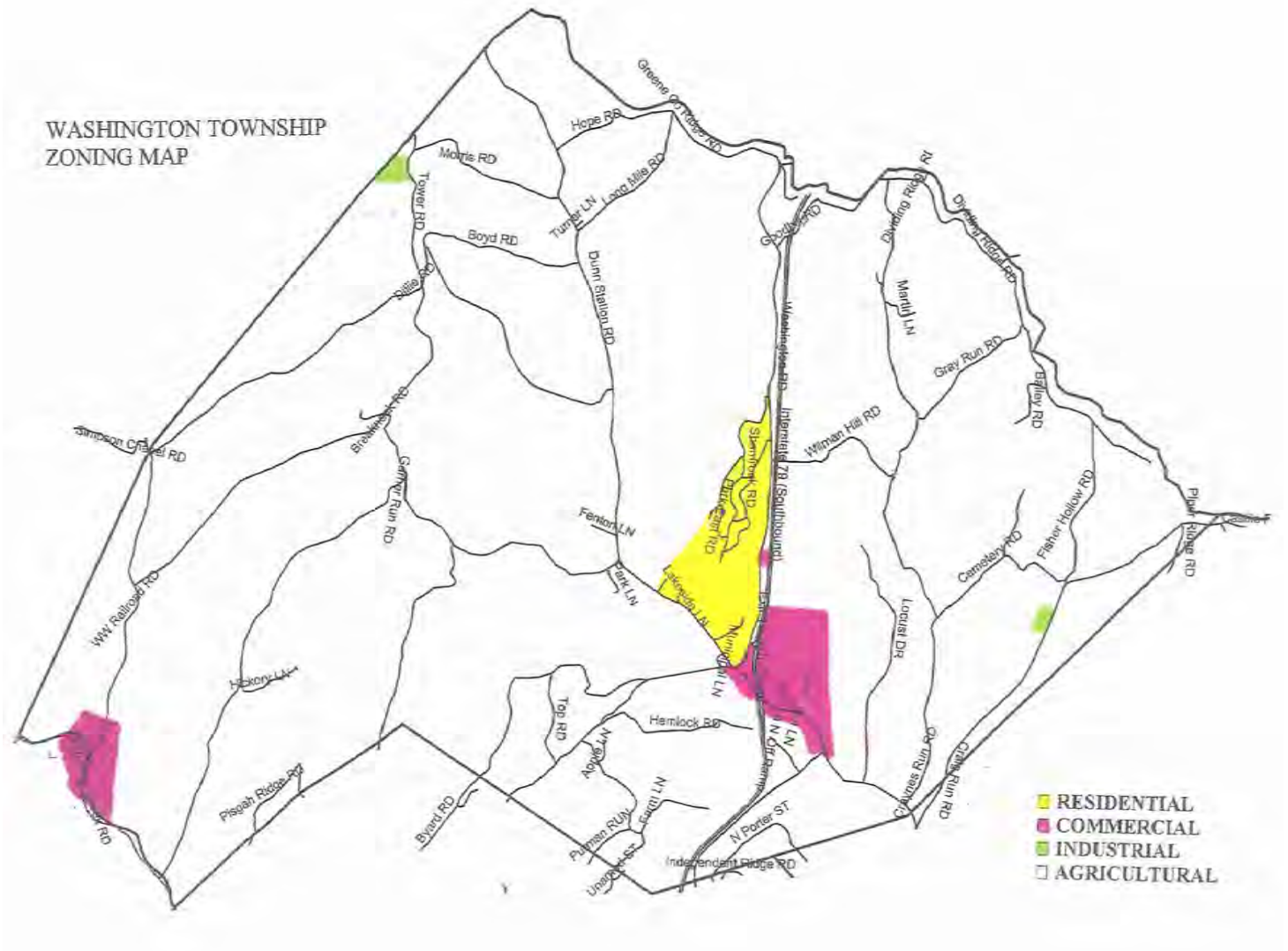
Franklin Township is divided into six zoning districts: A-1 Rural Agricultural District; R-1 Suburban Residential District; R-2 Urban Residential District; C-1 Commercial District; I-1 Industrial District; and E-1 Economic Development District.



"Strategy for a Greene Tomorrow"

Washington Township Zoning Ordinance (2000)

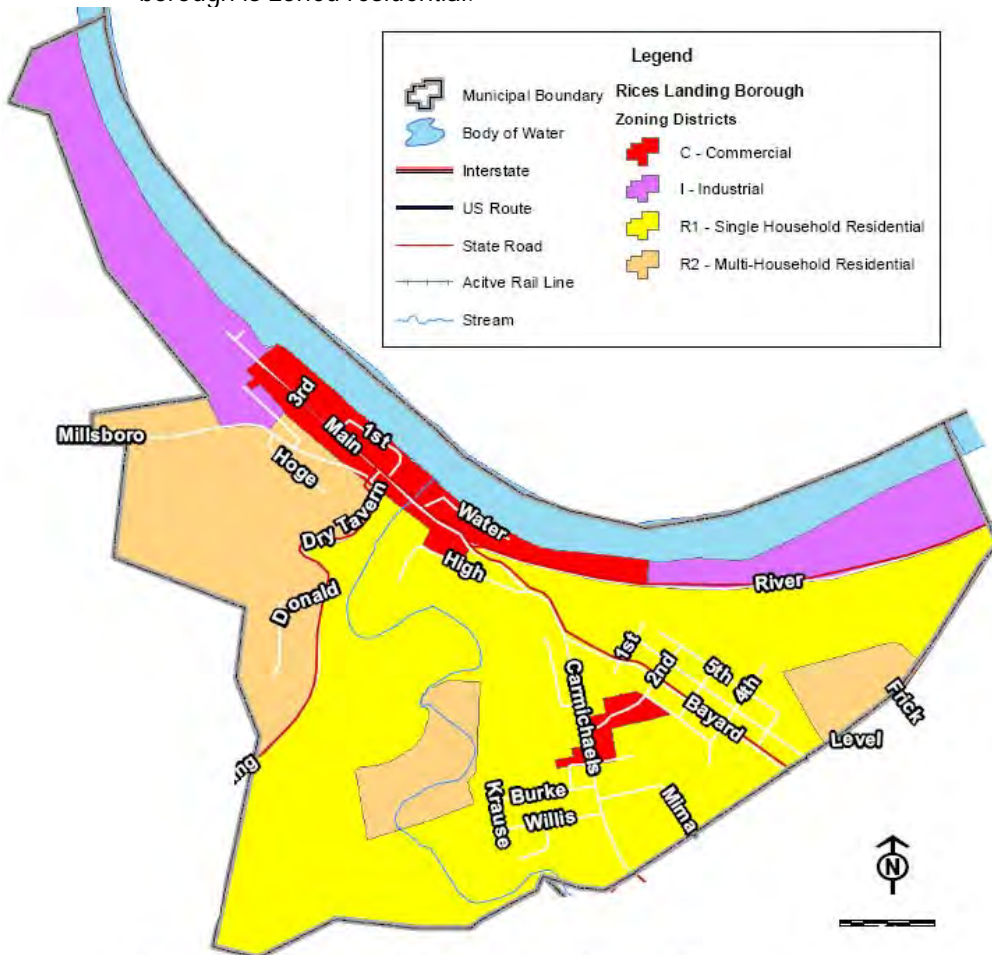
Washington Township is divided into four zoning districts: Agricultural District; Residential District; Commercial District; and Industrial District. The Ruff Creek Interchange on I-79 is zoned commercial with residential west of I-79. The majority of the Township is zoned agriculture.





Rices Landing Zoning Ordinance (2001)

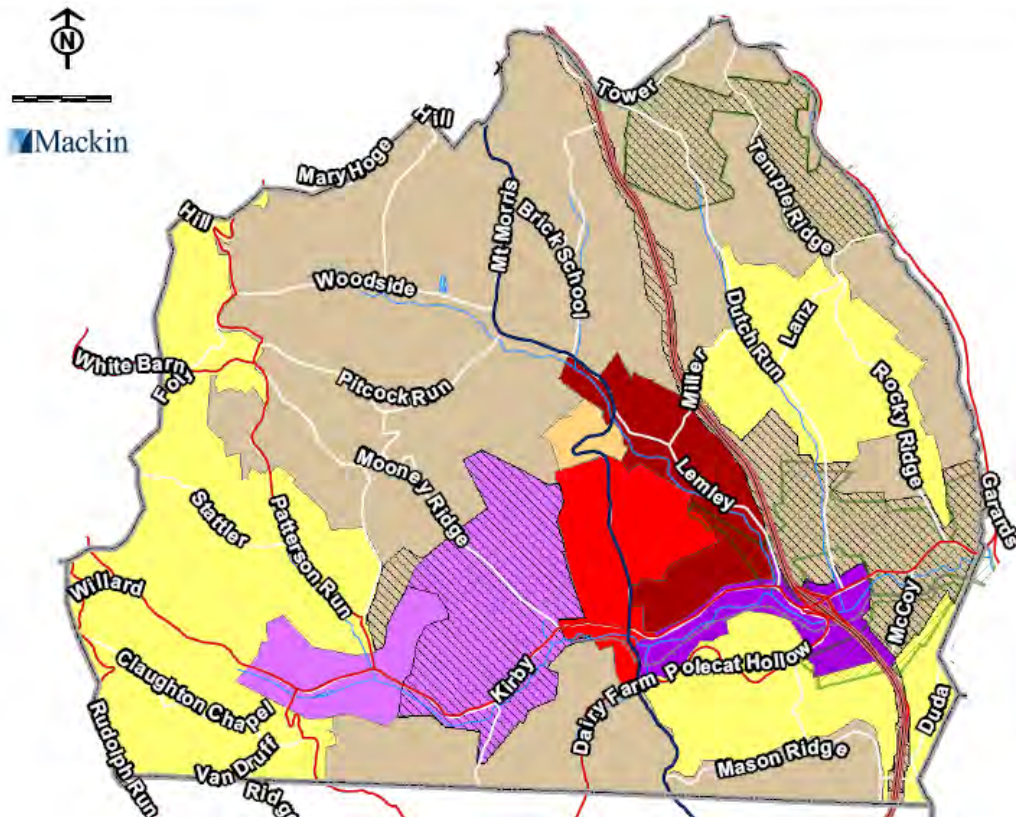
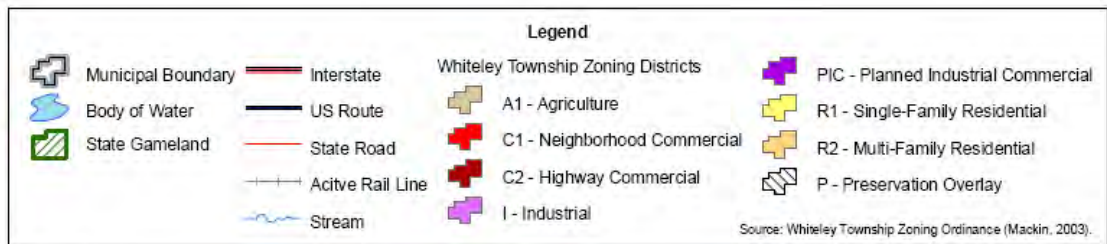
Rices Landing Borough is divided into four zoning districts: R-1 Single Household Residential District; R-2 Multi-Household Residential District; C Commercial District; and I Industrial District. There are two commercial districts – one is along Main Street and the Monongahela River and the other is near the intersection of Carmichaels Street and Second Street. The industrial districts border the remaining riverfront, while the rest of the borough is zoned residential.



Source: Zoning districts were digitized by the Greene County Dept of Economic Development in 2007.

Whiteley Township Zoning Ordinance (2003)

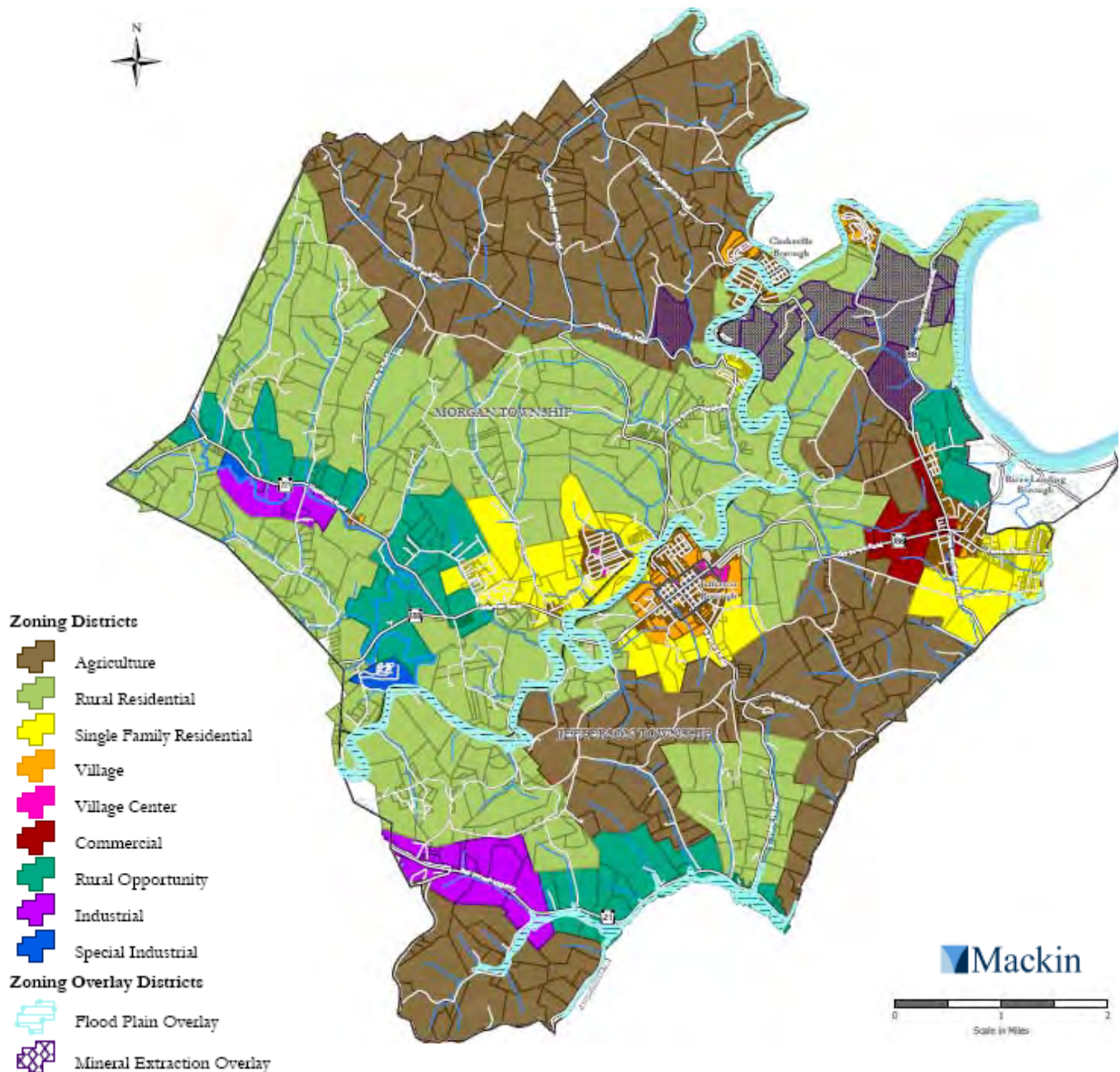
Whiteley Township is divided into seven zoning districts: A-1 Agricultural; R-1 Single-Family Residential; R-2 Multi-Family Residential; C-1 Neighborhood Commercial; C-2 Highway Commercial; PIC Planned Industrial Commercial; and I Industrial. In addition, Whiteley Township has a P Preservation Overlay District that was established to regulate residential, commercial, industrial or other uses and development along the 1-79 corridor and within the Pennsylvania State Game Lands as well as an FP Flood Plain Overlay District that was established to protect environmentally sensitive areas such as stream valleys, riparian buffers, and / or wetlands.





Jefferson Morgan Multi-Municipal Zoning Ordinance (2008)

The Jefferson-Morgan region, comprised of Jefferson Township, Morgan Township, Jefferson Borough, and Clarksville, recently completed the first multi-municipal zoning ordinance in Greene County. The ordinance divides the region into nine zoning districts: A-1 Agricultural; R-A Rural Residential; R-1 Single-Family Residential; V-1 Village District; VC Village Center; C-1 Commercial; RO Rural Opportunity; I-1 Industrial; and I-2 Special Industrial. There are also two zoning overlay districts: Floodplain Overlay and Mineral Extraction Overlay.



Morris Township Land Use Ordinance (unknown date)

The purpose of agricultural / residential zone is to maintain agricultural and forestry and avoid scattered development of land for non-agricultural uses that may be detrimental or require public services, facilities or utilities in excess of those normally needed or feasible in rural areas. Special zone protects conservation, park and open space use. Intent of business zone is encourage location of businesses in organized districts near developed/developing areas and avoid scattered location of business uses in rural areas and strip commercial development along highways. Village zone allows for diversity of appropriate uses and activities in concentrated settlement areas. *A copy of the zoning map was unavailable.*

Three municipalities have enacted land use regulations addressing incompatible land uses and airports.

1. Franklin Township
2. Jefferson Township
3. Morgan Township

Subdivision and Land Development Ordinance (SALDO)

Greene County SALDO

Greene County enacted a Subdivision and Land Development Ordinance in 1995 and amended in 1998. The SALDO provides the legal measures to ensure that future subdivision and land development plans conform to the development goals of the community. The Greene County SALDO applies to all municipalities who have not enacted their own SALDO, which include all but Franklin Township, Rices Landing Borough and Washington Township.

Greene County has plans to update the SALDO to meet the community development objectives identified in the Comprehensive Plan. Following a review of the SALDO and discussions with the Greene County Planning Commission the following deficiencies were identified:

1. Procedures for Approval of Lot Splits, Minor and Major Subdivisions, and Land Development vary and could be simplified.
2. There is no requirement for traffic impact studies for a subdivision or land development. This is recommended to be a requirement for development which will generate 100 or more peak hour trips when fully developed.



3. The Landscaping and Buffer Section is inadequate. Landscaping and Buffers requirements should be very specific in that so many trees and shrubs of a specific height and caliber should be required depending on the type of development and a list should be provided of street tree species that can be chosen from.
4. There are no provisions which take into account phased land development not intended for the immediate erection of buildings where streets, curbs, gutters, street lights, fire hydrants, water and sewage facilities and other improvements may not be possible to install as a condition precedent to final approval of plats, but will be a condition precedent to the erection of buildings on lands included in the approved plat.
5. General Goals should be included in the beginning of Required Improvements and Design Standards. There are no standards for the protection of significant natural resource, preservation of historic, architectural, archeological resources, and the protection of trees and woodlands. These goals should be in accordance with the Greene County Comprehensive Plan and the Greene County Comprehensive Recreation, Parks, Trails/Greenway Plan.
6. There is no provision for public dedication of land for recreation purposes.
7. The mobile home park regulations need to be updated to include improved design guidelines, utility and fire regulations, and plan requirements. Also responsibilities of park management and violations and penalties sections need to be added.
8. There is no Conservation Subdivision component.
9. There is a checklist that can accompany the application through the review process, but this should be included as an addendum of the ordinance.

Surrounding Counties' Comprehensive Plans

A review of Comprehensive Plans of the counties surrounding Greene County was completed to ensure that the recommendations and policies of the Greene County Comprehensive Plan are consistent with neighboring counties. In the event that officials determine future uses would be in conflict, it is recommended that appropriate measures be implemented that would establish buffers between conflicting land uses. Such efforts should be undertaken in concert with the officials of the adjacent county and affected municipal leaders.

Greene County is bordered by two counties in Pennsylvania: Fayette County to the east (separated by the Monongahela River) and Washington County to the north. Although Allegheny County does not border Greene County, it will affect Greene County through its regional economic development influence, and therefore is included in the plan review.

Allegheny County (ongoing)

In 2005, Allegheny County began to develop their first countywide comprehensive land use plan, a process expected to take 2-3 years. In 1992, the County prepared the Allegheny County 2001 report, which identified the need to preserve open space within the county and encourage new development in areas already served by existing infrastructure.

