

Northwest Adams County Joint Comprehensive Plan



Prepared By:

The Northwest Adams County Comprehensive Plan Steering Committee

&



Adams County Office of
Planning & Development



NORTHWEST ADAMS COUNTY JOINT COMPREHENSIVE PLAN

**Arendtsville Borough
Bendersville Borough
Biglerville Borough
Butler Township
Franklin Township
Menallen Township**

2010

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INTRODUCTION

For the purposes of this plan, Northwest Adams County is defined as an area including Butler, Franklin, and Menallen Townships and Arendtsville, Bendersville, and Biglerville Boroughs. In 2004, this group of municipalities agreed to work cooperatively to develop a Joint Municipal Comprehensive Plan for the Northwest Adams County region. The Northwest Adams Joint Comprehensive Plan represents the results of several years of intensive and cooperative effort among the six municipalities, the County of Adams, and the selected consultant. The Plan recognizes the extensive shared resources of the region, including (1) a significant portion of the Adams County Fruitbelt and associated industries, (2) other agricultural resources, (3) a significant portion of the South Mountain and Michaux State Forest and associated landscapes, and (4) several important transportation corridors including U.S. Route 30 and PA Routes 234 and 34. The Plan establishes goals, objectives, and recommendations by which the participating municipalities can individually and collectively address the common issues facing the Northwest Adams County Region.

The three Townships and three Boroughs are located in northwest Adams County, an area characterized by a rolling landscape straddling the base of the South Mountain highlands, and the Adams County Fruitbelt, that includes much of the County's fruit growing and fruit processing industry. Expansive fruit orchards surround the three Boroughs and five unincorporated villages, all of which have maintained a "small town" character and appearance. These towns and villages provide services and residential opportunities, and contain related food processing businesses that sustain one of Pennsylvania's most unique and beautiful rural landscapes. Wooded ridges and hilltops, including a substantial portion of the Michaux State Forest, characterize the western portion of the planning area.

Since the early 1900s, the Adams County Fruitbelt has been, and remains, the dominant landscape, scenic, agricultural, economic, and social resource within the planning area. From agricultural production and economic development perspectives, the Fruitbelt must be viewed as an exceptionally well integrated agricultural and economic system. Agricultural production in the area is intrinsically related to the food processing, agricultural supply and transportation businesses, and marketing support industries. With its beautifully manicured orchards nestled at the base of the South Mountain, the visual character of the Fruitbelt attracts thousands of visitors each year. The annual Apple Blossom and Apple Harvest Festivals, held at the South Mountain Fairgrounds in Arendtsville, attract upwards of 150,000 visitors annually. Proceeds from these events are used to develop and operate Oakside Community Park, which serves the entire Northwest Adams community. Many others visit the Fruitbelt to enjoy scenic resources, fish in local streams, hunt in the forests, and purchase fresh fruit from numerous roadside stands.

This Plan recognizes that Northwest Adams County is affected by growth and development pressures from nearby urbanized areas and transportation corridors. Northwest Adams County, and the Fruitbelt in particular, are also affected by increasing globalization of markets for fruits and fruit products. At the same time, other trends such as the "buy local products" movement are also affecting agricultural practices. This Plan identifies measures to ensure that the Fruitbelt

Introduction

remains competitive, and that the integrated economy that characterizes this region is retained. This Plan identifies a broad array of actions to address this fundamental issue, including land use and conservation approaches, transportation improvements, workforce housing, training and education, quality and adequacy of water supplies, and community amenities. The relationship of these support systems to the sustainability of the Fruitbelt resources, and specifically to its land base, has been carefully evaluated.

Chapter One

NATURAL AND HISTORIC RESOURCES

In order to discuss the natural features that occur within the planning region, a brief discussion of the geology, topography, and soils is necessary to put the Northwest Adams County planning region into a regional and statewide context.

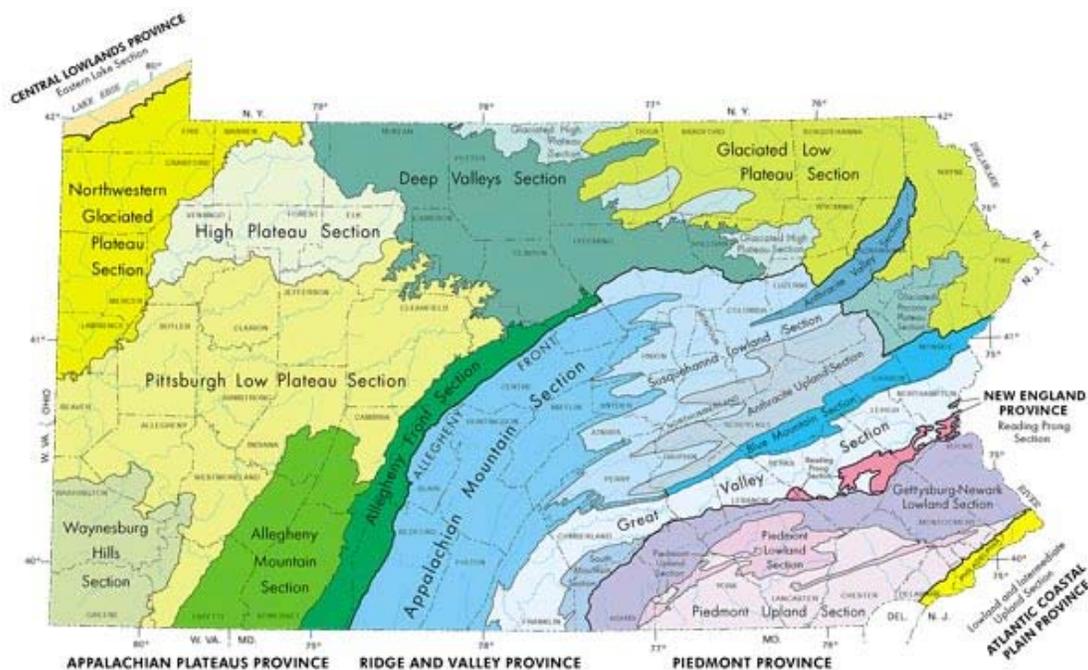
NATURAL FEATURES

Physiography and Geology

Physiographic Provinces are classified by the characteristic landscapes and distinctive geologic formations that comprise each province. Physiography relates in part to a region's topography and climate, factors which influence soil development, hydrology, and land use patterns of an area. Bedrock type also influences soil formation and hydrology. Both physiography and geology are also important to the patterns of plant communities and the organisms that dwell within these communities.

The Northwest Adams County planning region falls within two general physiographic provinces: the Piedmont Province to the east and the Ridge and Valley Province to the west. More specifically, the eastern portion of the region falls in Gettysburg-Newark Lowland Section of the Piedmont Province. The western portion of study area lies within the South Mountain Section of the Ridge and Valley Province.

Map: 1-1 The Physiographic Provinces of Pennsylvania



In northwest Adams County, the South Mountain Section is the northern-most extension of the Blue Ridge Mountain landform extending from the Carolinas north to Adams, Franklin and Cumberland Counties in Pennsylvania.

The South Mountain Section is characterized by pronounced ridges and deep valleys and is underlain with metavolcanic rocks, quartzite, and some dolomite. Much of this area remains forested, dominated by several species of oak and mixed with red maple, white pine, and hickory. The Piedmont Province, which is mostly in agricultural production, is subdivided into three areas within Adams County, but only one of these areas, the Gettysburg-Newark Lowland Section, is located within the planning region. This area is distinguished by rolling lowlands with isolated hills and highlands underlain with red and gray shale, siltstone, sandstone, conglomerate, and diabase¹. The forested areas of this section consist of oaks, tulip poplar, and hickory.²

Ten (10) geologic formations can be found in the region and are aligned in a southwest to northeast direction (Map 1-2, Geology). Formations to the northwest (i.e. – South Mountain) are from the Cambrian Period (490-570 million years old) and include the Harpers Formation (gray quartzite), Weverton Formation (quartzite and quartzose conglomerate), Loudoun Formation (phylite interbedded with sandstone), Antietam Formation (quartzite), and Tomstown Formation (dolomite). The central portion of the region (i.e. – Buchanan Valley and South Mountain Faces) contains formations from the Pre-Cambrian Period (older than 570 million years) and includes metarhyolite, metabasalt, and Greenstone schist. Formations to the southeast (Gettysburg Lowlands) are from the Triassic Period (144-248 million years old) and include the Gettysburg Formation (red mudstone, siltstone, and sandstone) with diabase dikes and intrusions from the Jurassic Period (same age as the Triassic Period).

Engineering characteristics and implications of these formations are summarized as follows:³

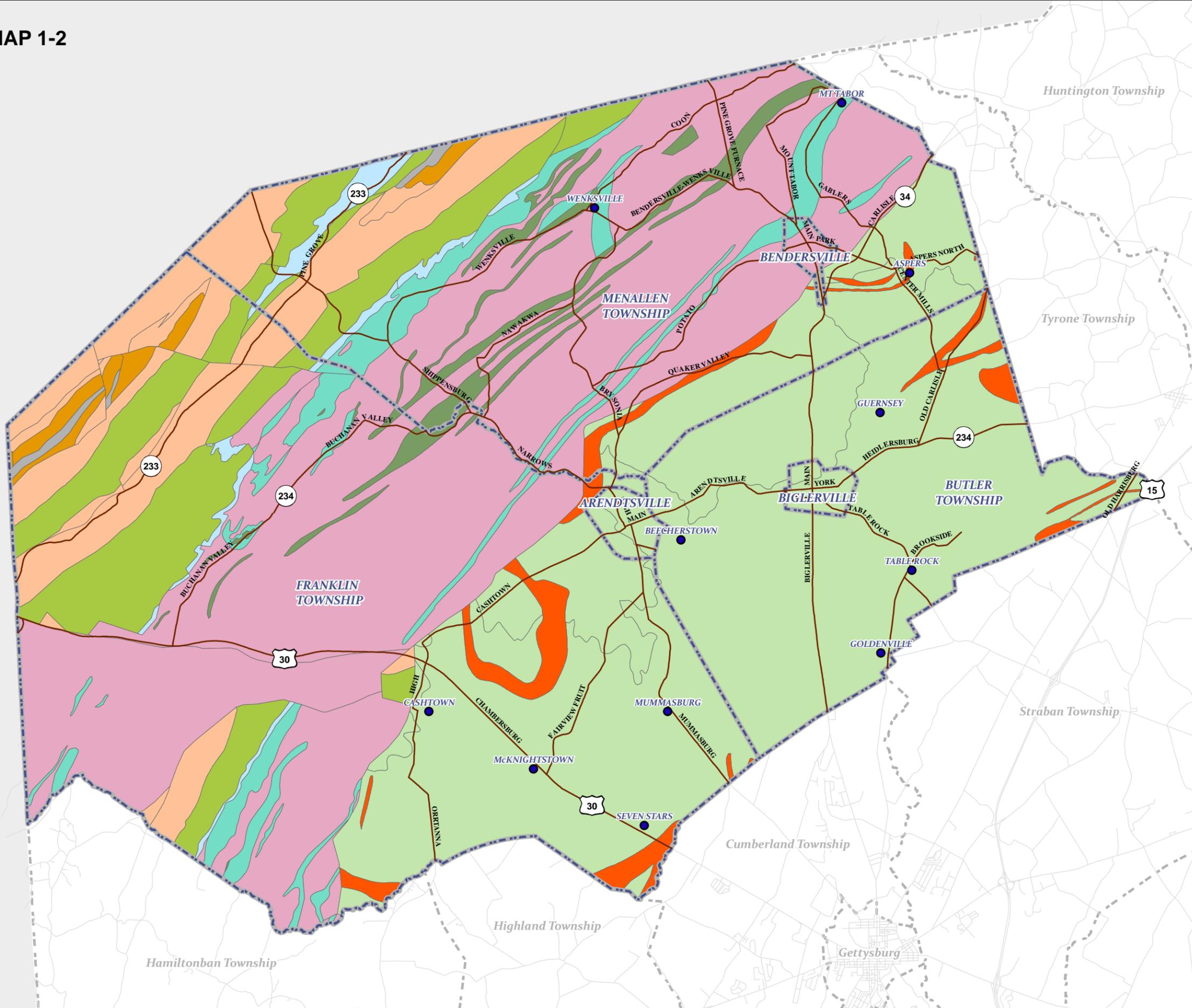
- Excavations for foundations need to be completed to stable material.
- The ease of excavation, cut slopes, and foundation stability is more difficult where quartz veins are encountered (metabasalt, metarhyolite, and Greenstone schist).
- Bedrock pinnacles and solution cavities (i.e. - sinkholes) associated with the Tomstown Formation require more detailed investigation, particularly regarding foundation stability, subsurface drainage and stormwater management.
- Groundwater yields are subject to the frequency of the bedrock fractures encountered and therefore are very variable. In some cases, water levels show a strong seasonal influence or fluctuation.
- Iron and dissolved solids can sometimes be a problem for groundwater quality.

¹ A Natural Areas Inventory of Adams County, Pennsylvania, 1996; The Pennsylvania Science Office of the Nature Conservancy, Middletown, PA.

² A Natural Areas Inventory of Adams County, Pennsylvania Update 2002, The Pennsylvania Science Office of the Nature Conservancy, Middletown, PA.

³ Engineering Characteristics of the Rocks of Pennsylvania. Geyer, A.R. and J.P. Wilshusen, PA Bureau of Topographic and Geologic Survey. Environmental Geology Report No. 1, 1982.

Geology



- Village
- Geological Formations**
- Antietam Formation
- Diabase
- Gettysburg Formation
- Greenstone Schist
- Harpers Formation
- Loudoun Formation
- Metabasalt
- Metarhyolite
- Tomstown Formation
- Weverton Formation
- State Road

This map is based on the "Geologic Map of Adams County, Pennsylvania" - L. Taylor and D. Royer (1981)



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,

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- Surface drainage is reportedly good, but subsurface drainage is poor at many locations.

Soils

The distribution of soils in Adams County reflects both the topography and bedrock geology. Eight (8) major soil associations are recognized in the County with several major soil types (series) and some minor ones as well. The types of soils in the area have led to the distinctive patterns of land use that are demonstrated in the landscape today. The following are brief descriptions of the four (4) associations present in the Northwest Adams County planning region (**Map 1-3, General Soil Associations**) taken from the USDA Soil Survey.⁴

Penn-Klinesville-Croton: Nearly level to very steep, shallow to deep, well drained, somewhat excessively drained and poorly drained soils that formed from red shale, siltstone, and sandstone (i.e. – Gettysburg geologic formation). These soils are found on short, steep ridges, hills, and nearly level lowlands (e.g. – Gettysburg Lowlands).

Lehigh-Neshaminy: Nearly level to very steep, deep and very deep, somewhat poorly drained and well drained soils that formed from porcelanite and diabase; located on undulating to rolling ridges and hills (e.g. – Gettysburg Lowlands).

Edgemont-Highfield-Catoctin: Gently sloping to very steep, very deep to moderately deep, well drained and somewhat excessively drained soils that formed from quartzite, metabasalt, and metarhyolite; found on the ridge tops of South Mountain and along the bottom of Buchanan Valley.

Highfield-Arendtsville-Rohrersville: Gently sloping to moderately steep, deep and very deep, well drained soils that formed from metabasalt, metarhyolite, and conglomerate. These soils are found along the foot hills of South Mountain and on the South Mountain Faces.

Prime and Other Important Farmland Soils⁵

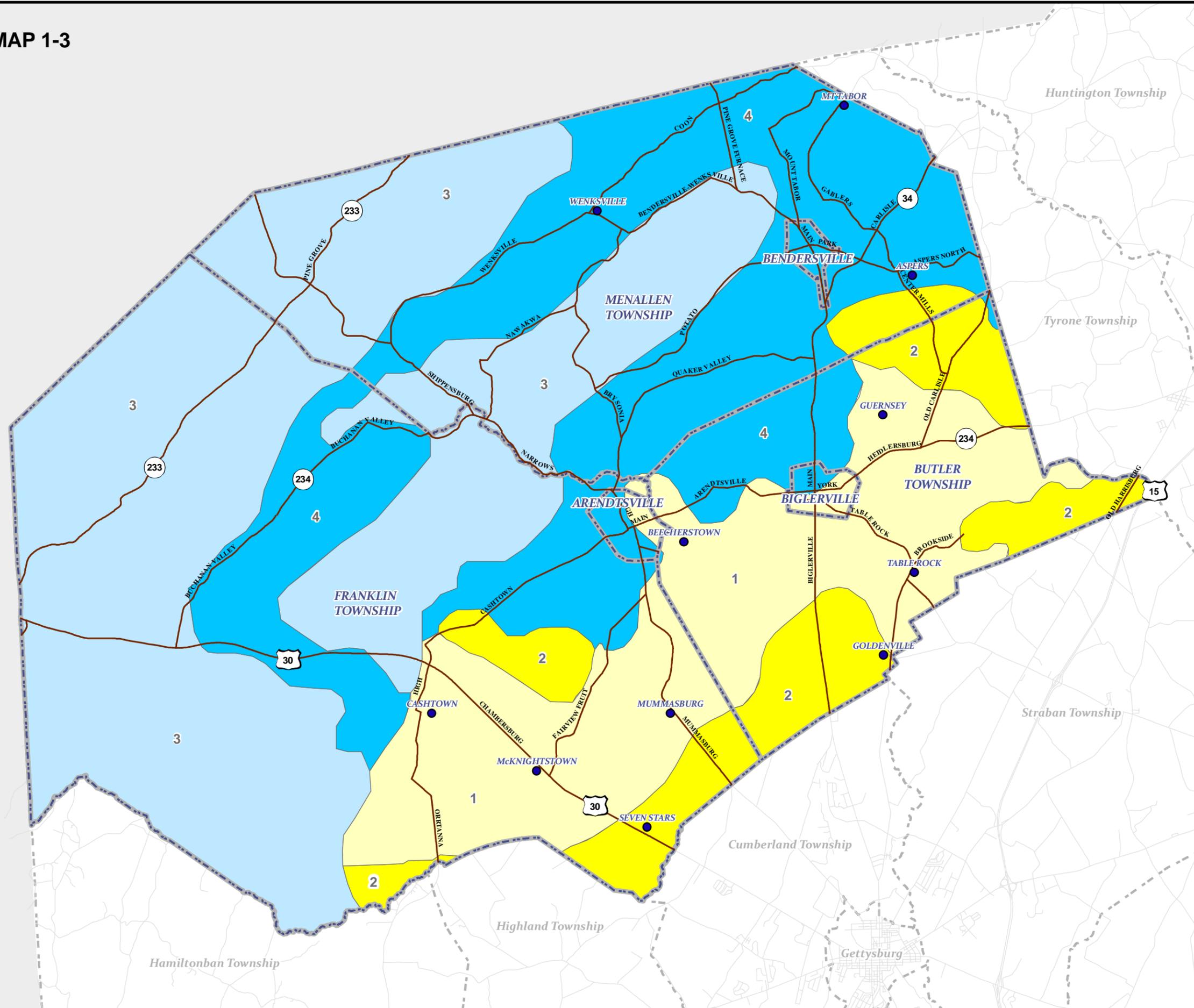
In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service (NRCS), in cooperation with other interested federal, state, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide importance.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber and because the supply of this high quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of this prime farmland. Prime farmland soils in the region are

⁴ 2005 Soil Survey of Adams County, Pennsylvania; United States Department of Agriculture, Natural Resources Conservation Service.

⁵ United States Department of Agriculture, Natural Resources Conservation Service.

General Soil Associations



● Village

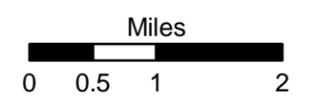
Soil Units

- 1 Penn-Klinesville-Croton
- 2 Lehigh-Neshaminy
- 3 Edgemont-Highfield-Catoctin
- 4 Highfield-Arendtsville-Rohrersville

State Road

This map is based on the 1992 "General Soil Map" located in the 2005 Adams County Soil Survey.

Each area outlined on this map consists of more than one kind of soil. This map is meant for general planning rather than a basis for decisions on the use of specific tracts.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
USDA-NRCS, 1992

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May 19, 2008



concentrated in the Buchanan Valley and the Gettysburg Plain/Lowlands (**Map 1-4, Prime Agricultural Soils**).

“Unique farmland” is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. Although the region is within the Fruitbelt, no soils are classified as unique farmland soils according to the NRCS.

Land that does not meet the criteria for prime or unique farmland is considered to be “farmland of statewide importance” for the production of food, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate state agencies. Generally, this land includes soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high of yield as prime farmland if conditions are favorable. Farmland soils of statewide importance are also found in the Buchanan Valley and the Gettysburg Plain/Lowland area (Map 1-4).

Unfortunately, since prime farmland soils have few limitations for agriculture (e.g. – slope, drainage, depth to bedrock, etc.), they are also prime soils for development. The loss of prime farmland to development is an increasing trend which puts pressure on marginal lands that are more erodible, droughty, and less productive and cannot be easily cultivated.

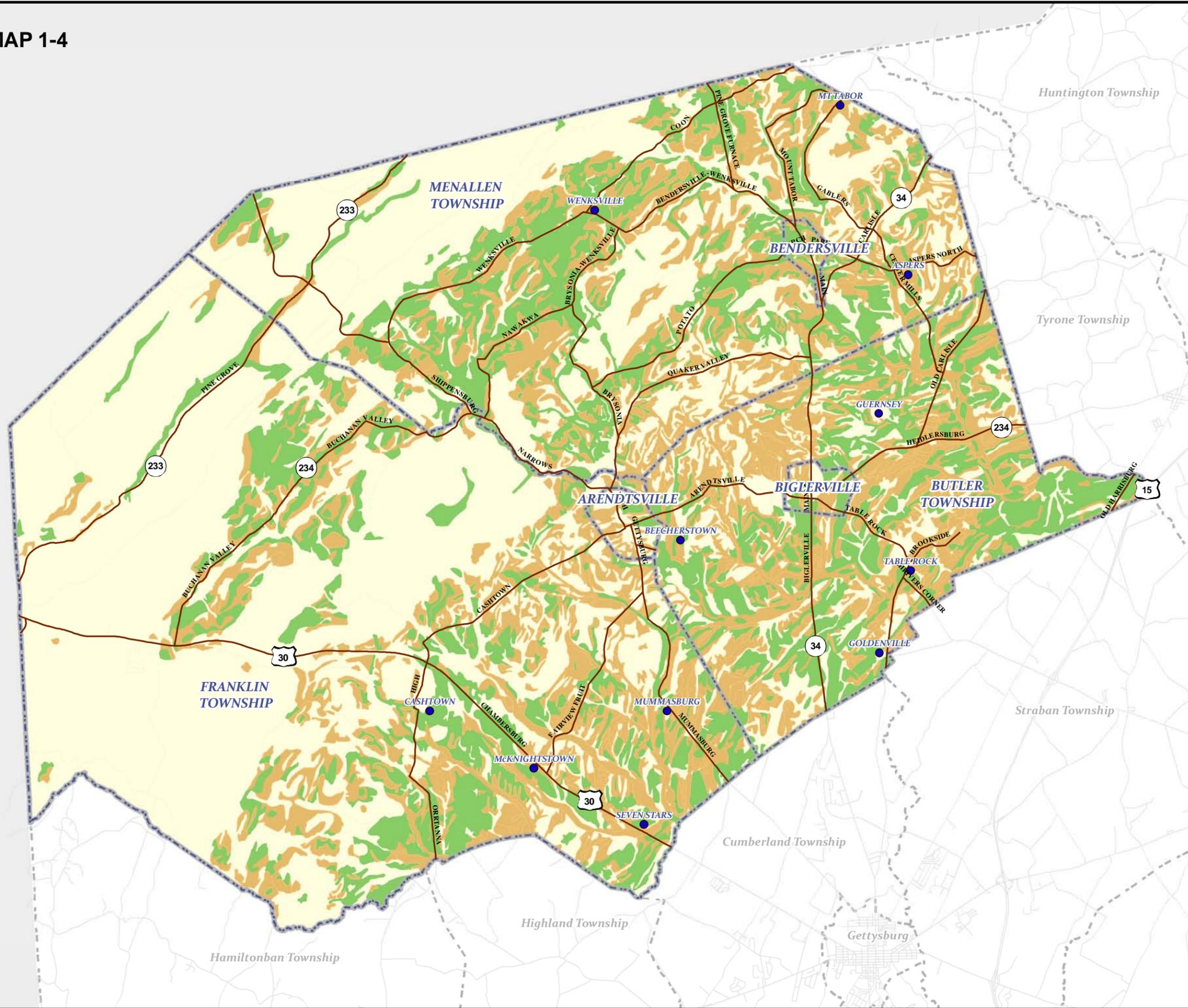
Forest Productivity

The USDA Soil Survey also lists soils based on six (6) categories of forest productivity, ranging from low potential productivity to extremely high productivity. **Map 1-5, Forest Productivity**, indicates that soils rated high in their forest productivity are limited and scattered throughout the region, with a small concentration on the South Mountain Faces in central Franklin Township. Soils are primarily moderate and moderately high in their forest productivity. The Soil Survey also contains ratings for various aspects of forest management such as fire damage; seedling mortality; limitations affecting construction of haul roads and log landings; hazard for soil rutting, erosion on roads and trails, off-road or off-trail erosion; and suitability for natural surface roads, hand planting or mechanical planting, use of harvesting equipment, and for mechanical site preparation. Due to their level of detail, the numerous ratings for forest management are not included in the discussion.

Limitations for Dwellings and On-Lot Septic Systems

The Soil Survey provides information for land use planning by rating soils for various uses and identifying the most limiting features for each soil. Ratings are developed for building site development and sanitary facilities, among other uses. It must be noted that because of the sampling and map scale of the information, it is not site specific and does not eliminate the need

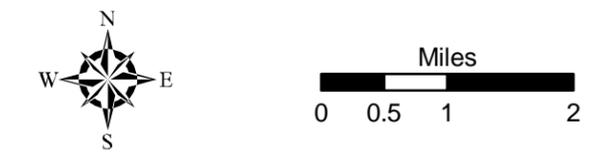
Prime Agricultural Soils



- Village
- State Road
- Farmland Classification**
- Prime Farmland
- Farmland of Statewide Importance
- Northwest Study Region

Prime Farmland - defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas.

Farmland of Statewide Importance - generally includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies.



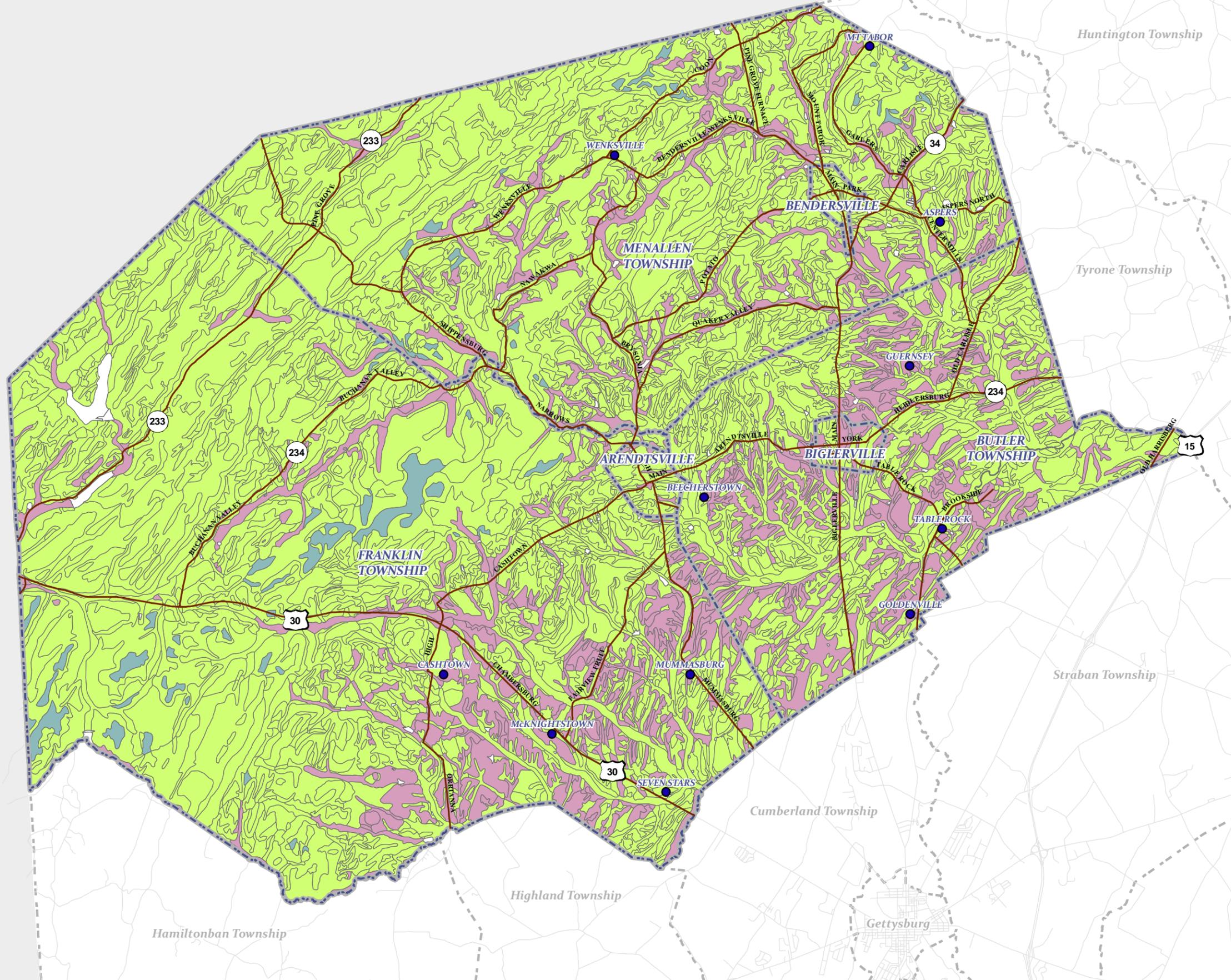
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Data Source:
Adams County GIS/ Mapping,
Adams County Agricultural
Land Preservation

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February 26, 2009



Forest Productivity



- Village
 - State Road
- Potential Productivity**
- High
 - Moderately High
 - Moderate
 - Water, Dams, Pits

The potential productivity of the soil for an indicator tree species.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
USDA-NRCS

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December 15, 2008



for on-site investigation of the actual soils or for testing and analysis by personnel experienced in the design and construction of buildings and septic systems.⁶

Map 1-6, Limitations for Dwellings, shows the areas of the region that are “very limited”, “somewhat limited”, and “not limited” for dwellings with basements. Portions of South Mountain and the Fruitbelt contain soils which have no limitations and where good performance and very low maintenance can be expected. The Buchanan Valley and the remaining areas of the Fruitbelt are comprised primarily of soils that are moderately favorable for dwellings with basements. Soils in the rest of the region are unfavorable for the use, with poor performance and high maintenance expected.

Map 1-7, Limitations for On-Lot Septic, show the areas of the region that are “somewhat limited” and “very limited” for on-lot septic tank absorption fields. The Buchanan Valley and portions of the South Mountain Faces and Fruitbelt contain soils which are moderately favorable for this system and where fair performance and moderate maintenance can be expected. Soils in the remaining areas of the region are unfavorable for this type of sewage system.

The Soil Survey also includes ratings for dwellings without basements, small commercial buildings, local roads and streets, shallow trench excavations, lawns and landscaping, sewage lagoons, sanitary landfills, and daily cover for landfills; but are not included in this discussion due to the volume of information and the limitations of this Plan.

Radon⁷

Radon, the second leading cause of lung cancer, is a radioactive gas that results from the natural breakdown of uranium in soil and rock and is released into the air. It moves through the ground and into homes through cracks and other holes in the foundation where it can accumulate to unsafe levels. Radon can also enter homes through well water, although in most cases, this form is a smaller source of risk. Because it is odorless, colorless, and tasteless, testing is the only way to accurately measure the levels of radon present in homes.

U.S. Environmental Protection Agency identifies all of Adams County as an area of highest potential for radon (i.e. – having a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter)).⁸ The percentage of homes in the region with radon rates above 4 pCi/L range from 40% to 90%.⁹ These rates indicate that all homes in the region should be tested for radon and removal equipment installed when the measured level is above 4 pCi/L.