Fayette County (2000)

The Fayette County Comprehensive Plan, "Land Usage in Fayette County: Building a Better Future" includes a general future land use map for the county. While the Monongahela River acts as the border between Greene and Fayette counties, it is important to note the land uses alongside the river in Fayette. The land uses along the river in Fayette are varied but tend to favor recreation, rural and agricultural uses in the south. In the north, the land uses tend to be slightly more urban, with Brownsville Borough, Newell Borough and Belle Vernon Borough listed as "existing built areas" and because of the proposed construction of the Mon Fayette Expressway, Luzerne Township has been designated as a future growth area.

Washington County (2005)

Washington County Comprehensive Plan prioritizes locations within the county to direct investment and encourage the sound and logical allocation of resources. To support the Fix-It-First philosophy, resource allocation will be reserved to areas where intervention is needed to correct deficiencies, encourage appropriate development, or provide new infrastructure to meet an existing need. Other investments will preserve resources, encourage community revitalization, and foster an overall collective growth strategy that benefits the County as a whole. The Future Development Strategy identifies the following categories: Targeted Areas for Investment (TAI), Transitional Reserve Lands, Village Areas, and Rural Resource Areas. The TAI consist of the City of Washington / County Airport Region; the I-70 Corridor; the I-79 / US 19 Corridor; the US 22 / PA 30 Corridor; the PA 50 Corridor; the Southern Beltway Corridor; and the Mon Valley Corridor. The Transitional Reserve Lands predominantly surround these TAI regions, while the Village Areas surround existing boroughs and villages. The remaining land in the County has been reserved for Rural Resource Areas, which include State Game Lands, County Parks, Active Farms and other farm or forest land, and high quality watersheds.



Greene County is also bordered to the west by three counties in West Virginia – Marshall, Monongalia, and Wetzel Counties. The governing structure in West Virginia differs from the Commonwealth of Pennsylvania in that the County governing body controls land unincorporated. Incorporated areas have governing structures into themselves and follow the West Virginia State Code as does the County. The State of West Virginia signed into law Senate Bill 454, which modernized the state's planning enabling legislation. Senate Bill 454 repeals Chapter 8, Article 24 of the West Virginia State Code. The new chapter in the state code, Chapter 8A Land Use Planning maintains the permissive status of planning in West Virginia but does clarify the connection between a comprehensive plan and a zoning ordinance. Chapter 8A requires that governing bodies may enact zoning ordinances and subdivision and land development ordinances only after a comprehensive plan has been adopted.

Given the geographic proximity and market influence of neighboring West Virginia, it is recommended that the County continue efforts to learn of new development plans, transportation improvements, or redevelopment efforts. Development in either can have regional impacts that could affect migration patterns, transportation needs, etc.

Marshall County

Marshall County does not have a comprehensive land use plan or a planning department / commission. The area that borders Greene County is almost entirely unincorporated and mainly rural. There are presently no land use policies in place.

Monongalia County

Monongalia County prepared a Comprehensive Plan for the Planning Districts of Monongalia County in 2004. The final document serves as a Comprehensive Plan for the following planning districts – Stewartstown, Cheat Neck, Cheat Lake, and West Run. The Comprehensive Plan is specific to the northeastern region of the county and is to be considered the initial step towards a county-wide plan. Development patterns in Monongalia County are significantly affected by the presence of the City of Morgantown, which is home to West Virginia University, and many major manufacturers (e.g., Mylan, Swanson Industries, FCX Systems) and a number of coal mining equipment manufacturing and repair companies. Monongalia County has experienced tremendous growth, which could impact southeastern Greene County in terms of residential development. Additionally, as Morgantown was identified as a major market for Greene County, it is expected that residents will continue to capitalize upon this location for employment opportunities.

Wetzel County

Wetzel County does not have a comprehensive land use plan or a planning department / commission. The area that borders Greene County is almost entirely unincorporated and mainly rural. There are presently no land use policies in place.

Land Use Resources

Greene County Department of Economic Development

The Greene County Department of Economic Development serves as the administrative umbrella for the Greene County Conservation District, the Greene County Solid Waste Program, the Greene County Planning Commission, and the Grant Services Office. Greene County's Department of Economic Development works with municipalities who wish to develop and enforce land use regulations. The Department provides technical assistance in the way of grant writing and the expertise of land use planners and community development professionals in the Department.

Greene County Planning Commission

The Greene County Planning Commission was formed nearly 50 years ago to oversee the subdivision of land and the land development activity in Greene County. The planning commission consists of a nine-member board, including a County Commissioner, and the Director of the Department of Economic Development. The planning commission meets monthly at 7:00 PM in the second floor meeting room of the Greene County Office Building.



Land Use Snapshot

Thirty years ago, 95.4 percent of Greene County was undeveloped...

Greene County's development patterns have been primarily dictated by the presence of steep slopes and coal mining. In 1978, only 2.5 percent of the County was considered to be developed with residential, commercial, and industrial uses. State Game Lands and parks comprised 48.3 percent of the land, with 1.6 percent dedicated to resource extraction and 0.5 percent classified as vacant open land. The largest concentration of urbanized or developed areas included the Waynesburg-Franklin Township area along Routes 21 and 188; land along Ten Mile Creek between Clarksville and Jefferson Borough; an area extending from Dry Tavern to Crucible; and the Carmichaels-Cumberland area. These areas were primarily residential in nature.

In 1978, commercial areas were found in Waynesburg, along Route 21, and in Carmichaels. Scattered stores and gas stations could be found along roads throughout the County, but Route 21 began emerging as a commercial corridor between Waynesburg and I-79. The majority of industry could be found in the Industrial Park on Route 21 in Franklin Township, Waynesburg, and scattered along Route 21 and the Monongahela River.

While agricultural land and woodlands appeared to comprise a large percentage of the existing land use in 1978, only half of the 175,608 acres of agricultural land was cropland and only 24,467 acres were harvested. In addition, only three percent of the entire land area in the County was considered to be Class I or II prime agricultural soil. The remainder of the agricultural land was used for sheep or cattle grazing or was fallow. Of the woodlands, they were comprised of second and third growths and had little or no economic value.

Skip ahead to today...

Steep topography continues to hinder development in Greene County today. Slope data from 1978 and 2006 varies in terms of how much of the land is considered to be developable. According to the 1979 Comprehensive Plan, only ten percent of the County was considered to be developable due to the remaining land having steep slopes in excess of 16 percent. However, according to slope data provided by SPC in 2000, approximately 38 percent of the County contains slopes less than 16 percent. While the percentage of developable land varies, the constant is that the steep slopes found throughout the County continue to influence development patterns.

Comparing the existing land use data gathered in 1978 to that of 2006, the overall development pattern is the same. The central and northeastern portions of the County remain the areas seeing the majority of development, with Waynesburg-Franklin area, Carmichaels-Cumberland area, and the Jefferson-Morgan area being the most populated areas in the County. Depending upon the source, the percentage of developed area in Greene County varies. According to SPC land cover data, only 2.3 percent of Greene County is classified as developed (residential, commercial, or industrial). However, according to the tax assessment data, ten percent of the County is classified as developed. The discrepancy rises from the method of data gathering and whether or not the

entire parcel is classified under one land use. Since the existing land use data was collected on a parcel level in 1978, it is fair to say that the developed area in the County has increased from 2.5 percent to ten percent.

Almost all of the growth came in the form of residential growth, 5.8 percent, and industrial growth, 3.3 percent. Very little commercial growth has occurred since 1978. Shoppers continue to travel to markets outside of Greene County, such as Washington, Uniontown, and Morgantown. The County is currently working with major developers to bring a larger commercial base into Greene County by prepping a major retail center for construction.

In 1978, Greene County was predicted to experience a population growth that would have doubled the existing population. This was to be a result of the expected continuation of the growth in the mining industry. However, due to technological advances in the coal industry, the large number of projected needed workers never materialized, thereby the County never experienced the projected population growth of the 1970's.

As in 1978, agricultural land appears to comprise a large percentage of the County's total land area. However, a much smaller percentage of land is used for active farming purposes. With little population or economic growth, farmers have not been under enormous pressure to sell their lands to developers. It is important to note though that the prime agricultural lands and soils lie in the most developable areas of the County, namely the Ten Mile Creek corridor and Jefferson-Morgan region.



B. Data & Analysis

Land Cover

Greene County has a predominantly rural landscape, with only 31 percent of its population living in an urban setting in 2000 (U.S. Census, 2000). Using land cover data from Southwestern Pennsylvania Commission (SPC, 1992), land-cover acreage and percent of county coverage was estimated using Geographic Information System (GIS) tools. As Table 10-2: Land Cover Data shows, over 97 percent of the land cover is agriculture or forest while less than three percent was developed, strip mines or disturbed. These numbers are very similar to the estimates from the County's 1979 Comprehensive Plan. Figure 10-1A: SPC Land Coverage displays the existing land use for Greene County, using the land cover data developed by SPC.

Table 10-2: Land Cover Data		
Land Cover	GIS	Percent of
	Acreage	Total Cover
Agriculture (Cropland; Pasture & Open)	152,431	41.41%
Forest (Coniferous; Deciduous; Mixed)	205,953	55.96%
Maintained Grass	75	0.02%
Non-residential - mixed development	1,891	0.51%
Residential	5,019	1.36%
Strip Mines or Disturbed	1,508	0.41%
Transportation	1,188	0.32%
Total	368,064	100%

Source: Southwestern Planning Commission (1992)

Agriculture

The classification for **Agriculture** can be defined as land being used predominantly for agricultural purposes—the commercial production and preparation for market crops, livestock and livestock products and the production, harvesting and preparation for market or use of agricultural and similar crops and commodities.

Forest and/or Maintained Grass

The land classification of **Forest** and/or **Maintained Grass** is defined as land that has not been built upon or substantially altered and can be publicly or privately owned. Such locations are often associated near or as Agricultural land uses due to pasture and fallow lands used in farming. These areas may have important ecological functions, natural resources, or cultural resources that are worthy of conservation and protection.

Non-Residential – mixed development

The land use classification of **Non-residential – mixed development** can be defined as areas used by private individuals or by organizations for capital gain, which may include retail shopping, automotive, financial, professional, governmental and miscellaneous recreational and service activities to which the public requires direct and frequent access. This category can also contain a mix of single to multi-family residential uses. Commercial lands are scattered throughout the County in small pockets within established population centers but the majority of commercial uses is located in or around Waynesburg.

Residential

The **Residential** category includes all dwellings used for residential purposes. Residential uses can include single family dwellings and multi-family dwellings. These types of structures can range in density and type of construction.

Strip Mines or Disturbed

Strip Mines or Disturbed land uses typically involve such activities as construction, excavation, and manufacturing. Included are uses such as mining, and earth moving or excavation companies. Such uses are found primarily along the Monongahela River and where coal mining activities have taken place or are actively occurring.

Transportation

The **Transportation** Category is considered to be major roadways such as Interstate 79, rail lines, river terminals, and airports.



Land Use

Land use data was also derived using Greene County Tax Assessment data as shown graphically on *Figure 10-1B: Land Use* and displayed categorically in Table 10-3: Land Use Data. According to the Greene County Tax Assessment Office, land classified under Agricultural and Clean and Green totals 81 percent of total land use. Land classified as residential is 4.5 percent higher using the tax assessment data while other non-residential uses are almost 3.75 percent higher than the information supplied by the Southwestern Pennsylvania Commission.

Table 10-3: Land Use Data

Land Use Classification	# of	GIS Acreage	Percent of Total
	Parcels		
Agriculture >10 acres	3,562	165912	45.03%
Clean and Green	2,147	133705	36.29%
Public	1,559	21792	5.92%
Residential	19,049	21559	5.85%
Industrial	410	12258	3.33%
Commercial	1,002	3474	0.94%
Unclassified	593	8771	2.38%
Utility	92	942	0.26%
Total	28,415	368,413	100%

Source: Greene County Assessment Office, February 2006

Clean and Green

The **Clean and Green** classification is a federally designated association with land enrolled in a reduced tax assessment program. According to information provided by the Greene County Tax Assessment Office, there were a total number of 133,705 acres enrolled in the Clean and Green program in the County as of February 2006. Clean and Green includes land that is dedicated to agricultural use, agricultural reserve use, or forest reserve use. The tax records do not differentiate between the uses however, so it cannot be determined what percentage of land enrolled in this program is for agriculture or forest.

Public

The land use category of **Public** can be defined as a site containing any land, building or structure owned or operated by a governmental agency or nonprofit community service provider open for public uses with or without a fee that provides a service to the public. Included in this category are state game lands, public parks and recreation areas, municipal offices, fire departments, ambulance providers, police departments, post offices, schools, and churches.

Industrial

Industrial land uses typically involve such activities as construction, excavation, processing, distribution and storage, and manufacturing. Included are uses such as factories, mills, and earth moving or excavation and transportation companies. Such uses are found primarily along the Monongahela River and where coal mining activities have taken place or are actively occurring.

Commercial

The **Commercial** land classification includes land that is densely developed with retail ventures such as grocery stores, clothing stores, business offices, and restaurants. This land classification is primarily located in population centers such as Waynesburg, and along primary roadways in some of townships and in many of the older boroughs in the eastern side of the County.

Utility

The land use category of **Utility** can be defined as a location owned by a public utility service provider, such as gas and electric companies.



Discrepancies between the two data sources shown in Tables 9-2 and 9-3 can be explained by the base layer used by the Tax Assessment Office, which classifies a land use based upon the entire parcel of land. Land Use information was derived through using existing Geographical Information Systems (GIS) data from the Greene County Assessment Office, current as of 2006. The land use categories data was supplemented by comparing it to land cover data supplied by the Southwestern Pennsylvania Commission (SPC), which was derived from aerial photography that was flown in 1992. Land Coverage data is developed using converted digital data derived from orthophotographs that follows physical locations of particular land uses. Greene County undertook a new aerial photography initiative in 2006 and is actively using this data through their Pictometry system.

When comparing the visual differences displayed on *Figure 10-1A* and *Figure 10-1B*, it can be seen that the SPC Land Coverage data provides a depiction of Greene County as a land area more occupied by forest uses than agriculture as compared to the Tax Assessment data, which suggest that the County has a significant agricultural base. The tax assessment data is parcel specific and coded accordingly, whereas the SPC land cover data examines how the land is currently being used – not how it is taxed. Therefore, the land cover data shows more open space, forests, and agriculture than the tax parcels. Land enrolled in the Clean and Green Program (shown on *Figure 10-1B*) could be either dedicated to agricultural use, agricultural reserve use, or forest reserve use, however as indicated earlier, the tax records do not differentiate.

Future Land Use

Developments of Regional Significance & Impact

The PA MPC defines a development of regional significance and impact as "any land development that, because of its character, magnitude, or location will have substantial effect upon the health, safety, or welfare of citizens in more than one municipality." Examples of developments that meet these criteria include large shopping centers, major industrial parks, mines and related activities, office parks, storage facilities, large residential developments, regional entertainment and recreational complexes, hospitals, airports and port facilities.

Greene County has a number of existing developments of regional significance and impact (DRI) as well as a few that are in the planning / construction stages. It is important for the County to plan for the locations of future DRI to complement existing surrounding land uses and ensure that they do not negatively impact adjacent communities.

To assist with planning future locations for DRI, the County developed thresholds that will be used to determine site suitability. Future sites of DRI should be located at a site that meet the following criteria:

- within five (5) miles of an arterial road / interstate
- served by public water and sewerage
- if in a community with zoning, fall within a commercial / industrial / economic development zone that coincides with surrounding land uses
- if in a community without zoning, be complimentary to surrounding land uses and not negatively change the character of the community
- not fall within an environmentally sensitive area (defined as lands that contain steep slopes (land having a slope percentage of at 25 percent or greater), wetlands, 100-year floodplains, public parks, state game lands, and important bird areas)

Figure 10-2: DRI Sites shows the locations of some existing DRI in Greene County, along with schools, Keystone Opportunity Zones (KOZ), areas served by public sewerage (shown in tan) and environmentally sensitive areas that preclude any development on such a large scale (shown in green). For the most part, suitable locations include the I-79 Interchanges, along major arterials in east of I-79, intersections of major arterials in the eastern portion of the County, and along the Monongahela River.



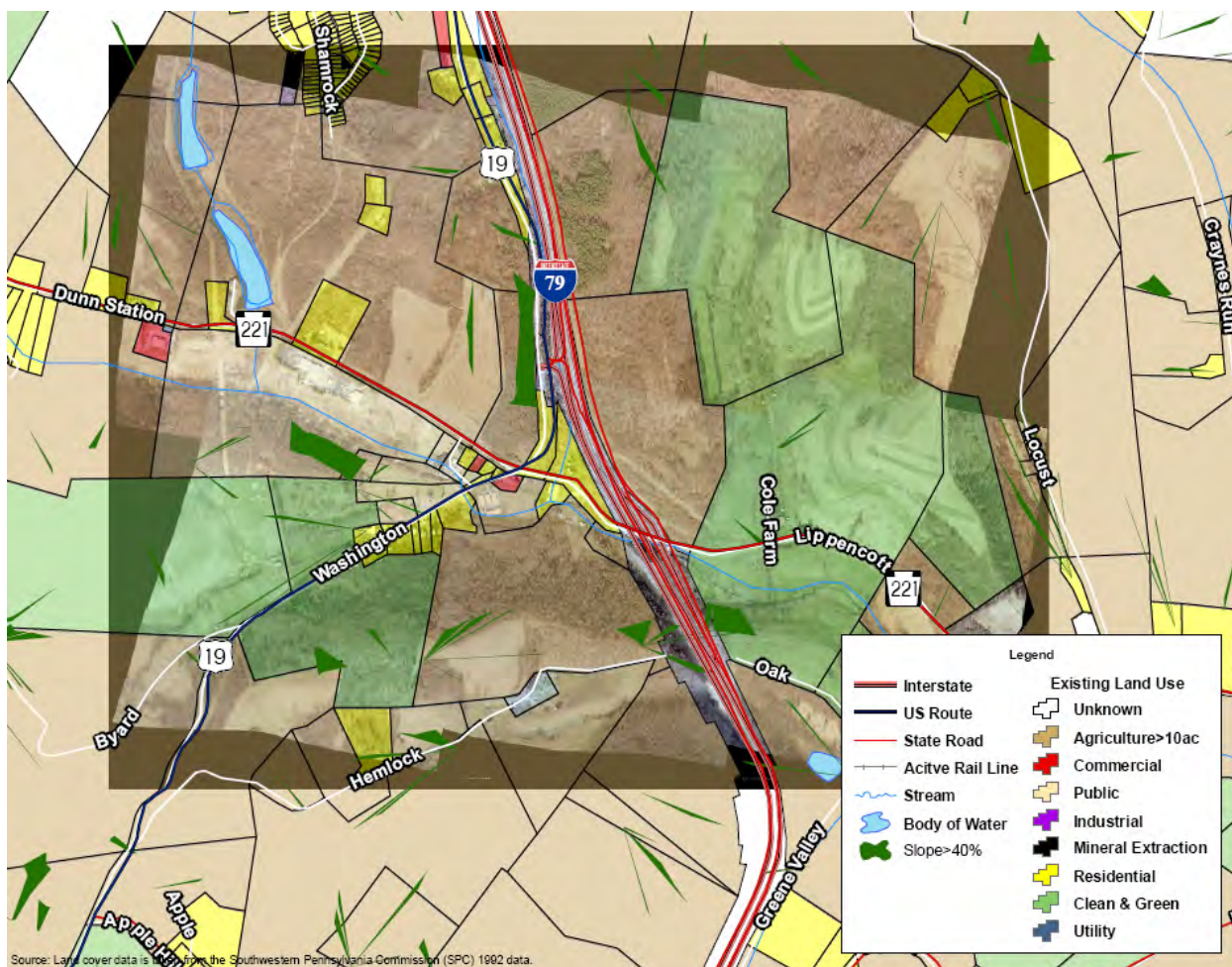
Interchange Development

One of the challenges facing Greene County continues to be identifying suitable areas for new development, due to constraints found in many locations such as steep topography and the lack of public water and/or sewerage service. There are four interchanges on Interstate 79 (I-79) located in Greene County. These interchanges have been noted as having development potential due to their proximity to major highway. Therefore, each of the interchanges is discussed in detail; analyzing the current land use, topography, available infrastructure, and zoning regulations present at each site.



Ruff Creek I-79 Interchange

The Ruff Creek I-79 Interchange (Exit 19) is located in Washington Township and is the northern most interchange in Greene County. The interchange provides access to SR 221 and US 19. The area surrounding the interchange is largely rural. There is a gas station and general store near the intersection of US 19 and SR 221, along with a few residential homes. There is a KOZ located on 221 just off of US 19. The property is currently cohabitated by Greene County Association for Retarded Citizens (Greene ARC) and the United Mine Worker's Career and Technology Training Center. There are plans underway to further develop this 68 acre parcel to include a nationally recognized Coal Heritage Park. There is also an informal Park-n-Ride next to the general store. US 19 becomes more developed to the south, near Waynesburg. SR 221 ends at the junction with SR 188 to the east, which leads to Jefferson Borough and the village of Dry Tavern. There is currently no public water or sewerage service available at or around the interchange. Public water is available along SR 221 in Morgan Township while public sewerage is not available until closer to Jefferson Borough or around Waynesburg.





Ruff Creek Interchange (Mackin, 2006)

Washington Township enacted a zoning ordinance in May of 1991 and most recently amended it in 2000. The Ruff Creek I-79 Interchange is zoned predominantly commercial with some residential to the west of I-79.



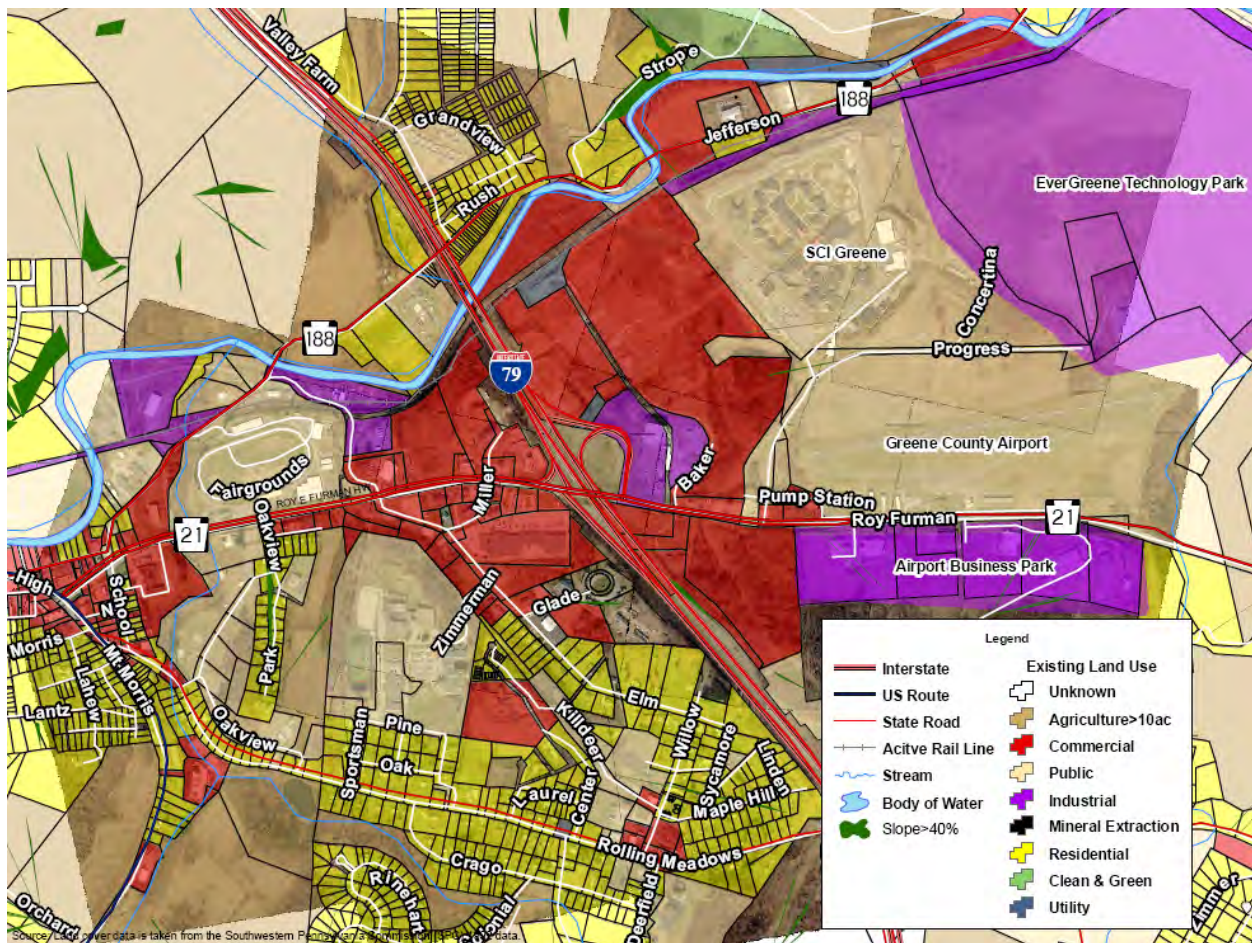
Ruff Creek Interchange – US 19 / SR 221 (Mackin, 2006)

The 1989 Development Plan and the Township Zoning Ordinance support the Ruff Creek Interchange being developed as commercial but limited to convenience centers to serve population concentrations and highway commercial services. Township residents indicated through the planning process that their desire was for the Interchange to cater to small “mom and pop” type commercial businesses that reflect its rural and agricultural nature; they do not wish to see large-scale commercial development that is typical of other interchanges. If the Township residents wish to see this area zoned differently, they will need to petition their

municipal officials to change their current zoning ordinance. It is the County's position that this County Comprehensive Plan will support and reflect local municipal plans and ordinances.

Waynesburg I-79 Interchange

The Waynesburg I-79 Interchange (Exit 14) is located five miles south of the Ruff Creek Interchange and provides access to SR 21. SR 21 has a high volume of daily traffic, particularly from I-79 west to Waynesburg. The Waynesburg Interchange is by far the most developed of the interchanges along I-79 in Greene County. Surrounding land uses are predominantly retail commercial or light industrial. This interchange provides access to the Greene County Airport, EverGreene Technology Park, and the future Wal-Mart / retail development site, in addition to the Borough of Waynesburg. Public water and sewerage are available at this interchange. By far, the Waynesburg Interchange is the most developed of the four Interchanges on I-79 in Greene County and continues to be the focus of economic development plans both at the local and County level.



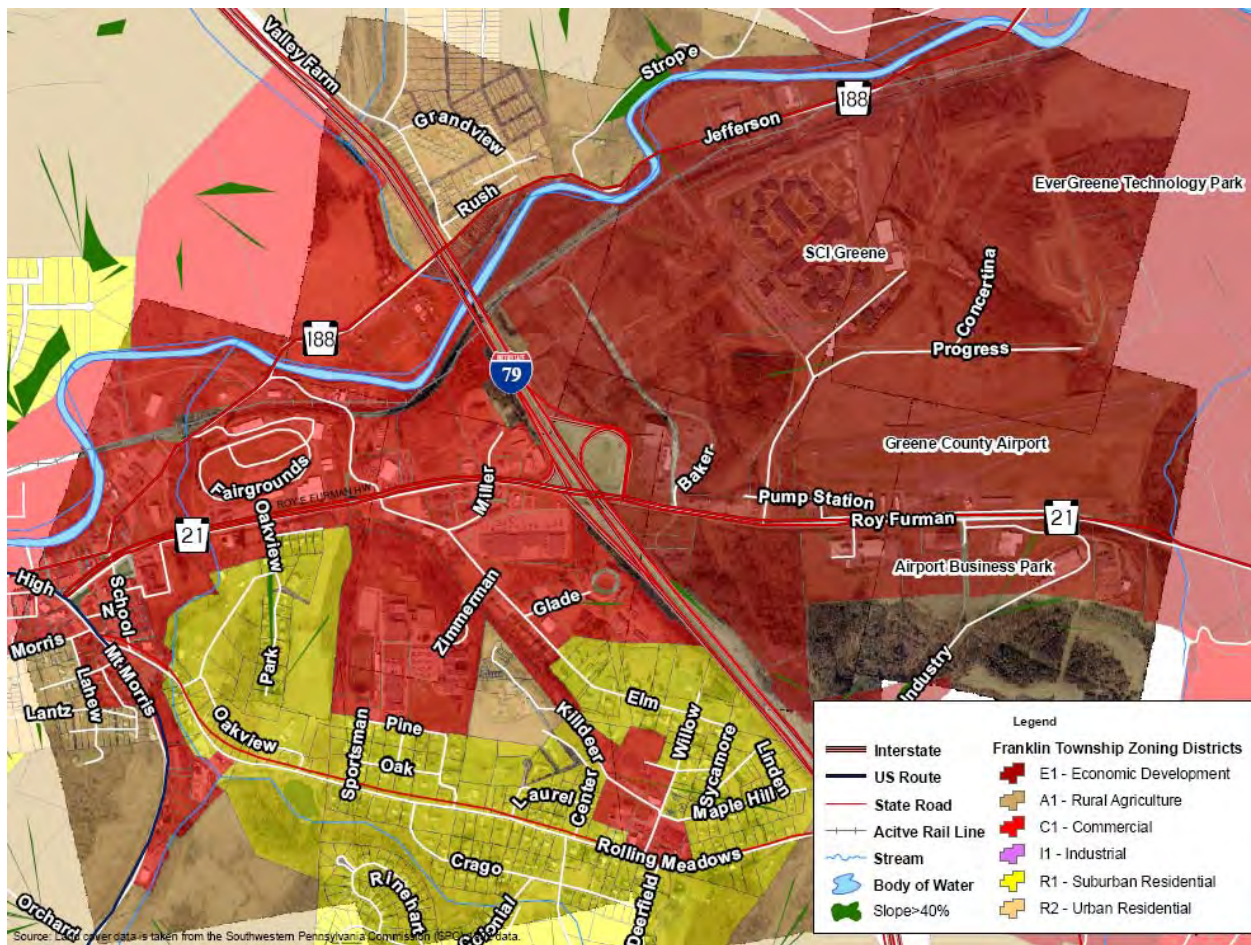


Waynesburg Interchange (Mackin, 2006)

Franklin Township enacted a zoning ordinance in May of 1991 and most recently amended it in 2000. The township is divided into six zoning districts: A-1 Rural Agricultural, R-1 Suburban Residential, R-2 Urban Residential, C-1 Commercial, I-1 Industrial and E-1 Economic Development.

The land west of the Interchange, headed towards Waynesburg Borough, is located in the C-1 Commercial District. There are many existing retail shopping centers and businesses located in this area along with the Greene County Fairgrounds and the Central Greene High School. While mostly built-out, this area is supportive to redevelopment and infill development. Land surrounding the C-1 Commercial District is mostly zoned R-1 Suburban Residential.

The area east of the Interchange, headed towards Carmichaels Borough, is zoned E-1 Economic Development. This area is home to the SCI Greene, the Greene County Airport, the EverGreene Technology Park, and the new Wal-Mart / retail development. Economic development plans call for this area to be the targeted development area for light industrial, retail, and other economic development initiatives. Land north of SR 188 adjacent to the E-1 Economic Development District is zoned R-2 Urban Residential.



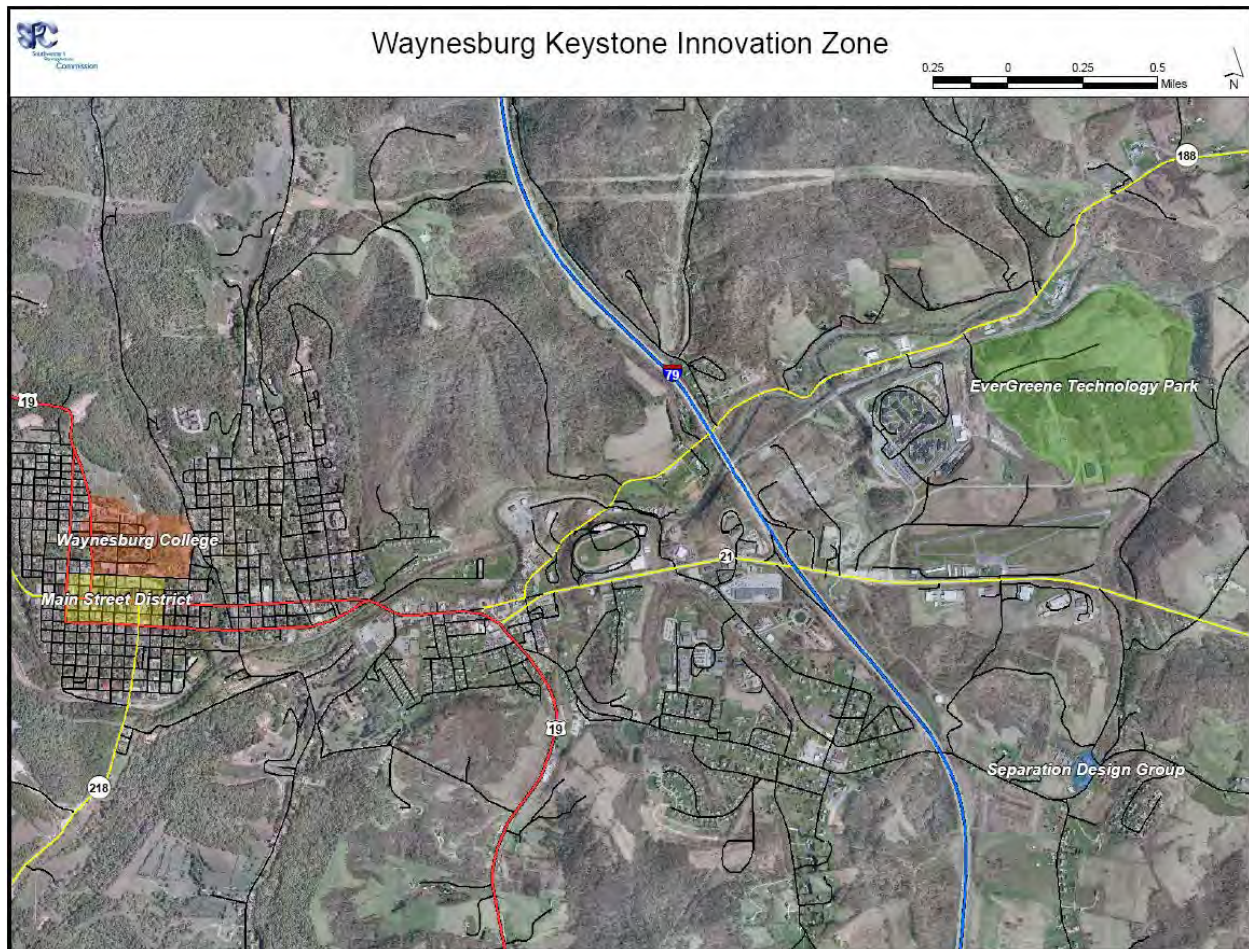
In addition, the Waynesburg Interchange hosts the Waynesburg Keystone Innovation Zone. The Keystone Innovation Zone (KIZ) program is offered through the Pennsylvania Department of Economic Development (DCED) in an effort to allow Pennsylvania to make far more effective use of its colleges, universities and research institutions and help to support new entrepreneurial opportunities that lead to new companies and new jobs. KIZs are designated zones that may be established in communities that host institutions of higher education – colleges, universities, and associate degree technical schools. These zones are designed to foster innovation and create entrepreneurial opportunities by gathering and aligning the combined resources of educational institutions, private businesses, business support organizations, commercial lending institutions, venture capital networks, and foundations (KIZ partners).

Grant funds can be used for KIZ coordination, strategic planning, personnel costs, hiring of consultants and administration of the zone. Companies located in tax zones, in operation less than 8 years and fall under the industry sector focus are eligible to apply for state tax credits. Maximum grant funding for the first year is \$250,000, with declining funding in following years and operations required without



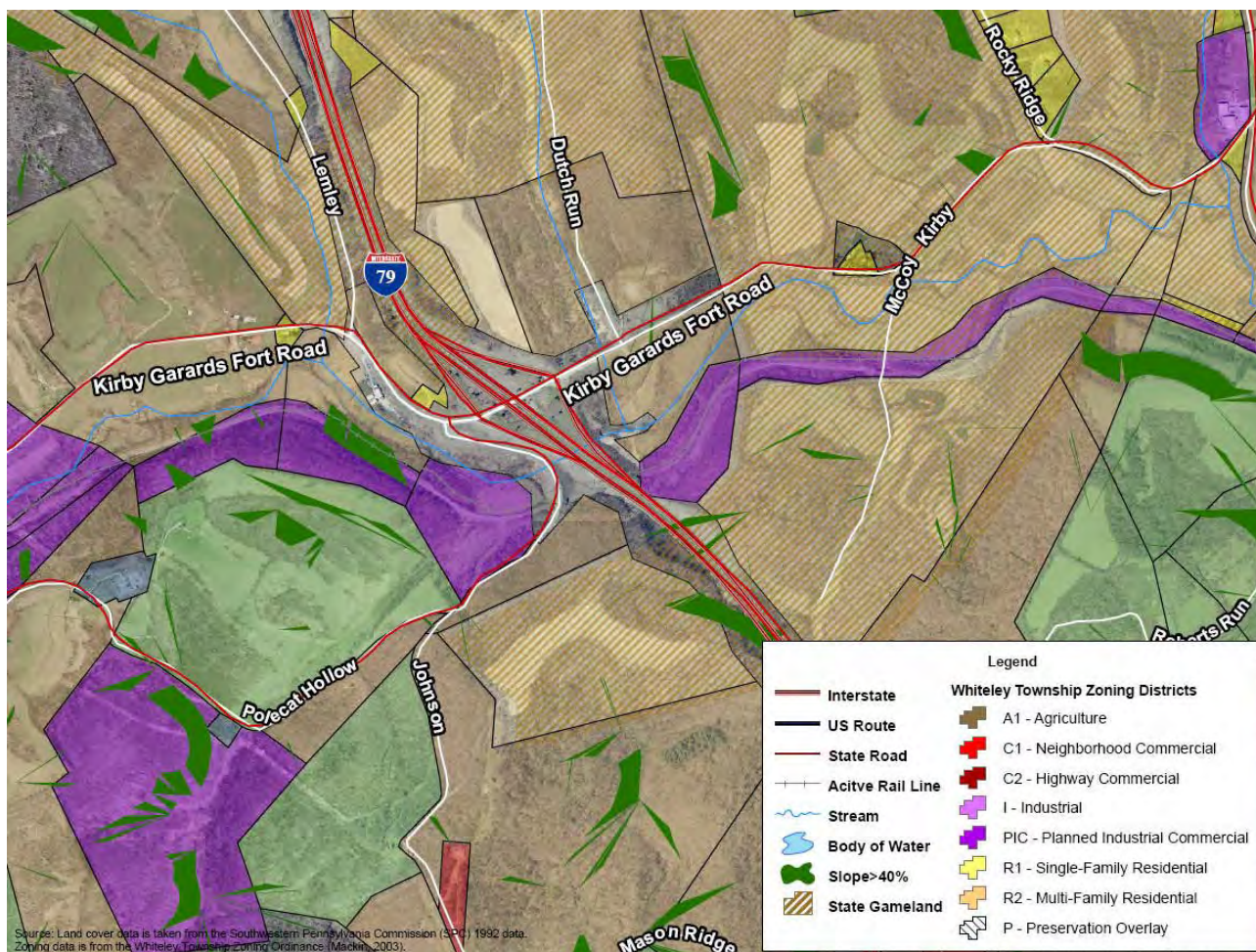
state funds after three years. Projects and companies in the KIZ are given priority reviews under various DCED Programs.

The Waynesburg KIZ is centered around Waynesburg University, University of Pittsburgh Small Business Development Center, and the Pittsburgh Supercomputing Center. The main industries are energy and environmental technologies, advanced materials and diversified manufacturing, defense / homeland security, information technology and communications. The KIZ is overseen by the Greene County Industrial Development Corporation (IDC).



Kirby I-79 Interchange

The Kirby I-79 Interchange (Exit 7) is located in Whiteley Township, seven miles south of the Waynesburg Interchange and six miles north of the Mt Morris Interchange, and provides direct access to Kirby Garards Fort Road. Whiteley is considered a rural township with agriculture and mining its dominant land uses. In addition, State Game Lands #223 occupy much of the surrounding lands. This interchange is the least developed and least likely to become developed of all four interchanges on I-79. The I-79 Welcome Center is located off of the northbound Kirby exit, which offers personal travel counseling from 7am – 7pm and has restrooms, picnic facilities, and other amenities open 24 hours a day.