Steep Slopes

The degree of slope can be a major determinant of land use. Steep land is subject to severe erosion, resulting in shallow soils. Development on steep slopes can create problems, including

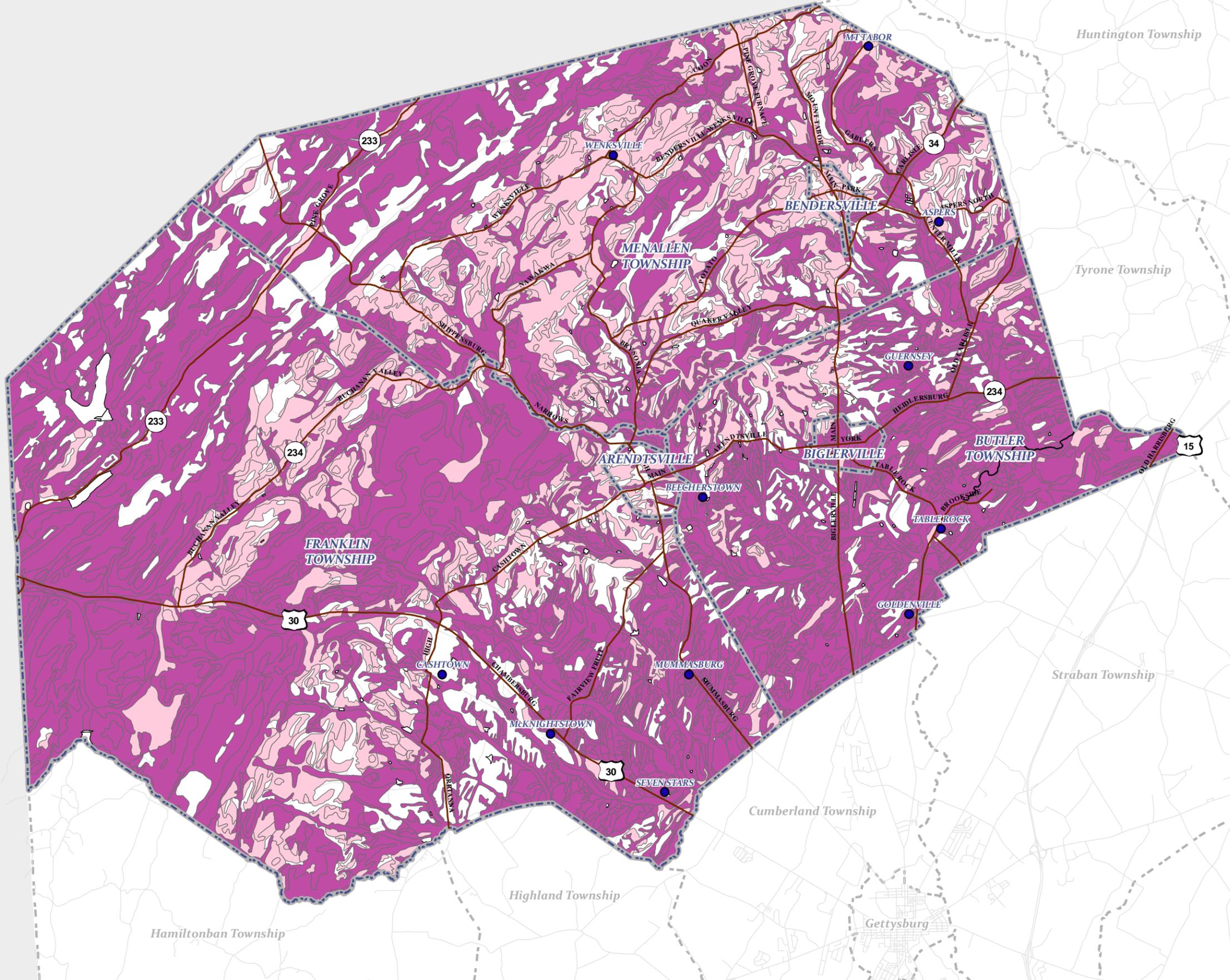
⁶ 2005 Soil Survey of Adams County, Pennsylvania; United States Department of Agriculture, Natural Resources Conservation Service.

⁷ *What You Should Know About Radon*, Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection.

⁸ <http://www.epa.gov/iaq/radon/zonemap/pennsylvania.htm>.

⁹ http://www.wpb-radon.com/PA_radon_map.html.

Limitations for Dwellings



- Village
 - State Road
- Soil Limitations**
- Dwellings with Basements**
- Very Limited
 - Somewhat Limited
 - Not Limited

"Very Limited" indicates that the soil has one or more features that are unfavorable for the use. Poor performance and high maintenance can be expected.

"Somewhat Limited" indicates that the soil has features that are moderately favorable for this use. Fair performance and moderate maintenance can be expected.

"Not Limited" indicates that the soil has features that are very favorable for this use. Good performance and very low maintenance can be expected.



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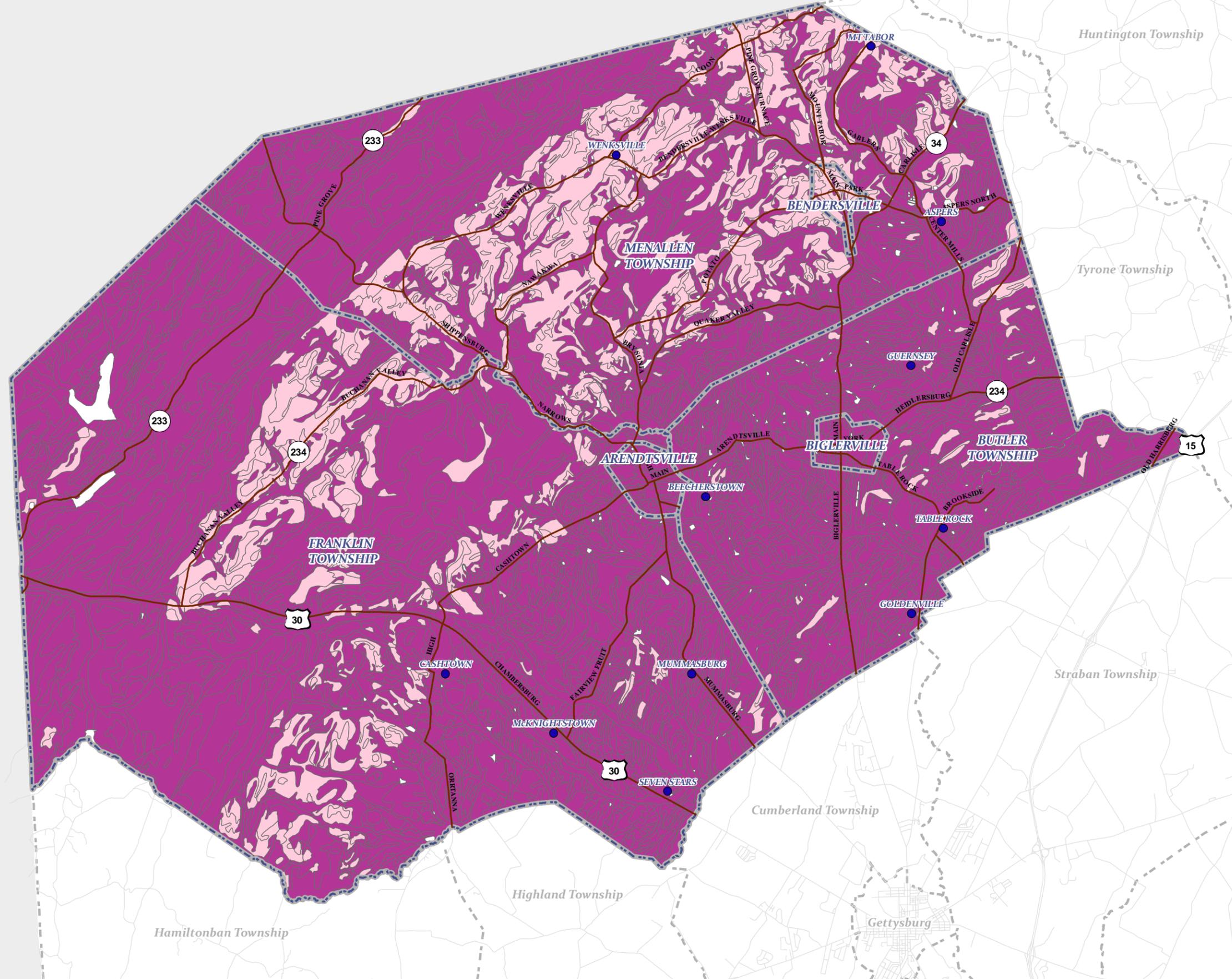
Data Source:
Adams County GIS/ Mapping,
USDA-NRCS



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Limitations for On-Lot Septic



- Village
- State Road

- Soil Limitations**
- Septic Tank Absorption Fields**
- Very limited
 - Somewhat Limited

"Very Limited" indicates that the soil has one or more features that are unfavorable for the use. Poor performance and high maintenance can be expected.

"Somewhat Limited" indicates that the soil has features that are moderately favorable for this use. Fair performance and moderate maintenance can be expected.



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Data Source:
Adams County GIS/ Mapping,
USDA-NRCS



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July 17, 2008



steep road and driveway grades, problems with on-lot sewage disposal systems, and erosion during and possibly after construction. These difficulties may sometimes be overcome, but usually at such high costs as to make steeper slopes unfeasible and unsuitable for most residential, commercial, or industrial development. Moderately steep slopes (15-25%) can accommodate residential development only if extreme care is taken in planning, installation, and maintenance of both the structures and their wastewater disposal systems. These slopes are generally unsuitable for large residential subdivisions. Excessively steep slopes (over 25%) are best suited for pasture, wildlife, and forestry uses. Steep slopes in the region are found along South Mountain and Michaux State Forest, South Mountain Faces, the Narrows, and several scattered areas (see Maps 1-11).

Water Features

Areas that are covered by water need to be considered a significant type of land cover. Lakes, ponds, creeks and streams all constitute water-covered areas in northwest Adams County.

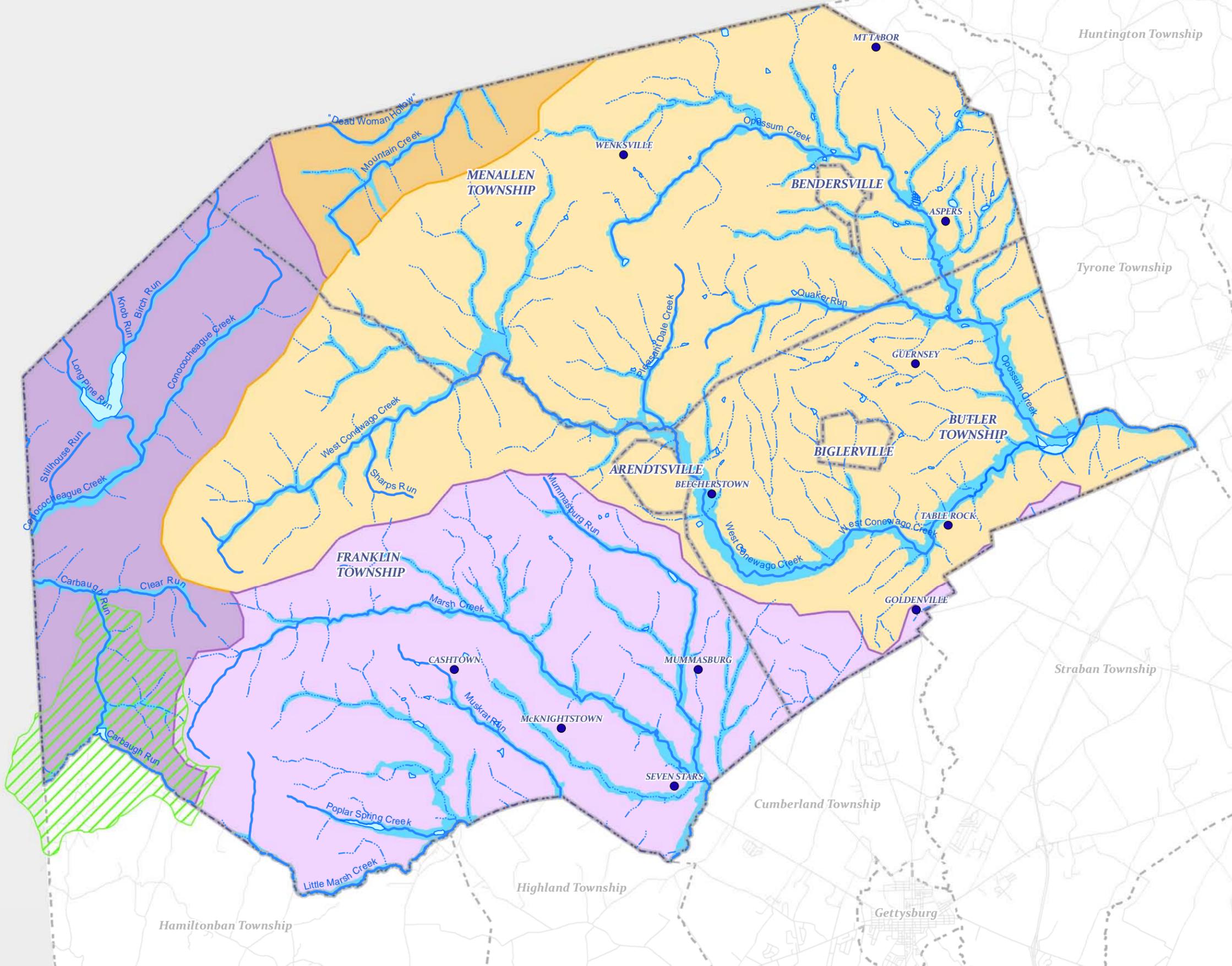
A drainage basin is an area that surrounds a particular stream or river and delivers its surface runoff and groundwater flow to that stream or river. The region contains four major drainage basins as indicated on the Watersheds Map (Map 1-8): Conewago, Conococheague-Antietam, Monocacy, and Yellow Breeches.

As mandated by the federal Clean Water Act of 1972, the Commonwealth of Pennsylvania has classified all surface waters according to water uses to be protected and water quality criteria which need to be maintained. This classification system is known as Pennsylvania's Water Quality Standards, implemented through in the Pennsylvania Code, Chapters 93 and 95. In order to protect those waters of excellent water quality, two special protection aquatic life designated uses were established: High Quality (HQ) and Exceptional Value (EV) (Map 1-9, Water Quality). These streams or watersheds are among the cleanest and most outstanding in the Commonwealth and require special water quality protection.

Conewago Creek

The Conewago Creek watershed drains about 2/3 of the study area with the flow generally west to east continuing further into York County and ending in the Susquehanna River and the Chesapeake Bay. It consists of numerous tributaries including the main stem which begins in the upper Buchanan Valley of Franklin Township. From its source to Pleasant Dale Run it is a High Quality Cold Water fishery and from there to Opossum Creek it is a Cold Water fishery (Map 1-9). The lower reaches of the Conewago Creek and the tributaries which include Pleasant Dale Run, Quaker Run, are Warm Water fisheries. Opossum Creek, another significant tributary, is a Trout Stocking Fishery along an extensive section near Bendersville Borough. The Conewago Creek is also a widely recognized trout stream in Butler and Menallen Townships, with designations at two locations including a special catch and release fly fishing area to the east of Biglerville Borough.

Watersheds



- Village
- Stream
- Waterbody
- 100 Year Floodplain
- Subwatersheds**
- of the Susquehanna
- of the Potomac
- Exceptional Value Watershed
- Major Watersheds**
- Conewago
- Yellow Breeches
- Monocacy
- Conococheague - Antietam

North arrow pointing North (N), South (S), East (E), and West (W).
 Scale bar in Miles: 0, 0.5, 1, 2.

Northwest Adams Joint Comprehensive Plan Adams County, PA

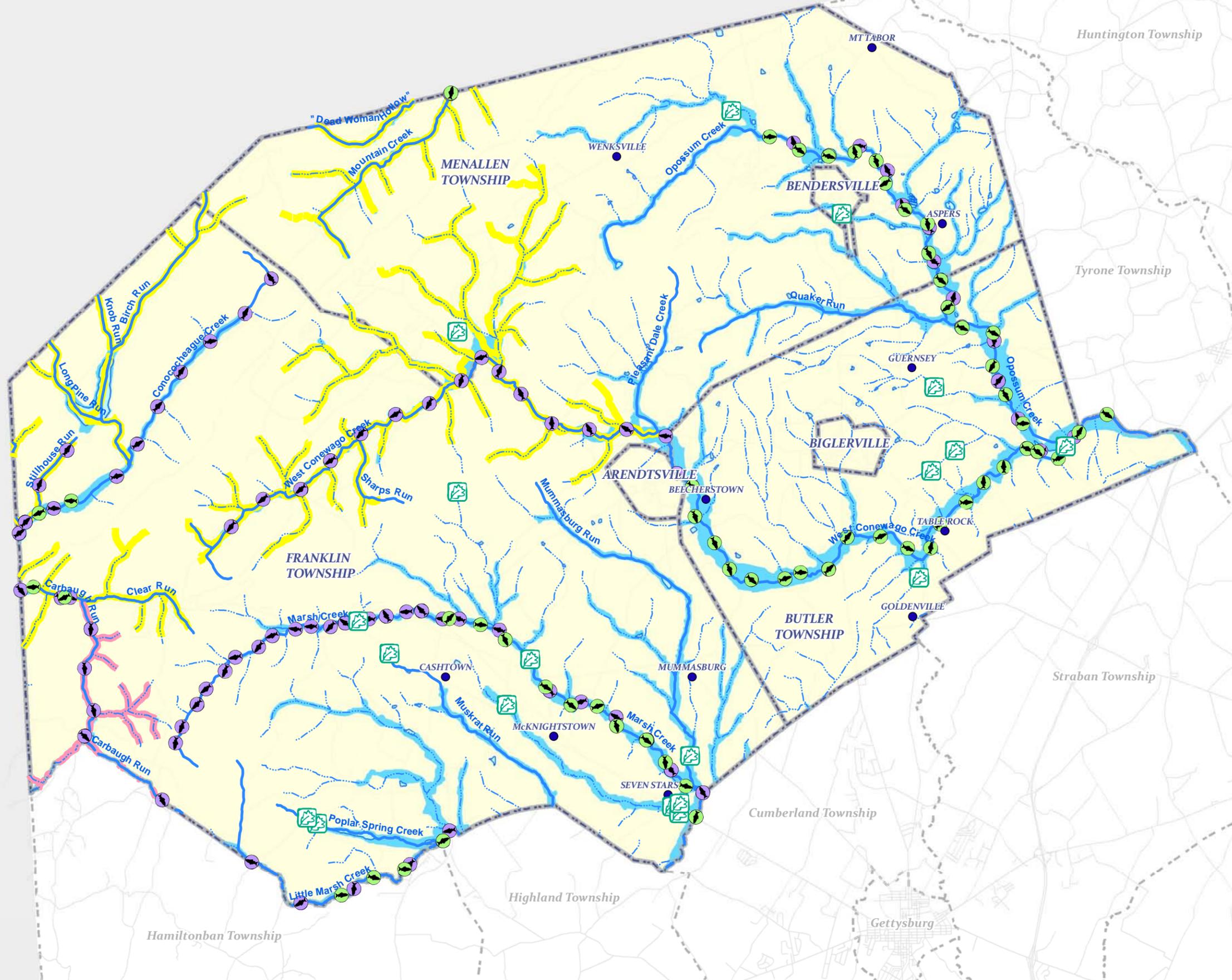
Data Source:
Adams County GIS/ Mapping,
FEMA 2009



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March 3, 2009



Surface Water Quality



- Village
- DEP Stream ReLeaf
- ~ Exceptional Value Waters
- ~ High Quality Waters
- Wild Trout Stream
- Trout Stocking Stream
- ~ Streams
- ~ Waterbody
- ~ 100 Year Floodplain
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
PA Fish & Boat Commission,
DEP, FEMA 2009

Prepared By:
Adams County Office of
Planning & Development,
March 3, 2009



Conewago Creek River Conservation Plan¹⁰

In 2004, the Pennsylvania Environmental Council (PEC) contracted with Buchart-Horn, Inc. to conduct and prepare a river conservation plan (RCP) for the 510 square mile Conewago Creek watershed. The goal of a RCP is to develop a long-term management plan for the watershed through a comprehensive watershed based study. Due to the extent of the Conewago Creek watershed, it has the potential to be a major contributor of sediment to the Susquehanna River and therefore, the Chesapeake Bay. The watershed, which is located in both York and Adams counties, has witnessed an increase in development (equivalent to impervious surface change) in recent years. Development can be accompanied by both a drop in water quality and an increase in such problem indicators, like stream bank erosion. Management of the watershed is important in order to preserve its many unique features and resources, the most precious being water. One of the watershed's most significant issues is the lack of sustainable sources of groundwater and surface water resources. The RCP identified issues, concerns, and threats to resources; unique watershed preservation, protection, and restoration opportunities; cultural, recreational, and historic resources; recommended appropriate new facilities; and developed a comprehensive list of recommendations that municipal governments within the watershed can adopt to help protect the watershed. Several of the many notable contributors include: The Watershed Alliance of Adams County, the Adams County Conservation District, and the Adams County Office of Planning & Development.

Conococheague Creek

The Conococheague Creek watershed begins in the South Mountain area of the planning region and consists of several smaller tributaries including Carbaugh Run (an Exceptional Value Stream from its source to the first upstream pipeline crossing near US Rt. 30 and a High Quality-Cold Water Fishery stream for the remainder of its length), which trends in a northerly direction; and Lone Pine/Birch Run (High Quality Cold Water Fisheries), which trend in a southerly direction merging just over the county line in Franklin County. This is an extensive watershed in Franklin County, and drains the vast amount of Franklin County's Great Valley into the Potomac River in Maryland and eventually the Chesapeake Bay.

Carbaugh Run has also been designated an Amphibian and Reptile Protection Area and a Class A Wild Trout Water (headwaters to Carbaugh Reservoir) by the Fish and Boat Commission.

Conococheague Creek Watershed/Stormwater Management Plan

Franklin County completed a Stormwater Management Plan for the Conococheague Creek Watershed in November, 2003. Parts of Franklin and Menallen Townships are included within this watershed. Database information from the Pennsylvania Department of Environmental Protection website indicates that 10 of the 16 Franklin County municipalities within the watershed have enacted stormwater management standards consistent with the adopted plan. However, the website does not provide similar information as to whether Menallen or Franklin Townships in Adams County have enacted stormwater management

¹⁰ Conewago Creek River Conservation Plan, Buchart-Horn, Inc., 2004

standards as a result of this plan. Regardless, this issue will be resolved over the short term future as Adams County has begun work on a Countywide Stormwater Management Plan which, when adopted, will require the application of updated stormwater management standards for all of Adams County including the portions of Franklin and Menallen Township within the Conococheague Creek Watershed.

Monocacy River Watershed

The Marsh Creek, part of the Monocacy River watershed, drains the southern portion of the study area and trends to the southeast merging into the larger Rock Creek around the Mason-Dixon Line and eventually draining into the Potomac River and the Chesapeake Bay. Its source is in southwest Franklin Township and the entire basin within the study area is a Cold Water Fishery. The Borough of Gettysburg uses the water from the Marsh Creek for its drinking water source, in addition to groundwater. Both Little Marsh Creek and Marsh Creek have large sections designated as approved trout waters in Franklin Township

Marsh Creek Watershed Protection Project

In 1983, complaints by local residents to the PA Department of Environmental Resources (precursor agency to Department of Environmental Protection (DEP) led to the discovery of contamination by volatile organic compounds in Cumberland Township near Gettysburg, PA. Residential well sampling indicated widespread ground-water contamination in the lower portion of the watershed.

The Marsh Creek Watershed Protection Project began with an intensive Watershed Assessment by the Adams County Conservation District to identify existing and potential problem areas in the watershed. Through this assessment, the Conservation District developed an inventory of stream conditions and restoration sites that were weighted and prioritized depending on the severity of the water quality problem. A rigorous evaluation and ranking process prioritized parcels for fee-simple and conservation easement acquisition to protect the watershed.

Utilizing the findings of the Watershed Assessment and priorities established in the evaluation system, the Conservation District installed Best Management Practices (BMPs) and watershed improvements throughout the watershed to manage manure and stormwater runoff, as well as install stream bank fencing through the Conservation Reserve Enhancement Program (CREP).

Easements were purchased to limit or prohibit future residential development, requiring permanent buffers along waterways and the use of an approved conservation plan for agricultural production, stipulate maximum impervious site coverage, and disallow underground storage tanks. Eight hundred twenty-five (825) feet of stream bank fencing for landowners who were not eligible for CREP were installed to protect the creek. In addition, several landowners were encouraged to participate in cost share programs offered by the Conservation District and the Natural Resources Conservation Service (NRCS) to supplement the efforts of the Marsh Creek project.

Monocacy River Watershed Stormwater Management Plan¹¹

Although Act 167 of 1978 directed municipalities in Pennsylvania to develop watershed stormwater management plans, it wasn't until 2001 that DEP issued a proposed Comprehensive Stormwater Management Policy that emphasized minimizing impervious surfaces, good land development design, and innovative stormwater Best Management Practices (BMPs) to increase water infiltration, maintain water quality, and control the volume and rate of runoff. The Monocacy River watershed, including Rock Creek and Marsh Creek (which join to form the Monocacy River near the PA/MD border), was designated as one of the initial watershed planning areas for creating a stormwater management plan. The County Office of Planning and Development, working with DEP, a consultant and a steering committee, developed the Monocacy River Watershed Stormwater Management Plan, including a model ordinance for adoption by municipalities. The Plan was adopted by the County Commissioners and approved by DEP in 2002. Subsequent work by the Watershed Alliance of Adams County in the Rock Creek watershed has resulted in some suggested changes to the model ordinance to address problems administering the ordinance, particularly involving small building projects by homeowners, and the need for guidance on BMPs suitable for Adams County soils. For more information on recommendations in the Plan, see Chapter 5, Water, Sewer, and Stormwater.

Yellow Breeches Creek Watershed

Mountain Creek, a Cold Water Fishery and tributary of the Yellow Breeches Creek watershed, also begins in the South Mountain uplands and flows north into Cumberland County. Mountain Creek eventually merges with the Yellow Breeches Creek and drains to the west bank of the Susquehanna River, just below Harrisburg, and ultimately into the Chesapeake Bay.

Yellow Breeches Creek Rivers Conservation Plan

DCNR approved the Yellow Breeches Creek Rivers Conservation Plan in May 2006.¹² The Plan, prepared by Herbert, Rowland & Grubic, Inc. (HRG), for the Yellow Breeches Watershed Association includes an inventory and analysis of the watershed's resources, identification and ranking of the watershed's problems, and management options and strategies to solve these problems.¹³ Feedback from the community during the planning process indicated that the aesthetic value of the creek and its ability to provide recreational opportunities were considered its primary strengths.¹⁴

Lakes

Franklin Township contains one lake of appreciable size: Long Pine Run Reservoir (a.k.a. the Chambersburg Reservoir). It functions as a water supply reservoir for the City of Chambersburg. The lakes and surrounding lands also provide recreation such as hiking and fishing. This lake provides an important area for animal habitat and supports populations of various fresh water

¹¹ "Stormy Weather-Stormy Water", Watershed Alliance of Adams County.

¹² Pennsylvania Bulletin, Doc. No. 06-872.

¹³ http://www.hrg-inc.com/project/water_resources.asp.

¹⁴ Susquehanna Rive Basin Commission, Publication 250, September 2007.

fish and aquatic organisms. An additional pond is located on Carbaugh Run in the extreme southwest corner of Franklin Township. Another lake, Birch Run Reservoir, has been removed and the land is being returned to natural vegetation.

Floodplains

A floodplain is defined as land that lies adjacent to a river or stream which is periodically flooded by the river or stream's overflow. This land is relatively flat and consists primarily of alluvial soils. These soils may be wet during a portion of the year but can often be extremely productive for the growth of vegetation. This vegetation can help filter sediment from surface runoff, stabilize streambanks, reduce soil erosion, and protect water quality. Floodplains provide a natural barrier that protects the stream or river's flow. They can absorb and store large amounts of water, consequently providing aquifer recharge. They also provide excellent areas for habitat and diversity of species. Frequently, floodplains are used for pasture and other agricultural activities. Flood events are affected by upstream development, particularly the extent to which effective stormwater management measures are in place in these areas.

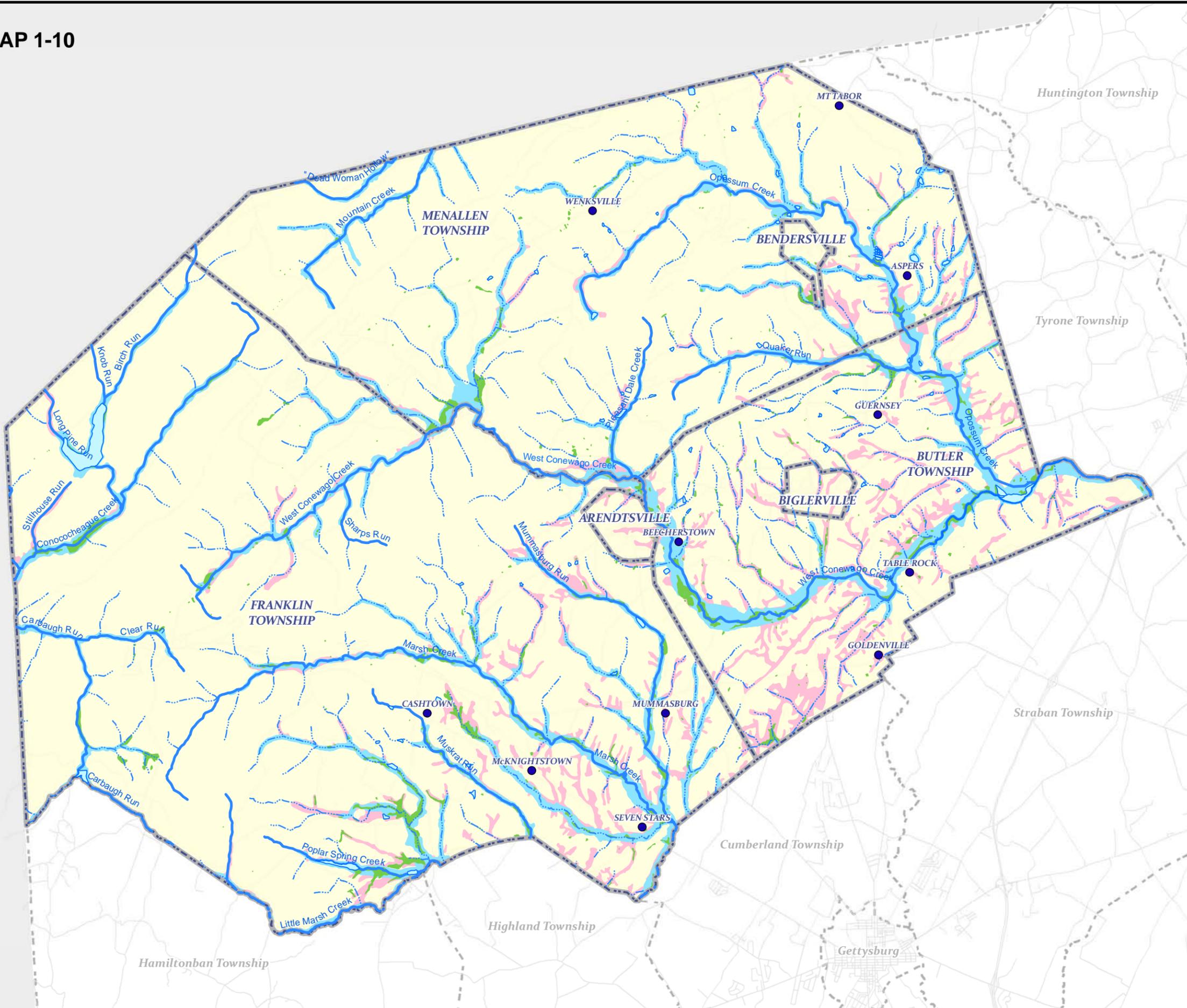
Regulation of floodplains can help minimize the threat to human life and property due to flooding. Restricting the allowable uses within a floodplain is an important step in assuring its protection. All municipalities are required by the Federal Emergency Management Agency (FEMA) and the Commonwealth to have ordinances that deal with the use of land within a floodplain. The types of floodplains identified are the 100-Year and 500-Year. A 100-Year floodplain is an area that is expected to be covered by water once every 100 years. The 500-Year floodplain is identified in the same manner. The Conewago Creek and its tributaries, such as the Opossum Creek, contain extensive floodplain networks (see Map 1-10, Water Features). Those networks are particularly evident in the Buchanan Valley and in areas of Butler Township. In fact, areas in the upper Buchanan Valley, confluence of the Opossum and Conewago Creeks, and far eastern edge of the Conewago Creek in Butler Township all contain Pennsylvania Natural Diversity Inventory (PNDI) resources associated with the floodplain.

Hydric Soils

The definition of 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. Technically, any soil that is inundated (covered by water) for two weeks or more during the growing season is considered a hydric soil. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics.

Hydric soil lists have a number of agricultural and nonagricultural applications. These include assistance in land-use planning, conservation planning, and assessment of potential wildlife habitat. Generally, hydric soils are associated with the floodplain systems described above. Significant concentrations of hydric soils are located in Butler Township and southeastern

Water Features



-  Village
-  Streams
-  Waterbody
-  Wetlands
-  100 Year Floodplain
-  Hydric Soil
-  Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
FEMA 2009



Prepared By:
Adams County Office of
Planning & Development,
March 3, 2009



Franklin Township associated with the Conewago and Marsh Creek systems (see **Map 1-10, Water Features**). Additional concentrations in Menallen Township are found just north of Arendtsville Borough and southeast of Bendersville Borough respectively.

Wetlands

A combination of the hydric soil, hydrophytic vegetation, and hydrology criteria defines wetlands as described in the National Food Security Act Manual¹⁵ and the Corps of Engineers Wetlands Delineation Manual¹⁶ which is currently being supplemented to present wetland indicators, delineation guidance, and other information relevant to specific regions. Therefore, an area that meets the hydric soil criteria must also meet the hydrophytic vegetation and wetland hydrology criteria in order for it to be classified as a jurisdictional wetland.

Wetlands provide many functions that are valued by people. These functions (and their values) include: surface water storage (flood control), shoreline stabilization (wave damage protection/shoreline erosion control), stream flow maintenance (maintaining aquatic habitat and aesthetic appreciation opportunities), groundwater recharge (some types replenish water supplies), sediment removal and nutrient cycling (water quality protection), supporting aquatic productivity (fishing, shell fishing, and waterfowl hunting), production of trees (timber harvest), production of herbaceous growth (livestock grazing and haying), production of peaty soils (peat harvest), and provision of plant and wildlife habitat (hunting, trapping, plant/wildlife/nature photography, nature observation, and aesthetics).

Destruction of wetlands eliminates or severely minimizes their functions and values. Drainage of wetlands prevents surface water storage and reduces their water quality enhancement function, while accelerating the flow of water downstream which may cause increased flood damages. Wetland filling does likewise as well as destroying vital habitats for native fish and wildlife species. The vast majority of wetland benefits accrue to the general public which makes it important to conserve these valuable natural resources.

Wetlands function as natural sponges that trap and slowly release surface water, rain, snow melt, groundwater and flood waters. Trees, root mats, and other wetland vegetation also slow flood waters and distribute them over the floodplain. This combined water storage and braking can lower flood heights and reduce erosion. Wetlands in and downstream of urban areas counteract the increased rate and volume of surface-water runoff from pavement and buildings. The holding capacity of wetlands helps reduce floods and prevents water logging of crops. Preserving and restoring wetlands, together with other water retention, can help or supplant flood control otherwise provided by expensive dredge operations and levees. In NW Adams County there are numerous wetland areas as defined by the National Wetlands Inventory mapping (see Map 1-11, Water Features). However, several areas jump out as having significant wetland

¹⁵ Soil Conservation Service. 1994. National Food Security Act Manual. Title 180. USDA Soil Conservation Service, Washington, D.C.

¹⁶ Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

concentrations. Those areas include the Little Marsh Creek, the Conewago just north of the Narrows, and just south of Arendtsville, and the Opossum just east of Bendersville. Other areas associated with the upper Conococheague Creek are also designated as wetlands.

Riparian Buffers

The following summary on riparian buffers was selected from the Chesapeake Bay Program's website:¹⁷

Riparian forest buffers are areas of forested land adjacent to streams, rivers, marshes or shoreline that form the transition between land and water environments. Forests are the most effective type of riparian buffer available. Riparian forest buffers improve water quality while providing habitat for wildlife and fish.

Riparian buffers are key to controlling non-point source pollution. They help maintain the integrity of stream channels and shorelines, reduce the impact of upland sources of pollution by trapping, filtering and converting sediments, nutrients and other chemicals, and supply food, cover and thermal protection to fish and other wildlife.

The type, size and effectiveness of riparian buffers vary based on the location, environmental management needs and landowner needs. Environmental managers and landowners often use the three-zone riparian forest buffer to plan and design riparian forest buffers. The width of each zone is determined by specific site conditions and landowner objectives.

- **Filtering Runoff:** Rain that runs off the land can be slowed and infiltrated in the forest, which helps settle out sediment, nutrients and pesticides before they reach streams. Infiltration rates of forests are 10 to 15 times higher than those of grass turf areas and 40 times higher than those of a plowed field. Studies have shown 30 to 98 percent reductions of nutrients (nitrogen and phosphorus), sediment, pesticides and other pollutants in surface and groundwater after passing through a riparian forest. In addition, trees provide deep root systems that hold soil in place, thereby stabilizing stream banks and reducing erosion.
- **Nutrient Uptake:** Tree roots absorb fertilizers and other pollutants that originate on the land. Nutrients are stored in leaves, limbs and roots instead of reaching the stream. Through a process called "denitrification", bacteria in the riparian forest floor convert harmful nitrates to nitrogen gas, which is then harmlessly released into the air.
- **Canopy and Shade:** Cool stream temperatures maintained by riparian vegetation are essential to the health of aquatic species. Shading moderates water temperatures and protects against rapid fluctuations that can harm stream health and reduce fish spawning and survival. Tree canopies also protect against elevated water temperatures that accelerate algae growth and reduce dissolved oxygen, further degrading water quality. In a small stream, temperatures may rise 1.5 degrees in just 100 feet of exposure without

¹⁷ <http://www.chesapeakebay.net/ripar1.htm>.

trees. The leaf canopy also improves air quality by filtering dust from wind erosion, construction or farm machinery.

- **Leaf Food:** Leaves from the riparian forest fall into streams and are trapped on woody debris (fallen trees and limbs) and rocks where they provide food and habitat for small bottom-dwelling creatures (i.e., crustaceans, amphibians, insects and small fish), which are critical to the aquatic food chain.
- **Habitat:** Riparian forests offer a tremendous diversity of habitat. Forest corridors provide crucial migratory habitat for neotropical songbirds, some of which are now threatened due to loss of habitat. Also, many ecologically important species such as herons, wood ducks, black ducks, as well as amphibians, turtles, foxes and eagles use the riparian forest. Streams that travel through woodlands provide more habitat for migratory fish by providing suitable spawning habitat. Trees and woody debris provide valuable cover for small fish and other aquatic organisms along the Bay's shoreline as well. Degradation of any portion of a stream can have profound effects on living resources downstream. The overall impact of these riparian forest corridors may be greatest in headwaters and smaller order streams.

Stream ReLeaf Program

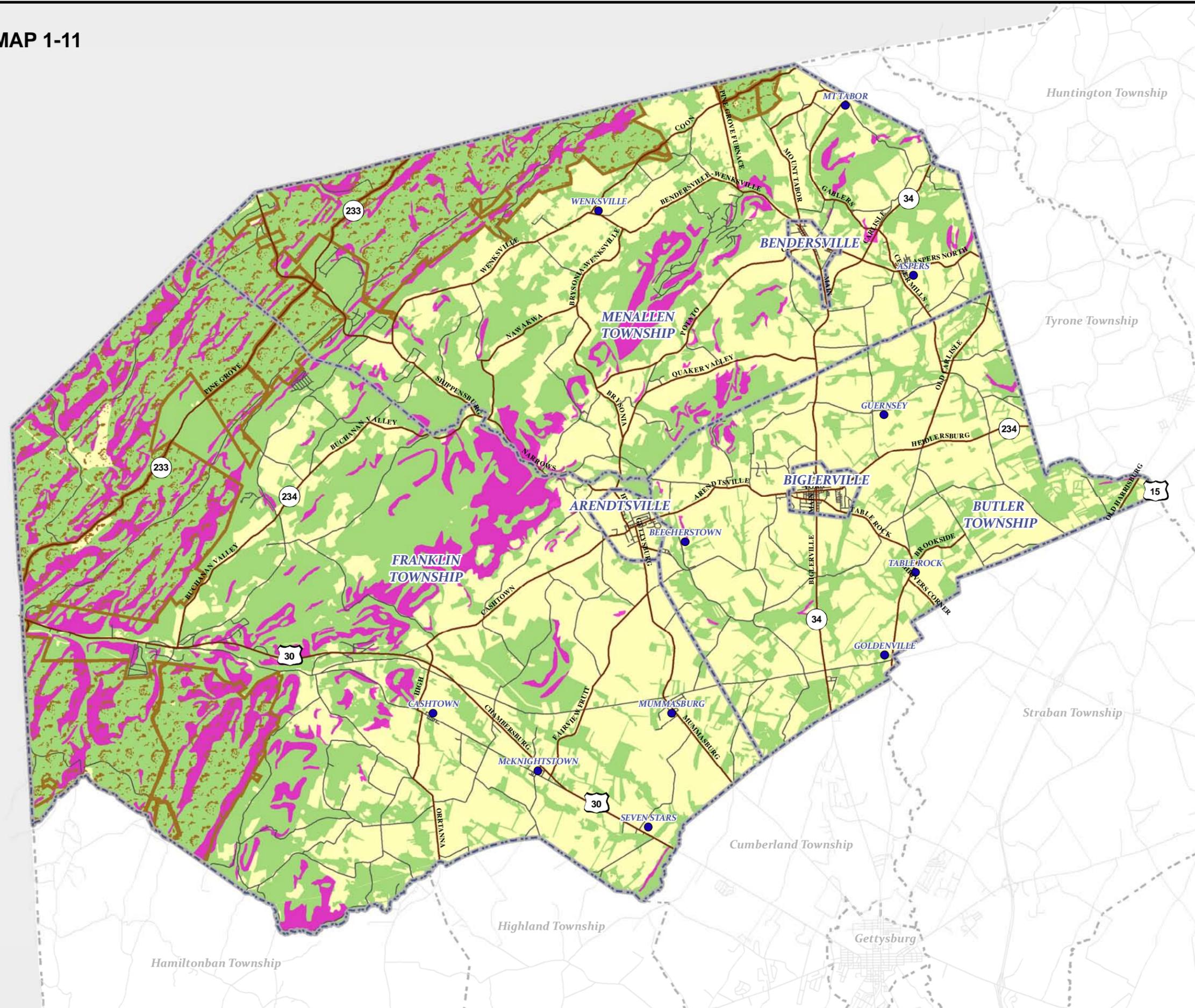
The Stream ReLeaf Program is an initiative that was developed in 1998 by the Pennsylvania Department of Environmental Protection (DEP) and many other partners as a guide to enhancing stream corridors and water quality by restoring and maintaining riparian buffers. Since the program began, there has been a significant amount of work done by many individuals and organizations to restore and enhance riparian areas, including twelve (12) sites in the region (see Map 1-9, Water Quality).

Forested Areas

The Forest Lands Map ([Map 1-11](#)) identifies those areas of forest cover, which are of appreciable size. One of the most prominent, contiguous areas of forest cover in the Region is South Mountain. South Mountain is primarily protected as Michaux State Forest, which covers the majority of the northwestern boundary of the County. Additional areas to the east of the State Forest deemed the “South Mountain Faces” also contain significant forested resources but are not protected. They have been identified as one of eleven Highlands Conservation Landscapes in Pennsylvania.

These “Faces” consist of hills south of the village of Cashtown that contain the source of the Little Marsh Creek, also Big Hill, Wildcat Knob, and Bear Mountain. Additional promontories in the NW Adams study area are Rock Top and Fox Hill near Cashtown, Yellow Hill between Arendtsville Borough and Biglerville Borough, Big Hill and Wolfpit Hill northeast and east of Bendersville Borough, and Chestnut Hill a forested PNDI area on the Butler Township border.

Forest Lands



- Village
- State Road
- Local/ Private Road
- Michaux State Forest
- Steep Slopes (>25%)
- Forest Cover
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping



Prepared By:
Adams County Office of
Planning & Development,
February 2, 2009



Deciduous trees are the most prevalent types found in this area and in the rest of Adams County. The most common deciduous species are maple, beech, oak and hickory. Coniferous species also exist in the County, an example being the hemlock, which often favors stream valleys in mountainous and hilly areas. Unfortunately, hemlocks are currently under serious attack at this time.

Among the many uses and functions of a forest, perhaps the one that provides the greatest benefit is its ability to filter pollution, purify and cool the air in the summer. Woodlands also help stabilize slopes, reduce erosion, provide riparian buffers, muffle noise, absorb odors, and serve as land use buffers. Forests are also extremely important areas for native vegetation, bird and wildlife habitats, and provide recreational opportunities. Other positive contributions include their scenic and aesthetic values, especially in the Arendtsville Narrows area, which is known as one of the most scenic areas in Adams County.

There are also the economic benefits of forests associated with commercial timbering, provided proper forest management principles are implemented. A study conducted by Penn State Natural Resources Extension in 2007 found that the economic contribution of the forestry/wood products and paper sectors to Adams County's local economy totaled over \$98 million a year from 32 forestry and wood product establishments that employed over 2,350 employees.¹⁸ The annual economic contribution from privately-owned forestland in the County is estimated at over \$17 million.¹⁹

The largest expanse of protected forest land in Northwest Adams County is the Michaux State Forest. Today, the Michaux State Forest, comprising more than 85,000 acres, is managed for a variety of uses that benefit not only the citizens of Pennsylvania, but also the nation and the world. A variety of wood products are produced from the timber resources providing for the needs of millions of people as well as aiding the local economy. Potable water may be the

Michaux's most valuable resource, since numerous local communities depend on its pure water for their municipal water supplies. Finally, it contains many rare and endangered plants and animals identified through the Pennsylvania Natural Areas Inventory (PNDI).²⁰

Forest Legacy Program²¹

The USDA Forest Legacy Program (FLP), administered by the Pennsylvania Department of Conservation and Natural Resources' (DCNR) Bureau of Forestry, is designed to protect environmentally important forested areas threatened by conversion to non-forest uses through the use of conservation easements and other mechanisms in a manner similar to that afforded farmlands under the Farmland Preservation Program. In 2006, the Bureau formally approved

¹⁸ 2007 Penn State Timber Market Report, Penn State School of Forest Resources.

¹⁹ Resolution of the County of Adams, Pennsylvania, Authorizing Application for Forest Legacy Program Co-Sponsorship with the Land Conservancy of Adams County; February 9, 2005.

²⁰ www.dcnr.state.pa.us/forestry/stateforests/michaux

²¹ www.adamscounty.us/adams/cwp/view.asp?a=3&q=510156

Adams County as a Forest Legacy Area. In Northwest Adams County, qualifying lands for the Forest Legacy Program are located primarily in the South Mountain Faces area.

The overall purpose of the FLP in Pennsylvania is to help protect and conserve working forests, while maintaining private ownership of the land. The program has seven (7) goals:

- To maintain traditional forest uses, including recreation and timber harvesting following best management practices.
- To maintain productivity of forests for future generations.
- To reduce the trend toward forest parcelization.
- To conserve significant tracts of contiguous forest.
- To conserve water resources and riparian zones.
- To conserve important habitats for plants, fish and wildlife.
- To restore degraded forest ecosystems.

The FLP will work with landowners on a voluntary basis to purchase easements on lands or properties in the defined Forest Legacy Area. Actual easement details will vary in order to address landowner and FLP goals. Easements can:

- Alleviate economic pressure to convert forestland to non-traditional uses.
- Assure access to adjoining public properties and enhance recreational opportunities.
- Ensure management of forested riparian areas to enhance water quality.
- Alleviate parcelization of forestlands.
- Ensure sustainable forestry practices through implementation of a Forest Stewardship Plan.

The easements are permanent legal agreements that limit residential and commercial development of properties. However, the landowners retain ownership of the properties, they can continue sustainable forestry practices and they have the right to sell or convey the land.

The Adams County Board of Commissioners, in partnership with the Land Conservancy of Adams County (LCAC), have been approved and designated as co-sponsors of the Forest Legacy Program in the County. The County and the LCAC will provide information and assistance to landowners and other interested parties, help potential landowner applicants through the easement process, assist with the Federal cost-share process, and coordinate public participation.

Forest Land Enhancement Program²²

The 2002 Farm Bill authorized the USDA's Forest Service to launch a sustainable forestry program to assist non-industrial private forest (NIPF) landowners in what is known as the Forest Land Enhancement Program (FLEP). Through FLEP, state forestry agencies can provide a wide array of educational, technical, and financial services that are intended to ensure that the nation's

²² <http://www.fs.fed.us/spf/coop/programs/loa/flep.shtml>

NIPF and related resources continue to provide sustainable forest products and safeguard the health of our water, air, and wildlife.

The State Forester and State Forest Stewardship Coordinating Committee are to develop a State Priority Plan to determine how the FLEP funds will be utilized, including minimum acres, maximum acres, aggregate payment, use for technical, educational, and cost-share assistance, and other factors of the program. FLEP allows treatment of up to 1,000 acres per year and variances of up to 5,000 acres if significant public benefits will accrue. There is no limit to the amount of forest land owned by an individual as long as the person qualifies as a NIPF owner. Landowners are required to have a forest management plan to be eligible for cost-sharing funds.

PNDI Sensitive Flora & Fauna

The most environmentally important areas often support populations of extremely sensitive flora and fauna. Some developers may seek to locate development projects in rural settings in close proximity to identified natural areas. Developers will often seek natural areas to serve as a backdrop for their projects. This process places the population in the immediate vicinity of sensitive areas and species where they can be easily accessed and consequently threatened.

Environmentally sensitive areas are not limited to obscure mountain valleys or high-forested peaks. In the planning region for Northwest Adams County, 24 areas have been identified as having endangered, threatened or vulnerable plant and/or animal species (Table 1-1). The majority of these areas occur within Michaux State Forest in Franklin and Menallen Townships. However, some sites are also located within wetland areas in the lowlands within the Conewago and Marsh Creek watersheds. The table below lists the sites in order of importance and the township in which they are located. General locations are shown on **Map 1-12, Sensitive Flora & Fauna**, the species are identified and addressed in the Adams County Natural Areas Inventory of 1996 and the Update of 2002.

Table 1-1: PNDI Sites in NW Adams County

<u>Rank</u>	<u>Site Name</u>	<u>Township (Planning Region)</u>
1	Marsh Creek Wetlands	Franklin
1	Big Flat Barrens	Menallen
1	Sand Spring Seep	Menallen/Franklin
2	Conewago Creek	Butler
2	Rocky Knob	Franklin
2	Caledonia State Park	Franklin
3	Chestnut Hill	Butler
3	Ram Hill Seep	Menallen
3	Seven Stars Floodplain	Franklin

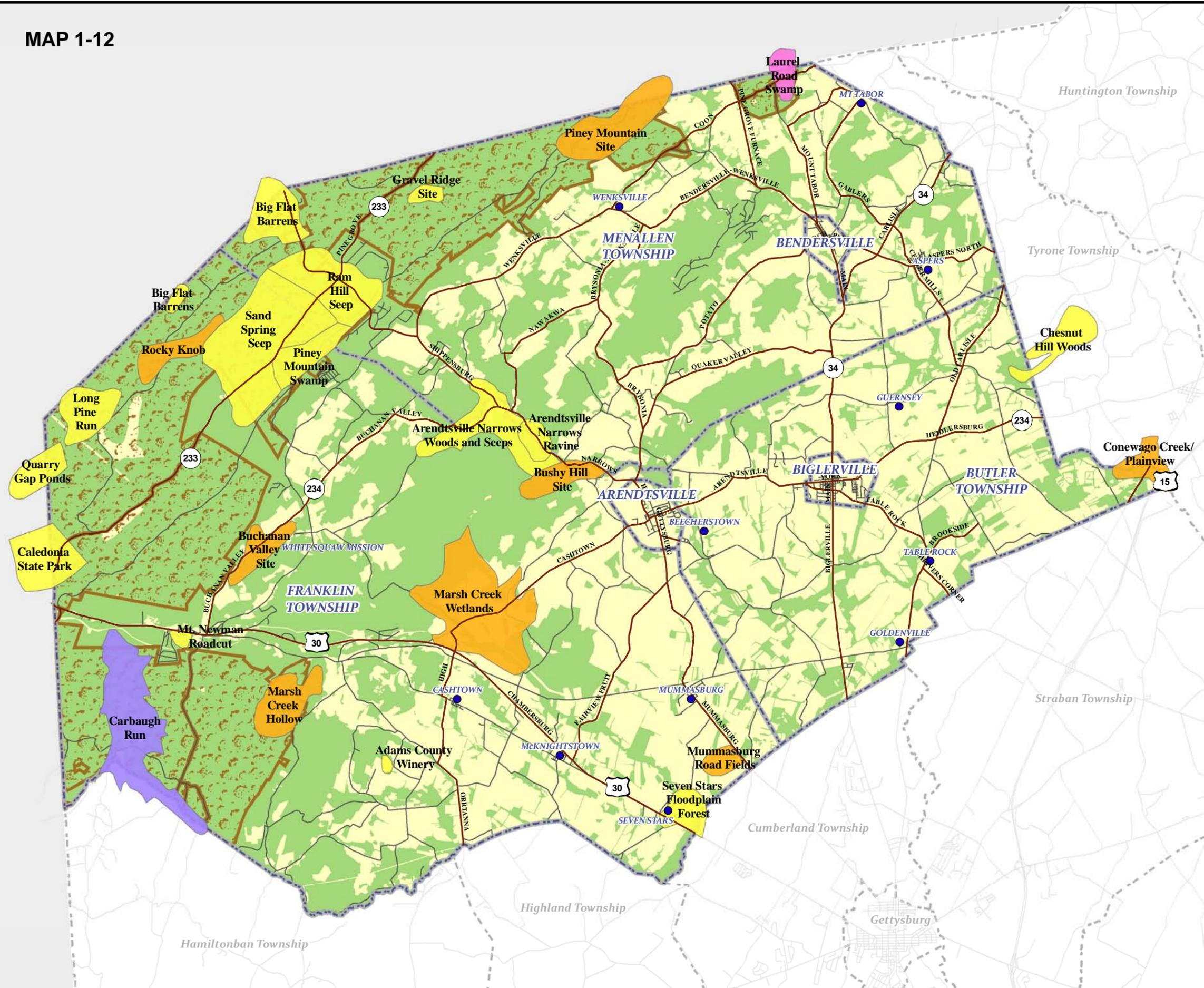
3	Arendtsville Narrows Woods and Seeps	Menallen/Franklin
4	Long Pine Run	Franklin
4	Piney Mountain Swamp	Franklin
4	Buchanan Valley Site	Franklin
4	Bushy Hill Site	Franklin
4	Arendtsville Narrows Ravine	Menallen/Franklin
4	Marsh Creek Hollow	Franklin
4	Mount Newman Roadcut	Franklin
4	Quarry Gap Ponds	Franklin
5	Grave Ridge Site	Menallen
5	Conewago/Opossum Creek	Butler
5	Adams County Winery Site	Franklin
5	Mummasburg Road Fields	Franklin
5	Carbaugh Run	Franklin

Protected Lands

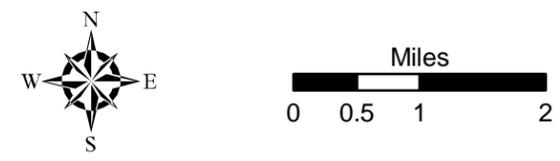
The Protected Lands map (Map 1-13) depicts a variety of land subject to some form of land preservation or protection. A variety of lands in the Northwest Adams County region have been preserved through public ownership. These lands include the 18,980 acres within Michaux State Forest and the 210 acres of State Game Lands. Other lands have been preserved in perpetuity through either the purchase or donation of conservation easements. Land preservation through the Adams County Agricultural Land Preservation program involves the purchase of agricultural preservation easements from qualified farms. Donation of conservation easements to the Land Conservancy of Adams County or other non-profit organizations also represents significant activity in this category. Finally, many property owners choose to become enrolled in the Agricultural Security Area (ASA) program. While this program does not result in land preservation in perpetuity, enrollment helps preserve land owners rights with regard to the enforcement of nuisance ordinance against ordinary farming practices. Enrollment also provides landowners with protection in land condemnation proceedings.

Significant application of all of these land preservation techniques has occurred in the Northwest Adams County region. Most of the western portion of the region lies within Michaux State Forest and is permanently preserved through public ownership. Purchase or donation of conservation easements has occurred throughout the region. Significant agricultural easement purchases have been made in Menallen Township and Franklin Township. Franklin Township has also seen the majority of activity in the region involving conservation easement donation. The ASA program is widely applied in Menallen, Franklin, and Butler Townships with a

Sensitive Flora & Fauna



- Villages
- State Road
- Natural Areas Inventory Sites
 - Plant of Special Concern
 - Animal of Special Concern
 - Locally Significant Site
 - Exemplary Natural Community
 - Michaux State Forest
 - Forest Cover
 - Northwest Study Region



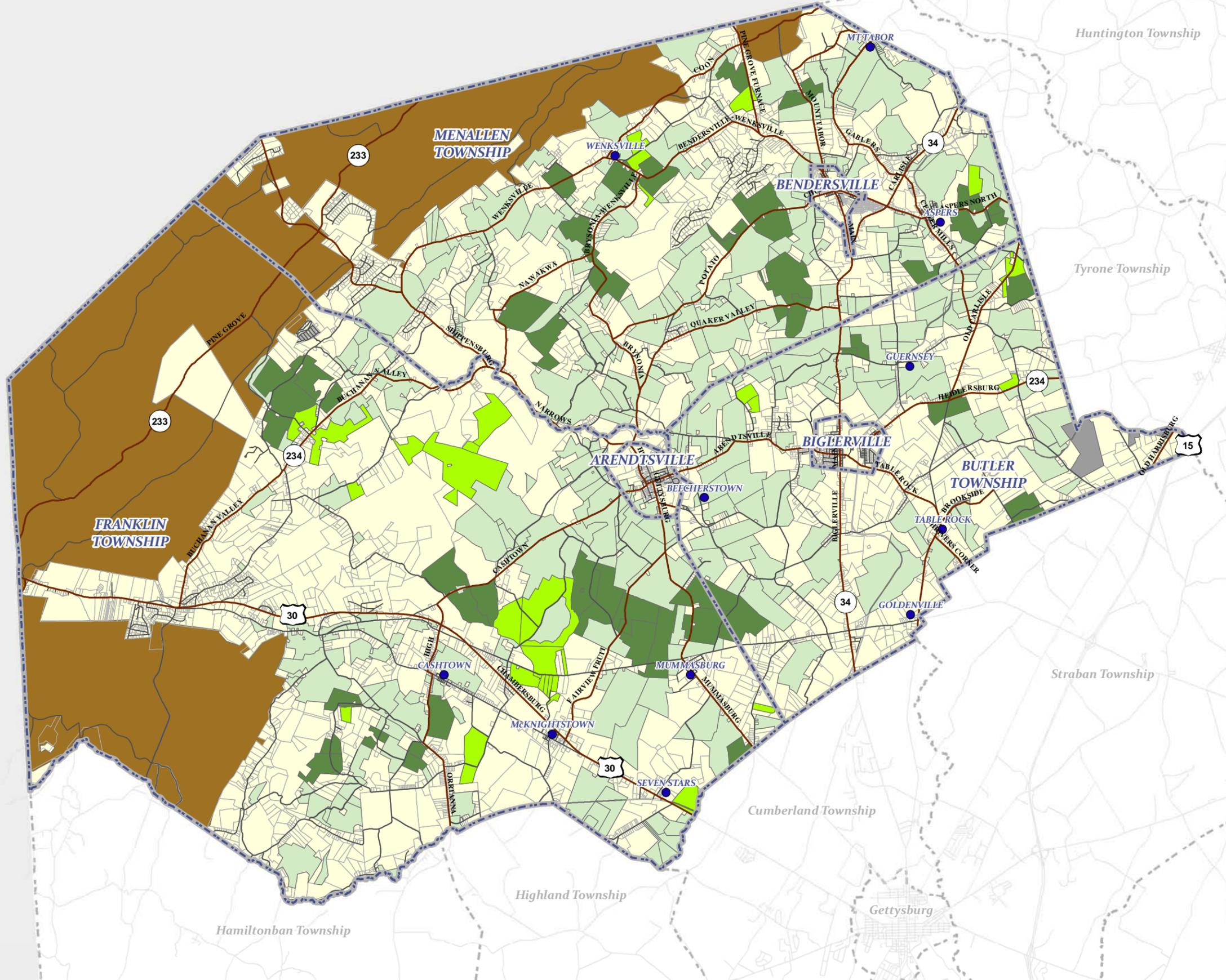
Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
PA Science Office (PSO), 2002

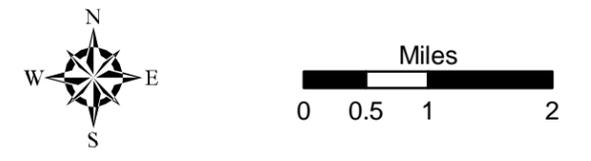
Prepared By:
Adams County Office of
Planning & Development,
May 9, 2008



Protected Lands



- Village
- State Road
- Parcel Boundary
- Preserved Farm
- Land Conservancy of Adams County
- Agricultural Security Area
- State Game Lands
- Michaux State Forest
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
Adams County Agricultural
Land Preservation

Prepared By:
Adams County Office of
Planning & Development,
May 15, 2008, rev. 03/15/09



significant proportion of the properties involved in agricultural production enrolled in the program.

LANDSCAPE, CULTURAL, AND HISTORIC RESOURCES

Landscape and Scenic Resources (**Map 1-14**)

South Mountain²³

The South Mountain region is comprised of over 400,000 acres of land in Adams, Cumberland, Franklin, and York Counties in south central Pennsylvania. It is part of the Blue Ridge section of the Central Appalachian mountain range and is a unique combination of picturesque rolling hills, several ridgetops exceeding 2,000 feet in elevation, numerous lateral valleys, hardwood forests, vernal pools, and other natural springs and ecologically significant waterways. It contains the largest area of intact forest which is under extreme development pressure from the western Harrisburg and the northern Baltimore and Washington D.C. areas. It is host to significant natural, cultural, and recreational resources that contribute to the economic well being of the region.

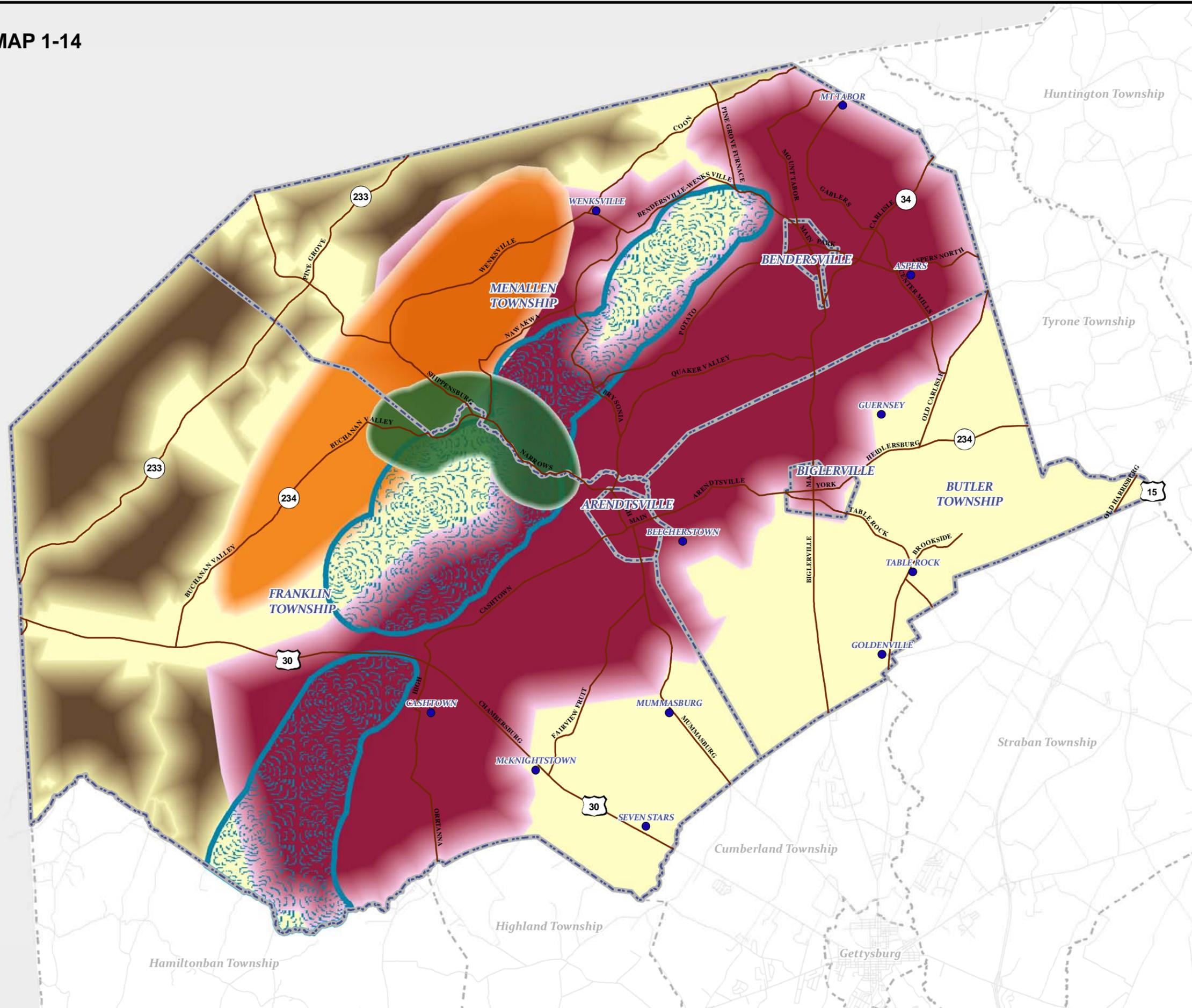
The South Mountain Conservation Landscape (CL) provides an opportunity for various groups and interests to work together to ensure that these resources are conserved for the benefit of today's communities and future generations.