Kirby Interchange (Mackin, 2006)

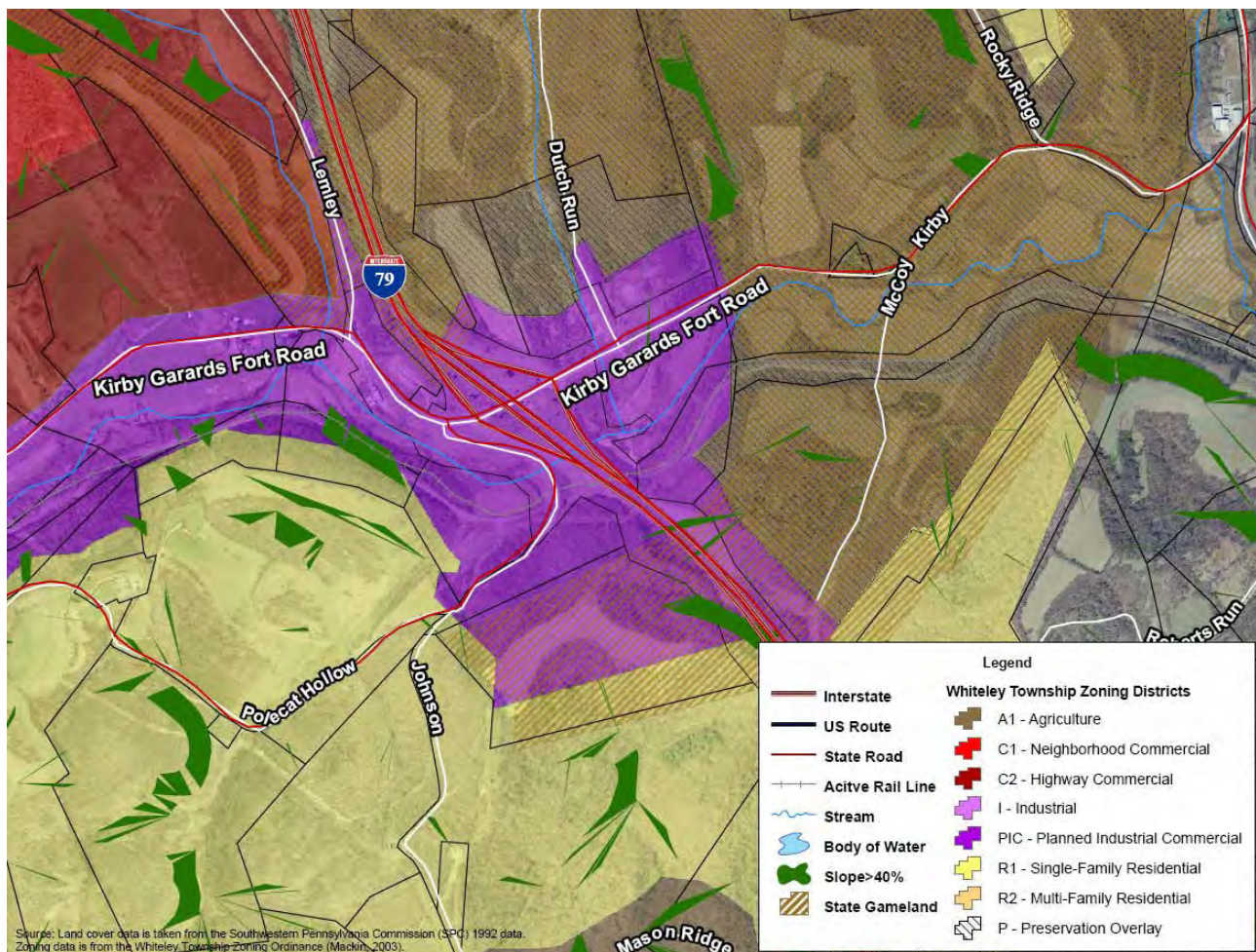
Whiteley Township enacted a zoning ordinance in September of 2003. The zoning ordinance divides the township into eight zoning districts: A-1 Agricultural, R-1 Single-Family Residential, R-2 Multi-Family Residential, C-1 Neighborhood Commercial, C-2 Highway Commercial, PIC Planned Industrial Commercial, I Industrial, and P Preservation Overlay. The Kirby Interchange falls within the PIC Planned Industrial Commercial District, while the land north of Kirby Garards Fort Road falls within C-2 Highway Commercial and the land north and east of the interchange is zoned A-1 Agricultural and P Preservation Overlay.

The A-1 Agricultural District is designed to encourage and protect land suitable for farming, dairy, livestock, forestry operations and other agricultural activities while providing for limited, low-density residential development and protecting the rural atmosphere, open space, and natural features. Permitted uses include agricultural operations and related businesses, bed and breakfasts, campgrounds, domiciliary care homes, flea markets, farmers markets, greenhouses, kennels, nurseries, wineries, and single family homes. Minimum lot area is 1.5 acres with a maximum lot coverage of 30 percent.

The C-2 Highway Commercial District is designated to allow for an economically viable district that provides a range of commercial and service activities for travelers and the nearby community while preventing development around the interchange from developing at an intensity that local roads cannot accommodate the generated traffic. Permitted uses include animal hospitals / veterinary clinics, automobile sales / service / repairs and other related businesses, distribution plan / parcel delivery, gas stations and related businesses, hotels / motels, service-oriented businesses, retail stores, restaurants and taverns, and two-family dwellings. Minimum lot area is 4,000 square feet with no maximum lot coverage.

"Strategy for a Greene Tomorrow"

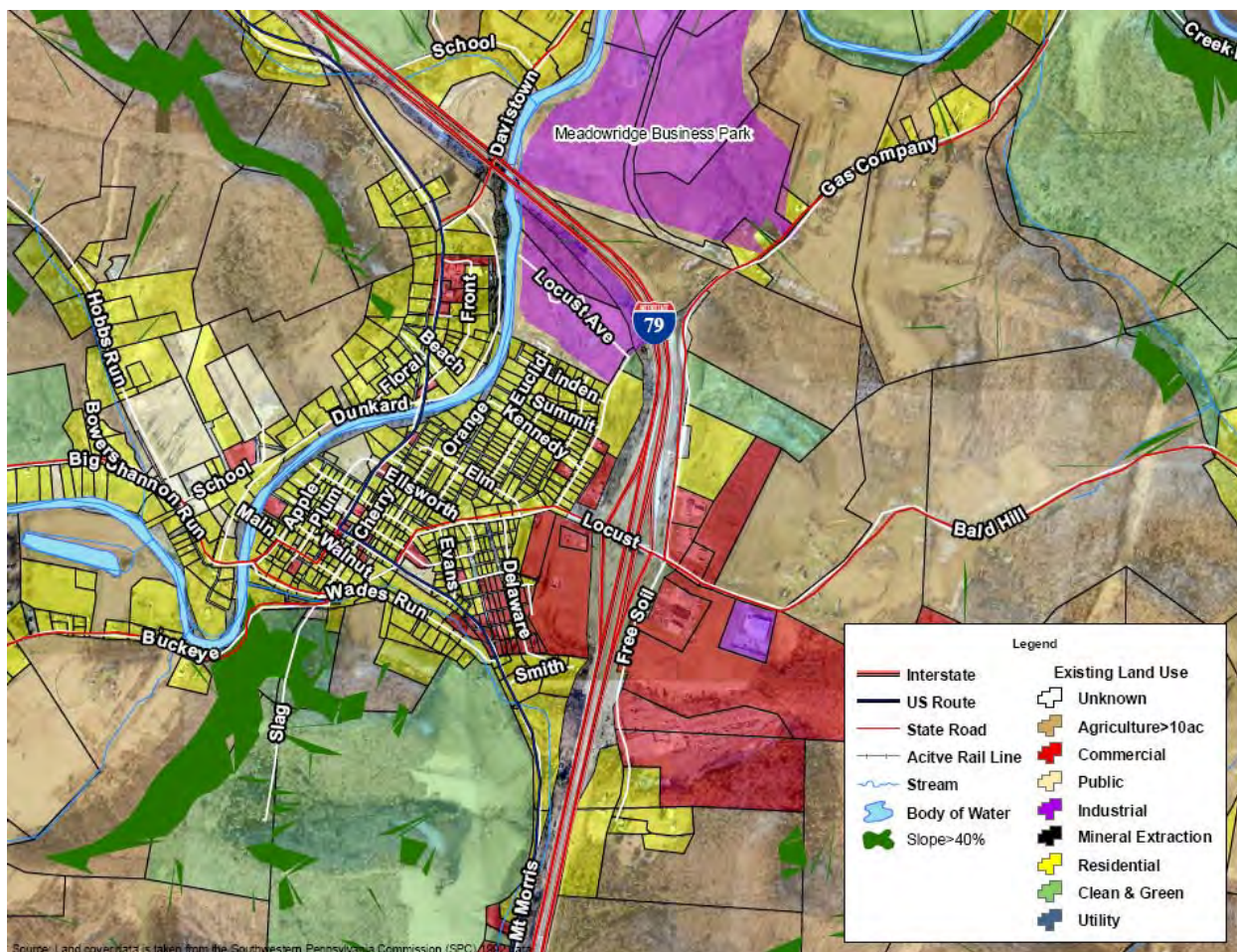
The intent of the PIC Planned Industrial / Commercial District is to provide flexible zoning that allows for a variety of planned light industrial and commercial uses. Permitted uses include those similar to the ones listed under C-2 Highway Commercial. The largest difference between the two zoning districts is that a number of more intensive uses, such as gas stations, kennels, light manufacturing, movie theatres, warehouses, and other uses are special exceptions rather than permitted uses. This provides the township with more regulatory power over these types of uses. There is no minimum lot area or lot width in the PIC versus the other districts.





Mt Morris I-79 Interchange

The Mt Morris I-79 Interchange (Exit 1) is located in Perry Township, six miles south of the Kirby Interchange and just one mile north of the Pennsylvania / West Virginia border, and provides direct access to Locust Street and Bald Hill Road. Existing land use surrounding the interchange is mostly open space, with the exception of a couple gas stations and other commercial and light industrial businesses. The Meadow Ridge Business Park is located approximately 1.2 miles north of the interchange via Gas Company Road. In 2006, there were signs dotting I-79 near this interchange advertising available land for lease or purchase with access to public utilities. Public water and sewerage services are available surrounding this interchange and in the village of Mt Morris.



Perry Township does not have a zoning ordinance, which precludes the township from having much control over the type, density and location of development.



Mt Morris Interchange (Mackin, 2006)



C. Development Strategies

Using Greene County Tax Assessment data, less than 20 percent of the County is classified as "developed," as residential, commercial, industrial, or public uses. This leaves more than 80 percent of 579 square miles as rural, undeveloped countryside. What is challenging and has limited development over the years is the topography. Slope data reveals that approximately 45 percent of all land in the County developed or not, has slopes in excess of 25 percent. This is why the denser development can be found in the east or central portion of the County. The land use goals and strategies that were identified in the 1979 Greene County Comprehensive Plan still hold true today in 2007. The County needs to continue implementing sound land use policies that, as stated in the 1979 plan, "encourage planned growth at efficient densities for the development of new utilities, roads, community facilities; to locate new development in areas with suitable topography, access to utilities and access to employment; to protect valuable county land resources including unique natural features, established neighborhoods, prime industrial sites and recreational areas; to foster coordination between various planning and administrative bodies in the county to avoid conflicts between land use, transportation, housing, utility services, conservation and community facilities."

The public involvement process that was conducted during the comprehensive plan identified concerns and issues regarding the future development of the County. Greene County exemplifies the planning conflict of development versus rural. Many residents in the County recognize the need for a larger tax base; however those same residents do not want haphazard development and the rural areas to lose their natural beauty. Greene County officials are charged with balancing needed economic development with maintaining the rural characteristics that define the County. Currently, less than half of all Greene County municipalities have land use controls, such as zoning, in place. Many residents recognized the need for these controls in order to direct development while protecting natural resources and landscapes. The following areas were identified by the public as potential development areas within the County:

- Monongahela River – recreation / tourism development (boat launches, trail)
- Need to benefit entire county, not just central Greene
- Housing around Ruff Creek exit on 79 – multi-family, single-family
- I-79 interchanges
- Commercial areas around Waynesburg on SR 21
- SR 21, SR 88, SR 188 and other major arteries
- I-79 corridor
- SR 88 at Cabbage flats (needs public sewerage, decrease taxes)
- Mount Morris Exit (industrial, recreation)
- Re-investment in empty buildings in Carmichaels and Waynesburg
- Expansion of airport
- Areas that have existing infrastructure
- Eastern portion – river recreation and cultural / arts opportunities
- Central portion – high technology corridor
- Western portion – outdoor recreational opportunities (hunting, camping, fishing, etc.)

There were also numerous sites that were identified as in need of preservation that residents did not wish to see developed:

- Ryerson Area
- Watershed protection
- Farmlands / agricultural lands
- Keep Greene County green – include trees in development with open space
- Waterways, creeks
- Preserve green and open space around Waynesburg – do not develop all of Waynesburg
- Community history and heritage
- Western half of county

In order to properly direct future development and investment, the Greene County Comprehensive Plan has designated growth areas, future growth areas, and rural resource areas; in accordance with the PA MPC Section 1103 County or Multi-municipal Comprehensive Plans. The County's future development and investment policies align with these locations and will support development and infrastructure extensions within the appropriate designated areas. Section 1103 County or Multi-municipal Comprehensive Plans (a) states the following:

"The comprehensive plan that is the subject of an agreement may be developed by the municipalities or at the request of the municipalities, by the county planning agency, or agencies in the case of a plan covering municipalities in more than one county, in cooperation with municipalities within the area and shall include all the elements required or authorized in section 301 for the region of the plan, including a plan to meet the housing needs of present residents and those individuals and families anticipated to reside in the area of the plan, which may include conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and the accommodations of expected new housing in different dwelling types and of appropriate densities for households of all income levels. The plan may:

- (1) Designate growth areas where:
 - (i) Orderly and efficient development to accommodate the projected growth of the area within the next 20 years is planned for residential and mixed use densities of one unit or more per acre.
 - (ii) Commercial, industrial and institutional uses to provide for the economic and employment needs of the area and to insure that the area has an adequate tax base are planned for.
 - (iii) Services to serve such development are provided or planned for.
- (2) Designate potential future growth areas where future development is planned for densities to accompany the orderly extension and provision of services.
- (3) Designate rural resource areas, if applicable, where:
 - (i) Rural resource uses are planned for.
 - (ii) Development at densities that are compatible with rural resource uses are or may be permitted.
 - (iii) Infrastructure extensions or improvements are not intended to be publicly financed by municipalities except in villages, unless the participating or affected municipalities agree that such service should be provided to an area for health or safety reasons or to accomplish one or more of the purposes set forth in section 1101."



GOAL: Direct future development & investment to areas that can support it while protecting the rural character of the County

Strategy: Support future development and investments in accordance with *Figure 10-3: Future Land Use Plan*. The following criteria was used to determine growth areas (urban, suburban, village), future growth areas, and rural resource areas (conservation lands and low impact areas that fall outside of identified growth areas).

Urban Growth Areas – served by water/sewer and limited to Waynesburg/Franklin area as it is classified as “urban” already. Can support high density and intensive uses.

- Waynesburg / Morrisville Area (SR 21 and US 19 corridors; I-79 Interchange area)

Suburban Growth Areas – served by water/sewer or planned extensions in the future and systems that have room for expansion. Can support varying degrees of density / intensity of uses.

- Rices Landing Borough and Dry Tavern Area (SR 88 corridor)
- Jefferson Morgan Region (SR 188 corridor)
- Carmichaels / Cumberland Area (SR 21 and 88 corridors)

Village Growth Areas – served by water/sewer or planned extensions in the future. Systems either cannot support expansion or at this time there is no identified need for expansion. While density may be high in villages, intensity of uses is more neighborhood oriented.

- Clarksville Area
- Ruff Creek Interchange Region (Washington Township)
- Nemaquin Area
- Greensboro Area (including Poland Mines)
- Bobtown Area
- Mt Morris Area (I-79 Interchange)
- Brave Area
- Rogersville Area

Future Growth Areas – served by water or planned extensions in the future but not sewer. These areas surround the growth areas and can support overflow development at some point in the future if need be or if sewer is extended. Primarily lower density development, although intensity of use may be high in the case of mineral extraction, etc.

- SR 21 Corridor between Rogersville and Wind Ridge
- SR 218 Corridor between Waynesburg and West Virginia boundary
- SR 188 Corridor between Waynesburg and Mather
- SR 88 Corridor between SR 21 and Fayette County boundary
- Other rural developed areas including Garards Fort and Dilliner

Conservation Land – land is under some sort of conservation / protection from development including state gamelands, state parks, important bird areas, and agricultural security areas.

- Enlow Fork Important Bird Area (IBA)
- Ryerson Station State Park
- State Game Lands
- Agricultural Security Areas in Washington Township, Cumberland Township, Greene Township, and Wayne Township

Low Impact Areas – overlay for environmentally sensitive lands and potential greenways. These areas contain high quality watersheds, floodplains, natural areas, etc. and while development may occur, should be done in a fashion that is low impact and not harmful to the environment.

- Enlow Fork Natural Area
- Browns Creek Natural Area
- Ryerson Station Conservation Area
- Tenmile Creek Watershed
- Dunkard Creek Watershed
- Monongahela River Corridor

GOAL: Identify municipal development plans for designated growth areas, future growth areas, & rural resource areas

Strategy: Conduct a regional forum for municipalities affected by the County's designation to identify suitable land development and uses.

Strategy: Encourage opportunities to diversify land use and development by designating locations designed to be promoted for specific uses in the following locations:

- EverGreene Technology Park (Franklin Township)
 - Technology
- MeadowRidge Business Park (Perry Township)
 - Mining and Technical Services
- Mt. Morris / Consol Industrial Park (Perry Township)
 - Heavy and light industrial
- Paisley Industrial Park (Cumberland Township)
 - Heavy and light industrial
 - Consider upgrades to streets, curbs, and signing
- Northern Greene Industrial Park (Washington Township)
 - Small scale commercial development
- Eastern Greene / Shannopin Mines (Monongahela Township)
 - Heavy and light industrial



GOAL: Ensure that compatible development & future growth occurs in an efficient & orderly manner

Strategy: Land use controls that affect development within the Ten Mile Creek Conservation Area should protect the identified natural resources as noted in the (see Greene County Parks, Recreation, Trail/Greenways Plan).

Strategy: Establish an annual (educational) meeting between the County and local municipal planning commissions and elected officials to ensure that future development plans are consistent with county policies.

Strategy: Encourage local municipalities that have not completed comprehensive plans or that have plans over ten years old to complete / update plans for their community.

Strategy: Review and update the Greene County Comprehensive Plan every ten years.

Strategy: Develop, adopt and publish advisory guidelines for land development and land use regulations.

Strategy: Conduct a regional forum with Perry Township, Whiteley Township, Franklin Township and Washington Township to identify and coordinate suitable land development patterns along the I-79 Corridor and at each interchange.

GOAL: update the Greene County Subdivision and Land Development Ordinance (SALDO)

Strategy: Conservation Subdivision practices should be included in County SALDO.

GOAL: Increase local capacity for the application of sound land use controls

Strategy: Investigate the feasibility of County Zoning or some method of County enforcement and administration of municipal ordinances.

Strategy: Provide technical assistance and funding support to municipalities to enact proper land use controls following a Comprehensive Planning effort.

Strategy: The Conservation District should hold workshops with local municipalities on Erosion and Sedimentation (E&S) permits and to promote better relations with township personnel to aid in quicker notification of problem sites to the District.

GOAL: Improve Stormwater management

Strategy: Complete an Act 167 Watershed Study.

Strategy: Enact a County Stormwater Management Ordinance.

Strategy: Encourage the establishment of a Stormwater Management Plan by watershed.

Strategy: Establish watershed associations for all Greene County watersheds.

Strategy: Implement NPDES Phase II Program.

Strategy: EPA regulation (40CFR 122.34) requires permittees at a minimum to develop, implement, and enforce a stormwater program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. The stormwater management program must include these six minimum control measures:

- Public education and outreach on stormwater impacts
- Public involvement/participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post-construction stormwater management in new development and redevelopment
- Pollution prevention/good housekeeping for municipal operations



A. Background

Existing Studies

The Role of Production Agriculture in the Greene County Economy (Pennsylvania State University, 2007)

Penn State Cooperative Extension and the Penn State University Department of Agricultural Economics and Rural Sociology completed a study on the role of production agriculture in the Greene County economy. In 2001, Greene County had 855 farms that consisted of a total of 140,500 acres. The study found that in 2001 the total value of agriculture production in Greene County was \$10,176,000. The leading product in 2001 was dairy with a total value of \$1,718,000, which is 17 percent of the total production value of agriculture.