DCNR created the South Mountain Partnership in an effort to encourage and promote the appreciation and protection of the intrinsic geographic, geologic, biologic, and heritage resources and values of the landscape and the important connection these have to the quality of life and place in the region. The Partnership is comprised of county planning agencies, conservancies and land trusts, state and local agencies, and other regional and local organizations. The South Mountain CL initiative has been created to:

- enhance opportunity to attract more travelers to the region, connect them to the outdoors, deepen their understanding of the region's place in history, and broaden the market of the area's special agricultural products,
- emphasize assets such as farmers' markets, fruit stands, fairs, and wineries to expand the visitor agricultural experiences and increase direct sales for the region, and
- incentivize good planning that recognizes and protects assets such as South Mountain and Michaux State Forest, while rewarding communities that plan for the future.

²³ *South Mountain: More Than Just a Mountain*, Pennsylvania Department of Conservation and Natural Resources (DCNR), 2008.

Landscape and Scenic Resources



- Village
- State Road
- South Mountain Faces
- Buchanan Valley
- The Conewago Narrows
- The Fruitbelt
- Michaux State Forest
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
ACOPD

Prepared By:
Adams County Office of
Planning & Development,
November 3, 2008



Michaux State Forest

Located on South Mountain in Adams, Cumberland and Franklin Counties is the beautiful Michaux State Forest. “It is named in honor of Andre Michaux, a French botanist, dispatched by the King and Queen of France in 1785 to gather plants for the Royal Gardens. He and his son Francois Andre Michaux are noted for discovering and identifying a host of flowers, shrubs and trees.

From the mid-eighteenth century to the early twentieth century, the lands that are now the Michaux State Forest were owned by large iron companies. Iron furnaces processed iron ore, dug from open pits, into "pig iron", which was forged into iron tools, stoves, kettles, and a variety of other implements. The largest iron furnaces were located at Caledonia, Mont Alto and Pine Grove Furnace. Cannon balls made from these furnaces were used during the Revolutionary War. The iron companies needed large land holdings from which to cut wood that was converted to charcoal and used to fuel the iron furnaces.”²⁴

Specific to Northwest Adams County an “ore bed on the Adam Minter farm was worked by McCormick and Co., in 1874, and shipments made from there. Iron ore was also taken in 1867 from a ridge on the farm of Peter Comfort in Franklin Township. Later a mine was worked by the Wrightsville Iron Co. In 1873 some good specimens on ore were found on the farm of Mr. George Cole in Buchanan Valley, about a mile and a half from Newman’s on the Chambersburg Pike. An opening was subsequently made and some ore of good quality taken out, but it has not been worked to any great extent. The ore was a pure, crystallized, micaceous, specular variety occurring in white quartz.”²⁵

Over time, the iron industry disappeared in this area when it could no longer compete with new technology and richer ore deposits found to the west.

Buchanan Valley

Located between the South Mountain and the foothills is the Buchanan Valley. Buchanan Valley, originally called “Pleasant Valley,” was settled about the year 1734. It is twelve miles in length and about two miles in breadth. James Bleakley was the first to move into the valley; others soon followed. Some of the names of those were Casper Hiller, Nicholas Strausbuaugh, John Dellone, Andrew Noel, Donald McClellan, William Cobb and James Kern, who settled in the north and western part; Thomas Jamison, Robert Buck, Christopher Warren, Jacob Symmons in the eastern part.

James Bleakley was the first farmer in the area and also a shoe-maker by trade. The first child born in the valley was Isabella Bleakley on June 11, 1748. Mrs. Armstrong was the first school teacher (1790), the schoolhouse being situated in the northern part of the valley at the foot of the Pine Mountain. The first grist-mill was built in 1824 by John Lowstetter, which stands on the

²⁴ www.dcnr.state.pa.us/forestry/stateforests/michaux

²⁵ History of Cumberland and Adams Counties, Pennsylvania Illustrated 1886; Chicago: Warner, Beers, Co., 1886.

farm now owned by Theodore Kimple, being on the Conewago Creek. George Douse was the first store-keeper, opening his store in 1851.

The name of the valley was changed to “Buchanan Valley” during the presidential campaign of James Buchanan in 1856. By 1886, there were three stores in Buchanan Valley, three steam sawmills, eight water-powered saw-mills, one grist-mill, and one blacksmith shop. There were also three schoolhouses: Brady’s School, Strusbaugh’s School, and Newman’s School.²⁶

The Narrows

The Narrows was identified in almost all of the municipal interviews as an area of considerable scenic beauty within the study region. It has been identified as a Critical Treasure in the Pennsylvania Highlands.²⁷ It consists of the area where the Conewago Creek cuts through the hills called the “South Mountain Faces” into the Fruitbelt and down to the Gettysburg Plain. The Narrows, one of Adams County’s most scenic areas, consists of about 3000 acres of quality forest habitat with mossy seeps and many older hemlocks and white pines on the higher slopes. The Narrows is located along Conewago Creek headwaters, a High Quality Cold Water Fishery that is part of the Susquehanna River Basin/Chesapeake Bay Watershed. This is the center of Adams County's forestry industry, with saw mills, tree farms, timber companies and several large privately-held parcels (500+ acres) managed for timber. It is named for its water gap, which reaches 680 feet and contains gray-green metarhyolite outcrops which support several plant species of conservation concern. The Narrows constitutes one of the largest unprotected forests in Adams County and should be considered as an addition to Michaux State Forest which lies a few miles to the west.

The Fruitbelt

The Adams County Fruitbelt is not only a landscape of scenic beauty but contains significant cultural and economic value. The area contains a unique combination of soils, slopes, and micro-climate that has been historically recognized as prime land for fruit farming. The productivity and economic value of the Fruitbelt is of national, statewide, and regional significance. It has been deemed eligible to the National Register of Historic Places as a Historic District and has been included the Journey Through Hallowed Ground National Heritage Area.

The following are excerpts from the Historic District Nomination submitted to the National Park Service, Department of the Interior:

“The Fruitbelt is the name given to a distinct area of Adams County dominated by commercial apple, peach and cherry orchards along with the cultivation of other fruit trees. The Fruitbelt is approximately four to six miles wide and contains about 21,218 acres of orchards along the northern and western edges of Adams County... resource types include orchard land, farmsteads, villages and fruit processing plants.

²⁶ History of Cumberland and Adams Counties, Pennsylvania Illustrated 1886; Chicago: Warner, Beers, Co., 1886.

²⁷ <http://www.highlandcoalition.org/documents/NEWPA.jpg>.

The land is hilly and includes the eastern slopes and foot hills of South Mountain. The hills are covered with even rows of fruit trees, either the large “standard” fruit trees or the newer dwarf or semi-dwarf varieties which are planted more compactly... Among the orchard lands are scattered farmsteads characterized by frame bank barns with forebays, typical of the region. Houses may be of frame, brick or less frequently of log or stone construction. Most of these farmsteads date from the late 19th or early 20th centuries, although many are older from the early or mid 19th century. The older farmsteads represent the general farming activity that preceded the conversion to commercial fruit growing about 1900.

Other features of this rural landscape include man-made ponds, water towers, migrant housing, fruit stands, and sheds... Several villages are located in the Fruitbelt, most established in the early or mid 19th century... Biglerville is generally considered the heart of the Fruitbelt, and is the headquarters of the Adams County Fruit Growers Association, and also home of a large fruit processing plant operated since 1907 by Musselman, Inc. now a division of Knouse Foods. The Pennsylvania State College Fruit Research Laboratory established in 1918 at Arendtsville was later relocated to Biglerville. Also in Biglerville is the National Apple Museum established in 1990 by the Biglerville Historical and Preservation Society. Housed in a large frame Civil War era Barn, the Museum has artifacts and exhibits covering the history of harvesting and processing apples.

The entire Fruitbelt remains largely intact. Considering the vast area occupied by the Fruitbelt, it is unusually cohesive, reflecting the long standing and continuing dominance of the fruit industry...”

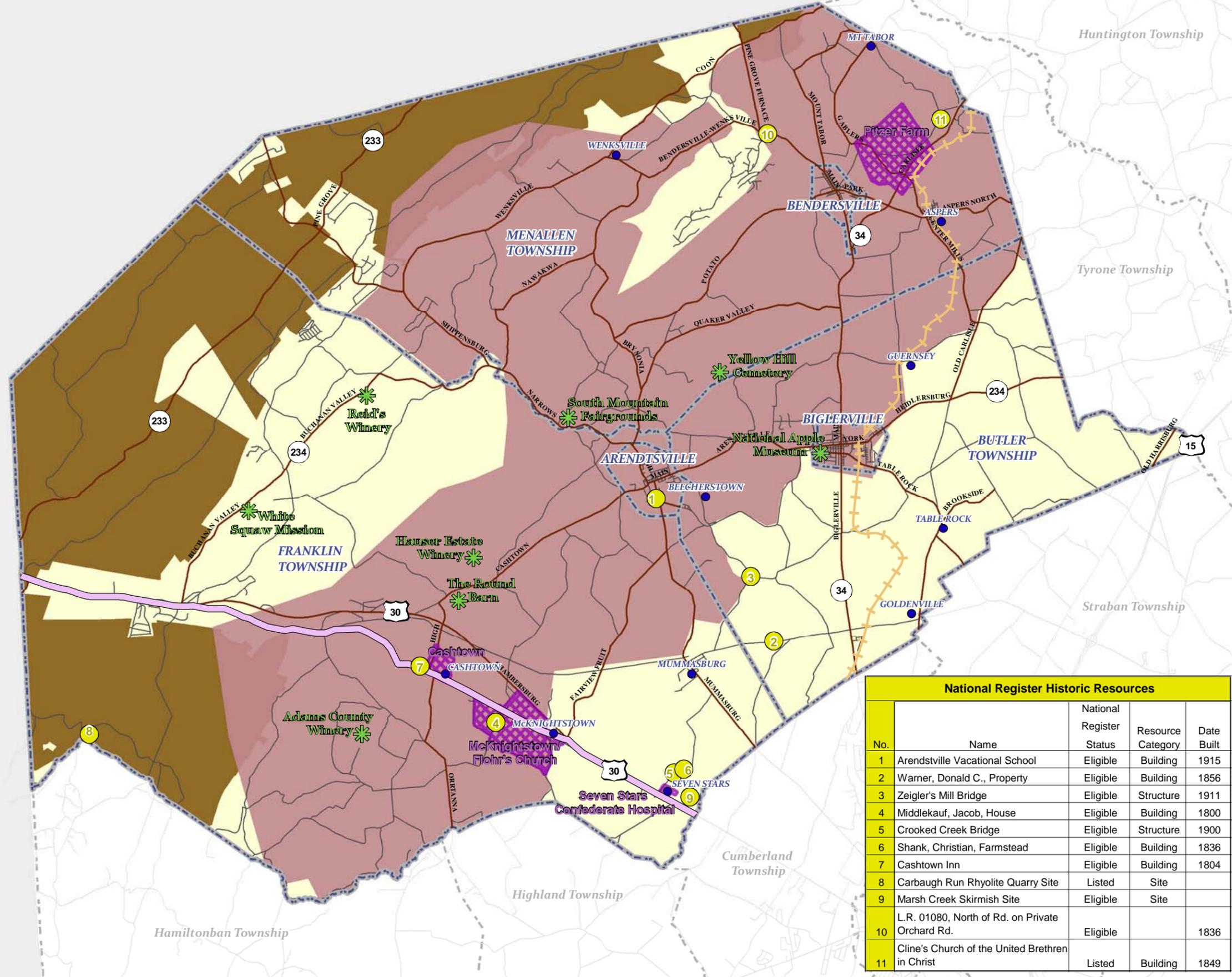
Cultural and Historic Resources (Map 1-15)

The Pennsylvania Historical and Museum Commission (PHMC) has identified several individual sites and districts in Northwest Adams County as either listed or eligible for listing on the National Register of Historic Places. As of 2007, the identified resources are listed in Table 1-2:

Table 1-2 – Historic Resources

Name	Location	Municipality	Status	Key #
Arendtsville Vocational High School	Gettysburg & Chestnut Streets	Arendtsville	Eligible	091861
Donald C. Warner Property	L.R. 1007	Butler	Eligible	002183
Jacob Middlekauf House	Flohr’s Church Road	Franklin	Eligible	002369
Cooked Creek Bridge		Franklin	Eligible	002381
Christian Shank Farmstead		Franklin	Eligible	002382
Cashtown Inn	U.S. Route 30	Franklin	Eligible	013313
Carbaugh Run Rhyolite Quarry Site	Snaggy Ridge	Franklin	Listed	083517
Cashtown Historic District	U.S. Route 30 & High St	Franklin	Eligible	109714
Seven Stars Confederate Hospital Site	U.S. Route 30	Franklin	Eligible	110013
McKnightstown/Flohrs Church Historic District	Old Rt. 30	Franklin	Eligible	1100440
Marsh Creek Skirmish Site	U.S. Rt. 30	Franklin	Eligible	110730
Private Orchard Road	L.R. 1080, north side	Menallen	Eligible	006649
Pitzer Farm Rural Historic District		Menallen	Eligible	096872
Cline’s Church	Cline’s Church Road	Menallen	Listed	115804
Adams County Fruitbelt		All municipalities	Eligible	101463

Cultural and Historic Resources



- Village
- ✱ Cultural/ Heritage Resource
- Historic Site
- State Road
- Local/ Private Road
- Scenic Railroad
- Lincoln Highway Heritage Corridor
- National Register Eligible Historic District
- Fruitbelt - National Register Eligible Historic District
- Michaux State Forest
- Northwest Study Region



National Register Historic Resources				
No.	Name	National Register Status	Resource Category	Date Built
1	Arendtsville Vacation School	Eligible	Building	1915
2	Warner, Donald C., Property	Eligible	Building	1856
3	Zeigler's Mill Bridge	Eligible	Structure	1911
4	Middlekauf, Jacob, House	Eligible	Building	1800
5	Crooked Creek Bridge	Eligible	Structure	1900
6	Shank, Christian, Farmstead	Eligible	Building	1836
7	Cashtown Inn	Eligible	Building	1804
8	Carbaugh Run Rhyolite Quarry Site	Listed	Site	
9	Marsh Creek Skirmish Site	Eligible	Site	
10	L.R. 01080, North of Rd. on Private Orchard Rd.	Eligible		1836
11	Cline's Church of the United Brethren in Christ	Listed	Building	1849

Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
PHMC, ACOPD

Prepared By:
Adams County Office of
Planning & Development,
March 3, 2009



The primary benefit of listing on the National Register is official recognition of the significance of a historic site. Listing and eligibility for listing protects a site from the effects of any activity involving federal and, often, state funds to the extent that a professional study of the impact must be undertaken. Such studies often lead to modifications to the activity that lessen its effects upon significant resources and their historical contexts. When resources are to be lost by activities involving federal funds, the resources must often be fully documented prior to being demolished or lost. Resources which are eligible for listing on the National Register also receive a measure of protection from the Pennsylvania Historical and Museum Commission when state permits, such as permits for sewers and septic systems, are involved. Listing in and of itself, however, does not automatically protect a historic resource or infringe upon any private rights regarding that resource. Protection may occur only when federal funds or state permits are involved, and even then actual listing on the National Register is secondary because all eligible resources receive such protections.²⁸

Types of Historic Resources

Prehistoric

The most significant prehistoric archaeological site in Adams County is Snaggy Ridge in the South Mountain area. Snaggy Ridge (also known as the Carbaugh Run site) was an important regional source of rhyolite for projectile points, and investigations have identified quarry pits, work areas, and rock shelters. Generally speaking, most archaeological sites in Adams County are located along stream corridors, such as Conewago Creek, South Conewago, Plum Creek, Marsh Creek, and Opossum Creek. An excellent overview of the prehistory of this region, and its relationship within the Northeastern United States can be found in *The Handbook of North American Indians Volume 15*, Smithsonian Institution.

Residences and Farm Buildings

“From the standpoint of historical significance, Adams County is predominantly a nineteenth-century agricultural landscape. The majority of historical resource types are residential structures and the majority of these are associated with farmsteads.”²⁹ There appears to be a lack of early historical sites still extant (prior to 1800), however there is a considerable majority from the 1800-1860 and 1860-1900. Of the sites listed above the Christen Shank Farmstead, the Jacob Middlekauf House, the private Orchard Road site, the Pitzer Farm Rural Historic District and Donald Warner property are all eligible to the National Register.

The National Apple Museum resides in a restored pre Civil War 19th century bank barn on the outskirts of Biglerville. Owned by the Biglerville Historical and Preservation Society it’s “mission is to preserve and exhibit the history and attendant artifacts pertaining to the apple and fruit tree industry history and contributions to the development and growth of Adams county.”³⁰

²⁸ Adams County Comprehensive Plan, 1990.

²⁹ Adams County Comprehensive Plan 1990.

³⁰ [Http://www.nationalapplemuseum.com](http://www.nationalapplemuseum.com)

Bank barns are significant farmstead architectural resources that have been built with the rise and settlement of German Immigrants in Pennsylvania and beyond. Based upon a type of barn first built in Europe, the settlers to the New World adapted this style and modified it to their needs. The Pennsylvania barn may be one of the most identifiable resources with the spread of German heritage throughout the Mid-Atlantic and Mid-West region.³¹

The Round Barn is a tourist icon just north of Route 30 in Franklin Township. It was built at the height of the round barn era in 1914. It is now owned by Knouse Foods Cooperative, Inc. and is a market for a large variety of fruits, berry, vegetables and other farm produce.³² Much of the landscape associated with the farm building relates to the late 19th and early 20th century.

Historic Villages

“Growth and development in the villages has been related to the importance of roads on which they are situated as well as to the nature of the economic activity in their vicinity.”³³ The Boroughs of Arendtsville, Bendersville, and Biglerville contain significant primary and secondary historical resources and other smaller villages such as Aspers, Cashtown, McKnightstown, and Mummasburg all have very interesting historical stories to tell. Major transportation routes have largely bypassed the historic Villages of Cashtown and McKnightstown, which has enabled the villages to retain their character and integrity. One of the best preserved sections of the original Lincoln Highway in the eastern United States extends through Cashtown and McKnightstown. Cashtown, as well as McKnightstown just east of Cashtown, are deemed eligible to the National Register.

Churches, Schools, Mills, Inns

St. Ignatius Catholic Church is situated in Buchanan Valley, about ten miles from Gettysburg, on a commanding eminence in the southern part of Buchanan Valley. There is little known of the early history of this church, as there is no record to be found here or at Conewago, the church from which pastors were supplied, as the records were destroyed. It was originated in 1816 by John Lowstetter, who gave a tract of land to build it on, and the corner-stone was laid October 10, 1816 and it is built of brick. Part of the land on which the church stood was sold by the sheriff, John Arendt, in 1819. The remainder of the land was sold and purchased by the Jesuits of Georgetown and Conewago Church. Some of the original members were Jacob Sterner, Andrew Sterner, Michael Strasbaugh, Michael Dellone, Andrew Noel, John Walter, William Noel, Peter Dellone, Sr., Joseph Baker and Christian Baker. The parsonage was begun December 27, 1818 and is a frame building built beside the church. The Jesuits, in 1853, sold the land in lots, reserving two acres upon which the church stands, including the cemetery.³⁴ The church was attached to Conewago Church until 1858.

³¹ The Pennsylvania Barn: Its Origin, Evolution, and Distribution in North America, Robert F. Ensminger.

³² The Journey Through Hallowed Ground. National Heritage Feasibility Study September 2006, p. 44.

³³ Adams County Comprehensive Plan 1990.

³⁴ History of Cumberland and Adams Counties, Pennsylvania Illustrated, 1886; Warner, Beers, Co., Chicago; 1886.

Clines Church of the United Brethren in Christ is located in Menallen Township and is listed on the National Register of Historic Places. Constructed in 1849-50 in the federal style it is 35 ft. in width 1 Story high and 46 ft. in depth. The walls and foundation are limestone and the construction is wood. Historically it has functioned as a church school and it still holds services today.

Yellow Hill Cemetery is located on Yellow Hill road about one mile outside of Biglerville. Originally a cemetery for a community of free blacks who lived near this site, the grounds have been restored through the actions of the Biglerville American Legion, Butler Township Supervisors, and Biglerville 4-H. A church once stood near this site in the 1880s.³⁵

Arendtsville Vocational School was the 2nd vocational high school in Pennsylvania. It began due to the fact that in 1916 neither Franklin nor Butler Township had a high school. The community decided to unite the three districts which would lessen the burden of taxes on each. On March 12, 1917 an agreement was entered into by the different boards and was to be binding for 10 years. The result was the Arendtsville Vocational School. In the formative years of the joint school, the curriculum focused on home economics and agriculture. The following was the curriculum over 4 years:

- 1st year – poultry, vegetable gardening, shop, general science and English
- 2nd year – farm crops, animal husbandry, shop, and the required academic subjects.
- 3rd year – dairying, shop, chemistry, and academic subjects
- 4th year – farm accounts, rural sociology, rural law, shop and academic subjects.

In 1947, the school was consolidated with Biglerville to form the Upper Adams Jointure and was used as a grade school until 1955. The old school is now the government offices of Arendtsville Borough government and also holds a branch of the local library. It is eligible to the National Register of Historic Places.³⁶

The Cashtown Inn located in the village of Cashtown is eligible for listing on the National Register of Historic Places. Inns have always played a role in village life, especially in the 19th century. Although a countywide thematic study of inns has not been completed a few outstanding examples have been nominated. The Cashtown Inn is one of those.

Roads and Railroads

Lincoln Highway was the first transcontinental highway in the United States, established about 1915. The present course of US Route 30 largely follows the original highway. Originally Route 30 extended through the Villages of Cashtown and McKnightstown to the top of South Mountain. These villages were bypassed in the 1950's with the present day alignment. A portion of the original Lincoln Highway runs through these areas and has changed little in character from the early twentieth century. The Lincoln Highway in Adams

³⁵ [Http://www.nationalapplemuseum.com/adamscty02](http://www.nationalapplemuseum.com/adamscty02)

³⁶ [Http://www.nationalapplemuseum.com/aroundadams01](http://www.nationalapplemuseum.com/aroundadams01)

County has been added to the larger Lincoln Highway Heritage Corridor which extends from Franklin County west to Westmoreland County near Pittsburgh.³⁷

Another example of a historically important road in Adams County and the region is the Black's Gap Road. Surveyed in 1747, it is the earliest major east-west route across the County. The road's original course remains largely intact today, but it has been bypassed by other, more widely utilized routes. Much of the old Black's Gap Road, stretching between Hilltown, Mummasburg, Hunterstown, and the intersection with US Route 30 west of New Oxford, exists today as a series of township roads (e.g. – Goldenville Road, Hilltown Road).³⁸ Mummasburg Road is one of the original thirteen spokes centered on Gettysburg connecting Baltimore to Shippensburg.

In April 2003, the Adams County Green Ribbon Commission presented the Board of Commissioners a resolution supporting the reconstruction and reuse of the Guernsey Bridge. The village of Guernsey, about two miles northeast of Biglerville Borough, was established around 1883 as an important stop (Sunnyside Station) along the Gettysburg and Harrisburg Railroad. Construction of the Guernsey Bridge ensured that the public had unhindered and relatively safe travel over the railroad to a grist mill at Center Mills. The Guernsey Bridge has been recognized as a significant component of local and County history related to the early transportation and agricultural heritage of the County.³⁹

Despite the efforts of the preservation community, the Guernsey Bridge was required to be removed from its original location. The components of the historic bridge have been inventoried, and are now stored at Oakside Park near Biglerville. Reconstruction of the Guernsey Bridge on a site within Oakside Park is anticipated at some point in the future.

Historic Events

Mary Jemison

On April 5th 1758, during the French and Indian War, a raiding party of French soldiers and Shawnee Indians descended into the Buchanan Valley and into the Marsh Creek area. There resided some of the first settlers of the region, the Jemison family. They attacked the homestead, and although the two oldest boys escaped, the family including their daughter Mary Jemison was captured. Unfortunately, the family was eventually killed and young Mary was taken to Pittsburgh and sold to the Seneca Indians. She eventually took a new name "Dehgewanus" or "Two Falling Voices" and a Delaware Indian for a husband.

Mary and her new husband, with their young son Thomas, eventually headed back to the homeland of the Seneca Tribe along the Genesee River in upstate New York. Although he died en-route, his clan's relatives welcomed Mary and Thomas into their tribe upon their arrival. There through additional war, resettlement, and reservation life Mary lived out the

³⁷ Special Purpose Study: The Lincoln Highway in Adams County, Pennsylvania. John Milner Associates and Shelley Mastran. July 2000.

³⁸ Adams County Comprehensive Plan, 1990.

³⁹ Adams County Green Ribbon Commission Progress Report, September 2003.

rest of her days. She died, known as the “Old White Woman of the Genesee” on September 19, 1833. A statue to Mary Jemison is now located at Letchworth Park in upstate New York. However an additional statue not far from where young Mary and her family came face to face with the French and Indian War is located on the grounds of St. Ignatius Loyola Church. It was erected by Father Will Whalen in 1923.⁴⁰

Battle of Gettysburg

“The Battle of Gettysburg is probably the best-known military engagement in American history. For over a hundred years, it has focused national and world attention on Adams County and has given the word Gettysburg a recognition that is rarely matched...”⁴¹

What is unknown to many people, however, is that this famous Civil War engagement encompassed more than just the battlefield known today. There were major routes of entry to the battle including the Cashtown Road and Mummasburg Road used by the Confederates. Additional resources within the Northwest Adams study area include the Seven Stars Confederate Hospital Site and the Marsh Creek Skirmish site both proximate to Route 30 and both eligible to the National Register.

As mentioned in the Adams County Comprehensive Plan of 1990, the peak period of significance is the rural landscape of the mid to late nineteenth century. “The legislated mission of the Gettysburg National Military Park is the preservation of the nineteenth-century landscape in which the battle took place. Thus, in focusing attention upon the recognition and preservation of the rural landscape, it is also possible to reinforce and preserve the county’s most significant resource, the Gettysburg Battlefield. Likewise, the preservation of the battlefield has led to a recognition of the importance of protecting the rural landscape. The two go hand-in-hand.”⁴²

Historic Preservation/Economic Initiatives

Journey Through Hallowed Ground⁴³

The House of Representatives joined the United States Senate in passing legislation to designate the Journey Through Hallowed Ground a National Heritage Area (JTHG NHA) on April 10, 2008. This Act of Congress recognizes the unparalleled cultural, historic, and scenic resources within the entire JTHG corridor. The region generally follows the Old Carolina Road (Rt. 15/231) from Gettysburg, Pennsylvania through Maryland, to Monticello in Albemarle County, VA.

The U.S. Legislature concluded that the region holds more American history than any other region in the country with nine Presidential homes (Ash Lawn-Highland and Oak Hill (Monroe), Kennedy’s Country Home, Camp Hoover, Eisenhower National Historic Site, Montebello (Taylor), Monticello (Jefferson), Montpelier (Madison), Pine Knot (Roosevelt),

⁴⁰ Glimpses of the Past. Mary Jemison. www.letchworthparkhistory.com

⁴¹ Adams County Comprehensive Plan, 1990.

⁴² Adams County Comprehensive Plan, 1990.

⁴³ <http://www.hallowedground.org>.

and Camp David, 73 National Historic Districts, the largest collection of Civil War Battlefields, significant sites from the French and Indian War, the Revolutionary War and the War of 1812, 15 historic Main Street communities, numerous scenic roads, rivers and landscapes.

The effort to support this special designation was championed by The Journey Through Hallowed Ground Partnership. The partnership is a public-private partnership that works collaboratively with its local, regional, and national partners to provide opportunities for interpretive historic, heritage education, and recreational programs that celebrate the unparalleled American heritage found along this region. The National Heritage Area designation is a national honor that will expand opportunities for economic development, particularly within the heritage tourism industry, as well as the educational programs for students of every age.

The Journey legislation had strong bipartisan support including that of four governors, state legislators, and the endorsement of every town, county, borough council, and board of commissioners throughout the 175-mile corridor. The JTHG NHA has also garnered broad-based support from local business groups, tourism officials, non-profit organizations, educators, and citizens living along the region.

Although the northern extent of the proposed US Route 15 National Scenic Byway terminates at Gettysburg and is therefore outside the region, all of Adams County is included in the broader Journey Through Hallowed Ground National Heritage Area boundary. The Adams County Winery, Cashtown Inn, Arendtsville, the Fruit Belt, and the Round Barn are a few of historic sites in the region which are listed on the Journey Through Hallowed Ground resource map.

Adams County Comprehensive Plan⁴⁴

The Environmental Protection Plan of the County Comprehensive Plan identified specific areas in the County which are environmentally sensitive, including floodplains, wetlands, aquifer recharge and wellhead protections areas, and other critical natural features such as wildlife and plants, and stormwater management. Since these classes of environmentally-sensitive features are not uniform in their impact on development potential nor in what they represent as hazards to human life and property, there are varying levels of sensitivity with corresponding levels of response.

Adams County Greenway Plan

Currently underway, the Adams County Greenway Plan will identify proposed greenway corridors, scenic resources, trails, land preservation targets, agricultural landscape areas, and scenic and historic corridors throughout the County. Recommendations which directly affect Northwest Adams County include the following:

⁴⁴ Comprehensive Plan, Adams County, Pennsylvania; Norman Day Associates, in association with Orth-Rodgers & Associates; Coughlin, Keene & Associates; John Milner Associates; and R. E. Wright Associates.

Passive greenways have limited or no public access and are intended primarily for the protection and preservation of environmental sensitive areas. Passive greenways are proposed for Opossum Creek, Quaker Run, Bermudian Creek, and Conewago Creek from its headwaters to south of Arendtsville Borough. From this point Conewago Creek is proposed to become accessible (i.e. – active greenway), with public access at selected points for specific activities such as fishing.

Scenic resources include the Fruitbelt, South Mountain and South Mountain Faces (i.e. – Big Hill, Bear Mountain, and the Narrows), Buchanan Valley, Butler flatlands, and Table Rock vistas.

Land preservation targets include the Fruitbelt, South Mountain, South Mountain Faces (including the Narrows), and other unique agricultural areas. The Buchanan Valley, central Fruitbelt, northern Fruitbelt, a portion of the northeast Fruitbelt), *Benders Church area in Butler Township*, *upper Rock Creek open space areas in Butler Township*, *Mummasburg Road corridor in Franklin Township*, and the Ziegler Mill/West Butler farming area in Butler Township are listed as Agricultural Landscape Areas.

Scenic and historic corridors proposed for preservation and marketing include the PA Route 234 Scenic Valley Auto Tour; US Route 30 Lincoln Highway Heritage Corridor; Cashtown to Orrtanna Scenic Valley Auto Tour; scenic road from Gettysburg to Biglerville to Idaville; PA Route 34 Scenic Valley Auto Tour from Gettysburg to Bendersville; the expansive views from Big Hill and Bear Mountain; scenic corridor from Gettysburg to Arendtsville via Mummasburg; and the scenic corridor along Shippensburg Road, Wenksville Road, Brysonia Road, and Potato Road from the Narrows to Bendersville.

Adams County Green Space Grant Program

The Adams County Commissioners have established a grant program to preserve land in the County from funds allocated in the general fund budget. The program includes four (4) categories of funding for land preservation: agricultural, open space, parkland and active or passive recreation, and historical or cultural resource. For more information on this funding program, see Chapter 3, Community Facilities.

GENERAL OBSERVATIONS

- Steep slopes (over 15%) in the region are found along South Mountain and Michaux State Forest, South Mountain Faces, the Narrows, and several scattered areas.
- Prime and other important farmland soils are in the Buchanan Valley and the Gettysburg Plain/Lowland areas of the region.
- Soils ranked high for forest productivity are scattered throughout the region, with a small concentration in central Franklin Township.

- Soils with no limitations for dwellings with basements are located on portions of South Mountain and the Fruitbelt. The Buchanan Valley and the remaining areas of the Fruitbelt are comprised primarily of soils that are moderately favorable, while soils in the rest of the region are unfavorable.
- The Buchanan Valley and portions of the South Mountain Faces and Fruitbelt contain soils which are moderately favorable for on-lot septic systems. Soils in the remaining areas of the region are unfavorable for this type of system.
- Radon is a potential problem throughout the region, requiring all homes to be tested and removal equipment installed when necessary.
- Groundwater yields are variable and in some cases, water levels show a strong seasonal fluctuation. Portions of the region have been identified as potentially stressed areas. Iron and dissolved solids can sometimes be a problem for groundwater quality.
- Subsurface drainage is poor at many locations in the region, affecting the feasibility and effectiveness of subsurface sewage disposal and stormwater recharge systems.
- Carbaugh Run, a tributary of the Conococheague Creek, is designated an Exceptional Value stream; while the upper segment of the Conewago Creek and Lone Pine/Birch Run (part of the Conococheague Creek watershed) are designated High Quality streams.
- Carbaugh Run has also been designated a Pennsylvania State Natural Area, an Amphibian and Reptile Protection Area, and a Class A Wild Trout Water. Other trout waters in the Region include Conococheague Creek, Conewago Creek, Opossum Creek, Little Marsh Creek and Marsh Creek.
- One reservoir in Franklin Township, Long Pine Run (a.k.a. – Chambersburg), supplies water to the City of Chambersburg.
- The Conewago Creek and its tributaries, such as the Opossum Creek, contain extensive floodplain networks which are particularly evident in the Buchanan Valley and in areas of Butler Township. Important natural resources listed on the Pennsylvania Natural Diversity Index are also associated with these floodplain areas.
- The Conewago Creek Watershed Conservation Plan developed a comprehensive list of recommendations that municipal governments within the watershed can adopt to help protect the watershed.
- The Monocacy River Watershed Stormwater Management Plan includes a model ordinance for adoption by municipalities.

- The Yellow Breeches Creek Rivers Conservation Plan, approved by DCNR in May 2006, includes an identification and ranking of the watershed's problems and management options and strategies to solve these problems.
- Significant concentrations of hydric soils are found in Butler and southeastern Franklin Townships associated with the Conewago Creek and Marsh Creek. Additional areas are located in Menallen Township north of Arendtsville Borough and southeast of Bendersville Borough. Wetlands can be found along the Little Marsh Creek, the Conewago Creek north of the Narrows and south of Arendtsville Borough, and the Opossum Creek east of Bendersville Borough. The upper Conococheague Creek also contains wetland areas.
- One of the most prominent and contiguous areas of forest cover in the County is South Mountain, protected mostly by the Michaux State Forest. Michaux State Forest contains many rare and endangered plants and animals identified as PNDI sites. Additional areas to the east deemed the "South Mountain Faces" also contain significant forested resources but are not protected. The South Mountain Faces have been identified as one of eleven Highlands Conservation Landscapes in Pennsylvania.
- Other prominent forested areas include Rock Top and Fox Hill near the village of Cashtown; Yellow Hill between Arendtsville Borough and Biglerville Borough; Big Hill and Wolfpit Hill northeast and east of Bendersville Borough; and Chestnut Hill, a forested PNDI site on the Butler Township line.
- There are 24 areas within the region which have been identified as having endangered, threatened, or vulnerable plant and/or animal species. The majority of these areas occur within Michaux State Forest in Franklin and Menallen Townships. Some sites are also located within wetland areas in the lowlands within the Conewago Creek and Marsh Creek watersheds.
- There are twelve (12) sites within the region which have participated in Stream ReLeaf Program to restore and enhance riparian buffers along streams.
- Qualifying lands for the USDA Forest Legacy Program involving conservation easements are located primarily in the South Mountain Faces area.
- The USDA's Forest Land Enhancement Program (FLEP) is available to provide a wide array of educational, technical, and financial services to ensure that non-industrial private forests continue to provide sustainable forest products and safeguard the health of our water, air, and wildlife.
- Scenic landscape resources in the region include South Mountain, Buchanan Valley, the Narrows, and the Fruitbelt.
- There are fifteen (15) sites in the region which are listed or eligible for the National Register of Historic Places, including the Carbaugh Run Rhyolite Quarry (Snaggy

Ridge), National Apple Museum, Round Barn, Adams County Fruitbelt, Cashtown Historic District, Seven Stars Confederate Hospital, Marsh Creek Skirmish site, and numerous churches, schools, mills, and inns. The Lincoln Highway in Adams County has been added to the Lincoln Highway Heritage Corridor.

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Chapter Two

POPULATION, DEMOGRAPHICS, AND HOUSING

An understanding of regional demographics and socioeconomic trends and current housing conditions is necessary to prepare a multi-municipal plan for northwest Adams County. Adams County is growing and changing rapidly, with a shifting demographic composition. Although the municipalities of the Northwest Region may be growing at a rate slightly lower than Adams County as a whole, these municipalities are centrally located in respect to several growth inducing development projects. The rural-based culture will most likely stay in the community as they age. Therefore, it will be important to understand the social services needs of these residents as they age in place. On the other hand, the labor needs of the working and younger populations should be examined. Information pertaining to educational attainment, school enrollment, income levels and employment must also be analyzed. The land values and housing prices in the Northwest have been increasing faster than wages which may make it more difficult for younger families to buy homes in the region. Many of the NW residents also work locally, especially in the farming and fruit processing industries. In the event that the capacity of these industries is diminished, the workforce should be able to easily access retraining opportunities or have the chance to learn new skills. Statistics for the NW Region's conditions are compared to that of Adams County as a whole for each category of data as a measure of the region's relative position to the County's average.

POPULATION TRENDS

Regional Population and Future Growth

Table 2-1 provides data regarding population trends for the Northwest Region and Adams County. Population statistics for the Commonwealth of Pennsylvania, Adams County, as well as each municipality located in the Northwest Adams Region were compiled by the Census Bureau for the years 1980, 1990, and 2000. Current population estimates (2006) and future population projections (2010 and 2020) were developed by the Adams County Office of Planning and Development. County Planners consulted the number of building permits issued along with proposed land development plans when developing population estimates and projections. Among the six municipalities in the NW, the highest percentage increases are highlighted in red and the lowest percentage increases are highlighted in blue.

According to U.S. Census data, each municipality in the NW Region, as well as Adams County and the Commonwealth as a whole, gained population between 1980 and 2000. Between the 1990 and 2000 Census, the Region's boroughs grew at a rate of 12.4% as compared to the Region's townships, which grew at a rate of 9.7%. This phenomenon was also mirrored at the county level. Adams was the only county in Pennsylvania whose boroughs grew at a faster rate than its townships. In particular, Arendtsville and Biglerville had significant increases in population between 1990 and 2000 due to the build-out of new residential developments.

Table 2-1: Population Trends

Municipality		1980	1990	2000	2006 est	2010 proj	2020 proj
Arendtsville Borough	Population	600	693	848	906	950	1,100
	% Change		8.2%	22.4%	6.8%	4.9%	15.8%
Bendersville Borough	Population	533	560	576	630	650	800
	% Change		8.3%	2.9%	9.4%	3.2%	23.1%
Biglerville Borough	Population	991	993	1,101	1,157	1,250	1,400
	% Change		0.2%	10.9%	5.1%	8.0%	12.0%
Butler Township	Population	2,166	2,514	2,678	2,870	3,200	4,500
	% Change		16.1%	6.5%	7.2%	11.5%	40.6%
Franklin Township	Population	3,692	4,126	4,590	5,085	5,450	6,500
	% Change		13.0%	11.2%	10.8%	7.2%	19.3%
Menallen Township	Population	2,354	2,700	2,974	3,362	3,600	4,350
	% Change		13.9%	10.4%	13.0%	7.1%	20.8%
NW Region	Population	10,336	11,586	12,767	14,010	15,100	18,650
	% Change		12.0%	8.5%	9.7%	7.8%	23.5%
Adams County	Population	68,292	78,274	91,292	102,525	115,150	154,775
	% Change		14.6%	16.6%	12.3%	12.3%	34.4%
Pennsylvania	Population	11,863,895	11,881,643	12,281,054	12,440,621	12,584,487	12,787,354
	% Change		0.2%	3.4%	1.3%	1.2%	1.6%

Source: U.S. Bureau of the Census, Adams County Estimates and Projections - ACOPTD

The Northwest Region is expected to continue to grow in the future although at a somewhat lower rate than Adams County as a whole, but still much faster than Pennsylvania. At this point in time, short term population projections are difficult to determine, and are dependent on a variety of factors. Due to current financing-related issues, residential build-out of proposed developments may be slower than anticipated a year or two ago. If financing difficulties continue for more than two additional years, the population which has been projected for 2010 may not be reached until 2011 or 2012. The Region's remote location with respect to south central Pennsylvania's major four-lane highway network and predominately agricultural land use pattern is likely to contribute to the differential in the future growth rate for the Region, as compared to Adams County as a whole.

The extent of future population growth within the Region's boroughs is somewhat limited by the availability of land. Boroughs, like Arendtsville and Biglerville, do have a modest amount of land available to develop, but in order for the population to continue increasing substantially, they will still have to rely on the intensification of land uses and generational turnover. Generational turnover and a tendency toward the occupation of older, existing borough homes by younger households with children will continue. These homes provide lower priced alternatives for younger families who are entering the housing market. As a result, between 2010 and 2020 the boroughs are projected to grow at the same rate as the townships.

The townships in Northwest Adams are also expected to experience population growth, but at a lower rate than Adams County as a whole. This Region has not seen as much of the larger-scale development proposals that have confronted other areas of the county. However, large-scale development of this area is still possible, given the relative ease of finding percolation sites in the fruit-growing soils. Butler Township is projected to be the fastest growing municipality in

Northwest Adams County as development pressures from surrounding Cumberland and Straban Townships may push development north. The lotting off of new lots along rural roads will continue, while the expansion of existing utilities into areas of the townships that surround boroughs may allow for more intense development areas.

SOCIOECONOMIC AND HOUSEHOLD CHARACTERISTICS

Age

Table 2-2 depicts the age groups or “cohorts” found in the municipalities and also allows for the comparison of the Northwest Region to Adams County. These figures were current in 2000, but are now over seven years old. They need to be projected ahead from the year 2000 as various age groups have moved forward through the life cycle.

Table 2-2: Age

Age	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Under 5	77	55	64	130	241	187	754	5.9%	5,405	5.9%
5 - 9	65	50	85	205	312	234	951	7.4%	6,465	7.1%
10 - 14	70	37	86	207	402	224	1026	8.0%	6,952	7.6%
15 - 19	53	37	58	186	310	224	868	6.8%	6,810	7.5%
20 - 24	41	46	63	136	216	152	654	5.1%	5,573	6.1%
25 - 34	128	85	143	316	524	371	1567	12.3%	11,426	12.5%
35 - 44	120	78	168	459	794	527	2146	16.8%	15,001	16.4%
45 - 54	88	73	139	411	742	441	1894	14.8%	12,622	13.8%
55 - 64	75	40	111	292	440	271	1229	9.6%	8,382	9.2%
65 - 74	53	39	89	196	287	197	861	6.7%	6,631	7.3%
75 - 84	63	32	76	107	231	119	628	4.9%	4,469	4.9%
85+	15	4	19	33	91	27	189	1.5%	1,556	1.7%
Total	848	576	1,101	2,678	4,590	2,974	12,767	100%	91,292	100%
Median Age	34.2	32.9	38.0	38.7	39.3	37.0	36.7		37.0	

Source: U.S. Bureau of the Census, 2000

In 2000, the median age of persons residing in the Northwest was 36.7, which was close to that of the county at 37.0. However, the 35–44 age group contained the largest number of persons in the NW Region and Adams County. As this group continues to age, and as younger age groups are replaced by newer populations, the median age for the Region may increase. Arendtsville and Bendersville have relatively young populations with a median age of 34.2 and 32.9, respectively. Franklin Township and Butler Township had an older population cohort with median ages 39.3 and 38.7, respectively.

The Northwest Region had a slightly higher percentage of its population in the 35-64 age group than Adams County as a whole. Today, with a passage of seven years, many of these residents would be closer to the ages of 42–71, with many reaching retirement age. A large number of “older” middle-aged and “young” elders work locally and can be expected to age in place. In 2000, the percentage of those aged 65-74 was lower for the Northwest Region than the county as a whole. This area was not attracting as many retirees from other locations as the rest of Adams

County. Although a retirement community is located in Franklin Township, Franklin does not appear to have a higher percentage of older residents compared to the other municipalities of the Northwest. The NW Region could, eventually, have a generationally skewed population with a higher than average number of young parents with children and a higher than average number of older persons at or near retirement age. Adequate services, such as medical and domestic assistance, should be available to those retirees and those near retirement age. Thus, the NW Region could also have a relatively small proportion of its residents in the “later middle-age” cohort, a time when many people are able to provide volunteer services to the community.

Race and Hispanic or Latino Origin

According to the Census Bureau, race is a self-identification trait. Respondents to the Census chose the race(s) they most closely identify with. A minimum of 5 race categories were required by Federal Office of Management and Budget. Hispanic or Latino origin is the heritage, nationality group, lineage, or country of birth of the person or the person’s ancestors before their arrival in the US. People of Hispanic or Latino origin may be of any race. Table 2-3 provides information on racial categories and Hispanic origin.

Table 2-3: Race and Hispanic or Latino Origin

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
White	753	522	1,030	2,560	4,298	2,777	11,940	93.5%	87,088	95.4%
African American	11	13	9	16	80	27	156	1.2%	1,105	1.2%
Am. Indian/ AK Native	1	1	0	10	16	6	34	0.3%	184	0.2%
Asian	2	1	2	3	4	1	13	0.1%	448	0.5%
Native HI/ Pacific Islander	0	0	0	0	0	1	1	0.0%	21	0.0%
Other/ 2 or more Races	81	39	60	89	192	162	623	4.9%	2,446	2.7%
Total	848	576	1,101	2,678	4,590	2,974	12,767	100%	91,292	100%
Hispanic or Latino	136	73	128	136	264	273	1,010	7.9%	3,323	3.6%

Source: U.S. Bureau of the Census, 2000

The Northwest Region and Adams County as a whole is predominantly white, 93.5% and 95.4%, respectively. Those who identified themselves as a race other than one of the minimum 5 race categories or as “blended racial background” comprised a significant proportion of the population. The Region had almost twice the percentage of these respondents (4.9%) than that of the county as a whole (2.7%). Both the Northwest Region and Adams County had 1.2% of its population that identified themselves as African American. Within the NW, Franklin Township had the highest number of African Americans. Historically, a group of African Americans settled in Franklin Township, established a church and other community institutions, and have remained in the area.

The percentage of the population in the Northwest Region that identifies with the terms “Hispanic” or “Latino” is more than twice that of Adams County as a whole. In the Northwest Region, 7.6% of the population is identified as Hispanic or Latino as compared to 3.6% of the county. Of the 3,323 Adams County residents that identified themselves as Hispanic or Latino, 30% of them live in the NW Region. Many of these residents are associated with the orchards and fruit processing industry.

Nativity and Place of Birth

Table 2-4, provides information about the native and foreign born populations of the Northwest Region and Adams County. The Census Bureau defines the native population as those persons born in any of the 50 states, District of Columbia, as well as those born in Puerto Rico, any US Island or Territory, or those born abroad to parents who are US citizens.

Compared to the Adams County as a whole, the Northwest Region has a higher percentage of the population that was born, and continues to live, in Pennsylvania. Seventy-three percent (73.3%) of the Northwest's population was born in Pennsylvania, compared to 68.8% of Adams County residents.

Interestingly, the NW Region, when compared to Adams County as a whole, also has a higher percentage of the population that is foreign born. Almost 5% of the inhabitants of the Northwest Region were born outside of the United States, compared to 3.4% of than those from Adams County. The majority of the foreign born population resides in the boroughs of the Northwest. Foreign born residents encompass 9.4% of the borough's population compared to 3.7% of the townships population.

Table 2-4: Nativity and Place of Birth

Place of Birth	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Native	755	519	1,012	2,592	4,483	2,792	12,153	95.2%	88,162	96.6%
Pennsylvania	604	468	764	1,900	3,356	2,254	9,346	(73.2%)	62,779	(68.8%)
Different State	149	48	248	672	1,100	518	2,735	(21.4%)	24,823	(27.2%)
Outside US	2	3	0	20	27	20	72	(0.6%)	560	(0.6%)
Foreign Born	94	58	84	91	106	181	614	4.8%	3,130	3.4%

Source: U.S. Bureau of the Census, 2000

Educational Enrollment and Attainment

Tables 2-5 and 2-6 describe educational enrollment and educational attainment levels. Educational enrollment includes the persons 3 years and older, who were enrolled in public or private school during the 2000 Census. Those enrolled in college or grad school could have been of any age.

In the year 2000, a significantly lower percentage of the Region's students (3.8%) were enrolled in kindergarten, compared with the County as a whole (5.3%). Yet, the Region had a slightly higher percentage of its students enrolled in elementary and secondary school than Adams County as a whole. Twenty-eight percent (28.2%) of the Region's students were enrolled in elementary school, compared with 22.4% of the county's students. Students who were enrolled in elementary school in 2000 are now enrolled in secondary school. The percentage of students enrolled in the Region's secondary schools in 2000 was 26.7%, compared to 24.7% of the county's students. These students would now be enrolled in, or many have completed, high school or college.

According to the Table 2-5, in 2000 20.2% of Adams County’s students were enrolled in college or graduate school, while only 13.2% of the Region’s students were enrolled in college or graduate school. The Census Bureau considers the presence of a college student at the time of the Census as a component of that municipality’s population. Adams County is home to Gettysburg College, the Lutheran Theological Seminary, and a branch campus of Harrisburg Area Community College (HACC). Considering that these institutions are located in the Gettysburg area of Adams County, further research is needed to determine whether the Region actually has a significantly lower percentage of local residents enrolled in college or grad school, or comparison with a County containing higher education institutions makes the percentage appear lower. Northwest Adams County is within commuting distance of several higher learning institutions including Penn Sate Mont Alto, Shippensburg University, Dickinson School of Law, U.S. Army War College at Carlisle Barracks, Wilson College, and Mount Saint Mary’s. If those residing in the Northwest Region were enrolled in college or grad school, they would have to be commuter students.

Table 2-5: Educational Enrollment

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Nursery/ Preschool	23	7	17	36	17	63	163	5.3%	1,219	5.2%
Kindergarten	12	9	25	28	15	27	116	3.8%	1,223	5.3%
Elementary School (gr 1-4)	52	47	58	202	331	175	865	28.2%	5,196	22.4%
Secondary School (gr 5-8)	69	26	67	145	322	189	818	26.7%	5,747	24.7%
High School	52	41	66	132	242	162	695	22.7%	5,167	22.2%
College or Grad School	17	8	28	90	171	91	405	13.2%	4,694	20.2%
Total	225	138	261	633	1,098	707	3,062	100%	23,246	100%

Source: U.S. Bureau of the Census, 2000

Table 2-6 illustrates the highest level of education attained for persons 18 and over in 2000. A high percentage of adults (23.4%) in the Northwest Region did not finish high school or receive a general equivalency diploma (GED). This compares to 16.3% of the adults in Adams County who did not graduate from high school or receive a GED. Another disparity can be seen in the population that completed “some college” or who earned an Associate Degree. Again, this disparity may correspond to the inclusion of several higher learning institutions in the central portions of Adams County. Of the six NW municipalities, the highest percentage of graduate degree or professional degree holders reside in Arendtsville (9.6%). Bendersville has the lowest percentage of adults who have attained a graduate or professional degree (1.5%). Overall, educational attainment is lower in Northwest Adams County than in Adams County as a whole.

Table 2-6: Educational Attainment

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
High School Graduate or GED	179	172	357	910	1,510	907	4,035	42.5%	29,097	42.4%
Some College or Associate Deg	135	71	164	412	707	492	1,981	21.1%	17,778	25.9%
Bachelor’s Degree	70	42	72	185	263	152	784	8.2%	6,617	9.6%
Graduate or Professional Degree	57	6	33	105	178	104	483	5.1%	3,938	5.7%
Pop. with HS Diploma or GED	441	289	622	1,612	2,658	1,655	7,283	76.6%	57,430	83.7%
Population 18 and over	596	404	827	2,029	3,449	2,199	9,504	100%	68,650	100%

Source: U.S. Bureau of the Census, 2000

Household Composition

Types of households and average household size are the focus of Table 2-7. For clarification, the Census Bureau defines a family as a group of two or more people residing together related by marriage, birth, or adoption. A family household includes a householder and one or more additional persons living in that house that are related to the householder. Non-family households would include those households containing non-related individuals, such as roommates or an unmarried couple. Those that live alone are also considered a non-family household, but are broken out in the table for the purpose of analysis.

In 2000, the NW Region had a higher percentage of family households (76.2%) when compared with the county as a whole (73.6%). Butler Township had the highest percentage of family households (80.1%). Within the NW Region, more people lived alone in Arendtsville and Biglerville than in the other municipalities. Nearly a quarter of the residents of these two boroughs lived alone. This is not the case for all boroughs however, because Bendersville had the second highest percentage (77.7%) of family households in the NW Region.

Table 2-7: Households

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Family Households	242	157	300	784	1,265	819	3,567	76.2%	24,777	73.6%
Non-Family Households	87	45	143	195	386	258	1,114	23.8%	8,875	26.4%
Living Alone	75	35	112	147	311	204	884	(18.9%)	7,158	(21.3%)
Total Households	329	202	443	979	1,651	1,077	4,681	100%	33,652	100%
Av. Household Size	2.58	2.85	2.49	2.74	2.67	2.73	2.68		2.61	
Av. Family Size	3.01	3.21	3.00	3.01	3.05	3.12	3.07		3.02	

Source: U.S. Bureau of the Census, 2000

The high percentage of “family households” in the NW Region has a positive relationship to household size. The Northwest has larger families than the county as a whole. The average household and family sizes were the greatest in Bendersville. Previous data indicates that Bendersville Borough consists predominately of young families – young adults with younger children. The smallest household and family sizes are in Biglerville, which corresponds to the prevalence of single person households, many of which may be comprised of elderly persons.

HOUSING UNIT CHARACTERISTICS

Tenure and Occupancy

Table 2-8 indicates the number of housing units and type of tenure for these housing units in the Northwest Region and Adams County as a whole in 2000. The number of housing units that were vacant at the time of the Census is also indicated. However vacancy status can change frequently and over a relatively short period of time.

At the time of the Census, the Region had a slightly lower percentage of occupied housing units compared to the county. The Region’s boroughs had significantly higher proportions of rental

units than the townships. The percentages of dwelling units that were renter occupied in the boroughs were: Arendtsville 31.2%, Bendersville 28.3%, and Biglerville 31.5%. For the NW, only 20% were renter occupied.

Table 2-8: Housing Units, Tenure and Occupancy

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Occupied Units	329	203	437	985	1,651	1,076	4,681	91.7%	33,652	93.9%
Owner-Occupied	221	139	294	838	1,333	837	3,662	(71.7%)	25,861	(72.2%)
Renter-Occupied	108	63	143	147	318	239	1,018	(19.9%)	7,791	(21.7%)
Vacant	17	20	17	45	173	152	424	8.3%	2,179	6.1%
Total	346	223	454	1,030	1,824	1,228	5,105	100%	35,831	100%
Units built after Census*	22	12	21	44	177	123	399		4,044	
Total	368	235	475	1,074	2,001	1,351	5,504		39,875	

Source: U.S. Bureau of the Census, 2000

* Units built after the Census is an approximate number of units constructed through May 2007, from County Tax Assessment data

Housing Unit Types

Housing units within the Northwest Region and Adams County are further examined in Tables 2-9 and Table 2-10. Living quarters, based on type or number of units in a building, are categorized in Table 2-9.

The majority of the housing units in the NW Region and Adams County are single family detached units. In fact, the Region has a considerably higher percentage of single family detached units than the county as a whole, 77.1% compared to 72.2%. The Region also has a relatively high percentage of mobile homes, which are also a type of single family unit. Yet, only 2 of the county's 22 mobile home parks are located in the Northwest Region. This suggests that mobile homes are often located on individual lots rather than in park settings. A new mobile home park consisting of 31 units is currently proposed for Butler Township.

The NW Region does not have many single family attached units, such as rowhomes or townhouses. Higher percentages of these types of homes are found in the boroughs than the townships. Infill projects with these housing types may be favorable in areas where higher densities are desired.

Table 2-9: Housing Unit Types

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
1 unit detached	243	158	305	783	1,456	991	3,936	77.1%	25,867	72.2%
1 unit attached	5	12	30	4	13	7	71	1.4%	2,407	6.7%
2 units	21	31	58	27	42	29	208	4.1%	1,606	4.5%
3 - 9 units	67	12	39	12	35	43	208	4.1%	2,120	5.9%
10 - 19 units	7	1	19	0	23	0	50	1.0%	305	0.9%
20+ units	0	0	0	4	16	0	20	0.4%	400	1.1%
Mobile home	3	9	3	200	233	151	599	11.7%	3,100	8.7%
Boat, RV, van, etc	0	0	0	0	0	7	7	0.1%	26	0.1%
Total	346	223	454	1,030	1,824	1,228	5,105	100%	35,831	100%

Source: U.S. Bureau of the Census, 2000

Age of Housing Stock

Table 2-10 illustrates the year in which housing units were constructed. The number of homes built after the 2000 Census is an approximate number taken from county records. The median age of the housing unit includes only those surveyed for the most recent Census.

Northwest Adams County has an older housing stock than Adams County as a whole. The majority of the homes in the Northwest Region (66.6%) were constructed prior to 1980. For the county as a whole, 56.3% of the homes were built before 1980. Almost 30% of the homes in the NW Region were built before 1940. This compares to 22.9% for the County as a whole.

The boroughs of the Northwest have a much older housing stock than the townships. The median age of homes in the boroughs is also significantly higher than the county, a 20+ year difference! A number of historic villages are also located in the Northwest Region. These villages, like Cashtown, Aspers, and Center Mills, contain numerous old homes and contribute to the relative age of the NW's housing stock. Many of the original dwellings in these villages still exist and are inhabited today.

Table 2-10: Age of Housing Stock

Year Built	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
2000 - May 2007 approx.	22	12	21	44	177	123	399	7.3%	4,044	10.1%
1990 - 1999	29	11	25	148	361	133	707	12.9%	7,485	18.8%
1980 - 1989	54	8	19	157	251	244	733	13.3%	5,878	14.7%
1970 - 1979	41	29	44	215	321	209	859	15.6%	5,356	13.4%
1960 - 1969	9	17	40	97	160	142	465	8.5%	3,129	7.8%
1940 - 1959	73	44	125	131	261	129	763	13.9%	4,846	12.2%
1939 and earlier	140	114	201	282	464	371	1,572	28.6%	9,137	22.9%
Median Age	1952	1940	1945	1970	1971	1968	1958 avg.		1972	

Source: U.S. Bureau of the Census, 1999 and earlier; Adams County Tax Assessment Office, 2000-2007 approximation

Several developments have been recently constructed or proposed within each of the boroughs. The build-out from these developments can be seen in Table 2-10 and Table 2-11. Large scale development proposals have also been submitted for review in Butler and Menallen Townships. If construction within some or all of these proposed developments begins within the next two and a half years, the effects will be seen in the next Census. It is possible that economic circumstances could delay construction. If this occurs, the 2010 Census could present artificially low population statistics for the future and this in turn could negatively effect funding distribution for various government programs.

Table 2-11 presents the number of building permits that were issued for new residential units in the Northwest Region compared to Adams County as a whole between 2000 and 2006. During this time period, the numbers of permits issued for new residential units in the boroughs of the Northwest Region were consistent. Conversely, the number of permits issued in the townships of the NW varied during this same time period. A total of 206 permits were issued to Franklin Township where only 78 permits were issued to Butler Township.

In comparison with Table 2-10, the build-out of homes in the Northwest Region is occurring at a slower pace than Adams County as a whole. Approximately 87% of the permits issued in the County between 2000 and 2006 resulted in a new residential unit. This compares to about 78% in the NW.

Table 2-11: Building Permits Issued

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Adams Co.
2000	0	0	5	8	26	8	47	649
2001	3	2	3	16	26	19	69	610
2002	2	2	10	13	43	20	90	766
2003	1	0	1	11	32	30	75	609
2004	6	4	1	8	26	32	77	743
2005	8	0	2	11	23	28	72	702
2006	5	13	3	11	30	21	83	576
Total	25	21	25	78	206	158	513	4655

Source: Adams County Tax Assessment Office

Housing Values

Although not entirely applicable, given the substantial rise in property values since 2000, Table 2-12 still provides a point of comparative reference for housing values. Census questionnaires requested homeowners to estimate the sale price of their property if it were placed on the market. Gross rents include monthly rent plus the estimated monthly average cost of utilities.

In 2000, median housing values for the NW Region were lower than the median values for the County as a whole. In 2000, the median value of homes in the Northwest was \$103,700, compared to \$110,100 for Adams County. The profusion of older homes in the Region may be a contributing factor to lower home values. Bendersville had the lowest housing values, with a median value of \$92,000.

Gross rents in the NW Region's municipalities were consistent with county median rents. Bendersville had the highest median rent at \$534. Bendersville Borough did not have a large number of multiple unit buildings, typically associated with an apartment building. Thus, rental units in Bendersville were mainly single family or two family dwellings.

Table 2-12: Median Housing Values

Value/ Rent	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region avg.	Adams Co.
2000 Median Value	\$114,000	\$92,000	\$101,400	\$106,100	\$107,100	\$101,600	\$103,700	\$110,100
2000 Median gross rent	\$493	\$534	\$499	\$508	\$497	\$510	\$507	\$509

Source: U.S. Bureau of the Census, 2000

Table 2-13 provides a better indication of the affect of the rapidly inflating housing market during the early-mid 2000's on the Northwest Region. The average sale prices for the municipalities are approximated from County Tax Assessment records.

Table 2-13: Average Sale Price

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region avg.	Adams Co.
2000	\$91,238	\$65,850	\$88,130	\$93,933	\$87,399	\$74,464	\$84,714	\$122,446
2003	\$120,515	\$72,936	\$127,209	\$144,520	\$117,844	\$84,367	\$116,567	\$156,069
2006	\$177,883	\$174,718	\$192,300	\$212,300	\$208,523	\$184,192	\$191,751	\$211,376
% Increase 00-06	95%	165%	118%	126%	139%	147%	126%	73%

Realtors Association of York & Adams Counties (Adams County)/ Adams County Tax Assessment Office, 2006 approx.

The average sale price in the Region rose significantly between 2000 and 2003, but did not achieve the average sales price of Adams County as a whole. Between 2000 and 2006, average home sales increased dramatically. The NW Region's average sale price more than doubled, with a 126% increase! In 2006, all of the municipalities doubled average sale prices, with the exception of Arendtsville. The average sale price in Butler Township in 2006 surpassed Adams County's average. Some of these dramatic increases could be attributed the construction of newer, more expensive, homes in the Region. Further, some of the in-migration of people from metropolitan areas which had been more typical of southern Adams County, began to affect NW Adams. Looking back, Table 2-9 indicated that mobile homes were more common on individual lots in the NW than in Adams County as a whole. These types of homes provided a lower cost alternative for homeowners and may have contributed to the lower home sale averages. New, stick-built or modular homes built in the Northwest may not be an affordable option for some residents who live and work in the Region.

Affordable Housing

Currently, Adams County contains approximately 679 public or non-profit supported units that are considered "affordable". Affordable housing units can be rental or owner occupied and have received funding assistance through one or more agency(ies). These units are located within 12 municipalities. Forty-three (43) of these affordable housing units are located in the Northwest Region. Units are located in Arendtsville Borough (9), Biglerville Borough (8), and Menallen Township (26). A little more than half of the units are specifically for farmworkers (26).

Adams County Comprehensive Plan

The Housing Plan element of the Adams County Comprehensive Plan recognizes that designated growth areas are the primary locations for new housing development. It also recommends residential clustering as a technique to achieve a more efficient use of land and conserve agricultural land and other important natural resources. "Clustering" can refer to any development design technique that concentrates buildings in specific areas of a site to allow the remaining land to be used for permanent agricultural and/or recreational uses, and the preservation of environmentally-sensitive areas. Clustering can also facilitate an interconnecting permanent open space or greenway system, intended to permit pedestrians and bicycle connections between other developments, commercial and employment centers, and recreational facilities.

To not only achieve increased set-aside of environmentally-sensitive areas or open space, residential clustering provisions may be combined with zoning ordinance regulations that allow flexibility in the construction of housing types. By using regulations based on gross density classifications, rather than specific housing types and individual lot-size requirements, developers will be more likely to provide a housing-type mix that is better tuned to the needs of residents as they pass through the various stages of the life cycle.

The County Plan also proposes to increase opportunities for affordable housing principally by providing new settings for housing construction at medium and medium-high densities within designated growth areas. At the same time, housing opportunities may be expanded through more efficient use of the current housing stock, such as provisions for residential conversions, accessory dwelling units, accessory apartments, and shared housing. Design standards for residential subdivision should be established, appropriate to each community, addressing such issues as street widths, lot sizes, frontage widths, and setbacks – all within the context of creating high-quality and affordable residential areas.

The County states that efforts should also continue, utilizing state and federal funding, to rehabilitate substandard homes as a way of maintaining an aging housing stock and providing affordable housing. Housing affordability in Adams County is formally assisted through a combination of privately- and publicly-operated facilities and publicly-administered programs for low- and moderate-income families and individuals.