The study also examined the difference between large and small agriculture producers in the County in terms of sales. In 1997, 129 farms or 21 percent had sales of at least \$50,000, with 13 of those farms having sales of more than \$100,000. However, 416 farms or 62 percent of the total number of farms had sales of less than \$5,000, which means that most agriculture operations are not providing the primary source of income for a household.

The study also examined agriculture's contribution to the total local economy in Greene County. The study states that when agriculture is an important part of the total local economy it produces ripple effects, such as farms that buy supplies and farm workers that will buy goods locally. This in turn provides additional jobs in the County. The study found that agriculture provides 874 jobs, which then leads into an additional 85 jobs in the total local economy. Agriculture also brings an additional \$3,542,962 into the county economy with the ripple effect.

Agricultural Resources

FFA of Greene County

The FFA (Future Farmer's of America) of Greene County belongs to the Pennsylvania FFA Association. The Pennsylvania FFA Association works with students to achieve success through an education in agricultural sciences. The Central Greene School District / Waynesburg FFA and the West Greene School District FFA Chapter's present an agricultural education award to recognize students who are successful in academics, leadership and a complete supervised agricultural experience program.

Greene County Conservation District

The Greene County Conservation District (GCCD) is comprised of four farm directors, two public directors, and one county commissioner. The conservation district was formed in 1956 by the Board of Commissioners to provide for the conservation of soil, watershed and flood protection, preserve woodland and wildlife, protect public lands, provide technical assistance to public and private landowners, and protect and promote the health, safety, and general welfare of the people (Greene County Website, 2007). The following agriculture programs are offered at the County Conservation District:

- Agricultural Conservation Technician (ACT) – provide technical assistance for the County's agricultural community with the experienced NRCS field team for Washington, Greene, and Fayette Counties. Also provides conservation and grazing plans for resource management systems on farms throughout the tri-county area. Work cooperatively to provide survey design and layout for best management practice installation using NRCS engineering job approvals to certify practices that are installed to Pennsylvania technical guide standards.
- Grazing Group/Pasture Walks – promotes the Project Grass program to citizens and other farmers through field day events and helps educate farmers on pasture management and grazing problem solving.
- Educational Workshops – the GCCD provides numerous educational workshops, such as the following:
 - Technical – water systems, no till demonstrations, pasture walks, manure spreading procedures
 - Educational / Informational – grazing trends, marketing, soil quality, value added processing, business planning, grant writing, nutrient management topics
 - Organizational – Agricultural Security Areas (ASA), grazing groups, Future Farmers of America (FFA), and 4-H
- Farmland Preservation Program – dedicated to protecting farms from development. A Farmland Preservation Board was formed in 2005 to help with the purchase of agricultural land easements and the establishment of agricultural security zones.
- Mini-Grant Program – supplements state and federal grant and cost share program, specifically to offset costs associated with the implementation / installation of specific Best Management Practices (BMP) designed to prevent erosion, mitigate sedimentation, and generally improve downstream water quality.
- Nutrient Management – provide technical assistance and program administration for Act 38 Nutrient Management Law. The GCCD reviews and approves nutrient management plans, provides assistance for plan implementation and maintains a current list of certified planners for Greene County.
- Project Grass – focuses on increasing grassland productivity while minimizing the environmental impact from farming through a partnership between farmers and the conservation district.



- US Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS) Farm Bill Programs – work cooperatively to promote and support Farm Bill programs which address soil and water conservation practices.

Greene County Department of Economic Development

Greene County Department of Economic Development provides planning, development assistance and resources, promotes organizational ordination and collaboration, and along with the Greene County Conservation District and the Greene County Extension Service serve as the County's points of contact for economic development in the agricultural industry. Current priorities are 1) identifying potential strategies and resources to increase profitability of agriculture in Greene County and 2) promoting niche markets for food production and agri-tourism. The department is a member of the Washington/Greene Ag Economic Development Committee, a task force that has been created by Penn State Cooperative Extension to pursue projects in the area of agricultural economic development. Other members include the University of Pittsburgh Small Business Development Center Institute for Entrepreneurial Excellence, Community Action Southwest, Washington and Greene County Tourism, Sustaining Greene County, township planners, and several agricultural producers. Other regional membership / partnerships relevant to implementing the established priorities include Penn's Corner Resource Conservation and Development area, which is a nine-county district in Southwestern Pennsylvania, R.C. and D., PASA, and the US Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS).

Penn State Cooperative Extension

The Penn State Cooperative Extension is the primary source of agriculture production of information and education and it provides citizens with access to the resources of Penn State University through educational programs, publications, and events. Educational programs include vaccination protocols for beef stock, crop planning, and no-till cover crop demonstrations, and pesticide education. The main program offered is 4-H, a youth development education program for children between the ages of 8 and 19. The 4-H program in Greene County offers the following:

- Greene County Shooting Sports Club-members participate in safety sessions and learn how to shoot air rifles, air pistols, and shotguns. The Club participates in the State Achievement Days.
- Central Greene Sew-n-Sew Club-provides 4-H members sewing lessons and their projects are entered in the Greene County Fair.
- Greene County Rabbit, Market Steer, Market Swine, and Goat Clubs-4-H members raise the animals to sell at the Jacktown and Greene County Fair. Buyers have the choice of taking the animal's home, donating them back for resale by the club, or donating them back to the member.

- Greene County 4-H County Council- all clubs within the 4-H have a representative and they plan county activities
- Carmichaels Creative Kids Club-the club meets twice a month and participate in many different activities; vegetable and flower growing, learning to sew, and participating in various community service projects.
- Central Greene Horse and Pony Club- members conduct horse-related activities, demonstrations, and offer hands-on practice. Members show their horses at local fairs and participate in competitions.

The Greene County 4-H is also very active in the community. The 4-H Market Steer Club coordinated the 4-H American Cancer Society Relay Team for the past five years and raised approximately \$8,300.

The Master Gardeners of Greene County is also offered through the Cooperative Extension to educate residents on best practices in horticulture. Interested individuals receive training in the phases of gardening and then teach horticultural information to the public. The training includes education in landscapes, vegetables, fruits, herbs, soils, houseplants, beneficial and harmful insects, plant diseases, pest management, and composting. The Greene County program began in 1991 and projects completed to date include planting of flower baskets in Waynesburg, seminars on composting, answering gardening questions at the Greene County Fair, and giving demonstrations on starting plants from seeds.

Pennsylvania Farm Bureau

Pennsylvania Farm Bureau is a general farm organization providing legislative support, services and information to Pennsylvania's farmers and rural families since 1950. The Farm Bureau provides its farming members with representation in Washington and Harrisburg concerning farming legislation. The Farm Bureau is based on a grass roots structure whereby county Farm Bureaus and their leaders develop and implement policy to be determined at an annual meeting each year.

Issues which Farm Bureau has represented members on includes: farmland preservation, commodity pricing, tort reform, property tax reduction, health insurance reform, Sunday hunting, water rights and wildlife management.

Greene County has its own affiliate of the Farm Bureau with eight (8) active directors. The role is to shape agricultural policy at the county level on all issues relating to farming, preservation, and other agricultural issues.



Waynesburg Livestock Auction

The Penna Live Stock Auction, Inc. runs a livestock auction in Waynesburg. This auction has economic impact to Greene County due to the amount of livestock that passes through on auction day.

In addition to organizations as agricultural resources, there is legislation in Pennsylvania that restricts the regulation of agricultural and farming operations and supports the preservation of existing farmland.

Agriculture, Communities and Rural Environments (ACRE)

ACRE was passed in 2005 by the Pennsylvania Legislature to address conflicts between local ordinances and agricultural operations and establish odor management guidelines for concentrated animal feeding operations. ACRE creates a process for farmers to seek judicial review of ordinances believed to be restrictive of normal agricultural operations. Farmers will have the ability to request the Pennsylvania Attorney General to review an ordinance restricting agriculture that the farmer believes to be illegal. ACRE may also allow for the shifting of attorney's fees and litigation costs if the Court determines the suit was frivolous or brought without substantial justification that the ordinance was unjustified.

Best management practices for control of odor will be required of concentrated animal feeding operations (CAFO) and concentrated animal operations (CAO) when they expand existing structures or construct new structures housing animals or storing manure. Concentrated animal feeding operations (CAFO) and concentrated animal operations (CAO) will be prohibited from spreading animal manure within 100 feet of streams, lakes and ponds, or within 35 feet of streams, lakes and ponds if the farm establishes a qualified vegetative buffer next to the waterway. Farmers can still perform many farming practices in the buffer areas.

As of August of 2007 there are no Concentrated Animal Feeding Operation in Greene County.

Agricultural Security Area Security Law

The Agricultural Security Area Law was enacted in 1981 to encourage landowners and local municipalities to commit to preserving agricultural lands and to protect these important land classifications from incompatible uses on neighboring lands. The law establishes the authority for municipalities to identify areas of 250 or more acres to be voluntarily enrolled as an Agricultural Security Area (ASA). Land within the district may be owned by more than one person and does not have to be contiguous. The municipality acts as a partner with the landowner to identify and establish ASA's and must follow such criteria as the land having soils compatible with agricultural purposes, applicability of the ASA to the local municipal comprehensive plan, the current agricultural use or improvement, and the anticipated trends for that land area. An ASA application process

includes a proposal process, public notification, and a review of the ASA on a seven-year basis. Enrollment in an ASA provides limited protection against municipal regulations, eminent domain, and allows the landowner to participate in Pennsylvania's agricultural conservation easement program.

Nutrient Management Act

The Nutrient Management Act was first enacted in Pennsylvania to place mandatory management controls on farm pollution in an effort to reduce environmental pollutants and improve water quality (DCED, 2003). The Nutrient Management Act regulates land application of manure in order to control non-point source pollution as well as setting standards for defining Concentrated Animal Operations (high animal density operations), as well as regulates the import / export and haulers of manure. The only operations regulated by this are Concentrated Animal Operations, although others can come in under the program as a volunteer.

Nutrient Management Plans are one requirement of the Nutrient Management Act. A nutrient management plan helps to establish best management practices for agricultural operations. Among the topics included in a plan are crop rotation and tillage, and manure testing, storage, and spreading procedures. A nutrient management plan will outline the actions that a farmer will follow to comply with the Nutrient Management Act. Such regulations include identifying balanced application rates for manure and other nutrients based on soil tests and crop removal rates, establishing minimum standards for manure storage, and record keeping requirements.

Resource Enhancement and Protection (REAP) Program

The Resource Enhancement and Protection (REAP) Program allows farmers and businesses to earn tax credits in exchange for planning, sponsoring or implementing "Best Management Practices" (BMPs) on agricultural operations that will enhance farm production and protect natural resources. Farmers can also receive tax credits for conversion or upgrading to a No-till cropping system. Applications are received annually and run on a first come first serve basis.

Pennsylvania Agricultural Conservation Easement Purchase Program

The Pennsylvania Agricultural Conservation Easement Purchase Program was established under the Agricultural Area Security Law (1981). The agricultural easement provides the option for a landowner to sell the development rights to dedicate their land to agricultural use. The land remains titled to the landowner, but may not be developed for any non-agricultural use. Every county, with an approval program, has the responsibility of administering the conservation easement program, which is operated under the oversight of the Pennsylvania Department of Agriculture. An agricultural conservation easement program establishes a perpetual restriction on the land securing the agricultural land for



future generations. Funding to purchase agricultural conservation easements is provided by state, county, and at times, local municipal allocations and private revenue. The Greene County Conservation District is in the early stages of establishing a conservation easement purchase program. At this time, the Board has been developed and the bylaws are in place.

Pennsylvania Farmland and Forest Land Assessment Act

The Pennsylvania Farmland and Forest Land Assessment Act of 1974 established a level of tax relief for agricultural landowners. The Pennsylvania Farmland and Forest Land Assessment Act, also known as Clean and Green, is a tax program that assesses land based upon its use value not fair market value. The goal of the Clean and Green program is to preserve agricultural lands by reducing the tax burden on property owners. This land conservation program is an enrollment program where the property owner agrees to keep their land dedicated to Agricultural Use, Agricultural Reserve Use, or Forest Reserve Use for an indefinite period if the land is to be eligible for the lower property tax assessment level. Should a property owner elect to leave the program and convert their land they may be obligated to pay back taxes along with interest.

There are specific requirements for landowners to enroll in the Clean and Green program. For instance, the owner must dedicate the land for the production of an "agricultural commodity" or "soil conservation" (DCED, 2003). If the land is eligible to enroll in the Clean and Green program under the classification of Agricultural Reserve, the land must be noncommercial open space lands used for recreational and outdoor enjoyment and open to the public for that use" (DCED, 2003). The Forest Reserve Classification is ten or more acres that are capable of producing timber or other wood products. Assessment values are determined by the Department of Agriculture and are based upon soil classifications.

Pennsylvania Construction Code Act

The Pennsylvania Construction Code Act (1999) and the Uniform Construction Code (2007) sets limitations on construction standards and does not apply these provisions to agricultural buildings.

Right to Farm Act

The Right to Farm Act (enacted in 1982) protects Pennsylvania farmers and their right to the practice of agriculture. The Right to Farm Act was enacted in response to nuisance laws from neighboring land owners who claimed that a farmer was creating a private or public nuisance by interfering with the property owners use of their property or by threatening the public safety. The act limits the ability of private landowners to file suit by setting state-wide policy to "Conserve, protect, and encourage the development and improvement of its agricultural land for the production of food and other agricultural product" (Right to Farm Act, 1982). In addition to limiting nuisance suits, the act prohibits

municipalities from identifying farming practices as nuisances or restricting the sales of agricultural goods through zoning ordinances. The act protects normal agricultural operations, which are defined as "the customary and generally accepted activities, practices and procedures that farmers adopt, use or engage in year after year in the production and preparation for market or poultry, livestock and their products and in the production and harvesting of agricultural, agronomic, horticultural, silvicultural and aquiculture crops and commodities and is not less than ten contiguous acres in area or less is less than ten contiguous acres in area but has an anticipated yearly gross of at least \$10,000" (Right to Farm Act, 1982).

Sewer and Water Line Assessment Exemptions Act

The Sewer and Water Line Assessment Exemptions Act (1976) provides exemptions to farmers who do not want to tap into newly installed lines because they are using the land for agriculture. The land must have been used for agricultural production for three years prior to the installation of water or sewer lines.



Agricultural Snapshot

Agriculture is classified as land being used for agricultural purposes, defined as the commercial production and preparation for market crops, livestock and livestock products and the production, harvesting and preparation for market or use of agricultural and similar crops and commodities. In the earlier 1900's Greene County was the largest producer of Merino wool in the country. The terrain of the County is well suited for raising sheep and today the County is the fourth largest producer of sheep in the state. However, the number of sheep farms have been steadily declining. One reason for the decline is the repeal of the National Wool Act of 1954, which occurred in 1995. The National Wool Act of 1954 offered direct payments for wool and mohair and incentives were greater for producers who received higher market prices as a way to encourage the production of high quality wool. The program also provided payments for unshorn lambs equal to payments received from shorn lambs. After the repeal of the National Wool Act, many sheep farmers quit producing lamb and wool because without incentives it was no longer profitable.



Agriculture in Greene County (Mackin, 2006)

With the decline of sheep farming, cattle production has become one of the top agriculture producers in Greene County. In 2002, the county had 17,049 cattle and calves, ranking 34th in Pennsylvania out of 67 counties. Roughly 38,849 acres of forage crops are harvested in Greene County, placing it 18th in Pennsylvania counties in this category. Row Crops are not grown in Greene County successfully due to steep slopes. Out of 67 counties in Pennsylvania, Greene County ranked 59 in terms of the value of crops, including nursery and greenhouses. While the biggest agriculture products in the County are sheep and cattle, the county still ranks low in terms of the value of livestock, poultry, and their products, with a ranking of 55 out of 67.

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B. Data & Analysis

Agricultural Land Use

As discussed in Chapter 10: Land Use, over 41 percent of the land use in Greene County is classified as agriculture determined using land cover data from Southwestern Pennsylvania Commission (SPC). Agriculture is classified as land being used for agricultural purposes-the commercial production and preparation for market crops, livestock and livestock products and the production, harvesting and preparation for market or use of agricultural and similar crops and commodities. Land use data was also derived from the Greene County Tax Assessment data, with agriculture making up over 45 percent of the land in Greene County. Tax data also classifies land in the Clean and Green program, with over 36 percent of the total land enrolled. Using tax assessment data, land classified under Agricultural and Clean and Greene totals 81 percent of the total land use. **Figure 11-1: Agricultural Land Use** depicts both agricultural lands as classified by the tax assessment data and the land cover data per SPC.

The discrepancies in the data sets are due to the way the land use information was derived. The Tax Assessment Office classifies a land use based upon the entire parcel of land, whereas SPC land cover data examines how the land is currently being used-not how it is taxed. Therefore, the SPC data shows more open spaces, forests, and agriculture than the tax assessment data. Land enrolled in the Clean and Green Program could be either agricultural or forest, tax records do not differentiate between the two.

Agricultural Industry

To more accurately depict how the agricultural industry affects land use in Greene County, information was collected from the United States Department of Agriculture and the Pennsylvania Cooperative Extension (2002 and 2005-2006). Tables 11-3 through 11-4 use the south-western portion agricultural statistic district in comparison analysis, which includes Allegheny, Fayette, Greene, Somerset, Washington, and Westmoreland Counties. **Table 11-1: Agriculture Industry Statistics for Greene County and Peer Counties (2002)** shows that Greene County has a smaller total number of farms than its surrounding counties in Pennsylvania but more than neighboring West Virginia Counties. Since 1997, Greene County experienced a two percent increase in the number of farms. The average size of a farm in Greene County is larger than that of any comparison county with an average size of a farm at 161 acres. Greene County has fewer farms than Fayette County, but greater acreage in farms.

Table 11-1: Agriculture Industry Statistics for Greene County and Peer Counties, 2002

	Number of Farms	Change of Farms (% from 1997)	Land in Farms (acres)	Acre change from 1997	Average Size of Farms (acres)
Greene County	881	2%	141,684	0	161
Fayette County	978	-3%	125,034	5%	128
Washington County	2506	44%	261,139	28%	104
Marion County, West Virginia	464	13%	50,153	8%	108
Marshall County, West Virginia	706	5%	90,568	1%	128
Wetzel County, West Virginia	336	no change	49,154	-12%	146

Source US Department of Agriculture--Pennsylvania Agricultural Statistics Service, 2002

The economic impact of the Agriculture Industry is described in **Table 11-2: Greene County Economic Impact of Agriculture, 2002**. For relevant data comparison purposes, Greene County is shown only with its neighboring counties in Pennsylvania. The total value of all agricultural products sold in Greene County is far below that of Fayette County or Washington County; Greene County ranks 58th out of 67th. Interestingly, Greene County ranks fourth in the total number of Sheep and Lambs.



Table 11-2: Greene County Economic Impact of Agriculture, 2002									
	Total Value of Agricultural Products Sold	State Rank	Value of Crops	State Rank	Value of Livestock / Poultry	State Rank	Top Livestock Inventory Items	State Rank	County Employment *Bureau of Economic Analysis Data includes forestry
Greene County	\$7,197,000	58	\$2,224,000	59	\$4,973,000	55	sheep/lambs	4	917
Fayette County	\$21,344,000	46	\$8,795,000	34	\$12,549,000	42	pheasants	4	1162
Washington County	\$30,166,000	37	\$13,773,000	26	\$16,393,000	36	sheep/lambs horses/ponies	1 4	2018

Source US Department of Agriculture-Pennsylvania Agricultural Statistics Service, 2002 & Penn State Cooperative Extension

Both the high ranking of Greene County for Sheep and Lamb and the number of employed persons in agriculture beg that steps be taken to capitalize upon this market strength. Such efforts would be further strengthened if undertaken in cooperation with Washington County.

Table 11-3: Greene County Crop Summary, 2005-2006 describes the number of acres harvested, the yield, the production and the value of production for Dry All Hay, Dry Alfalfa Hay, and Corn for Silage. In 2005, Greene County harvested approximately 37,000 acres of Dry All Hay, which yielded 1.46 tons, at a value of \$6,999,000. In 2006 the production increased significantly, by more than half. However, in terms of the rest of the southwestern agricultural district, the County ranked fifth out of six in terms of tons produced and value of the production. Comparing it to production of Dry All Hay in the entire state, Greene County's production value was low but relevant to meet agricultural needs in the local economy. This is a commodity relevant to agricultural sustainability countywide.

As for producing corn for grain, Greene County decreased production from 2005-2006 and had the least amount of bushels in 2006. The low crop production illustrates that Greene County is not able to meet the local demand for crops or to export crops to other counties or states. Counties that have a significant crop production are able to meet local demand and export surplus, which contributes to the total economy. Lower corn production in Greene County is attributed to better forage management practices, which are reducing the need for corn because sufficient nutrition is being provided by forage, rather than necessarily by the inherent inability to produce corn. Practices such as intensive grazing, no-till agriculture, nutrient management, and warm season grass establishment, among others, can eliminate the need for grain supplement entirely.

Table 11-3: Greene County Crop Summary, 2005-2006

	2005				2006			
	Harvested (Acres)	Yield (tons)	Production (tons)	Value of Production	Harvested (Acres)	Yield (tons)	Production (tons)	Value of Production
Dry All Hay	37,200	1.46	54,200	6,999,000	41,200	2.48	102,100	N/A
Dry Alfalfa Hay	4,200	1.9	8,000	1,224,000	4,200	2.31	9,700	N/A
Corn for Silage	700	16.1	11.30	305.10	700	16.6	11.6	319.00
Corn for Grain	700	85.6 (bushels)	59,900 (bushels)	131,780	700	80 (bushels)	56,000 (bushels)	N/A

Source USDA, National Agricultural Statistics Service-PA Office, 2005-2006



Table 11-4: Greene County Livestock Summary, 2005-2007 lists the numbers of cattle, hogs, and sheep in Allegheny, Fayette, Greene, Somerset, Washington, and Westmoreland Counties between 2005 and 2007. Greene County ranked 5th out of 6th in the amount of cattle and hogs making this sector of agriculture not profitable or competitive for farmers.

Table 11-4: Greene County Livestock Summary, 2005-2007

	Cattle			Hogs			Sheep		
	2005	2006	2007	2005	2006	2007	2005	2006	2007
Allegheny	2,700	2,500	2,100	300	400	N/A	800	900	800
Fayette	19,400	19,300	18,900	1,600	1,500	N/A	1,100	1,200	1,100
Greene	17,700	17,500	16,600	400	400	N/A	4,000	4,200	4,000
Somerset	51,500	51,300	47,200	1,600	2,000	N/A	2,100	2,600	2,600
Washington	36,300	36,200	33,500	1,600	1,500	N/A	8,600	10,200	9,500
Westmoreland	26,400	26,200	23,200	2,500	2,300	N/A	2,600	2,800	2,800

Source USDA, National Agricultural Statistics Service, Pennsylvania, 2005-2007

The production, yield, and crop value statistics in Greene County illustrate that crop production is not a strong agricultural market in the County. While Greene County has soils within Prime Farmland Classifications, incentives to grow locally are not available but would increase crop growing substantially. Efforts should also be focused on increasing livestock numbers, especially sheep and cattle, to increase profitability of the agricultural industry in the County. Identification of niche markets for Greene County agricultural products could also increase profitability for County agricultural producers.

Agritourism

Agritourism is the act of visiting a farm or any other agricultural or horticultural business for the purpose to relax, be educated, or be involved in agricultural activities. A study was completed by researchers from California University of Pennsylvania for The Center for Rural Pennsylvania to learn more about the agritourism industry of Pennsylvania in 2004. The study showed that the Laurel Highlands/Southern Alleghenies section, which includes Greene County, comprises approximately ten percent of the agritourism market in Pennsylvania. Agritourism is more prominent in the eastern part of the state in the Hershey/Gettysburg area and the Leigh Valley area. The study classified agritourism activities in Pennsylvania into four different categories: farm retail/dining, agri-entertainment, agri-education, agri-lodging.

The largest category of agritoursim is farm retail/dining, accounting for about 78 percent, which includes roadside stands, farmers markets, Christmas tree farms, "U-pick" operations, and wineries.

Agri-entertainment was the next largest category at 11 percent, which includes rodeos, agricultural fairs, petting zoos, horseback riding, haunted houses, and outdoor recreation.

Agri-education, which makes up two percent, includes school tours, farm-related museums, garden tours, winery tours, agricultural exhibits, and crop identification programs.

Agri-lodging is accommodations provided on a currently operating or historic farm and currently makes up nine percent of the agritourism industry in Pennsylvania. This would include bed and breakfasts, dude/guest ranches, country inns, hostels, and camping/campgrounds.

The study found that the average spending by agritourists is \$120 per visit and visitors researched their trip online. The barriers to attracting agritourists include remote location, high marketing costs, a lack of marketing experience, lack of awareness of agritourism in Pennsylvania, and development is causing crowding and commercialization in rural regions.

The Pennsylvania Department of Agriculture- Bureau of Market Development is promoting agritourism through their Blue Ribbon Passport. The Blue Ribbon passport is a way to see Pennsylvania's agricultural hotspots, such as markets, fairs, cover bridges, wineries, farm markets, and farm tours. The Blue Ribbon Passport is separated into three districts. Greene County falls into the Interstate 79 South district and only the Greene County Fair is listed in the Blue Ribbon Passport. Other potential agritourism sites that should be listed in the Blue Ribbon Passport are the Jacktown Fair, covered bridges throughout the county, and the Waynesburg Farmer's Market.

The 2008-2009 Greene County Visitor's Guide prepared by the Greene County Tourist Promotion Agency notes a plethora of Agri-Tourism events that are currently planned or are being organized for the future. They include the following:

1. The Waynesburg Farmer's Market
2. The Washington and Greene Covered Bridge Festival
3. The Rices Landing Pumpkin Festival
4. The Waynesburg Sheep and Fiber Fest
5. The Greene County Agricultural Fair
6. The Jacktown Fair
7. The Greene County Museum Annual Harvest Festival
8. Mason-Dixon Ramp Festival
9. Enlow Fork Wildflower Walk
10. Buckin B' Cattle Company's Championship Bull Riding Competition
11. Save A Horse Riding Stable and Orndorff's Belgians Horse Farm
12. Thistelwaites Vineyard
13. Greenhouses and Nurseries in Spraggs, Waynesburg, Carmichaels, Lippincott, and Wind Ridge
14. Pennsylvania Livestock Auction, Inc.
15. Farm Tours at Lippencott Alpacas and Strath an De'Farm
16. Farm Stay at So'Journey Farm
17. Locally Grown Produce in Graysville, Waynesburg, Prosperity, Holbrook, and Wind Ridge
18. Tree Farms in Clarksville, New Freeport, Spraggs, and Jefferson



Agricultural Fairs & Festivals

Greene County Fairgrounds

The Greene County Fairgrounds is located in Franklin Township between State Route 21 and State Route 188. The fairground is owned by the county and consists of 26 acres. The fair is operated by the Fair Board and is held the first week of August. There are six barns that can hold 240 horses, two show arenas, two pole barns to house rabbits and goats, and various other buildings that house offices. Events include harness racing, demolition derby, tractor pulls, horse halter shows, 4-H rabbit, cattle, steer, and lamb shows, and horse and pony pulls.

Jacktown Fairgrounds

The Jacktown Fairgrounds is located in Wind Ridge, Pennsylvania. The first fair was held on October 3 and 4, 1866, making it the nation's oldest continuing fair. The fair was organized by the Richhill Agricultural Horticultural and Mechanical Society. The fair is held the third week in July. Events include horse pulls, rabbit show, truck pull, tractor pull, livestock judging, tractor driving contest, demolition derby, rabbit/goat sales, mud bog, parade, float contest, and bands.

Sheep and Fiber Festival

The Sheep and Fiber Festival, organized by Waynesburg Prosperous and Beautiful, in 2003 celebrates the heritage of sheep, wool and fiber in Greene County. Festivities are held in May in Waynesburg and include sheep sheering, hands on exhibits of sheep, shepherding dogs and alpaca, children's activities, lamb cook-off, and the selling of wool crafts.



Sheep and Fiber Festival [Source: Waynesburg Prosperous and Beautiful (<http://www.waynesburgpa.org/Events/sheep.html#>.)]

Waynesburg Farmers Market

Waynesburg Prosperous and Beautiful sponsors a local farmers market every Wednesday in May through October on 303 West High Street-First Baptist Church Parking Lot in Waynesburg.

Penn State Cooperative Extension in Greene County performed a rapid market assessment on the Waynesburg Farmer's Market on August 23, 2006. A rapid market assessment was conducted to learn consumer motivation for shopping, average money spent, willingness to spend, and the total volume of market traffic. Products sold included general produce, peaches, vegetables, plants, hydroponically grown tomatoes, meat products, baked goods, jam/jellies/sauces, lavender, and other value-added items. Market attendance was estimated at 624 adults with actual market sales of \$2,403, which did not include food vendors. Fifty four percent of the shoppers spent \$10 or less and average spending per shopping group was \$11.98. Customers stated that they visited the farmers market to buy farm products and to support the continuation of the market.



Waynesburg Farmer's Market (Source: Mackin, 2006)



"Buy Local" Campaign

Promoting a "buying local" campaign is key to the agricultural industry in Greene County. Food loses not only taste but also nutrients and dollar value. Eighty cents of every dollar spent on food pays for marketing inputs such as labor, packaging, and transportation. Most of the money spent on food does not go either to the farmer or to support the community where the food is produced. People, therefore, are also joining the local food movement for reasons of nutrition, social justice, and solidarity. They want to become part of a local and regional food system that values nutritious food, environmental sustainability, small farms, and strong local economies. The biggest barriers to organic production are the high cost of certification and a weak local market. Reasons to "Buy Local" include the following (<http://www.buylocalpa.org/why.php>):

Exceptional Taste & Freshness

Local food is fresher and tastes better than food shipped long distances from other states or countries. Most fresh fruits and vegetables produced in the U.S. are shipped from California, Florida, and Washington. Fruits and vegetables shipped from distant states and countries can spend as many as seven to fourteen days in transit before they arrive in the supermarket. Most fruit and vegetable varieties sold in supermarkets are chosen for their ability to withstand industrial harvesting equipment and extended travel not taste. This results in little variety in the plants grown. Local farmers can offer produce varieties bred for taste and freshness rather than for shipping and long shelf life.

Locally grown fruits and vegetables are usually sold within 24 hours of being harvested. Produce picked and eaten at the height of ripeness has exceptional flavor and, when handled properly, is packed with nutrients. By choosing local produce at farm stands, farmers markets, pick-your-own farms and grocery stores, you pay for taste, not transportation and packaging. Local farmers often grow a large assortment of unique varieties of products to provide the most flavorful choices throughout the season.

Strengthen the Local Economy

Buying local food keeps your dollars circulating in your community. Local family farmers spend their money with local merchants. The money stays in town where it benefits everyone and builds a stronger local economy. Independent, family-owned farms supply more local jobs and contribute to the local economy at higher rates than do large, corporate-owned farms. Local farmers who sell direct to consumers receive a larger share of the profit for their food.

Support Endangered Family Farms

There's never been a more critical time to support your farming neighbors. With each local food purchase, you ensure that more of your money spent on food goes to the farmer. Family farms are an important part of the American tradition of self-sufficiency, forming the bedrock for communities across the U.S. Since 1935, the U.S. has lost 4.7 million farms and fewer than one million

Americans now claim farming as a primary occupation. Farmers in 2002 earned their lowest real net cash income since 1940, meanwhile corporate agribusiness profits have nearly doubled (increased 98%) since 1990. Large corporations increasingly dominate U.S. food production: four large firms control over 80 percent of beef slaughter, 59 percent of pork packing, and 50 percent of broiler chicken production.

Safeguard Family's Health

Knowing where your food comes from and how it is grown or raised enables you to choose safe food from farmers who avoid or reduce their use of chemicals, pesticides, hormones, antibiotics, or genetically modified seed in their operations. Buy food from local farmers you trust. Eating locally grown, healthy food strengthens your family and community.

Protect the Environment

Local food doesn't have to travel far. This reduces carbon dioxide emissions and packing materials. Buying local food also helps to make farming more profitable and selling farmland for development less attractive.

Agricultural Conservation Lands

Counties have been charged to consider agricultural lands when completing a comprehensive plan and prepare a plan for preserving and enhancing that land. The Pennsylvania Municipalities Planning Code (MPC) specifies that when preparing a comprehensive plan a county "shall identify a plan for the preservation and enhancement of prime agricultural land and encourage the compatibility of land use regulation with existing agricultural operations" (p. 13). The MPC was amended in 2000 through Act 67 and Act 68 to encourage multi-municipal planning and intergovernmental partnerships. Through a coordinated approach, counties and local municipalities have the authority to dedicate public funds in certain areas so that other land areas may be preserved as rural resource areas. Additionally, multi-municipal planning and zoning can provide for agricultural land uses within a reasonable geographic area and be protected against exclusionary zoning challenges.

Approximately five percent of land in Greene County is classified as a prime agricultural soil. These soils are scattered around the county with denser deposits in the eastern portion of the County and along South Fork Ten Mile Creek. Prime Agricultural Soils are in areas where there are fewer slopes of 25 percent or less and happen to be where most development has occurred.

The classification of Prime Agricultural Land includes active farming of land to extend the definition beyond the narrow description of soil classifications. Prime agricultural soils are mapped on **Figure 11-2: Prime Agricultural Lands**. The definition of "prime agricultural land" in Pennsylvania, according to Executive Order 2003-2 signed in 2003, is as follows:

- a) In active agricultural use (not including growing timber);



- b) Lands devoted to active agricultural use the preceding three years; and
- c) Fall into at least one of the categories of land – State agencies shall provide protection to “prime agricultural land” under this Executive Order based upon the following levels of priority:
 - 1) Preserved Farmland (Highest Priority)
 - 2) Farmland in Agricultural Security Areas (Second Highest Priority)
 - 3) Farmland enrolled in Act 319 of 1974, As Amended (Clean and Green) or Act 515 of 1996, As Amended (Third Highest Priority)
 - 4) Farmland Planned for Agriculture Use and Subject to Effective Agricultural Zoning (Fourth Highest Priority)
 - 5) Land Capability Classes I, II, III, and IV Farmland and Unique Farmland (Fifth Highest Priority)

As development pressures begin to increase, Greene County farmers may find it more lucrative to develop than to farm. Pennsylvania legislators have recognized the challenges faced by the agriculture industry and have taken steps to strengthen and protect this important economic sector. Pennsylvania leads the nation in the number of acres of farmland preserved; 400,000+ as of August 2008. Greene County preserved farmland for the first time in 2008, with the 108-acre farm owned by William and Lura Ann Cree, as shown on **Figure 11-2: Prime Agricultural Lands**.

Clean & Green Lands

As of August 2007, Greene County has 148,057 acres enrolled in Clean and Green, of which 37,786 (25.5%) were classified as Agricultural Use, 30,915 (20.9%) as Agricultural Reserve, and 79,356 (53.6%) as Forest Use. Almost half of the County's land is enrolled in Clean and Green, which significantly lowers the tax base for the county, school districts, and local municipalities.

Agricultural Security Areas

In Greene County there are 4 approved ASA and one pending application:

- Center Township - 1643.7 Acres with 7 landowners (Application Pending)
- Cumberland Township - 582.77 Acres enrolled with 2 landowners
- Greene Township – 547 Acres with 3 landowners
- Washington Township - 2,195 Acres enrolled with 24 landowners
- Wayne Township - 1,977.9 Acres with 6 landowners

These areas are delineated on **Figure 11-2: Prime Agricultural Lands**.

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C. Development Strategies

GOAL: Strengthen the agricultural industry

- Strategy:* Promote agricultural conservation in areas that fall outside of identified growth areas as shown on **Figure 10-3: Future Land Use Plan** and as allowed by the PA MPC...
- Strategy:* Integrate an agricultural marketing strategy into the County's overall economic development plan.
- Strategy:* Assist farmers in developing highly productive, innovative, or unusual operations to increase productivity, sustainability, and profitability, by identifying niche markets such as vegetables, fruits, flowers, free range turkeys, goats, rabbits and ducks.
- Strategy:* Promote agricultural legislation to protect farmland from the impacts of mining, (loss of water), and gas well development occurring on land that has productive agricultural potential. Provide educational opportunities to producers on how to continue farming during active resource development and beyond.
- Strategy:* Partner with Washington, Fayette, Monongalia, and Preston Counties to develop cluster activities to support niche markets.
- Strategy:* Organize an active support program for those participating in the agricultural industries.
- Strategy:* Attract a USDA-certified poultry processing plant to Greene County.
- Strategy:* Legislate the timber industry as an agriculture commodity, a crop is produced, harvested, reproduced, and reharvested.
- Strategy:* Promote and publicize the Waynesburg Farmers Market through the Greene County Cooperative Extension mailings and other available agricultural mailing lists.
- Strategy:* Assure that the Conservation District and Extension Services are represented on the Board of the Farmer's Market.
- Strategy:* Support the establishment of additional farmers markets throughout the County.
- Strategy:* Develop and implement a "Buy Local" campaign to promote local farmers and produce. Potential slogan is "A Taste of Greene County."

Strategy: Support agricultural education / FFA in the public schools throughout the county.

Strategy: Support a Farm to School initiative for the public schools, university and other institutions in the county, by sourcing locally produced food products.

Strategy: Develop a program geared towards new and beginner farmers that focuses on the business planning and marketing aspects of getting started in an agricultural enterprise.

Strategy: Provide workshops at the Fairgrounds for farmers regarding:

- Farmer's Market
- Farm to Market
- Technical Assistance on production of different Crops
- Agricultural Support Services available
- Organic growing techniques
- Alternative Energy
- Consumer Education

Strategy: Develop a community food system. A community food system is a food system in which food production, processing, distribution and consumption are integrated to enhance the environmental, economic, social and nutritional health of a particular place. Four aspects distinguish community food systems from the globalized food system that typifies the source of most food Americans eat: food security, proximity, self-reliance and sustainability.

- Food security is a key goal of community food systems. While food security traditionally focuses on individual and household food needs, community food security addresses food access within a community context, especially for low-income households. It has a simultaneous goal of developing local food systems.
- Proximity refers to the distance between various components of the food system. In community food systems such distances are generally shorter than those in the dominant or global food system. This proximity increases the likelihood that enduring relationships will form between different stakeholders in the food system – farmers, processors, retailers, restaurateurs, consumers, etc.
- Self-reliance refers to the degree to which a community meets its own food needs. While the aim of community food systems is not total self-sufficiency (where all food is produced, processed, marketed and consumed within a defined boundary), increasing the degree of self-reliance for food, to be determined by a community partnership, is an important aspect of a community food system.
- Sustainability refers to following agricultural and food system practices that do not compromise the ability of future generations to meet their food needs. Sustainability includes environmental protection, profitability, ethical treatment of food system workers, and community development. Sustainability of the food and



agriculture system is increased when a diversified agriculture exists near strong and thriving markets, when non-renewable inputs required for every step in the food system are reduced, when farming systems rely less on agri-chemical fertilization and pest control, and when citizen participation in food system decision-making is enhanced.

GOAL: Preserve agricultural lands

- Strategy:* Continue directing funding and support to the Greene County Agricultural Land Preservation Program through local and state funding.
- Strategy:* Educate residents on the guidelines, benefits, etc. of the Greene County Agricultural Land Preservation Program.
- Strategy:* Petition the state legislature to provide more funding directed towards the agricultural conservation easement purchase program.
- Strategy:* Direct money received from Growing Greener II towards protecting high priority and endangered farmland through proper site assessment.
- Strategy:* Encourage local municipalities to enact zoning ordinances to protect high priority and endangered farmland by restricting development to agricultural uses only.
- Strategy:* Ensure that the requirements and stipulations of the Clean and Green Program are being followed by the owners of enrolled lands.

GOAL: Capitalize on the history of sheep farming

- Strategy:* Expanding and promote the Sheep & Fiber Festival.
- Strategy:* Partner with Washington County to establish regional marketing efforts and support regional production of sheep and wool products (*note: Washington County still has a Wool Pool – Greene does not*).
- Strategy:* Educate and assist local farmers to expand their livestock market, particularly sheep and cattle, into profitable businesses.
- Strategy:* Develop a specialty wool products industry.