Specific housing policies in the County Comprehensive Plan include:

- Assist municipalities in the preparation and adoption of local comprehensive plans and land use controls generally consistent with the County Comprehensive Plan.
- Facilitate water and sewer system improvements, including extensions of existing systems and creation of new ones, consistent with the Land Use and Housing Plans.
- Promote residential clustering through the preparation of model zoning ordinances and encourage their adoption by municipalities.
- Advocate construction of new medium and medium-high density housing at appropriate locations within designated growth areas.
- Encourage the enactment and enforcement of uniform housing codes by municipalities.
- Generate and publicize model land use controls and other means which would create additional affordable housing opportunities and accommodate residents with special housing needs.

POPULATION PROJECTIONS AND ACREAGE REQUIREMENTS

The development of population projections is challenging because of the interrelatedness of a variety of factors. Due to the extent of uncertainty involving future economic conditions, it becomes difficult to accurately project populations, especially past 2010. As a result, the staff of Adams County Office of Planning and Development has developed a low, medium, and high range of population projections for the year 2010 and 2020, which are shown in Table 2-18. These population projections can be used to estimate the acreage required to accommodate the housing needs of an expanded population for each growth scenario.

The 2020 population projections were used to estimate the acreage that will be needed to accommodate the new housing units that may be required. It is possible to estimate the number of additional housing units needed by dividing the Region’s average household size from the 2000 Census by the difference between the 2006 estimated population and the range of projected 2020 populations.

Table 2-18: Population Projections

	2000	2006	2010 Projection			2020 Projection		
	Census	Estimate	low	medium	high	low	medium	high
Arendstville	848	906	900	950	1,000	900	1,100	1,400
Bendersville	576	630	625	650	675	750	800	850
Biglerville	1,101	1,157	1,175	1,250	1,300	1,350	1,400	1,450
Butler	2,678	2,870	2,900	3,200	3,800	4,000	4,500	5,000
Franklin	4,590	5,085	5,300	5,450	5,600	6,000	6,500	7,000
Menallen	2,974	3,362	3,300	3,600	4,000	4,000	4,350	5,200
NW Region	12,767	14,010	14,200	15,100	16,375	17,000	18,650	20,900
Adams Co.	91,292	102,525	108,275	115,100	122,925	138,400	154,775	173,800

Source: US Census Bureau, 2000; ACOPD, 2007

2006-2020 Northwest Adams County

Total Projected Population Increase (number of persons)

Low - 2,990 Medium - 4,640 High - 6,890

2000 Census

Average Household Size

2.68

2006-2020 Projected Dwelling Unit Increase, by household

Low Population Increase: 1,115 additional units
 Medium Population Increase: 1,731 additional units
 High Population Increase: 2,570 additional units

The potential acreage required to accommodate the projected population increases are provided on the following page. The acreage has been calculated to provide for the increase in dwelling units by three average lot sizes; 10,000 sq. ft., 20,000 sq. ft., and 40,000 sq. ft.. The basic acreage required to accommodate housing is then increased by 20 percent for the 10,000 sq. ft. and 20,000 sq. ft. lots to allow for infrastructure requirements (i.e. – streets). Typically, lots of 40,000 sq. ft. or more are serviced by on-lot utilities. All acreages are approximate.

For example, it is estimated that approximately 708 acres will be required to accommodate the increased population resulting from the high 2020 projection on 10,000 square foot lots, while 1,416 acres would be required to accommodate the same population increase on 20,000 square foot lots. For 40,000 sq. ft. lots, it would be necessary to convert 2,360 acres of land to development.

Acreage Requirements

<u>@ 10,000 sq. ft. lots</u>	<u>adjusted by adding 20% for infrastructure</u>
Low - 256 acres	307 acres
Medium - 397 acres	476 acres
High - 590 acres	708 acres

<u>@ 20,000 sq. ft. lots</u>	<u>adjusted by adding 20% for infrastructure</u>
Low - 512 acres	614 acres
Medium - 795 acres	954 acres
High - 1,180 acres	1,416 acres

<u>@ 40,000 sq. ft. lots</u>	
Low - 1,024 acres	
Medium - 1,590 acres	
High - 2,360 acres	

This analysis assumes that single family detached dwelling units will remain the dominant new dwelling unit type in the Northwest Region. With energy prices likely to rise in the future, and with an aging population on the horizon, it is likely that Adams County and the NW Region will experience increased demands for higher density, low maintenance, and alternative forms of housing.

POPULATION, DEMOGRAPHICS, AND HOUSING – GENERAL OBSERVATIONS

- Population gap between young families and those at or near retirement.
- Local population – high percentage born and still living in PA.
- Higher percentage of foreign born population and population of Hispanic origin.
- More adults that did not complete high school or GED, lower educational attainment levels.
- Larger family households (more people in average family and household).
- Boroughs have high percentages of rental units.

- Housing units predominately single family detached, more mobile homes on individual lots vs. parks.
- Older housing stock, especially in the boroughs. Average home in Northwest Adams County is 50 years old.
- Although still less than the County average, average home sale prices jumped significantly in the region since 2000.
- Projected population increases from 2006 to 2020 for Northwest Adams County range from 2,990 (low) to 6,890 (high) additional residents. The projected number of new dwelling units needed to accommodate this population increase ranges from 1,115 to 2,570 new units. The acreage requirements to accommodate these households would range from 307 to 708 acres with development occurring on 10,000 sq. ft. lots; from 614 to 1,416 acres with development occurring on 20,000 sq. ft. lots; and from 1,024 to 2,360 acres with development occurring on 40,000 sq. ft. lots.

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Chapter Three

COMMUNITY FACILITIES

Community facilities are those buildings, structures and lands that house programs and activities essential to municipal government operations and/or provide necessary services to residents of the region. Public services include activities ranging from police and fire protection to libraries and recreation programs. Community facilities and public services can be provided in any number of ways depending upon the needs of the population, the philosophy of municipal officials, financial resources available, and extent of regional cooperation. Financing for such facilities and services can be provided through available funding or through contracts with private or quasi-public entities, thereby tailoring activities and expenditures for specific needs. A joint approach to providing such facilities and services allows for several municipalities to share in the cost of these facilities and services.

ADAMS COUNTY COMPREHENSIVE PLAN

The 1990 County Comprehensive Plan contains the following general policies and recommendations for community facilities and utilities:

- Public facilities improvements, where needed, shall be made in an orderly and reasonable fashion consistent with the Growth Management Plan and county and local capital improvements programs.
- New school, fire, and police facilities and other required public facilities shall be located convenient to the maximum number of residents.
- Wherever possible, public facilities used for different purposes shall be combined to minimize public expenditures and maximize convenience to county residents.
- Review all development proposals to determine their probable effects on public services, including schools, emergency services, recreation, and administrative services.
- Coordinate county land use planning and school plant development so as to ensure the most efficient use of current and projected space and equipment, and accommodate general resident needs for community facilities.
- Evaluate the range of existing and potential community services, and determine the best locations for service providers to meet current and projected needs.
- Undertake a countywide comprehensive recreation, parks, and open space study, publicize its findings, and facilitate its implementation by, among other actions, providing technical and financial assistance to local communities.

- Assist municipalities in the review and update of water supply and wastewater treatment facilities plans, consistent with the Growth Management Plan and its projected distribution of population, services, and industry.
- Assist municipalities in the preparation and adoption of regulations for well-head protection.
- Evaluate “recharge” areas and encourage land use policies to ensure protection of water supply wells.
- Promote water conservation regulations.
- Monitor the need for future surface water reservoirs and determine measures to preserve potential reservoir sites.
- Review and evaluate stormwater management facilities and procedures.
- Enact regulations and adopt programs for increased recycling of residential and commercial solid waste.

COMMUNITY FACILITIES MAP

Existing community facilities are shown on **Map 3-1**. The list of facilities on the map indicates the facility identified by each number.

EDUCATIONAL FACILITIES

All the municipalities in the region, except Franklin Township, are in the Upper Adams School District. Franklin Township is in the Gettysburg Area School District.

The Upper Adams School District includes the Boroughs of Arendtsville, Bendersville, and Biglerville, and the Townships of Butler, Menallen and part of Tyrone. Each borough centered community contains an elementary school configured according to grade levels.

- Biglerville Elementary, a primary center, is located in Butler Township just south of the boundary line with the borough. The site does not connect to the Borough’s sidewalk system. This school building houses all students in kindergarten, 1st and 2nd grades; beginning with the 2008-2009 school year, Biglerville Elementary will house all 3rd grade students as well.
- Arendtsville Elementary and Bendersville Elementary are intermediate buildings, housing 4th, 5th, and 6th grades (two classes of 3rd grade will remain at Bendersville for the 2007-2008 school year). Both of these schools are located within borough limits.

- Beginning with 7th grade, all students attend the Upper Adams Middle School in the Borough of Biglerville.
- Beginning with 9th grade, students attend Biglerville High School, also located in the Borough of Biglerville. The original high school building was demolished in 1999, and a new high school was built as an addition to the still standing junior high school structure.

The following information was the result of a focus group meeting concerning the Upper Adams School District. Interviews were conducted on October 16 and 17th at the Adams County Agricultural Center.

- Upper Adams School District - 1,800 students, with district population of 10,222.
- 15-20% Hispanic with 10% speaking English as a second language.
- 30% of students receive a free lunch.
- For 20-30 years the District has little or no growth in enrollment; however, recent years have seen an increase.
- Graduation rate is around 90% with 50-60% attending VOC/4-year colleges.
- No new building projects are planned in the District, but there have been 6 classroom additions to deal with student overflow. New classes have been added to the Biglerville curriculum in response to new requirements for programs such as specialized reading and for the addition of new technology.
- Major concerns for the district:
 - Labor costs, specifically health insurance and salaries
 - Loss of orchards that will increase unemployment in the area
 - Some student gang activity is being seen. This may be a growing problem.
 - Upper Adams property owners pay the highest millage rates of any county school district.
- Parental involvement has been good, but there has been difficulty in finding people to run for school board.
- The District does not have a partnership with HACC for adult education, but there is a transition service for special education students to help them get into college.
- Students and teachers are generally proud of the rural character of Adams County. Good attendance for Friday night football games. Parents and teachers are concerned about growth in the county.
- High transient rate within District due to immigrant families moving between rental properties. This leads to an increase in busing requests. Affordable housing is a growing concern for parents in the District.
- Employment stability is also a concern, with most employment centered around the fruit industry. Any change in agriculture will have a big impact on District enrollment and family incomes.

- Walking is unfortunately not an option for most elementary schools due to lack of sidewalks and traffic on Rt. 234 in Arendtsville. More students walk to the middle and high schools.

The following table (Table 3-1) provides enrollment history for the Upper Adams School District from 2002-2003 to 2006-2007. Enrollment increased from 1735 to 1827, then decreased to 1740. Enrollment projections prepared by the Pennsylvania Department of Education are also provided. Those projections show a decreasing enrollment to 2012-2013 (from 1741 to 1645) and then an increasing enrollment to 2016-2017 (from 1645 to 1683).

Located along the Old Lincoln Highway at the eastern edge of Cashtown village, the Franklin Township Elementary School is operated by the Gettysburg Area School District. Current enrollment at the elementary school is 274 while capacity is in the 300 pupil range. Although enrollment is near capacity, it is likely that a significantly larger enrollment would have to be housed within the school before any expansion would be considered. No new building projects are currently being considered at the school. The high school and middle school are located outside the Northwest Adams region.

A recent influx of empty nest, pre-retiree, and retiree household into much of southern Adams County has not produced many schoolchildren. At the same time, home schooling has become more popular in Adams County. In addition, many young people, who grew up locally, have continued to move out of Adams County. These factors have contributed to inactive growth within the schools. However, these conditions (immigration of older people and out migration of young) could change substantially if information age jobs are created at Northern Maryland locations such as Fort Ritchie and Fort Detrick.

Table 3-2 provides enrollment history for the Gettysburg Area School District from 2002-2003 to 2006-2007, which indicates that enrollment decreased from 3501 to 3265 during that period. Projections prepared by the Pennsylvania Department of Education are also provided which show a continuing decrease to 3159 by 2009-2010, then a steady increase in enrollment to 3718 in 2016-2017.

**Table 3-1
Enrollment Projections
Prepared by the Pennsylvania Department of Education
Upper Adams SD – 1-12-01-852-3**

<u>Year</u>	<u>K</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Total</u>
2002-2003	121	117	122	139	145	138	139	154	146	136	135	126	117	1735
2003-2004	117	127	112	126	140	148	148	163	156	150	134	140	113	1774
2004-2005	117	127	131	110	125	141	149	158	174	158	150	128	132	1800
2005-2006	123	128	130	132	119	124	148	154	162	176	153	147	131	1827
2006-2007	118	117	119	121	126	114	119	148	148	168	162	144	136	1740
PROJECTIONS														
2007-2008	132	135	115	118	122	121	117	123	150	151	163	158	136	1741
2008-2009	111	141	133	114	119	117	124	121	125	153	146	159	150	1713
2009-2010	137	118	139	131	115	114	120	128	123	128	148	143	151	1695
2010-2011	127	146	116	137	132	110	117	124	130	126	124	145	135	1669
2011-2012	127	135	144	115	138	126	112	121	126	133	122	121	137	1657
2012-2013	127	135	133	142	116	132	129	116	123	129	129	119	115	1645
2013-2014	127	135	133	131	143	111	135	133	118	126	125	126	113	1656
2014-2015	127	135	133	131	132	137	113	140	135	121	122	122	119	1667
2015-2016	127	135	133	131	132	126	140	117	142	138	117	119	116	1673
2016-2017	127	135	133	131	132	126	129	145	119	145	134	114	113	1683

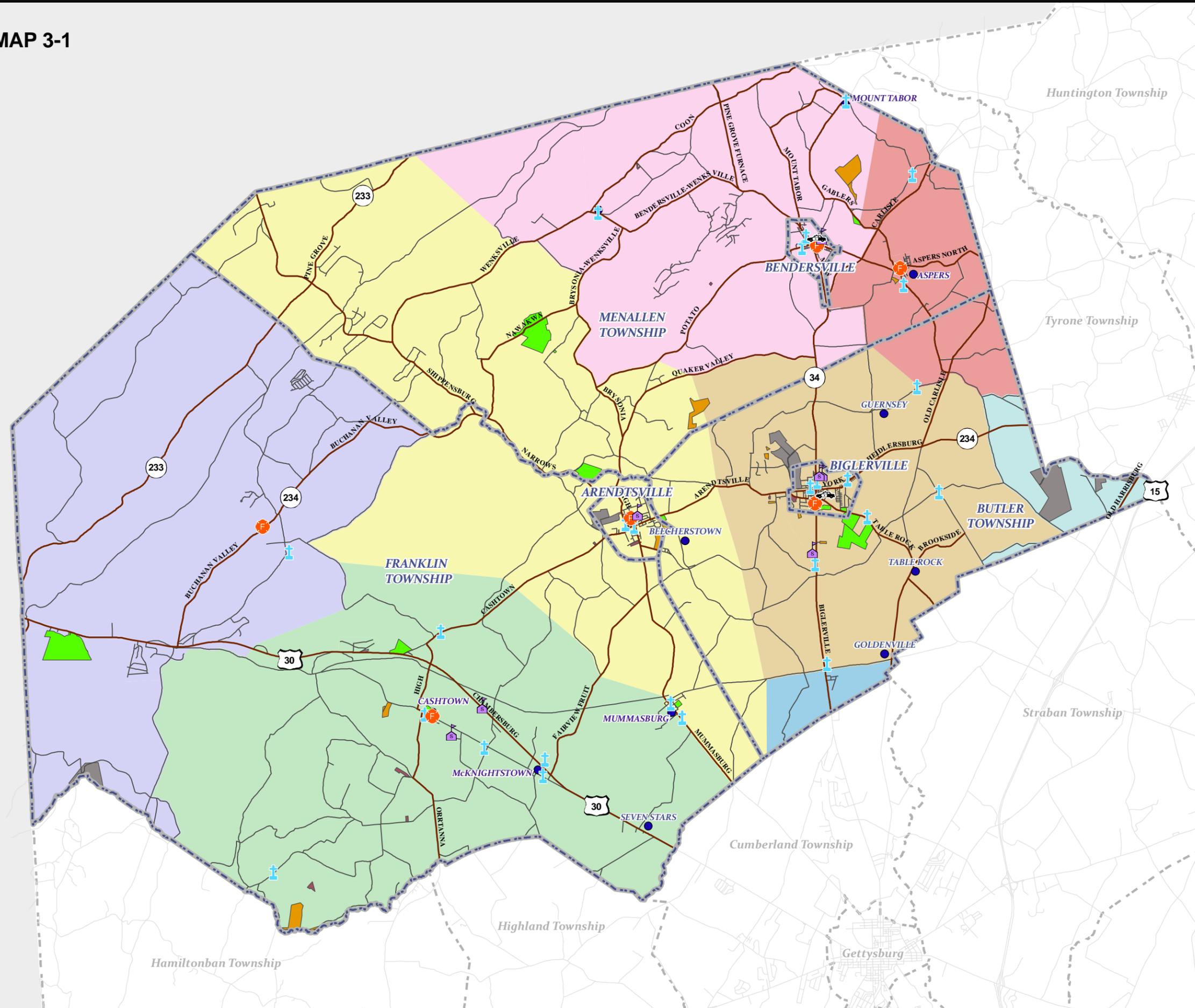
Revised: 08/2007 (2006 Enrollments)

**Table 3-2
Enrollment Projections
Prepared by the Pennsylvania Department of Education
Gettysburg Area SD – 1-12-01-375-3**

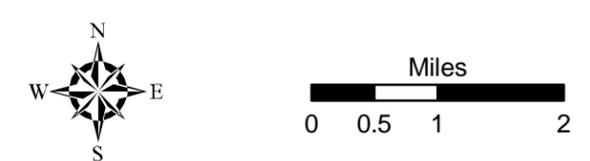
<u>Year</u>	<u>K</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Total</u>
2002-2003	186	216	212	255	275	278	276	284	289	310	287	321	312	3501
2003-2004	200	199	220	209	259	271	268	280	292	342	260	288	308	3396
2004-2005	206	207	201	222	211	247	268	283	288	345	292	264	268	3302
2005-2006	252	196	217	207	227	220	248	265	276	320	313	291	258	3290
2006-2007	222	244	209	228	213	232	222	245	270	274	322	299	285	3265
PROJECTIONS														
2007-2008	210	238	253	220	232	213	234	225	248	268	276	320	288	3225
2008-2009	231	217	247	266	224	232	215	237	228	246	270	274	308	3195
2009-2010	243	239	225	260	271	224	234	218	240	226	248	268	263	3159
2010-2011	263	252	248	236	265	271	226	237	221	238	227	246	258	3188
2011-2012	268	273	261	261	241	265	273	229	240	219	239	225	237	3231
2012-2013	273	278	283	274	266	241	267	276	232	238	220	237	216	3301
2013-2014	278	282	288	297	279	266	243	270	280	230	239	218	228	3398
2014-2015	284	288	292	303	303	279	268	246	273	278	231	237	210	3492
2015-2016	289	294	298	307	309	303	282	271	249	271	280	229	228	3610
2016-2017	295	300	305	313	313	309	306	285	274	247	273	278	220	3718

Revised: 08/2007 (2006 Enrollments)

Community Facilities



- Village
 - 🚓 Police Station
 - 🚒 Fire Station
 - 🎓 School
 - ⛪ Church
- Community Facilities**
- 🏠 Municipal Owned
 - 🏢 State Owned
 - 🌳 Recreation
 - 🔌 Utility
- Fire Company Service Areas**
- 🟡 Arendtsville Community Fire Company
 - 🔴 Aspers Community Fire Company
 - 👤 Bendersville Community Fire Company
 - 🟠 Biglerville Hose and Truck Co #1
 - 🟣 Buchanan Valley Fire Company
 - 🟢 Cashtown Community Fire Company.
 - 🟦 Gettysburg Fire Department
 - 🟩 Heidlersburg Area Fire Company



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
Adams County Tax Assessment

Prepared By:
Adams County Office of
Planning & Development,
September 15, 2008



FIRE PROTECTION

Volunteer fire companies within the region include the Cashtown Community Fire Company, Arendtsville Fire Company, Bendersville Community Fire Company, Biglerville Hose and Trucks Company No. 1, Aspers Community Fire Company, and Buchanan Valley Fire Company (see Map 3-1, Community Facilities). The Heidlersburg Area Volunteer Fire Company also serves a portion of this region.

The Adams County Department of Emergency Services is responsible for direction and control of all emergency situations that occur in Adams County. The agency is also responsible for the overall operation of the Adams County Communication Center and the County's emergency dispatch center, which processes the dispatch of all police, fire and ambulance calls for the County.

If there is substantial future growth in the region, this will be a concern for the volunteer fire companies, as there will likely be an increase in calls for service. Volunteerism has been declining in the area. More development to protect and fewer volunteers to serve will create a challenge for the municipal services. Increased growth will place a burden on the current volunteer responders, especially during the day when most volunteers are working. Additional volunteers are being recruited in the region. In the future, additional cooperation between the fire companies will need to occur to monitor needs within the region, including the need for regional cooperation for paid fire staff.

Most of the funding for the fire companies comes from fundraising, with municipal contributions making up a relatively small percentage of company budgets. Fundraising places an additional burden on the volunteers, but is necessary to fund the maintenance and replacement of existing equipment.

On an individual company basis or regionally, standards for response time to emergencies can be established. Guidelines for response time are established by the Insurance Services Office (ISO) which provides information to insurance companies on a community's fire protection services to help establish appropriate fire insurance premium rates. ISO collects data on municipal fire protection efforts in communities throughout the United States and analyzes this data using a fire suppression rating schedule. A public protection classification from 1 to 10 is then assigned, with Class 1 representing exemplary public protection and Class 10 indicating that the area's fire suppression program doesn't meet ISO's minimum criteria.

The rating schedule considers three (3) main areas of a community's fire protection program:

- Fire alarms – based on how well the fire department receives and dispatches fire alarms.
- Fire department – distribution of fire companies throughout the area, equipment inventory and testing, fire company record-keeping.
- Water supply – adequacy of community's water supply for fire suppression beyond daily maximum consumption, water system inventory and assessment, fire flow tests, condition and maintenance of fire hydrants, number of fire hydrants within 1000 feet of representative locations.

POLICE PROTECTION

Arendtsville Borough, Butler Township, Franklin Township, and Menallen Township do not have their own police forces, so protection is provided by the Pennsylvania State Police, Troop H. The Gettysburg station, an average of 13 miles from the region, provides service to Adams County, with other stations in Carlisle (26 miles) and Chambersburg (19 miles). Bendersville Borough has a part-time police department which serves only the Borough, while Biglerville Borough has two full-time police officers. The State Police provide police protection in the early morning hours and weekends for Bendersville and Biglerville when their police coverage is unavailable.

Discussions on a regional police force with Arendtsville, Biglerville, and Butler Township occurred in the past, but did not receive support from all municipalities.

In the municipal interviews which were held near the beginning of this planning process, mixed satisfaction with the State Police was expressed. Level of service varies depending on the time of day and level of emergency, varying from ten minutes to an hour response time. There is no set schedule as to when the State Police will be patrolling the region.

In 2002, there were an average of 2.38 full-time law enforcement officers for every thousand residents of Pennsylvania, according to the Pennsylvania State Police.⁴⁵ If this average is applied to the region, it would equate to 33 officers based on the 2006 population estimates in the Population, Demographics, and Housing Chapter, (Chapter 2), and 44 officers based on the medium population projection for 2020. However, using national or state averages of police officers per thousand population is not an adequate method for determining police manpower needs. Each community or region has its own needs and expectations when it comes to police protection.

There are a variety of formulas used to more accurately calculate police manpower needs. Some are complicated and involved, sometimes requiring data that is not available in many police departments, while others are rather simply and easily applied in the average community. The Governor's Center for Local Government Services utilizes a method based on the actual or estimated complaint or incident experience in the community.⁴⁶

When analyzing the adequacy of police service in the region, the member municipalities can work to establish categories of police service standards, such as response times, officer deployment, criminal activity, and citizen satisfaction. Response times and manpower levels established by other police departments in the area can be used as a guide for comparison.

Issues facing the region's municipalities in the future as growth occurs include whether to continue reliance on the State Police where they are utilized, to consider new or expanded

⁴⁵ *Administering Police Services in Small Communities: A Manual for Local Government Officials*, Pennsylvania Department of Community and Economic Development, October 2004.

⁴⁶ *Administering Police Services in Small Communities: A Manual for Local Government Officials*, Pennsylvania Department of Community and Economic Development, October 2004.

municipal police forces, or to consider regional police service. The Pennsylvania Department of Community and Economic Development (DCED) can be contacted to prepare a study on the feasibility of regional police service. Their Regional Police Assistance Grant Program provides grants up to \$99,000 for the start-up of consolidated police departments for a period of up to three years. DCED also provides technical assistance in the management of municipal police agencies.

Aside from the level of service issue with a local police force versus the State Police, the cost to municipalities of a local or regional force will need to be considered.

AMBULANCE SERVICE

Basic Life Support is provided by the Aspers Fire Company, Bendersville Community Fire Company, and Biglerville Hose and Truck Company No. 1. Ambulance service is also located in Gettysburg, Fairfield and Fayetteville. Advanced Life Support service is provided out of the hospital in Gettysburg. Companies are served by a mix of paid and volunteer staff. Municipal interviews indicated a general satisfaction with the service in the region.

National standards call for paramedics to arrive at life-threatening emergencies within eight minutes 90 percent of the time.⁴⁷ Specific response time standards vary locally or regionally based on such factors as system resources, geography, population density, community expectations, and best patient care.

MEDICAL SERVICES

There are no hospitals within the region. Hospitals are located in Gettysburg (8 miles), Chambersburg (20 miles), Hanover (23 miles), Carlisle (24 miles), and Waynesboro (25 miles). Gettysburg Hospital, located on Gettys Street in Gettysburg, is part of the WellSpan Health System and contains a total of 76 beds. It provides acute care, family health center, maternity center, heart center, home health services, preventative health education and screening programs, and 24-hour emergency services. The hospital is currently within a five-year facility improvement project to expand maternity and acute care services, among other improvements.

WellSpan Gettysburg Health Center is located on South Washington Street, Gettysburg, and includes imaging services and a number of practices.

The WellSpan Adams Health Center is located in the Adams Commerce Center near the intersection of US Routes 30 and 15. The WellSpan Adams Health Center is home to a comprehensive cancer center, neurology and neurosurgery, behavioral health services, endocrinology and rheumatology, and physical rehabilitation. It will also be home to imaging services, a sleep center, lab services and a WellSpan pharmacy.

WellSpan has proposed a new 25,460-square-foot medical facility in Menallen Township (Route 34 and Gabler's Road). The facility will include 24 examination rooms, physicians' offices, a laboratory, a pharmacy, an X-ray room, a mammography area, 4,000 square feet of lease space and space for expansion.

⁴⁷ Commission on Accreditation of Ambulance Services.

The Village of Laurel Run is a retirement community offering independent living in apartments and cottages, assisted living, and a 92 bed skilled nursing care facility on Chambersburg Road (US Rt. 30) in the village of Fayetteville, Franklin Township. It is the fifth largest employer in Northwest Adams County, with 200 employees. Local out-care services in the region include doctors' offices.

Health Professional Shortage Areas (HPSA) are defined by the Federal Health Resources and Services Administration (HRSA) as service areas that demonstrate a critical shortage of primary care physicians, dentists, or mental health providers. The Northwest Adams County region, except for Franklin Township, has been identified as a Dental Health Professional Shortage Area and a Mental Health Professional Shortage Area.⁴⁸

Medically Underserved Areas (MUA) or Populations (MUP) are areas or populations with a shortage of health care services. Documentation of shortage includes several factors such as infant mortality rate, poverty rate, and percentage of population aged 65 or over, in addition to the availability of health care providers. The migrant farm worker population in Adams County has been identified as a Medically Underserved Population.⁴⁹

LIBRARIES

The Harbaugh-Thomas Library opened in Biglerville in August 2007 and was officially dedicated in May 2008. The new facility contains approximately 20,000 books, movies, and music CDs. The library is part of the Adams County Library System and is open Monday through Saturday. The new library represents a major new cultural facility serving Northwest Adams County and Biglerville Borough. The design of the building is based on architectural motifs evident at Mount Vernon. While a classic building, the library utilizes state of art technology, and contains facilities for private study and research as well as community meeting space.

The Arendtsville Library is located in the Arendtsville Vocational School building along with the Community Center and Borough Office. The library, part of the Adams County Library System, is open Monday, Tuesday, Wednesday, Thursday, and Saturday.

The Pennsylvania Library Code, Title 22 of the Pennsylvania Code, contains basic standards for libraries. For local libraries that are part of a library system, such as the Adams County Library System, the minimum number of hours open for services is 20 hours per week for libraries serving a population of 5,000 to 9,999.⁵⁰ The Arendtsville Library is open a total of 30 hours per week, while the Harbaugh-Thomas Library is open 46 hours per week, both exceeding the minimum standard. The minimum standards also state that "the system as a whole shall provide a well-balanced collection of not less than one title *per capita* and not less than 1½ currently useful items *per capita* using the population of the system as the basis for determining the total

⁴⁸ Pennsylvania Department of Health, as of December 5, 2007.

⁴⁹ Pennsylvania Department of Health, as of September 30, 2007.

⁵⁰ With two libraries in the Northwest Adams County region, we have divided their service area equally between the 2006 population estimate of 14,010 for this analysis.

required”.⁵¹ *The Adams County Library System includes 181,641 catalogued items as of the end of the 2006 calendar year, according to Pennsylvania Department of Education public library statistics.* Further, the Adams County Library System maintains 1.99 items per capita according to 2006 Pennsylvania Department of Education library statistics, well above the minimum standard.⁵²

SOLID WASTE MANAGEMENT

In all municipalities of the region, solid waste collection is handled privately and recycling is voluntary. Solid waste which is collected goes to designated disposal sites identified in the Adams County Municipal Solid Waste Management Plan. No designated sites are located within the region.

Pennsylvania Act 101 of 1988 requires each county in the Commonwealth to prepare a plan for municipal solid waste management. The Adams County Municipal Solid Waste Management Plan was developed by the Adams County Solid Waste Authority, Adams County Solid Waste Advisory Committee, and the Adams County Office of Planning and Development in 1989, was approved by a majority of municipalities and the Adams County Commissioners, and was forwarded to PaDER on November 28, 1989. The Plan indicates that storage, collection, and transportation of municipal solid waste (MSW) will remain a private function throughout the county. Furthermore, the Plan states that municipal solid waste will be disposed of at private, out-of-county disposal facilities and at the York County Solid Waste & Refuse Authority’s waste-to-energy facility and ash landfill.

The question of whether it is more advantageous to continue to use private, out-of-county landfills and the York County Solid Waste & Refuse Authority for waste disposal versus in-county private or public facilities should be reviewed periodically by the County and member municipalities.

SENIOR FACILITIES

The Upper Adams Senior Center is located adjacent to the entrance to Oakside Park, Butler Township. The Center serves as a community meeting point where people can socialize. Health screening, educational programs, and arts and crafts are also offered. Members and activity participants have identified limited public transportation service in the County as a major concern of theirs.

⁵¹ *Pennsylvania Library Laws*, Pennsylvania Department of Education, Office of Commonwealth Libraries, Bureau of Library Development, August 2007.

⁵² 2006 Pennsylvania Public Library Statistics, Pennsylvania Department of Education.

UTILITIES

Electric service in the region is provided by Adams County Electric Cooperative, Inc. Telephone service is provided by United Telephone Systems, Verizon North, and competitive local exchange carriers. Columbia Gas of Pennsylvania is the natural gas provider. Adelphia, Gettysburg, provides cable TV service. The major electric transmission lines and gas pipelines which traverse the region are shown on **Map 3-2**.