GOAL: Promote agritourism as an economic development tool

Strategy: Expand Greene County's role in the Blue Ribbon Passport program that is operated by the Pennsylvania Department of Agriculture, to include, at a minimum:

- Jacktown Fair
- Waynesburg Farmers Market
- Covered Bridges

Strategy: Educate farmers on ways to enter into the agri-tourism industry.

Strategy: Develop and market a Greene County Farm / Agricultural Tour.

Strategy: Update County website to include agricultural industry, promotion of, etc.

Strategy: Maintain an inventory of highly productive, innovative, or unusual operations for tourism and education purposes. For example Alpaca farms, dairies that also produce cheese, and an operation that uses solar pumps to water stock or use of other alternative energy systems.

Strategy: Develop a Farm to City day / week to educate the citizens on the variety of agricultural products produced in the county and traditional farm oriented activities (examples include tractor driving, bale tossing, butter churning, etc.). Greene County Conservation District, Penn State Cooperative Extension, 4-H, FFA and local businesses should partner to promote this activity.



A. Background

Historically, the County has been dependent upon resource extraction, particularly coal, for jobs and the tax base. Resource extraction and energy production are extremely important to Greene County, therefore a separate section has been dedicated to these topics. The Energy and Extraction section of this comprehensive plan will be consistent with and may not exceed those requirements imposed under the following:

1. Act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law"
2. Act of May 31, 1945 (P.L.1198, No. 418), known as the "Surface Mining Conservation and Reclamation Act"
3. Act of April 27, 1966 (1st SP.SESS., P.L. 31, No.1), known as "The Bituminous Mine Subsidence and Land Conservation Act"
4. Act of September 24, 1968 (P.L. 1040, No. 318), known as the "Coal Refuse Disposal Control Act"
5. Act of December 19, 1984 (P.L. 1140, No. 223), known as the "Oil and Gas Act"
6. Act of December 19, 1984 (P.L. 1093, No. 219), known as the "Non-coal Surface Mining Conservation and Reclamation Act"

Existing Studies

Many reports and studies have been completed that investigate the environmental impact of resource extraction in Greene County. The following have been reviewed and summarized to include findings and recommendations that relate to any of the issues addressed under this section.

Greene County Comprehensive Plan: Part I - Background Analysis and Part II - Final Report (1979)

The comprehensive plan focused on regional location analysis; physical features and existing land use; population and economy; housing analysis; thoroughfares; and community facilities. The background analysis found that the County had 8.9 billion tons of coal reserves of which 5.9 billion is considered to be recoverable in 1979; mostly in the west and requires deep mining. The final report recommended that the County should locate new development in areas with suitable topography, access to utilities and access to employment; protect valuable county land resources including unique natural features, established neighborhoods, prime industrial sites and recreational areas; to foster coordination between various planning and administrative bodies in the county to avoid conflicts between land use, transportation, housing, utilities, services, conservation and community facilities.

Water Resources and the Effects of Coal Mining: Greene County, Pennsylvania (1987)

The study investigated the effects of coal mining on Greene County's water resources. As 20 percent of Pennsylvania's mineable bituminous coal reserves are in Greene County, it was considered to be one of last major deposits of high-quality, high-BTU coal in the nation. The study found that Abandoned Mine Drainage (AMD) affected many of the sampled streams in eastern Greene County. In addition, the most productive water-bearing units are sandstones and coal beds in Washington and Waynesburg formations less than 200 feet below the surface. Major groundwater-quality problems are exhibited in high concentrations of iron, manganese, and hardness; minor problems include hydrogen sulfide gas, methane gas, and occasional high concentrations of chloride. Iron and manganese levels are above the Environmental Protection Agency (EPA) limits due to oxidation, not due to mining. The study recommended that well-depth be greater than 200 feet only in valley settings; wells should be installed, tested, and relative permanence determined during dry periods; and that wells should be drilled as wide as cost allows for more storage capacity.

An Investigation of High Extraction Mining and Related Valley Fill Practices in Southwestern Pennsylvania (1998)

The study was completed for the Audubon Society of Western Pennsylvania to identify what is known and not known about the social, economic, legal, environmental, hydrogeologic consequences, valley fills and subsidence phenomena, as they relate to longwall mining. It contains a study of the perceptions of a sample of residents and mental health professionals from Washington and Greene Counties to determine what effects, if any, longwall mining has on the lives of residents who live near areas where longwall mining technology is utilized. The study found that coal tax revenues for schools are decreasing and that most comments in the physical/environment category were related to contamination and loss of water; second most comments related to damage to homes and buildings; most comments in economic category were related to financial impact, but also on property rights and values. The study contains no recommendations or alternatives proposed to eliminate or minimize impacts. It does recommend that Greene County broaden its economic base and that private/public investors should reinvest part of the profit that is due to quality of the energy resource – economists include investments in education as one possible response to sustainability.

RAI Emerald Resources Corporation - Whiteley Creek Watershed Mitigation (2001)

The second annual report summarized two years of activities for Whiteley Creek watershed mitigation program. Thirteen farmers participated in restoration efforts. The study found that fecal coliform concentrations continued to be high near farm streams; nitrates declined in treatment farms; and streams improved with the exclusion of livestock from riparian corridor.



Monongahela River Source Water Assessment Report (for Dunkard Valley Joint Municipal Authority, East Dunkard Water Association, and the Southwestern Pennsylvania Water Authority) (2002)

The study was conducted to meet the 1996 Safe Drinking Water Act that requires a Source Water Assessment and Protection Program (SWAP) to evaluate all drinking water sources that serve public drinking supplies and to provide a mechanism for development of local protection programs. Potential sources for contamination (PSOCs) include point (water and sewer treatment plants, wildcat sewers, mining, power plants, chemical plants and non-point sources (major transportation corridors and run-off from urban/developed areas). The most serious PSOC is the accidental release of materials along the transportation corridor. The studies found that Dooley Run and Dunkard Creek are affected by Abandoned Mine Drainage (AMD) and metals. The study recommended the development a community based source water protection program to safeguard the public drinking supply based on the threats identified in the assessment.

Flow Measurement, Site Reconnaissance, and Proposed Remedial Action for Mine Discharges in the Lower Dunkard Creek Watershed (2002)

The study, conducted by Bruce R. Leavitt, Consulting Hydrogeologist, inventories Abandoned Mine Drainage problems from seven mine sites that discharge into Dunkard Creek and offers discharge remediation. Because of low pH values and/or topography (lack of suitable flat acreage), in situ neutralization is recommended, combined with mine sealing, wetlands, and open limestone channels.

RAG Corporation - Cumberland No. 2 Refuse Site: Stream Mitigation Report (2003)

Quarterly report outlining proposed activities in Whiteley Creek Watershed. Several landowners have enrolled in streambank restoration and warm season grass program. Monitoring data indicated organic matter is entering agricultural streams and these pollutants may be negatively influencing the fish and macroinvertebrate communities at large. Water quality was lower at farm sites (NH₄, NO₃ and fecal coliforms significantly higher at treatment farms than control sites; darter species of fish at control but not at treatment sites.

RAG Corporation: Emerald No. 2 Refuse Site: Stream Mitigation Report (2003)

Quarterly report outlining proposed activities and progress, with proposed dates. Water quality (fecal coliform, turbidity) was cited as improving at treatment sites. For the most part, treatment farms were at levels comparable to control sites.

Energy & Extraction Resources

Pennsylvania Department of Environmental Protection (PA DEP)

Resource extraction activities are permitted and monitored by the Pennsylvania Department of Environmental Protection (PA DEP). The Bureau of District Mining Operations, California District Office (located in California, PA – Washington County) oversees all activities in Greene County and provides numerous resources and publications regarding resource extraction, abandoned mine land reclamation, abandoned mine drainage (AMD), and other mining related issues.

Greene County Conservation District

The mission of the Greene County Conservation District is to "is to provide for the conservation of the soil, water and related resources of Greene County, and for the control and prevention of soil erosion, and thereby to preserve natural resources; assist in the control of floods; prevent impairment of dams and reservoirs; assist in maintaining the navigability of rivers and harbors; preserve wildlife; preserve the tax base; protect public lands; and protect and promote the health, safety and general welfare of the people of Greene County." The Conservation District sponsors programs that address impacts associated with resource extraction in Greene County, such as the Dunkard Creek Non-Point Pollution Project, Dunkard Deep Mine Assessment Project, and the Whiteley Creek Watershed Strip Mine Reclamation Site Project.



Energy & Extraction Snapshot

The economy in Greene County was traditionally associated with coal extraction and agriculture. Agriculture, including crops and livestock, was the pre-dominant industry early in the formation of the county. However, the extraction of coal soon became the lifeblood of the County and its primary source of jobs. Coal mining served as the economic generator and source of municipal, school, and county revenues from the early 1900s to around 1980. Despite the abundance of coal and relatively high-wage earning opportunities afforded to miners, Greene County had low population levels and remained largely undeveloped.

The value of the coal-driven economy of Greene County declined by the late 1970's due to a nation-wide recession and shifts in global economies that changed energy demands. Coal driven energy became costly, as the extraction methods had depleted readily available resources and the environmental effects of extraction were realized. The County's economic and social welfare plummeted and the population was classified as distressed with low employment levels, high poverty rates, and poor social indicators such as minimal educational attainment, and high rates of drug use and teen pregnancy.

Recognizing that this is an over-simplification of the history of Greene County, it serves to raise several concerns related to the dependence upon a single industry. First, coal mining was a market that required minimal skills but significant hard labor and a willingness to work in a dangerous environment. For this, coal companies were willing to pay a higher wage to increase effort and therefore revenues. However, the shrinking of this large employment sector left Greene County with high numbers of unemployed workers who were considered "un-skilled" due to the manual nature of coal mining. Second, the environmental effect of coal mining left a physical scar on the landscape. Water supplies were polluted due to acid mine drainage or lost due to shifts in water tables. Coal remains or spoils destroyed once productive land and the pollution of coal-fired plants created negative health effects on residents. Third, a damaging externality was the reliance on one market sector without a method of diversifying industries to offer other opportunities for employment. Once the public sector began to assess fines through legislation passed to protect water supplies and restore lands, energy production costs rose and other energy sources became more desirable thereby reducing the desire to use coal as an energy source. Fortunately, over the years the energy industry has developed methods to reduce pollution and improve efficiencies of generation. Today, market demands and improved methods of coal extraction have increased the revenues generated from coal extraction.



Coal Mine in Greene County (Mackin, 2006)

Greene County's dependency upon energy and extraction is evident in their top employers: Consol Energy is number one (1,537 employees), Foundation Coal Company is number two (1,187 employees) and Allegheny Power Service Corporation is number five (211 employees). Throughout the County, the presence of resource extraction is evident by either the active strip mines, abandoned mines, or mine reclamation areas.

Private and public forces have shifted their philosophies in relation to the coal industry. Coal companies now require skilled labor as extraction methods are no longer pick-and-shovel, but are now machine and computer driven. Public schools and colleges have developed specific courses to prepare young people to enter into the coal extraction industry. The County has responded by investing in industrial parks and business development strategies to attract a diversified industrial sector and initiated retraining opportunities to previously displaced workers. It is too soon to know if the historical reliance on coal will be relinquished in Greene County. However, many now see this as a necessity if the County is to avoid future economic fallout. In the meantime, the outlook seems promising to capitalize on a revitalized coal industry while investing in infrastructure improvements that will increase the likelihood of a diversification of employment sectors.



B. Data & Analysis

Non-Renewable Resources

Mining in the Pittsburgh seam began in Greene County more than a century ago where the coal outcropped along the Monongahela River and its tributaries. The Pittsburgh coal seam is a single, almost horizontal bed, with a thickness of four to ten feet (average of six feet). Despite the extensive mining of the past, the bulk of Pennsylvania coal – more than 80 percent – is still mined from the Pittsburgh seam. Approximately 121,000 acres of the Pittsburgh Coal Seam have been previously mined in Greene County, leaving about 245,000 acres of unmined coal in the County; 99 percent of the coal recovered was from underground mining. Deep mining also occurs in the Sewickley coal seam in southeastern Greene County, but it is minor by comparison. The depth of the Upper Freeport Coal Seam makes it more difficult to recover and therefore makes it less valuable than Pittsburgh Coal. The Upper Freeport Coal covers the entire County, accounting for approximately 370,000 acres of unmined coal (PEC et al., 2005).

In Pennsylvania, oftentimes the mineral estate is separate from the surface (real) estate and ownership of the minerals may even be separated from each other on the same tract of land. For instance, the oil, gas, coal, minerals, etc. may all be owned by separate entities and separate from the owner of the actual land. Pennsylvania recognizes the mineral owner's rights to recover the mineral as well as the landowner's right to protection from unreasonable encroachment or damage. Ownership of both the surface and mineral rights are usually maintained by the county's Recorder of Deeds office.

Land use regulations, such as zoning, may not supersede existing state and federal laws that govern and regulate the extraction of subsurface and mineral resources, including the following:

- Act of May 31, 1945 (P.L.1198, No.418), known as the "Surface Mining Conservation and Reclamation Act"
- Act of December 19, 1984 (P.L.1093, No.219), known as the "Noncoal Surface Mining Conservation and Reclamation Act"
- Act of December 19, 1984 (P.L.1140, No.223), known as the "Oil and Gas Act,"
- Act of April 27, 1966 (1ST Sp.Sess, P.L.31, No.1), known as "The Bituminous Mine Subsidence and Land Conservation Act" which regulates the subsidence impacts of coal extraction

In addition, all zoning ordinances must provide for the reasonable development of minerals in each municipality. A municipality or landowner cannot restrict the mineral owner's reasonable access for production and development.

Coal

Of the 12 most productive underground coal mines in the United States, five are located in Greene County, making the County one of the largest coal producers in the country (County Commissioners Association of Pennsylvania, 2007). Greene County is located within the Main Bituminous Coal Field of Pennsylvania (DCNR, 2004). Extensive areas of operating surface and deep mines, old stripping areas, and reclaimed areas are dispersed throughout the landscape. Coal that is or has been mined within the county is primarily high volatile bituminous coal, which is a soft, black or sometimes dark brown coal. Typically used for electricity production, high-volatile bituminous coal is known for its ease to burn and long burning characteristics (<http://www.answers.com/topic/bituminous-coal>).

Greene County has previously completed an assessment of coal resources and affects to the County's fiscal health. The last study completed was in 2000 by Resource Technologies Corporation, however, due to recent energy advances in Greene County, this report is considered out of date. According to information received from a representative of Resource Technologies Corporation (electronic correspondence, 2/27/06) the price increase of natural gas, which has tripled since 2000; oil, which has quadrupled; and coal; which has more than doubled, has so radically changed the economics of energy that there are no reports that have any real credibility in today's world. Recent technological advances have significantly changed coal mining practices and there is now more economically accessible coal. In addition, a significant market has developed for coal bed methane and the utility industry now has over 200 new coal fired power plants in the planning or permitting stage as compared to the two or three plants in 2000. Since 2000, the utility industry has moth-balled a significant number of gas-fired power plants. Nearly every coal fired power plant within 200 miles of the Greene County is slated for some form of pollution control upgrade -- in 2000 virtually none of them were. Coal, gas, and coal bed methane are major industries of Greene County. Greene County, alone, accounts for nearly 20 percent as much annual production as the entire state of West Virginia (RTC, 2006). Greene County is one of the primary producers of energy in the United States and will need to commission a study to ascertain the future of its energy production.



Underground Mines

All active mines in Greene County utilize either the room and pillar or the longwall method, which are both underground techniques. As of March of 2007, there are eight (8) active deep mines located in Greene County, as listed in Table 12-1. The location of each mine (when available) is noted on *Figure 12-1: Coal: Deep Mines*.

Table 12-1: Underground Bituminous Mines Actively Operating in Greene County

Municipality	Mine Name	Mining Company	Coal Seam	Permit #	Type of Mine
Richhill Twp, Gray Twp, Aleppo Twp	Bailey	Consolidation Coal Co.	Pittsburgh	30841316	Longwall
Jackson Twp, Wayne Twp, Gilmore Twp	Blacksville No. 2	Consolidation Coal Co.	Pittsburgh	30841312	Longwall
Center Twp, Greene Twp, Franklin Twp, Perry Twp, Wayne Twp, Whiteley Twp	Cumberland	Foundation Coal Co.	Pittsburgh	30831303	Longwall
Dunkard Twp, Perry Twp	Crawdad Portal B	Dana Mining Company of PA, Inc	Sewickley	30001301	Room and Pillar
Dunkard Twp	4-West Mine	Dana Mining Company of PA, Inc	Sewickley	30031301	Room and Pillar
Center Twp, Franklin Twp, Waynesburg Boro, Whiteley Twp	Emerald No. 1	Foundation Coal Co.	Pittsburgh	30841307	Longwall
Richhill Twp, Morris Twp	Enlow Fork	Consolidation Coal Co.	Pittsburgh	30841317	Longwall
Dunkard Twp	Titus	Dana Mining Company of PA, Inc	Sewickley	30841314	Room and Pillar

Source: PA DEP; last updated March 21, 2007

The room and pillar method involves the excavation of coal from large “rooms” but leaves intervening “pillars” of coal to hold up the roof. The disadvantage to this method is that only about 40 percent of the original coal is extracted; the rest remains in the mine as pillars and is essentially lost. The Dana Mining Company of Pennsylvania, Inc. (Dana) is the only active mining company in Greene County that utilizes this method. Dana operates three mines in the County: Crawdad Portal B, 4-West, and Titus, all of which can be found in Dunkard Township (World Coal Institute, 2005).

In contrast, the longwall method of coal mining is much more effective, and thusly, has become more commonplace for coal extraction. For longwall mining, a single block of coal, which can exceed 1,000 feet wide and 10,000 feet long, is isolated and mined along the short side, using equipment that continuously shears off the coal face across the entire width of the block. Following each pass across the operating face, the mining equipment is advanced forward in preparation for making a new cut. As forward progress is made, all of the coal is extracted and the mine roof is allowed to collapse in a carefully controlled manner. Longwall mining is especially efficient and can produce a large amount of coal in a short period of time in areas where the coal bed is sufficiently thick and continuous (World Coal Institute, 2005).

Bailey Mine

The Bailey Mine is owned by Consol Energy, Inc. and is located in northwestern Greene County in Richhill and Gray Townships and crosses into Washington County. Coal is mined from the Pittsburgh Seam using two longwall systems and seven continuous mining machines. Continuous mining machines allow the coal to be mined in a continuous operation where one machine rips coal from the face and loads it directly into a hauling unit (www.britannica.com/EBchecked/topic/122975/coal-mining). Coal is transported to the surface and then processed in the Bailey Central Preparation Plant. Among the largest underground coal mines in the United States, Bailey produced 11.1 million tons of coal in 2005 (<http://www.consolenergy.com/main.asp?c=CNXCoal>).

Blacksville 2 Mine

Blacksville 2 Mine is owned by Consol Energy, Inc. and is located in southern Greene County in Gilmore, Jackson and Wayne Townships and then spans across the border into West Virginia. Coal is mined from the Pittsburgh Seam using one longwall system and three continuous mining machines. Coal is transported underground by conveyor belts to the preparation plant, located in northern West Virginia. Blacksville produced 5.3 million tons of coal in 2005. (<http://www.consolenergy.com/main.asp?c=CNXCoal>)



Blacksville 2 Mine Entrance, Wayne Township (Mackin 2007)

Cumberland Mine

Cumberland Mine is owned by Foundation Coal Holdings, Inc. and is located approximately 12 miles south of Waynesburg in Perry, Whiteley, and Wayne Townships and has been in operation since 1977. All of the coal at the Cumberland Mine is processed through a preparation plant before being loaded onto Foundation Coal's owned and operated railroad for transportation to the Monongahela River dock site. At the dock site, coal is loaded into barges for transportation to river-served utilities or to other docks for subsequent rail shipment to non-river-served utilities. The mine can also ship a portion of its production via truck. Cumberland shipped 7.0 million tons of coal in 2005. As of December 31, 2005, Cumberland had an assigned reserve base of 102.3 million tons. Cumberland has approximately 611 salaried and hourly employees (<http://www.foundationcoal.com/home.cfm>).

Emerald Mine

Emerald Mine is owned by Foundation Coal Holdings, Inc. and is located approximately a half of a mile south of Waynesburg just north of the Cumberland Mine, in Center, Franklin and Whiteley Townships, and has been in operation since 1977. All of Emerald's coal is processed through a preparation plant before being loaded into unit trains operated by the Norfolk Southern Railroad or the CSX Railroad. The mine also has the option to ship a portion of its coal by truck. Emerald shipped 6.7 million tons of coal in 2005. As of December 31, 2005, Emerald had an assigned reserve base of approximately 98.1 million tons of coal reserves. Approximately 577 salaried and hourly employees work at Emerald (<http://www.foundationcoal.com/home.cfm>).

Enlow Fork Mine

Enlow Fork Mine is owned by Consol Energy Inc. and is located in the northwestern Greene County in Morris Township, though most of the mine is in Washington County. Coal is mined from the Pittsburgh Seam using two longwall systems and six continuous mining machines. Coal is transported to the surface by conveyor belts and is processed in the Bailey Central Preparation Plant that can fully wash coal. Enlow Fork is one of the largest underground coal mines in the United States and, in 2005, produced 9.8 million tons of coal.

(<http://www.consolenergy.com/main.asp?c=CNXCoal>).

I-79 Undermining

Beginning in September 2004, Foundation Coal Holdings, Inc. began conducting longwall-mining operations in the Cumberland and Emerald Mines in Greene County underneath segments of Interstate 79 south of Waynesburg. The undermining should be complete in 2009. PA DEP provides detailed information on the mining operations, including, regularly updated reports on the progress of the undermining, on their website at <http://www.dep.state.pa.us/dep/deputate/minres/Districts/homepage/California/179-Home/179-home.htm>.



Surface Mines

Once known as strip mining, surface mining is accomplished by removing overburden from the coal seam and then blasting and removing the coal. As a method of coal extraction, surface mining accounts for about 60 percent of coal production in the United States, though it accounts for very little in Greene County. Surface mining is as much a land reclamation process as it is a method of coal extraction. In time, reclaimed sites can be returned to many productive uses such as recreation areas, golf courses, wildlife preserves, parks, farms, wetlands, housing developments and pastures. There are three active strip mines in Greene County, as listed in Table 12-2.

Table 12-2: Surface Mines Actively Operating in Greene County

Municipality	Mine Name	Mining Company	Permit #
Greene Twp	Minor Mine	SBX Corp	30050103
Greene Twp	Keener Surface Mine	Patriot Mining Co. Inc	30030101
Morgan Twp	Mather Strip	CJ & L Coal	30960101

Source: PA DEP; last updated March 21, 2007

Inactive Mines

Dooley Run Mine

The Dooley Run Mine is owned by Dana Mining Co. and is located in Dunkard Township. The mine was shut down due to the rising Shannopin Mine pool, which flooded the reserves. The Dooley Run Mine was operating in the Sewickley coal seam about 100 feet above the Pittsburgh seam. The remediation of the Shannopin Mine will allow Dana Mining Co. to reopen the Dooley Run Mine and expand other mining operations in the area.

Shannopin Mine

The Shannopin Mine is located near the village of Bobtown in Dunkard Township. The Shannopin Coal Company operated the Shannopin mine from the 1926 until 1993, when Shannopin filed bankruptcy and abandoned the mine. The Commonwealth forfeited and demolished hazardous surface structures and bridges and seal mine portal openings. Diversified Energy Ventures, Inc. bought the property out of bankruptcy in 1993. In 2003, through a combined effort of Pennsylvania state agencies and the Dana Mining Company, a plant was constructed to pump and treat the Shannopin polluted mine pool. The treatment plant prevented

mine water from discharging and polluting Dunkard Creek and the Monongahela River.

Coal Production

Table 12-3 lists the reported production for the active underground mines from 2004 in Greene County. Altogether, over 37 million tons of coal were mined in 2004. Since 2004, Dunkard and Dilworth mines closed and 4-West Mine opened. Bailey and Enlow Fork remain two of the most productive coal mines in the United States. Each mine produced over 10 million tons of coal in 2004. While Bailey produced more than 11 million in 2005, Enlow Fork dropped to just under 10 million in 2005. Blacksville 2, Cumberland and Emerald mines each produced over five million tons of coal in 2004. Compared to 2005, Blacksville 2 remained consistent while both Emerald and Cumberland produced over 6 and 7 tons, respectively.

Table 12-3: Greene County 2004 Bituminous Underground Mines Reporting Production							
Company	Permit	Site Name	Surface Permit Acres	Underground Permit Acres	Total Tons Production	Mineral	Avg # of Employees
Cobra Mining LLC	30841309	Dunkard Deep Mine	35	1,385	141,371	Sewickley	32
Consol Energy Inc.	30841316	Bailey Deep Mine	652	26,620	10,133,685	Pittsburgh	430
Consol Energy Inc.	30841317	Enlow Fork Mine	18,245	17,159	10,218,960	Pittsburgh	520
Consol Energy Inc.	30841313	Dilworth Deep Mine	123	11,336	19,075	Pittsburgh	1
Consol Energy Inc.	30841312	Blacksville #2 Mine	194	17,423	5,718,668	Pittsburgh	412
Cumberland Coal Resources LP (Foundation Coal Holdings, Inc.)	30831303	Cumberland Mine	213	22,532	5,194,971	Pittsburgh	503
Dana Mining Co of Pennsylvania Inc.	30841314	Titus Deep Mine	3	338	200,813	Sewickley	26
Dana Mining Co of Pennsylvania Inc.	30001301	Crawdad No 1 Mine	35	1,385	308,507	Sewickley	37
Emerald Coal Resources LP (Foundation Coal Holdings, Inc.)	30841307	Emerald Deep Mine	160	19,451	5,768,397	Pittsburgh	506
Greene County Total	9		19,660	117,628	37,704,447		2,467
Source: PA DEP							



Table 12-4 shows the 2004 production for surface mines in Greene County. There were six surface mines in operation, accounting for 485 thousand tons of coal and employing 61 people. The surface operations mined the Waynesburg coal seam.

Table 12-4: Greene County 2004 Bituminous Surface Mines Reporting

Company	Permit	Site Name	Permit Acres	Total Tons Production	Mineral	# of Employees
CJ & L Coal	30960101	Mather Strip	136	14,617	Waynesburg	2
Coresco Inc	30980101	Mathews Mine	148	1,797	Waynesburg	4
Coresco Inc	30010102	Gapen Surface Mine	169	73,851	Waynesburg	19
Patriot Mining Co Inc	30010101	Mt Morris Surface Mine	336	178,086	Waynesburg	15
Patriot Mining Co Inc	30030101	Keener Surface Mine	117	178,086	Waynesburg	16
SBX Corp	30010103	Minor Mine	18	39,363	Waynesburg	5
Greene County Total	6		924	485,800		61

Source: PA DEP

Mined Areas

The Pennsylvania Department of Environmental Protection (PADEP) defines mine subsidence as the movements of the ground surface as a result of the collapse or failure of underground mine workings. In active underground mining methods, subsidence can occur concurrently with the mining operation in a predictable manner; however, in abandoned mines, it is virtually impossible to predict if and when subsidence would occur. Refer to **Figure 12-1: Coal: Deep Mines** for areas within the County that have been previously undermined.

Coal Gasification

Consumption of coal is estimated to be the fastest growing energy source according to the BP Statistical Energy Review (June, 2005). The United States alone uses over 1,100 million tons, which is about one third of that used by the People’s Republic of China. As experts estimate that the world’s coal reserves have a remaining 300-year life under current technological capabilities, the tremendous dependence upon coal for energy production necessitates that methods of energy combustion become more and more efficient.

Coal is used throughout the world to produce electricity and heat through combustion. Traditional coal fired power plants typically pulverize coal to burn in boiler furnaces. Electric generation relies on coal as an energy source to power steam turbines that turn generators to produce electricity. This method results in an efficiency of about 40 percent

while more energy-efficient methods such as coal gasification can achieve a 60 to 85 percent efficiency.

Coal Gasification is the process whereby coal is subjected to high temperature and pressure to break the original matter down to a gaseous substance. The gasification of coal produces a more efficient energy source and reduces carbon dioxide emissions. The higher level of efficiency of gasification-based energy production leads to better economics, which in theory allows a cost savings for consumers.

Coal Gasification power plants are typically a combined cycle of power generation that allows two methods to produce energy. The coal gases are used much like natural gas to fire a gas turbine to generate electricity. The heat produced from the gas turbine is used to generate steam from a water boiler thereby powering the steam turbine generators, which also produce electricity.

Aggregate (limestone, crushed stone, sand, and gravel) Deposits

No aggregate extraction areas are located within Greene County (SPC, 2005).

Oil / Gas Wells

In accordance with the Oil and Gas Act of 1984 (effective April 18, 1985), the Pennsylvania DEP, Bureau of Oil and Gas Management, issues permits for oil and gas wells in the state. In order to qualify for a permit, the requesting party must show that the well will be planned in an environmentally responsible manner. It may be necessary to shift the exact position of the proposed well location in order to accommodate environmentally sensitive natural resources, such as streams and wetlands or endangered and protected wildlife areas. The distance from other producing wells can also be a consideration, since it is a safety concern not to position existing oil and gas wells too closely (Flaherty, 2002).

The DEP currently has information on more than 160,000 oil and gas wells in Pennsylvania; however, some active wells have yet to be registered, despite the established regulations of the Oil and Gas Act. Based on the number of DEP permits (as of April 2006), Greene County has approximately 1,164 gas and oil wells, of which 821 have active permits, while 305 have inactive permits. The remaining wells had submitted permit paperwork, but for a variety of reasons these wells were never permitted. Additionally, two wells currently have pending permits. There are approximately 140,000 acres of oil and gas fields in Greene County. Oil and gas wells, as well as oil and gas fields are identified on *Figure 12-2: Oil & Gas Wells / Fields*.

Once a well operating permit is acquired, the operator must bond the well (\$2,500 per well) as either a surety or collateral bond; plug an abandoned well (a well that has not produced in the previous 12 months); dispose properly of wastewater; submit an annual report on the production of gas, oil, brine, and waste disposed; and keep all official records / documents regarding the well. Landowners may file an objection with DEP to the



proposed location based on location restrictions described in the Oil and Gas Act. All surface owners, water supply owners, and parties with coal interests within 1,000 feet of the proposed well location must be notified as part of the permitting process.

Coalbed Methane Gas

Coalbed methane (CBM) is primarily methane gas trapped within coal seams, created when plant material is converted into coal, and can be extracted from coal seams and used for energy. CBM is extracted by drilling wells and CBM wells are subject to the same requirements by law and regulation as are imposed on conventional gas wells. The owner of the coal rights on a property is also the owner of the CBM. The following steps are typical of CBM development:

- Exploration – consists of a company searching for gas deposits and determining if any deposits they find are economically viable. Exploratory drilling may be conducted, however before exploration can begin, the company must legally own, have leased the mineral rights, or have permission from the mineral owner to conduct the exploratory tests.
- Field organization – occurs once the gas deposit is determined to be economically viable and the company must obtain a permit from PA DEP.
- Production – includes installation of a well, CBM and water extraction and regular well maintenance.
- Site abandonment – occurs when the well is no longer economically viable. The company must plug the well, remove the pumpjack and restore the site. Access roads may be left in place if the surface owner wishes or if the road was in existence before the well was developed, otherwise, access roads should be a part of the restoration process.

A typical CBM well is roughly 150 feet by 150 feet, not including underground piping. Wells are required to be spaced at least 1,000 feet apart, however a waiver may permit the CBM producer to reduce this spacing to 900 feet. This averages to approximately six wells on a 100-acre property. Unless a waiver is received from PA DEP, a well may not be closer than 200 feet to a residential home. CBM wells operate 24 hours per day and produce a constant mechanical noise. Companies are permitted access 24 hours a day and often use lights at nighttime for inspections.

The oil and gas act requires any operator who affects a water supply by reduction or pollution to restore or replace that water supply. There is a "Presumption of Responsibility" which assumes that an operator is responsible for any pollution of any water supply within 1,000 feet of the gas well that occurs within six months of the completion of drilling, unless the operator can prove CBM activities was not responsible for the water pollution. It is recommended that property owners have their water tested prior to any CBM drilling in order to provide a baseline to determine if the water has been polluted by CBM drilling. If the landowner suspects pollution, they should contact PA DEP Oil & Gas Management Program (PADEP's Oil & Gas Management Program, 2006).

Energy

Power Plants

Allegheny Energy owns and operates two power plants in or near Greene County—Hatfield's Ferry Power Station in Monongahela Township and Fort Martin Power Station in Madsville, West Virginia. Allegheny Energy is an investor-owned utility consisting of Allegheny Energy Supply and Allegheny Power. Allegheny Energy Supply owns and operates electric generating facilities, while Allegheny Power delivers electric service to customers in Pennsylvania, West Virginia, Maryland and Virginia. The company's headquarters are located in the City of Greensburg, Westmoreland County (www.alleghenyenergy.com).

According to a study conducted by the Environmental Integrity Project (EIP) in July of 2006, the Hatfield's Ferry Power Station ranks number 20 of the fifty dirtiest power plants in the United States. The EIP is a nonpartisan, nonprofit organization dedicated to more effective enforcement of environmental laws and to the prevention of political interference with those laws. EIP's rankings of the nation's dirtiest power plants are based on data from the U.S. Environmental Protection Agency and the U.S. Department of Energy. Additional data are from Argus Media's Scrubber Report 2006. The rankings are based upon a composite score of measured emissions of sulfur dioxide, carbon dioxide, nitrogen oxide, and mercury. Sulfur dioxide and nitrogen oxides emissions contribute to formation of fine airborne particles and soot, which trigger asthma attacks and cause lung and heart disease. Carbon dioxide gases contribute to the gradual warming of the planet and mercury is a deadly neurotoxin, especially dangerous to developing fetuses.



Hatfield Power Plant (Mackin, 2006)



In 2006, the Department of Environmental Protection approved a plan to install three wet-flue gas desulphurization systems at the Hatfield's Ferry Power Station. The installation of these systems, commonly known as scrubbers, will reduce the amount of particulate matter and sulfur dioxide emitted from the Hatfield's Ferry Power Plant. The scrubbers remove harmful contaminants through a process that in turn creates a gypsum by-product. The gypsum can then be sold to a third-party customer or trucked to a landfill to be disposed of properly. Mercury emissions should decline as a co-benefit of sulfur dioxide controls at power plants, but EPA's new power plant mercury rule is unlikely to have any measurable benefit in the short-term.

Trans-Allegheny Interstate Line

The proposed Trans-Allegheny Interstate Line is a 240-mile 500-kilovolt transmission line that extends from southwestern Pennsylvania south to Virginia. PJM Interconnection manages the Trans-Allegheny Interstate Line, or TrAIL as it is also called. PJM Interconnection is a Regional Transmission Organization (RTO) that manages electricity transmission services for 13 states on the Eastern Seaboard. The role of PJM is to coordinate the movement of electricity, ensure the reliability of the transmission grid, and plan transmission expansion in 13 states and the District of Columbia.

The exact route for the transmission line, while not finalized, is anticipated to run through Pennsylvania, Maryland, West Virginia, and Virginia. Both Greene County and Washington County would host proposed substations along the TrAIL. The Greene County substation is located at 502 Junction east of Mt. Morris and the Washington County substation is just northeast of Eighty Four.

Greene Energy Resource Recovery Project (Wellington Development)

On June 21, 2005, the Pennsylvania Department of Environmental Protection issued an Air Quality Plan approval for the Greene Energy Resource Recovery Project in Cumberland Township, Greene County. The Greene Energy Resource Recovery Project is an electricity generation facility that will reclaim 1,500 acres of formerly mined industrial property. The proposed facility is a resource recovery project that will provide environmental benefits for local air and water quality, generate local economic benefits, and serve as a power generation source thereby alleviating rising fuel costs from outside sources.

The facility's operator, Wellington Development, is proposing to reclaim over 100 million tons of refuse waste coal. These coal-mining wastes are commonly referred to as Gob Piles and are essentially by-products of mined coal. The Gob Pile at the LTV Nemaquin mine dump is a result of over 80 years of coal mining. The existing refuse is causing significant local environmental impacts such as acidic runoff into the surrounding soils and nearby waterways including the Monongahela River. The gob pile occasionally ignites and combustion emits air pollutants creating air quality concerns.

While the removal of the gob pile will certainly benefit the overall environmental condition of the site, the energy generation facility itself will have corresponding environmental threats created from the boiler combustion. This cause and effect of the remediation effort has created significant concerns from members of the public and other stakeholders such as the Sierra Club, United States Department of Agriculture Forest Service. Specific concerns are related to the health risks created from the combustion process used during the resource recovery and energy generation.

However, there are also favorable economic benefits to be considered beyond the environmental benefits caused by the removal of the gob pile. The corresponding economic benefits generated from the construction and operation of the facility has been found to be sorely needed in Greene County. Many members of the public, elected officials, and other organizations submitted letters of support in favor of the facility including, United Mine Workers of America International Union, the Plumbers & Pipefitters Union, Local 354, Senator Barry Stout, Cumberland Township Supervisors, Greene County Commissioners, and Carmichaels School District.



C. Development Strategies

GOAL: Ensure that landowners know their rights regarding coalbed methane gas (CBM) extraction

Strategy: Owners of private wells or springs should have their water tested for quality and quantity and keep a log to document disruptions in water quality or quantity. Any disruptions in water quality or quantity should be reported immediately to PA DEP's Oil and Gas Management Bureau at (717) 772-2199.

Strategy: Educate landowners about their rights regarding the extraction of coalbed methane.

- If a proposed location of the well is in the middle of prime farmland (or right next to a house, or barn, or on a site for planned development and the company won't negotiate a new location, the landowner can go to court and challenge PA DEP's permit to allow a well on this specific site. Landowners should contact attorneys familiar with oil and gas law.
- Landowners should ask for compensation based on a percentage of the gas extracted, or compensation on a per year basis rather than receiving a flat fee.
- Landowners have a right to timber the site prior to the company installing the well if the site is forested.
- All water bearing aquifers should be cased, including and especially the one used for private water supply. Also, any non-coal strata that the company does not have the right to extract from should be cased.
- As soon as a well is proposed, the landowner should contact PA DEP to let them know they require a casing plan. Insist that flake cellophane be used in construction of CBM wells on private property. This prevents cement loss into the aquifer, and is vital to protect water supply, especially if that supply is a spring.
- Request a copy of the permit application from PA DEP for a well that is to be installed on the property.
- Fencing should be paid for and constructed by the company to keep livestock out of the permit area.
- Access roads should be gated and landowners should have keys. All roads should also have erosion and sedimentation controls both installed and maintained by the company.
- If the well is to be located in a field used for farming, landowners should insist that all pipes be buried below plow depth, which is 36 inches.
- Negotiate how drilling fluids and wastewater will be collected and treated and how the producer will dispose of it.
- If surface property owners own the rights to coal seams, the company may not drill to access gas in those seams without paying for that right (a royalty). Landowners

"Strategy for a Greene Tomorrow"

should beware of sell and buy-back situations and sign nothing without review by an attorney.

GOAL: Mitigate environmental impacts from resource extraction

Strategy: Develop a comprehensive inventory and a reclamation plan with resources for abandoned mine sites.

Strategy: Develop reclamation and abatement strategies with resources for treatment of abandoned mine drainage (AMD).

Strategy: Provide support to watershed organizations undertaking AMD mitigation efforts.

Strategy: Create and maintain an accurate GIS layer mapping all permitted active and abandoned wells.

Strategy: Work with landowners to cap / plug orphaned wells.

Strategy: Identify and map all sites where resource extraction activities are occurring or expected to occur and establish communications and partnerships to encourage best management practices and remediation upon closing of all sites.

Strategy: Establish a countywide model ordinance for bonding local roads.

Strategy: Maintain lines of communication on TrAIL project and continue to inform residents of plans.

GOAL: Increase the economic benefits associated with the energy & resource extraction efforts

Strategy: Lobby for state and federal mining organizations, such Bureau of Mine Safety, National Energy Technology labs, including PA DEP offices to be located in Greene County.

Strategy: Actively engage with taxing legislation that focuses on coal, minerals, and gas resources.

Strategy: Investigate opportunities to receive revenues from gas and oil extracted in the County, such as implementing a severance tax on coal, oil, and gas exports from Greene County, and Pennsylvania



Strategy: Inventory all potential brownfields, redevelopment sites, etc. that contains detailed information about the site (such as ownership, acreage, environmental issues, etc.) and prioritize for redevelopment potential.