RECREATION FACILITIES AND PLANNING

Public and semi-public recreation facilities in the region include:

	<u>Acres</u>
Arendtsville Community Center	3.68
Arendtsville Elementary School	7.0
Arendtsville Municipal Authority Trail and Preserve	33.0
Bendersville Elementary School	3.0
Biglerville Elementary School	8.2
Biglerville High School/Upper Adams Middle School	17.0
Butler Township Ballfield	3.69
Caledonia State Park	1,130 total (150 in Franklin Twp)
Cashtown Lions Community Park (Franklin Township)	23.4
Franklin Township Elementary School	1.5
Michaux State Forest	82,261 total (19,118 in Franklin & Menallen Townships)
Mummasburg Ballfield	4.4
Oakside Community Park (Butler Township)	53.0

The facilities available at each recreation facility are listed below:

Table 3-3 – Northwest Adams County Recreational Facilities

<u>Recreation Facility</u>	<u>Available Facilities</u>
Michaux State Forest	Passive open space, pavilions, picnic tables, trails, benches, shelters, camping, fishing, snowmobiling, cross-country skiing, vistas, hunting, fishing
Caledonia State Park	Hiking, picnicking, swimming, fishing, hunting, golf, camping
Arendtsville Community Center	Baseball field, softball field, benches, indoor basketball court
Butler Township Ballfield	Softball field
Oakside Community Park	Baseball field, softball fields, soccer/football fields, outdoor

Recreation Facility

Available Facilities

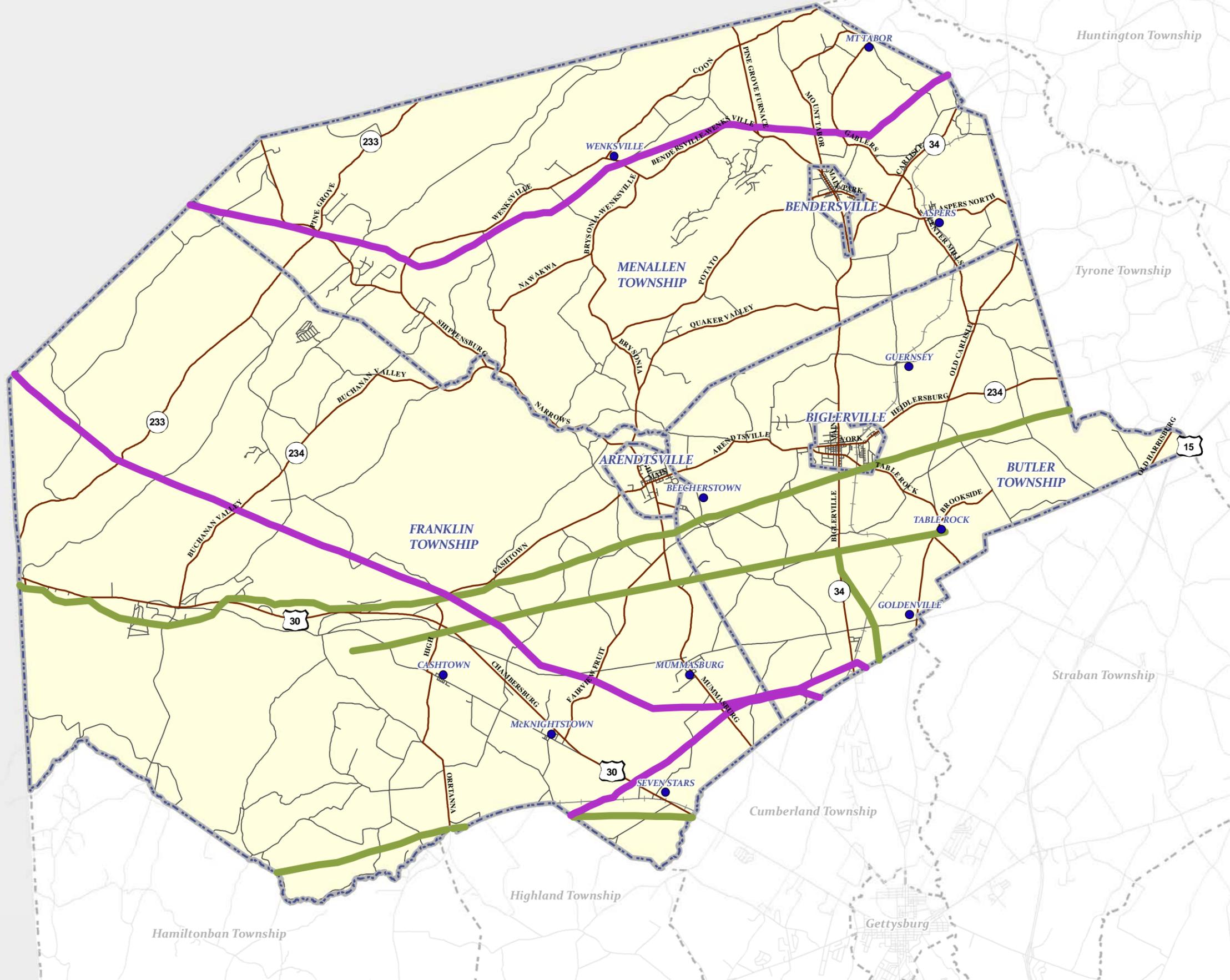
basketball court, outdoor volleyball courts, playground equipment, pavilions, picnic table, trail, benches, ponds, meeting building

Mummasburg Ballfield	Baseball field, pavilion
Arendtsville Municipal Authority Trail and Preserve	Passive recreation, trail
Franklin Township School	Softball fields, soccer/football field, outdoor basketball court, outdoor volleyball court, playground equipment, passive open space, benches
Arendtsville School	Softball fields, outdoor basketball courts, playground equipment, passive open space
Biglerville Elementary School	Softball field, outdoor basketball court, playground equipment, passive open space, benches
Bendersville Elementary School	Baseball field, outdoor basketball courts, playground equipment, passive open space
Biglerville High School/Upper Adams Middle School	Baseball fields, softball field, soccer/football fields, outdoor basketball courts, track and field facilities, tennis courts
Cashtown Lions Community Park	Pavilions, picnic areas, playground equipment

Private facilities in the region include:

American Legion Park	Butler Township
Biglerville American Legion Ballfield	Biglerville Borough
Buchanan Valley Rod and Gun Club	Franklin Township
Caledonia Golf Club	Franklin Township
Camp 18 Arendtsville	Menallen Township
Camp El-We-Ho	Franklin Township
Camp Nawakwa	Menallen Township
Cashtown Athletic Field	Franklin Township
Conewago Campground	Menallen Township
Jesus is Lord School	Franklin Township
National Apple Museum	Biglerville Borough
Piney Apple Golf Club	Menallen Township
Shoshonean Rod and Gun Club	Menallen Township
South Mountain Fairgrounds	Menallen Township
Upper Adams Fish and Game Association	Menallen Township

Utility Lines



- Village
- State Road
- Electric Transmission Line
- Gas Pipeline
- Northwest Study Region

Data represented is for informational purposes only. The location of the utility lines are approximate and have not been verified with the utility companies.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
ACOPD

Prepared By:
Adams County Office of
Planning & Development,
October 29, 2008



Two particularly important community facilities within the region are the South Mountain Fairgrounds, located northwest of the Borough of Arendtsville, and the National Apple Museum in Biglerville Borough. The South Mountain Fair is held at the Fairgrounds in August. The Apple Blossom and Apple Harvest Festivals are major community events and tourist attractions held at the Fairgrounds in May and October, respectively. The Apple Museum in the Borough of Biglerville has a meeting room to host community events.

A major recreation facility in the region is Oakside Community Park. This facility is privately owned, maintained, and operated. The proceeds from the Apple Harvest Festival held annually at the South Mountain Fairgrounds have been used to cover all of Oakside's expenses, including facility development. The Upper Adams Jaycees is the sponsor of Oakside Park. Recently, Oakside Park has been connected to Biglerville Borough by a bicycle-pedestrian trail.

Major recreational facilities outside the region include major portions of the Michaux State Forest and Caledonia State Park on South Mountain in Franklin County, Pine Grove Furnace State Park in Cumberland County (two miles from Adams County), and Codorus State Park and Gifford Pinchot State Park in York County (4 and 8 miles, respectively from Adams County).

Adams County Vision for Parks, Recreation, and Open Space

The Adams County Vision for Parks, Recreation, and Open Space was adopted in December 1997. The following points relevant to Northwest Adams County were made in the plan:

- The County's current and anticipated growth clearly underscore the value of planning ahead for parks, recreation programs, and the preservation of open space as residential development continues to push into Adams County from the south (Baltimore), east (York), and north (Harrisburg).
- Emerging demographic trends, such as a growing number of senior citizens and families with young children illustrate the increasing demand for recreation facilities and programs to meet specialized needs.
- As "baby boomers" in Adams County begin to retire and as the County attracts retirees from elsewhere, recreation demand will increasingly shift from active play and organized sporting facilities to more passive facilities and activities geared toward individual participation, such as trails for walking and biking, golf, gathering for friends and families, and nature study. Emphasis on health and exercise is likely to intensify and, as a result, there will be growing demands for recreational opportunities for mature adults.
- Municipal governments (boroughs and townships) and school districts should recognize the importance and benefits of providing recreation opportunities close to the homes of residents. Municipalities, in particular, should use subdivision and land development regulations and zoning ordinances to establish community development standards that preserve open space, create recreation areas, and establish linkages that interconnect open space resources. Neighboring jurisdictions should cooperate in the development of local parks, recreation, and open space plans; local greenway systems; community and

neighborhood parks; and recreation programs which will benefit residents throughout each multi-municipal area within the County. Within ten years, every municipal government in Adams County should have an adopted parks, recreation and open space plan. Municipalities subject to significant growth pressure should also consider adopting appropriate ordinances which require developers to provide land for parks or a fee in lieu of land to help meet the recreation needs of new residents.

- Community and neighborhood parkland needs should be met by local municipalities and school districts.
- Programs remain the responsibility of local government and the private sector.
- Local municipalities and school districts should combine resources to offer recreation facilities and programs which individual boroughs and townships cannot afford.
- Landowners should cooperate with local governments and conservancies to preserve appropriate segments of land holdings in order to create a countywide greenway system. Also, very importantly, both residential and commercial developers should recognize the importance of including recreation facilities and open space within the confines of each new development, and they should become leaders in an effort to establish integrated open space conservation and recreation systems that link together new and existing communities.
- Natural features (floodplains, wetlands, woodlands, steep slopes, prime and unique farmlands) and selected man-made features (electric transmission lines, major pipelines, abandoned rail rights-of-way, and roads) have a significant effect on the character of Adams County and also offer significant opportunities to create trails and walkways.
- A strong cooperative effort should be made to preserve many elements of the County's open space system, including floodplains, wetlands, steep slopes, woodlands, unique farmland (such as orchards), selected man-made corridors (such as utility easements), scenic vistas and roadway corridors.
- Watershed areas, groundwater recharge zones, and other valuable land resources will be preserved in the Adams County greenway system and a focused County effort to conserve land.
- Recommended Adams County Guidelines are: Baseball field, 1 per 3,000 people; softball/LL field, 1 per 1,500 people; soccer/football field, 1 per 2,000 people; basketball court, 1 per 3,000 people; volleyball court, 1 per 5,000 people; pool, 1 per 20,000 people; tennis court, 1 per 2,000 people.

Park Standards & Guidelines

The Adams County Vision established parkland guidelines by adjusting recommendations of the National Recreation and Park Association (NRPA) to reflect the specific needs in Adams County according to information gathered during the planning process. The Vision established a guideline for community parks of nine (9) acres per 1,000 population and one (1) acre per 1,000 population for neighborhood park, for a total of ten (10) acres per 1,000 population. Community and neighborhood parks were described as follows.

Community Parks provide primarily active recreation opportunities within and sometimes beyond a municipality. Community parks serve an area within approximately one mile of the site, are usually 25-50 acres in size, and often include a variety of athletic fields, courts and open space areas. Outdoor facilities at high schools and middle/junior high schools are usually classified as community parks.

Neighborhood Parks serve adjoining residential neighborhood(s), usually within approximately ¼-mile of the park. Typically 1-15 acres in size, neighborhood parks often contain facilities such as basketball courts, ball fields, children's play equipment, and picnic tables as well as preserved open space. Outdoor facilities at elementary schools are usually classified as neighborhood parks.

Recommendations of the Adams County Vision for Parks, Recreation, and Open Space

The Adams County Vision has a very detailed discussion of the benefits of greenways, greenway planning principles and greenway design principles. It encourages municipalities to adopt and landowners to use greenway planning and design principles where possible to enhance the preservation and enjoyment of Adams County's natural assets. The Vision also notes that while many greenways should remain in a natural state, other greenways will become "recreation corridors" for hiking, walking, and bicycling. Some residents will use selected greenways to travel to and from work, shopping centers and places of worship.

The Vision recommended establishing stream corridor protection areas to include all land within 100 ft. of a waterway bank and all environmentally sensitive areas beyond the 100 ft. boundary within a buffer area in which development is prohibited or carefully controlled.

The Adams County Vision also recommends developing a scenic and historic roads plan. Scenic roads include roads which provide continuous views of rolling fields, creeks, or other unique and pleasant land features; vistas over farmlands or orchards; and provide links between historic villages or sites. A scenic roads plan could identify the characteristics which define scenic roads, establish priorities for preserving viewsheds along road segments, and suggest design guidelines for property improvements along identified roads. The plan could lead to adoption of a scenic roads ordinance which establishes procedure for road and property improvements along identified segments.

Recommendations for recreational facilities and parks were made on a planning region basis. Franklin Township was included in the Gettysburg/Central Adams area. The remainder of Northwest Adams County and a portion of Tyrone Township were included in the Upper Adams area. For the Upper Adams area, no new recreation facilities were recommended in the near future. The plan did recommend that the area begin to work toward developing an additional five (5) acres of community parkland, either as an addition to Oakside Park or at a different site, and by 2010, develop an additional community park (approximately 25 acres), one (1) soccer/football field, and two (2) tennis courts to meet future needs.

Since Franklin Twp was included in the Gettysburg/Central Adams County region of the Parks, Open Space and Recreation Plan, recommendations specific to Franklin Twp are difficult to surmise. However in 2005, the Western Adams County Subregional Park Feasibility Study was concluded based on recommendations of the Parks, Open Space and Recreation Plan. The purpose of this study was to evaluate the feasibility of developing a passive regional park on a 500 acre property off of and around Flohrs, Hill, and Church Roads. The subregional park feasibility study concluded that a large passive recreation park, serving as a preserve, would be feasible and desirable in this area of western Adams County.

The study also identified, through a public survey, a desire for a park within the region that would include walking, bicycling, and interpretative trails with picnic, pavilion, and restroom facilities.

Acreage Needs

In the list of recreation facilities below, active public recreation facilities in the region total 134 acres. Using the Adams County Vision recommendation of 10 acres of local parkland per 1,000 residents, the local recreation needs for the Northwest Adams Region would be as follows for the years 2010 and 2020:

Table 3-4 – Projected Recreational Park Acreage Deficits

Year	Regional Population	Recommended Local Recreation Acreage	Existing Local Recreation Acreage	Acreage Deficit with No Additional Acreage Provided
2006	14,010	140	134	6
2010	15,100	151	N.A.	17
2020	18,650	187	N.A.	53

Recommended acreage and population from ACOPD.

Compared to the 2006 regional population estimate of 14,010, there is a current deficit in recreation acreage of 6 acres. Based on the medium range population projection for the region, the deficit increases to 17 acres in 2010 and to 53 acres in 2020.

It should be noted that thousands of areas of land are included within Michaux State Forest, but the Forest is classified as a Regional Preserve and therefore serves a different function than neighborhood or community parks.

Adams County Green Ribbon Commission

In January 2003, the County Board of Commissioners appointed a public panel of 34 county citizens to develop a series of recommendations on ways to manage and fund future open space, greenways, conservation, and recreation initiatives throughout the County. The formation of this commission, known as the Adams County Green Ribbon Commission, was a recommendation of the Vision for Parks, Recreation and Open Space. The Commission is to provide the Board of Commissioners with recommendations on an appropriate role for the County as a partner in providing for parks, recreation, and open space needs in the interest of enhancing the health, quality of life and well being of current and future Adams County residents and visitors. Its mission was “to evaluate financial and administrative mechanisms that will advance parks, recreation, greenway conservation efforts, and open space conservation efforts in the County, so that the recreation needs of its citizens will be met, appropriate cultural and natural resources will be preserved, and the County’s competitive position with regard to future economic conditions will be maintained”.⁵³

Adams County Greenways Plan

The Adams County Greenways Plan, currently being prepared, identifies the following scenic resources, trails, agricultural landscape areas, and scenic and historic transportation corridors within Northwest Adams County. Recommendations on proposed greenways, land preservation targets, and proposed bicycle routes are included in the Natural and Historic Resources Plan chapter, Chapter 11, and the Community Facilities Plan chapter, Chapter 13.

Scenic Resources

- Fruitbelt – unique agriculture, outstanding vistas.

- South Mountain and South Mountain Faces.
 - Big Hill – South Mountain Face
 - Bear Mountain – South Mountain Face
 - Narrows - scenic, unique portion of upper Conewago, passes through area with a high gradient and outcrops, with high quality trout fishing

- Buchanan Valley – scenic area nestled between South Mountain, Big Hill, and the Fruitbelt

⁵³ *An Agenda For Our Future*”, Adams County Green Ribbon Commission, Final Commission Report, April 2004.

- Butler Flatlands – lowlands abutting the Fruitbelt
- Potential nature preserve in Franklin Township, northeast of U.S. Route 30
- Table Rock Vistas – areas of exceptional views around the village of Table Rock

State Bike Route – The Pennsylvania Department of Transportation has identified eight bicycling touring routes through the state. One of the eight, BicyclePA Route S, passes through Northwest Adams County on US 30, and PA 234 and is recognized as a connecting spoke in the *Adams County Greenways Plan*. Since these bike routes are on public roads, not all of which have adequate paved shoulders, they are recommended only for experienced bicyclists and not for the casual, inexperienced rider.

The County Greenways Plan also identifies the following additional resources in the region (see Map 3-1, Community Facilities):

Trails within the Region

- Biglerville Trail – Completed from the High School over North Main Street, York Street, and Table Rock Road to Oakside Park
- Michaux State Forest Trails
- Desired trail from the Narrows to Michaux State Forest

Agricultural Landscape Areas

- Buchanan Valley
- Central Fruitbelt
- Northern Fruitbelt
- Northeast Fruitbelt
- Benders Church Area (Butler Township)
- Upper Rock Creek Open Space Areas (Butler Township)
- Mummasburg Road Corridor (Franklin Township)
- Ziegler Mill/West Butler Farming Area (Butler Township)

Scenic and Historic Corridors

- PA 234 Scenic Valley Auto Tour
- U.S. Route 30, Lincoln Highway Heritage Corridor
- Cashtown to Orrtanna Scenic Valley Auto Tour
- Scenic Road from Gettysburg to Biglerville to Idaville
- Scenic Valley Auto Tour – PA Route 34 Gettysburg to Bendersville
- Expansive Views - Big Hill & Bear Mountain
- Scenic Corridor Gettysburg to Arendtsville, via Mummasburg
- Scenic Corridor Shippensburg Road, Wenksville Road, Brysonia Road, Potato Road, from the Narrows to Bendersville

Adams County Green Space Grant Program

The Adams County Commissioners have adopted the Adams County Green Space Grant Program. The program will be funded with an allocation of \$1,000,000 from the County's general budget in 2008 as matching funds to preserve land in Adams County. Eligible applicants will include municipalities, either individually or jointly, and 501(c)(3) organizations with an identified focus on agricultural preservation, open space/natural resource preservation, parks/recreation, or historical/cultural land preservation. In general, projects will require a minimum 50% match, with one exception: projects submitted by a multi-municipal applicant will require a minimum 40% match.

The program includes four categories of funding:

- *Agricultural Land Preservation* – lands that sustain the agricultural economy of Adams County and local municipality (60% of total available funds with an annual minimum allocation of \$600,000). Based on the allocation of \$1,000,000, a total of \$600,000 will be available for agricultural land preservation in 2008.
- *Open Space Land Preservation* – lands that protect water or other natural resources or provide wildlife habitat (20% of total available funds). Based on the allocation of \$1,000,000, a total of \$200,000 will be available for open space land preservation in 2008.
- *Parkland and Active or Passive Recreational Land Preservation* – lands such as sub-regional parks, community parks, and neighborhood parks or lands that provide active or passive recreational opportunities for current and future generations (10% of total

available funds; 80% of which will be allocated for passive recreational use and 20% for active recreational use). Based on the allocation of \$1,000,000, a total of \$80,000 will be available for passive recreational use, and \$20,000 will be available for active recreational use in 2008.

- *Historical or Cultural Resource Land Preservation* – lands listed in or deemed eligible for listing in the National Register of Historic Places, other lands that are determined by the Adams County Green Space Advisory Committee to be historically or culturally significant may also be considered eligible for Green Space Grant Program funds (8% of total available funds). Based on the allocation of \$1,000,000, a total of \$80,000 will be available for historical or cultural resource land preservation in 2008.

COMMUNITY FACILITIES – GENERAL OBSERVATIONS

- Increasing enrollment pressure on the Upper Adams School District could be compounded if dwelling units proposed in the region are constructed. This could result in classroom additions or other expansion projects in the future.
- Increased development in Franklin Township, in the Gettysburg Area School District, could result in increased enrollment at the Franklin Township Elementary School. The school has capacity to absorb additional enrollment before expansion of the school would be necessary.
- Upper Adams School District has maintained three elementary schools, and each is closely identified with a borough. This is quite different from other Adams County School Districts that have consolidated educational facilities to one or two sites. Upper Adams and Cashtown elementary schools still offer walk to school opportunities for some students.
- Local fire companies continue to experience problems recruiting enough volunteers and securing adequate funding.
- There are some concerns about the level of service provided by the State Police. There are no current discussions about regionalization of facilities.
- Response time for ambulance service generally appears to be adequate based on personal opinions expressed in interviews.
- The region, except for Franklin Township, is classified as a Dental Health Professional Shortage Area and a Mental Health Professional Shortage Area. The migrant farmworker population in Adams County has been identified as a Medically Underserved Population.
- Library facilities are available in Arendtsville and Biglerville. The new Harbaugh-Thomas Library in Biglerville offers expanded library services as well as a handsome new cultural venue that serves all of Northwest Adams County. The hours of operation at

these facilities, as well as the book collection of the overall Adams County Library System, exceed state standards.

- Only one senior center is located in the region, next to Oakside Park near Biglerville.
- Solid waste collection is handled privately and there are no disposal facilities in the region.
- The Adams County Vision for Parks, Recreation, and Open Space recommended that the Upper Adams County area should work toward developing an additional 5 acres of community parkland by 2010 and develop an additional community park of approximately 25 acres to meet future needs.
- By 2010, the region could have a deficit of 17 acres in local park facilities and by 2020 the deficit could be 53 acres.
- The Adams County Greenway Plan has identified a number of proposed greenways, scenic resources, proposed bike routes on roads, trails, land preservation targets, agricultural landscape areas, and scenic and historic corridors in the region. Funds from the County Green Space Grant Program are available to purchase or protect these resources.

Chapter Four

TRANSPORTATION – EXISTING CONDITIONS

NORTHWEST ADAMS COUNTY - TRANSPORTATION OVERVIEW

The Northwest Adams County planning region contains a mix of employment, housing, and agricultural uses that creates a unique set of challenges for the local transportation system. The most unique feature of the region is the Adams County Fruitbelt Area, which has been deemed eligible for listing on the National Register of Historic Places. The Fruitbelt contains numerous orchards, fruit processing, storage, and packing plants, and related support industries. While the fruit industry plays a critically important role in the economy of both the Northwest Adams County region and Adams County as a whole, it also presents challenges for transportation. Conflicts between motorists and agricultural vehicles sometimes occur. Additionally, fruit processing plants generate substantial truck traffic for both delivery of raw materials (fresh fruit, pulp, juice concentrate) and distribution of processed fruit products. This truck traffic is both a vital component to the economy of the region and a source of conflict. The presence of trucks on the road impacts travel time (both real and perceived) throughout the region. Importantly, the presence of trucks also has a significant impact on the life span of roads throughout the region. Wear and tear leads to deteriorating roads requiring more frequent repair. Finally, several roads with substantial truck traffic extend through the Boroughs of Biglerville and Arendtsville. Noise and emissions can lead to environmental and public safety challenges in the “town center” portions of the boroughs.

Sustainability of the Fruitbelt plays an important role in the planning and development of transportation related improvements in Northwest Adams County. The status of the Fruitbelt as an area “deemed eligible” for listing on the National Register of Historic Places means that the special review provisions of Section 106 of the National Historic Preservation Act apply to any Federally funded or licensed project within the Fruitbelt. Therefore the design of any of these projects must be conducive to maintaining agricultural values as well as the rural landscape.

The Northwest region is also crossed by two major east-west road corridors and one major north-south corridor. U.S. Route 30 serves as a regional artery that connects western Pennsylvania and Interstate 81 with Gettysburg, York, Lancaster, and other urban centers to the east. PA Route 234 links US Route 30 with Arendtsville, Biglerville, and East Berlin Boroughs and eastern York County. Finally, PA Route 34 connects Northwest Adams County to Carlisle, Interstate 270, and the Pennsylvania Turnpike. Increasingly Route 34 plays an important role as a commuter and goods movement route for Adams and Cumberland Counties, especially since it provides a connection between Northwest Adams County and I-81 and the Pennsylvania Turnpike.

Other transportation modes play important economic roles as well. The Gettysburg Northern Railroad Company operates both freight line and a tourist train between Gettysburg and Mount Holly Springs, Cumberland County. The Gettysburg Regional Airport provides general aviation service to Adams County. Commercial aviation service is available from four (4) designated Commercial Service Airports within reasonable proximity, including Harrisburg International Airport (MDT), Baltimore/Washington International Airport (BWI), Washington-Dulles

International Airport (IDA), and Ronald Reagan Washington National Airport (DCA). Although Northwest Adams County is not served by a fixed route public transportation system, the Adams County Transit Authority provides on-demand “Paratransit” service throughout Adams County, including the Northwest area. Finally, PA Route 234 has been designated as a cross state bicycle route. This designation attracts a small number of long distance bicyclists who contribute to local economies as they traverse Pennsylvania.

COUNTYWIDE TRANSPORTATION PLANNING OVERVIEW

Federal transportation legislation designates funding opportunities for a variety of transportation spending categories, including bridges, highways, safety and operations, public transit, enhancements, demonstration projects, and discretionary programs. Recognizing the unique transportation needs of communities across the country, federal transportation legislation authorizes a flexible transportation planning process which allows regions to make local decisions concerning the prioritization of federally-available transportation funds. Consistent with this planning process, Adams County has been designated as a Rural Planning Organization (RPO). An RPO is a regional organization that can consist of a single or multiple rural counties and other jurisdictions, but that does not include areas designated as “metropolitan” by the U.S. Census Bureau. RPOs are operated similar to Metropolitan Planning Organizations (MPOs) and they have been created by PennDOT as planning partners. The purpose of this designation was to ensure that existing and future expenditures for transportation programs and projects are based on a comprehensive, cooperative and continuing planning and programming process, which is consistent with both state and local needs.

Formally initiated in 1999, the Adams County RPO, also known as the Adams County Transportation Planning Organization (ACTPO) serves as the primary “planning partner” with PennDOT regarding the development, prioritization and funding of future transportation projects that are identified as needed within Adams County and which seek to use state and federal transportation funding. An 11-member board includes representatives from Adams County Townships and Boroughs Associations, the Adams County Commissioners, several County departments, the Adams County Transit Authority and PennDOT. ACTPO is supported by the Adams County Office of Planning and Development in performing its role in transportation planning for Adams County.

PennDOT works closely with ACTPO and other “planning partners” in the development of its Statewide Long Range Transportation Plan, Statewide Transportation Improvement Program (STIP), and the development of funding priorities designed to meet local and countywide needs. ACTPO provides PennDOT with information regarding the transportation needs of Adams County and its municipalities and provides recommendations regarding the prioritization of proposed transportation improvements. This information is provided through development of an Adams County Long Range Transportation Plan and its accompanying Transportation Improvement Program (TIP). The long range transportation plan documents the current status of the transportation system, identify long-term system needs, and recommend system improvements and services targeted to meet those future needs. The TIP establishes a unified transportation improvement strategy which includes a prioritized list of needed transportation improvements, applicable implementation schedules, and identification of funding needs and mechanisms. Project development and funding decisions to implement the Adams County

Transportation Improvement Program for state and federally funded projects are made by PennDOT, but ACTPO has input and oversight authority over how the funds are distributed within the county. Comprehensive plans, including the County Plan, multi-municipal plans including the Northwest Region Plan, and municipal plans serve as important sources of information in the development of future transportation funding strategies and plans.

Finally, the Adams County Planning Commission, a nine (9) member advisory board appointed by the Adams County Commissioners, provides guidance on planning issues in the county, assisting in the development of county planning policies, and reviewing major plans, policies and programs at both the county and municipal levels. Relative to transportation planning issues, the Planning Commission serves as a recommending body to provide ACTPO with a county-wide perspective on defining future projects and linking them to land use, economic development and conservation goals. The County Planning Commission also plays an important role in the development of the County Comprehensive Plan. In accordance with *Section 301.4* of the *Pennsylvania Municipalities Planning Code*, multi-municipal comprehensive plans and their policies and recommendations shall be reasonably consistent with the County Comprehensive Plan. Both ACTPO and the County Planning Commission rely heavily on information provided by municipal governments, local business organizations, and school districts in the development of budget proposals. The priorities identified in municipal and multi-municipal plans can influence the funding priorities of these agencies.

These planning processes will have profound affects upon Northwest Adams County. First, all federal, and most state, transportation funding for Adams County, including projects essential for goods and people movement in Northwest Adams County, must be prioritized and budgeted by ACTPO. Second, the Pennsylvania Municipalities Planning Code requires County comprehensive plans to consider and be reasonably consistent with multi-municipal comprehensive plans. Currently Adams County is updating the transportation component of the 1991 Comprehensive Plan which will also serve as the Long Range Transportation Plan for ACTPO. In order to best maximize potentially available federal and state transportation funds as well as leverage other funds (i.e. private and special federal and state funds), it is vital that locally identified and prioritized improvements be consistent with both Adams County's and ACTPO's long-range transportation planning processes. Thus the transportation component of the Northwest Adams County Joint Comprehensive Plan should be "reasonably consistent" with both the Adams County RPO Long Range Transportation Plan and the Transportation Element of the Adams County Comprehensive Plan and vice versa. All three of these plans are currently under development. Consistency will enhance the flow of state and federal transportation funds into Northwest Adams County and likelihood of project implementation.

REGIONAL ROADWAY NETWORK

Roadway Functional Classification System Background

"Functional classification" is a process by which streets and highways are grouped into classes, or systems, according to the character and nature of service they are intended to provide (local access, regional, and intra-regional). A basic principle of this process involves the idea that individual roads and streets do not function independently of other streets and roadways. Rather, most travel involves movement through a network of roads. The primary goal of transportation

planning is to channelize traffic within the network in a logical and efficient manner, while giving maximum consideration to public safety.

A secondary goal of the functional classification system is to provide choices, where possible, for travelers to take the shortest trips while keeping congestion on major roadways to a minimum. Functional classification defines the role that particular roads or streets should play in serving the flow of trips through a highway network. Various “local” roadway classifications emphasize access to private property. “Arterial roadways” provide for a high level of mobility between communities and regions. Collector roadways serve both purposes, property access and regional mobility.

The functional classification system should be used as a general guide for roadway design and access control. Typically, roadway design is also based upon measured traffic volumes, speed, and engineering factors. However, it must be stressed that not all roadways designated as collectors or arterials will have the same design. It is also important to recognize that a roadway’s classification is based upon daily traffic volumes, purpose, design characteristics, and location, and not necessarily on current design.

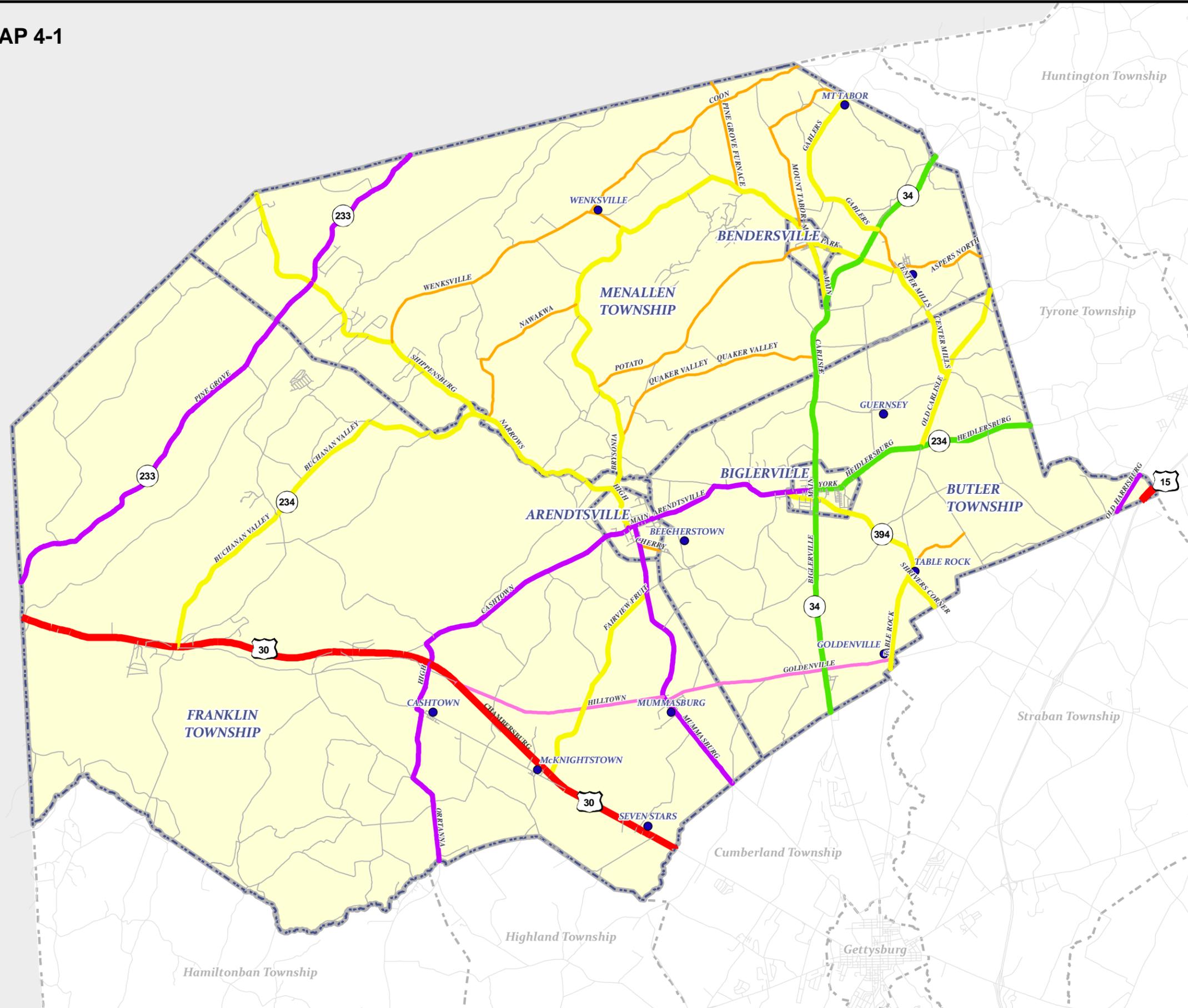
Functional Classification System in Northwest Adams County

Within Pennsylvania, roadways are classified into six categories: Interstate Highways/ Other Freeways and Expressways, Other Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local Roadways (Map 4-1). These categories are further broken down based on whether an area is defined as Rural or Urban by the U.S. Census Bureau. The Adams County Transportation Planning Organization (ACTPO) is responsible for maintaining and updating the Functional Classification for all roads on the State-owned transportation network within Adams County. The functional classification for state-owned roads in the Northwest Adams County region is as follows.

- **Principal Arterial Highways** – There are two types of Principal Arterial Highways. First, “Interstate Highways/Other Freeways and Expressways” connect large population or employment centers. These can range from expressways to two-lane roadways. They are inter-county or interstate oriented and usually accommodate long distance trips. Second, “Other Principal Arterials” supplement the Interstate Principal Arterial Highways by providing service for moderate length trips while distributing travel to smaller geographic areas than those served by “Interstate Principal Arterials”. Northwest Adams County has two road segments designated as an “Other Principal Arterial” Highway:
 - U.S. Route 30 through Franklin Township
 - U.S. Route 15 through Butler Township

- **Minor Arterials** – Minor Arterial roadways provide for a lower level of mobility while placing emphasis on access to land rather than to other arterial roadways. These roads

MAP 4-1



Functional Classification of Roadways

- Village
- Functional Classification**
- Other Principal Arterial
- Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Local Road
- Other Important Road*
- Other Roads
- Northwest Study Region

* Other Important Roadways are not state roads, but have been identified in the Transportation Component of the Adams County Comprehensive Plan and are important from a roadway network perspective. They are not part of the Federal Highway Administration's Functional Classification.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County
GIS/ Mapping, PennDOT

Prepared By:
Adams County Office of
Planning & Development
January 2008



typically provide links to a collector roadway system and connect small population centers to the overall arterial system. Northwest Adams County has two road segments designated as Minor Arterials:

- PA 234 (Biglerville to U.S. 15)
- PA 34
- **Rural Major Collectors** – Rural Major Collector roadways provide for both land access and movement within residential, commercial, industrial, or agricultural areas. They serve as a link between land uses and arterial roadways. Major Collector roads provide service to specific areas and to and from other important traffic generators such as schools and parks. Northwest Adams County has five road segments designated as “Rural Major Collectors”:
 - PA 234 (Arendtsville to Biglerville)
 - PA 233
 - Cashtown Road
 - Mummasburg Road
 - Orrtanna Road
- **Rural Minor Collectors** – Rural Minor Collector roadways serve remaining, smaller, rural traffic generators. These roads connect residents, businesses, and agriculturalists to major collector or arterial roads. Northwest Adams County has ten road segments designated as Rural Minor Collectors:
 - PA 234 (Arendtsville to U.S. Route 30)
 - PA 394
 - Aspers – Bendersville Road (Park Street)
 - Bendersville – Wenksville / Brysonia – Wenksville Road
 - Center Mills Road
 - Fairview Fruit Road
 - Gablers Road
 - Old Carlisle Road
 - Shippensburg Road
 - Table Rock Road
- **Local Roads** – Local Roadways or streets provide for direct access to individual properties and land uses. They are not intended to accommodate through traffic, and they are typically low volume roadways. While for funding purposes this designation applies specifically to the State-owned Road system, all township and borough owned roads and streets also fall under this designation. Northwest Adams County has nine state-owned road segments and multiple bridges formally designated as “Local Roads”:
 - Aspers North Road
 - Brookside Lane

- Coon Road
- Mount Tabor Road
- Nawakwa Road
- Pine Grove Furnace Road
- Potato Road (Church Street)
- Quaker Valley Road
- Wenksville Road
- All township and borough owned roads

Major Transportation Corridors in Northwest Adams County

Northwest Adams County contains portions of three (3) major east-west road corridors that traverse Adams County (U.S. 30, PA 234, and PA 394) and several north-south road corridors (i.e. PA 34, Mummasburg Road, etc.). These key corridors are described as follows.

- **U.S. Route 30** – This east-west route passes through the Franklin Township portion of the Northwest study area and provides access to a wide variety of land uses. Route 30 also connects western Adams County with Interstate 81 and Chambersburg, as well as Gettysburg, Hanover, York and beyond. For the most part, Route 30 contains one lane in each direction, with shoulders and a center, two-way left-turn lane. It serves as a regional pathway for commuter, property access, and goods movement. Within the study area Route 30 is characterized by higher travel speeds and lower traffic volumes than sections of this roadway that extend through and to the east of Gettysburg Borough.
- **PA 234** – This east-west roadway connects US Route 30 west of Cashtown (“Tick Tock Intersection”) with Arendtsville, Biglerville, and East Berlin Boroughs and western York County. The road provides an indirect connection to US Route 30 west of the City of York. The roadway contains one lane per direction, with shoulders of various widths. The route’s western portion travels through the Buchanan Valley, the “Conewago Narrows”, and the Fruitbelt. Generally, trucks are prohibited past the Narrows although there are reports of trucks that still use this road to connect to U.S. Route 30. Route 234 through Adams County is designated as “BicyclePA Route S”, one of nine (9) cross-state bicycle routes.
- **PA 34** – Extending from Gettysburg Borough northward to Cumberland County, this roadway is generally two lanes wide (one per direction) with variable-width shoulders. It serves as a primary north-south access between Gettysburg and U.S. Route 30, Biglerville and PA Route 234 and Carlisle and Interstate 81 (I-81). The connection to I-81 makes this road a direct north-south route for trucks, including those serving food processing plants in Northwest Adams County.
- **PA 394** – This east-west route extends from just west of “Downtown Biglerville” through the central portion of the County and connects with PA Route 94 in the Village of Hampton. It is characterized by one lane in each direction with shoulders of various widths and multiple abrupt direction shifts. The intersection of Route 394 and Route 34 in Biglerville Borough was recently signalized. A large number of truck turning

movements at this intersection are associated with deliveries to and from the Knouse Foods plant in Biglerville.

- **Cashtown Road (SR 3011)** – This state owned and maintained roadway extends from Arendtsville Borough in a southwesterly direction through Franklin Township. The roadway crosses U.S. Route 30 at a partially controlled intersection. From Route 30, this roadway extends south into the Village of Cashtown. From Cashtown the route extends south through the southern fruitbelt and Carroll’s Delight to connect into Route 116. It is two lanes wide (one per direction) with limited shoulders. Between Arendtsville and U.S. Route 30 it passes through the Fruitbelt area and passes by the historic Round Barn. This route has become a primary route connecting PA 234 with Route 30. This route serves as a primary connector for truck traffic between Route 30 and Biglerville since these vehicles are prohibited on PA 234 through the Narrows. This roadway also serves motorists who are travelling between Northern Adams County and the Fairfield area of Adams County, as well as those who are seeking to “bypass” urban congestion in the Gettysburg area.
- **Mummasburg Road (SR 3017)** – This road extends in a northwest-southeast direction and connects Arendtsville to Gettysburg. The road provides one lane per direction and services adjacent residential land uses and the Gettysburg National Military Park. There are a number of offset intersections along the corridor, including the Goldenville Road – Hilltown Road intersection which is a popular alternate route to U.S. Route 30. The corridor also provides a scenic view of the South Mountain to the west and serves as an “entrance” to visitors traveling to the South Mountain Fairgrounds or the Fruitbelt region from Gettysburg.
- **Orrtanna Road (SR 3011)** – This state owned and maintained route extends in a southerly direction from the Village of Cashtown where it transitions from Cashtown Road to Orrtanna Road, near the Village of Orrtanna. From Orrtanna Village this road becomes Carroll’s Tract Road and continues south into Fairfield Borough. It is two lanes wide (one per direction) with shoulders of various widths. While portions of this road provide direct access to farms, there has been substantial strip residential development along the road between Cashtown and Orrtanna. Increasingly Orrtanna Road serves as a commuter link for people traveling from Cashtown, Arendtsville, or other parts of Northwest Adams County to jobs in Maryland.
- **Hilltown Road (T-355)** – This east-west historic roadway extends from U.S. Route 30 (Lincoln Highway) in Franklin Township through the Northwest Adams County region where it connects into Route 394 in Butler Township. This represents the historic Black’s Gap Road which is the oldest road corridor in Adams County. It follows the original path to Fort Pitt taken by General George Washington in the mid-1700’s. While the current road is owned and maintained as a rural roadway by Franklin and Butler Townships, it is increasingly used as a local collector roadway.

State Road System in Northwest Adams County

The Northwest Adams County planning area contains 163.058 miles of state-owned roads. This represents 28.5% of the 571.7 miles of state-owned roads in Adams County as a whole. These roads are primarily composed of bituminous paving materials. Small sections of U.S. Route 15 and some bridge decks are composed of concrete.

Municipal Road System in Northwest Adams County

The Northwest Adams County planning area contains 162.98 miles of municipal-owned and maintained roads. This represents 19.8% of the 824.14 miles of municipal-owned and maintained roads in Adams County. The bulk of this mileage is located in Franklin, Butler and Menallen Townships. Franklin Township ranks first in Adams County in municipal owned road mileage with 79.32 miles. Butler Township ranks 8th overall with 40.35 miles of municipal owned roads. Menallen ranks 11th overall with 35.55 miles of municipal owned roads. Conversely, Biglerville with 2.84 miles, Arendtsville with 2.65 miles, and Bendersville with 2.27 miles rank 30th, 31st, and 32nd respectively in municipal-owned and maintained road mileage. Only Fairfield Borough and York Springs Borough have less municipal-owned and maintained road mileage in Adams County.

Of the Northwest Adams County regions 162.98 miles of municipal-owned and maintained roads, 136.76 miles, or 84%, are composed of bituminous paving materials. Another 22.13 miles, or 13.5%, are classified as unimproved roads. The bulk of this mileage is located in Franklin Township. Gravel roads account for another 2.67 miles, or 1.6%, mostly in Menallen Township. Finally, sealcoat roads account for 1.42 miles, or 0.9%.

Table 4-1: Municipal Owned Road Mileage (By Type):

Municipality	Unimproved Roads	Gravel Roads	Sealcoat Roads	Bituminous Roads	Total Local Road Mileage
Arendtsville Borough	0	0	0	2.65	2.65
Bendersville Borough	0	0	0	2.27	2.27
Biglerville Borough	0	0	0	2.84	2.84
Butler Township	0	0.63	1.42	38.30	40.35
Franklin Township	21.73	0	0	57.59	79.32
Menallen Township	0.40	2.04	0	33.11	35.55
Northwest Adams	22.13	2.67	1.42	136.76	162.98
Adams County	47.59	40.61	35.41	700.53	824.14
Boroughs	0	6.81	0	119.49	126.30
Townships	47.59	33.80	35.41	581.04	697.84

Source: PennDOT

Traffic Signals

Traffic signals are designed to ensure a safe and orderly flow of traffic, protect pedestrians and vehicles at busy intersections, and to reduce the severity and frequency of accidents between vehicles entering intersections. Since Pennsylvania is one of nine (9) states that does not own or maintain traffic signals, they are typically owned and maintained by local municipalities. Occasionally a developer, homeowners association or other private entity will assume responsibility for ownership and maintenance of a traffic signal through legal agreement with the township or borough.

As of 2004, there were 13,660 traffic signals in Pennsylvania. Of those, Adams County had 42, or 0.31% of the statewide total. The Northwest Adams County region has three (3) traffic signals, two conventional signals (PA 34/PA 234 and PA 34/PA 394) and one four-way blinking signal (U.S. Route 30/Cashtown Road). All of these signals have been installed since 1990.

REGIONAL BRIDGE NETWORK

Bridge Types

The bridge system in Pennsylvania can be categorized into two classes, state-owned and maintained and municipal-owned and maintained facilities. According to data made available by Penn DOT in 2007, there are over 25,000 state-owned (with a span length of greater than 8') and over 6,400 municipal-owned (with a span length of greater than 20') bridges in Pennsylvania. Of these bridges Adams County contains 453, or 1.4% of the total in the state, 382 of which are state-owned and 71 municipal-owned. The majority of these bridges are constructed of concrete (either precast or poured in place), steel (typically using an I-beam design), or a pre-stressed box or slab design. Some alternative designs/construction materials can be found on the older, potentially historically significant bridges, including wood timbers and stone masonry materials and arch and truss designs.

A major, nationwide concern brought to light with regard to bridges deals with bridge condition, specifically those bridges classified as structurally deficient. A bridge, whether state-owned or municipal-owned, that is classified as structurally deficient means that the bridge has deterioration to one or more of its major components, such as its deck, superstructure, or substructure (see below). Although deterioration is present, a structurally deficient bridge is safe.

- **Deck** – The top surface of the bridge that carries traffic.
- **Superstructure** – The underlying or supporting part of the bridge, for example steel members under the deck.
- **Substructure** – The part of the bridge that supports the superstructure such as piers and abutments.

The condition of these bridge components is monitored through a complex process of bridge inspections. Each bridge must be inspected at least once every two years. PennDOT is responsible for the inspection of all state-owned bridges as well as oversight of inspections on all municipal-owned bridges. It is through this inspection process that a bridge may be classified as

structurally deficient. Additionally, this inspection may indicate that a bridge must be posted for a weight limit to maintain public safety. These bridges with weight restrictions are inspected every year. Finally, a bridge may also be classified as functionally obsolete. This means that the bridge has older features, such as road width and weight limits, compared to more recently built bridges.

State-Owned Bridge Network

The Northwest Adams County area has approximately 100, or 26%, of the 382 state-owned bridges in Adams County. Of these, 23 are classified as structurally deficient. Another 23 bridges in the region are classified as functionally obsolete. These figures are consistent with the percentage of structurally deficient (23%) and functionally obsolete (26%) bridges for Adams County as a whole. The oldest state-owned bridges still standing in this region were built in 1919. At the time this bridge data was provided, there were no state-owned bridges in Northwest Adams County posted with a weight limit or posted as closed.

Table 4-2: State-Owned Bridges:

State Route Bridges (Span Length of Greater than 8')	Total Bridges	Structurally Deficient	Functionally Obsolete	Structurally Deficient & Functionally Obsolete
Statewide	25,203	6,049 (24.0%)	6,499 (25.8%)	2,977 (11.8%)
Adams County	382	86 (22.5%)	99 (25.9%)	47 (12.3%)
Northwest Adams	100	23 (23.0%)	23 (23.0%)	8 (8.0%)

Source: PennDOT, August 2007

Municipal-Owned Bridge Network

The Northwest Adams County area has 11, or 15.5%, of the 71 municipal-owned bridges in Adams County. Of these, two (2) or 18%, are classified as structurally deficient and three (3) or 27%, are classified as functionally obsolete. These figures are lower than the percentage of structurally deficient (25%) and functionally obsolete (30%) municipal-owned bridges for Adams County as a whole. The oldest municipal-owned bridge still standing in this region was built in 1911. At the time this bridge data was provided, one (1) municipal-owned bridge was posted with a weight limit and one (1) was posted as closed, which has since been torn down.

Table 4-3: Municipal-Owned Bridges:

Local Bridges (Span Length of Greater than 20')	Total Bridges	Structurally Deficient	Functionally Obsolete	Structurally Deficient & Functionally Obsolete
Statewide	6,414	1,998 (31.2%)	2,516 (39.2%)	1,339 (20.9%)
Adams County	71	18 (25.4%)	21 (29.6%)	7 (9.9%)
Northwest Adams	11	2 (18.2%)	3 (27.3%)	1 (9.1%)

Source: PennDOT, August 2007

Bicycle and Pedestrian Network

On-Road – Sidewalks

In the Northwest Adams County region, some non-motorized transportation, primarily bicycle and pedestrian movements, is provided through several municipal sidewalk systems. These networks are located within the Boroughs of Arendtsville, Bendersville, and Biglerville, and a small portion of the Village of Aspers. Several extend into the surrounding Townships in a few locations. Recent, large-scale residential development proposals have included internal sidewalk systems. However, in most cases, these networks are not proposed to be connected to the existing borough sidewalk systems at the present time (their extension or connection may be a plan recommendation).

Off-Road Trails

Northwest Adams County has several off-road hiking/bicycling trail opportunities located in, or nearby, the region. These facilities include Michaux State Forest, Oakside Community Park, and the Appalachian Trail which passes near the Cumberland County/Adams County and Franklin County/Adams County Lines. In addition to these sites other regional efforts are underway to provide additional off-road trail connections to these facilities.

- **Biglerville Bicycle/Walking Trail** – Biglerville Borough is currently pursuing a series of multi-purpose bicycle/pedestrian path linkages that will eventually connect the Borough’s residential areas, commercial uses, Biglerville High School, and Oakside Park. The first link to connect Biglerville to Oakside Park in Butler Township has been completed. Future connections to the Biglerville Elementary School and other points south of the Borough are under consideration. Materials for the Biglerville–Oakside Park Trail were purchased using Federal Transportation Enhancement funds, while a private donation from a developer was used for construction activities.
- **Appalachian Trail** – The Appalachian Trail is a continuous, marked path extending along the crest of the Appalachian Mountain range for more than 2,100 miles from Maine south to Georgia, traversing 14 states along the way. The Trail crosses eastern Pennsylvania diagonally covering a distance of over 200 miles. Approximately 39 miles are located on the Michaux State Forest lands. While Michaux State Forest covers portions of Franklin and Menallen Townships with the study area, the Appalachian Trail does not travel through the Adams County portion of Michaux State Forest.

Statewide Initiatives

Route 234 through Adams County has been designated as one of nine statewide BicyclePA Routes (Route S). Routes with this designation are generally meant to provide direction to more highly skilled long distance bicyclists. These roads are not generally viable as general recreation routes due to lack of adequate shoulders. Over time it is anticipated that, as these roads are upgraded, Penn DOT will take pedestrian and bicycle movements into account during project design.

OTHER TRANSPORTATION NETWORK TRAVEL MODES

Public Transportation System

Currently, there is no fixed route public transit system that serves Northwest Adams County. For that matter, there is no fixed route service serving any municipality in Adams County. Capital Area Transit (Harrisburg) operates a twice daily route to and from Dillsburg, York County and Rabbittansit (York) operates several routes that connect York to the Hanover Area. These routes serve some Adams County commuters on a “park and ride” basis. The Adams County Transit Authority (ACTA) operates an “on-demand” Paratransit service which provides curb-to-curb trips for seniors and those with disabilities. The bulk of these trips are for seniors although many also serve persons with disabilities that work and the HART (Hanover Adams Rehabilitation/Training) Center in New Oxford, as well as others who need medical transportation, banking, shopping, and personnel services. The Office for Aging provides for 100% of the cost of essential trips for persons aged 60-64. The Pennsylvania Lottery provides 85% funding for persons 65 and older. In these cases the Office for Aging will provide the remaining 15% for essential trips with users responsible to the 15% for non-essential trips. Finally, Adams County is an active participant in the Susquehanna Regional Transit Partnership (SRTP). SRTP, through its Commuter Services of South Central Pennsylvania program, assists commuters and employers in identifying ridesharing/ carpooling options to reduce vehicle trips.

According to data provided by ACTA for Adams County as a whole, a total of 47,298 trips serving 755 persons were provided in 2006. Of these, 4,265 trips serving 69 persons originated from the Northwest Adams County region. Butler Township had the highest number of persons served with twenty-three (23). Franklin Township had the highest number of trips with 1,186. For comparative purposes, Gettysburg Borough had the highest number of trips (7,705) and persons served (176) in Adams County.

Table 4-4: Adams County Transit Authority Ridership (Northwest Adams County):

Municipality	People Served	Number of Trips	Average Number of Trips per Person
Arendtsville Borough	3	48	16.0
Bendersville Borough	2	115	57.5
Biglerville Borough	11	833	75.7
Butler Township	23	1,048	45.6
Franklin Township	17	1,186	69.8
Menallen Township	13	1,035	79.6
Northwest Region Totals	69	4,265	61.8
County Boroughs (Avg.)	27.2	1,372	50.5
County Townships (Avg.)	19.1	1,403	73.3
Countywide Totals	755	47,298	62.6

Source: Adams County Transit Authority, 2006

Rail Transportation Network

Adams County has two active railroad lines that traverse Adams County. Both extend through the Northwest Adams County planning area. CSX Transportation operates a freight line that runs from Hanover through New Oxford and Gettysburg then southwest towards Fairfield before entering Franklin County.

Prior to 2001, the Gettysburg Railway, Inc. and Gettysburg Scenic Railway Co. owned and operated a freight and scenic passenger service line that ran north from Gettysburg through Biglerville, Aspers, Gardners, and Peach Glen before terminating in Mount Holly Springs. In February 2001, Pioneer Railcorp of Peoria, Illinois acquired the holdings of the Gettysburg Railway, Inc. and the Gettysburg Scenic Railway Co. and formed the Gettysburg Northern Railroad Company. This newly formed company operates primarily as a freight line, connecting to CSX Transportation and Norfolk Southern lines over its twenty-five (25) miles of track between Gettysburg and Mount Holly Springs (Cumberland County). Additionally, it operates Pioneer Lines Scenic Railway, a scenic passenger service between Gettysburg and Mount Holly Springs. Eight freight stations are located along this line, including Gettysburg, Biglerville, Aspers, Gardners, Peach Glen, Hunters Run, Upper Mill, and Mount Holly Springs.

- **Railroad Tourism** – The Pioneer Lines Scenic Railway operates primarily from April to November with a few specialized, holiday-related events held in December. The primary trip type is a scenic excursion ranging in destination from the Gettysburg Station to Biglerville through Mount Holly Springs. Other trip types include a Dinner Train, Ghost Train, and several holiday themed trips. The Scenic Railway served approximately 10,000 riders in 2004. Ridership is expected to continue increasing. Maintaining views along the railroad right-of-way will be important to sustain tourism.
- **Freight Service** – The freight aspect of the business primarily serves four major customers: Inland Container in Biglerville (mostly rolls of paper), Cadbury Schweppes (formerly Motts) food processing in Aspers (syrup/concentrate for juice products), Knouse food processors in Gardners (combination of processed and finished food products), and transport of soda ash (primarily bound to PPG) via a load transfer facility in Gardners. The freight operations transported approximately 2,300 rail cars in 2004. The local trend in freight transport demand has varied from relatively flat to a slight increase, while no major increase in freight demand is expected in the near future. Gettysburg and Northern can be used for movement of “oversized” loads (last activity was transport of generators to Reliant Energy in Hunterstown), but this capability is not expected to be a major issue/demand in the future.
- **At-Grade Railroad Crossings** – Several at-grade railroad crossings exist within the Northwest Adams County region. Safety problems associated with at-grade railroad crossings in Adams County, and throughout Pennsylvania, are often linked to the failure of motorists to properly yield to trains at crossings. The average train speed along the Gettysburg Northern line is fairly low which allows the locomotives to avoid problems. The locations of at-grade railroad crossings in Northwest Adams County are as follows:

- US Route 30 – Franklin
- PA 34 – Butler
- PA 234 – Biglerville
- PA 394 – Biglerville
- Aspers-Bendersville Road – Menallen
- Center Mills Road – Menallen
- Goldenville Road – Butler
- Pond Road – Menallen
- Railroad Lane – Franklin
- Rake Factory Road – Butler
- Seven Stars Road – Franklin
- Silo Road – Franklin

Aviation Network

While the Northwest Adams County region does not contain an airport, a variety of public-use airports are located within close proximity. Four (4) Commercial Service Airports are located within a two (2) hour drive from this region, including Harrisburg International Airport (MDT), Baltimore/Washington International Airport (BWI), Washington-Dulles International Airport (IDA), and Ronald Reagan Washington National Airport (DCA). Additionally, two (2) General Aviation Service Airports are located within a short distance of this region, including the Gettysburg Regional Airport, and the Franklin County Regional Airport. Both of these facilities are owned and operated by the Susquehanna Area Regional Airport Authority (SARAA) which also operates the Harrisburg International Airport. These facilities provide service for privately owned and operated aircraft and generally do not provide regularly scheduled public flights. They do, however, serve a number of local businesses and institutions via private connections to external locations.

TRANSPORTATION SYSTEM PERFORMANCE MEASURES

Adams County Travel Demand Model Results for Northwest Adams County

As part of a planned update to the Transportation Element of the Adams County Comprehensive Plan, a Travel Demand Model (TDM) was created. The purpose of the TDM is to 1) identify broad changes in travel demand, effective capacity, and travel delay, 2) identify areas that may experience increased travel demand and, potentially, associated travel delay, and 3) identify locations or corridors which may encounter transportation issues under the envisioned future scenarios. The TDM accomplishes this by splitting Adams County into 186 internal and 15 external transportation analysis zones (TAZ). These zones represent specific areas of population and employment data that are used by the TDM to calculate projected vehicle trips onto the road network. Further, two specific county-wide development scenarios were developed for testing by the TDM for the years 2010, 2020, and 2035.

- **Policy Scenario** – The Policy Scenario was developed to show the performance of the transportation network under current zoning and, by association, the proposed future land use pattern adopted in the existing County Comprehensive Plan. That future land use pattern targets growth to areas which possess adequate services and infrastructure to

accommodate increased population and employment, predominantly in areas within or interconnected to established borough, with limited growth distributed to more rural, disconnected areas. This was done by distributing future population and employment based primarily on existing zoning classification of each municipality throughout Adams County. Existing zoning districts were compiled into a composite zoning map to identify areas of similar zoning independent of municipal boundaries.

- **Market Scenario** – The Market Scenario was developed to show the performance of the transportation network based on the distribution of future population and employment based on current and expected development proposals and estimated future growth areas in reaction to market conditions. To determine a geographic distribution, current and expected development proposals were mapped, with the population implications of each determined based on the proposed number of dwelling units multiplied by a conservative ratio of 2.5 residents per unit. Additionally, the actual timing of each development proposal was estimated, thereby providing the opportunity to distribute market context population from a geographic and time perspective for each individual TAZ. The Market Scenario also included some “background” growth in areas expected to grow over the analysis timeframes, but the focus of larger than expected growth areas was related strictly to projected market conditions.

The results from the TDM are depicted as three data outputs, 1) Average Daily Traffic (ADT), the traffic along a specific roadway representing an average weekday, 2) Vehicle Miles of Travel (VMT), a system-level model output calculated by weighing the total vehicles on a roadway segment by the length of the segment, and 3) Volume-to-Capacity ratio (V/C), which contrasts the volume of vehicles projected on any street segment with the throughput capacity of the same facility. The results of the TDM for the Northwest Adams County planning area are as follows:

- **Average Daily Traffic (ADT)** – Overall the TDM projections indicate that, for both the Policy and Market Scenarios, during 2004-2035 period the 2.05% annual percentage rate of traffic volumes for the Northwest Adams County planning region is the lowest of the six identified planning regions in Adams County. However, specific road segments within the region still exhibit above average growth in traffic volumes over this time frame. These segments include:
 - US Route 30 (PA 234 to Franklin County Line)
 - PA 34 (Boyd’s School Road to Biglerville Borough)
 - PA 34 (University Drive to Aspers-Bendersville Road)
 - PA 34 (Old Carlisle Road to Cumberland County Line)
 - PA 234 (US Route 15 to Old Carlisle Road)
 - PA 234 (PA 394 to S. High Street)

The projections also indicate that the rate of annual traffic volume growth will peak by 2020 before declining to approximately 1.0% annually through 2035. While there is some indication that the projected traffic volume growth rates for the Market Scenario is greater than for the Policy Scenarios, the statistical difference is negligible.

- **Vehicle Miles of Travel (VMT)** – Since the projection of Vehicle Miles of Travel (VMT) uses Average Daily Traffic (ADT) as a starting point, the trends exhibited for ADT within the Northwest Adams County region are also exhibited by VMT. However, overall VMT are impacted greatly by economic forces such as higher energy prices. Recently, sustained higher energy and gas prices have resulted in a nationwide trend of negative VMT growth as practices such as telecommuting, carpooling, and combining trips have become more popular.
- **Volume Capacity Ratio (V/C)** – Volume Capacity (V/C) Ratio is a useful tool to monitor areas of congestion on a road network. As a general rule, a V/C ratio can be described as follows:
 - V/C Ratio of less than 0.50 – Low or No Congestion
 - V/C Ratio of 0.50-0.74 – Moderate Congestion
 - V/C Ratio of 0.75-1.00 – Heavy Congestion
 - V/C Ratio of greater than 1.00 – Severe Congestion

When the results of the TDM within the Northwest Adams County region are analyzed using these ranges, two road corridors stand out.

- US Route 30 (Knoxlyn Road to Franklin County Line)
- PA 34 (Boyd’s School Road, Cumberland Township to Goldenville Road)

The PA 34 section is projected to approach Moderate congestion levels by 2035 while the US Route 30 section is projected to fluctuate between Moderate and Heavy congestion levels by 2035. While the TDM does not specify when these corridors may experience the highest congestion levels (i.e. peak or off-peak hours), it is likely that, at a minimum, A.M. and P.M. peak hours will experience the highest projected congestion levels. Further, other roads may experience congestion levels that would reach the same levels as these segments, but on a temporary basis, such as Route 234 during the Apple Harvest Festival.

Traffic Volumes in Northwest Adams County

Overall, the Average Daily Traffic (ADT) volume figures for Northwest Adams County indicate a trend of traffic volumes on major roadways stagnating or increasing much slower than in the past (Table 4-5, Table 4-6, Table 4-7, Map 4-2). There are many possible reasons for these trends. Many “back roads” have been resurfaced or paved for the first time allowing for safer use of these lower volume roads by motorists. Motorists are increasingly attempting to avoid truck traffic and congestion (both real and perceived) by searching out alternative trip paths. High speed, broadband internet access and new home versus office work options have allowed more people to telecommute/work from home instead of commuting to and from an office each day. Higher energy costs have forced many households to take fewer trips and combine multiple stops into one trip. Additionally, since the early 1990’s there has been an increase in the amount of commercial/retail establishments in and around Gettysburg such as the expanding commercial strip along Route 30 east of Gettysburg Borough and the Outlet Mall on Route 97. Prior to this,

Gettysburg and Adams County did not have the retail mix it does today. Residents either went to Chambersburg or other points outside Adams County for most shopping trips.

Several additional, localized trends are apparent within the Average Daily Traffic (ADT) volume figures for the Northwest Adams County region. First, increases on north-south routes indicate an enhanced orientation to Carlisle from the Biglerville/Bendersville/ Northern Fruitbelt area. This trend also includes an increased percentage of truck traffic within the overall ADT's, potentially due to changing product lines and/or manufacturing processes within the fruit industry, primarily destined for Interstate 81 and the trucking terminals around Carlisle.

A second trend is the diversion of vehicle trips off major east-west (Route 30) and north-south (Route 34) routes and onto Route 234 and other alternative routes, such as Hilltown Road, Goldenville Road, etc. Except for Route 30 and the northern reaches of Route 34, traffic volumes and congestion are fairly stable in the region. As development has occurred in rural locations, and the natural process of drivers seeking the most ideal travel route plays out, traffic may be spreading out onto more rural roads. This trend would account for the stagnant or slight decreases in ADT on Route 30 west of Gettysburg through Franklin Township. Finally, the decrease in ADT on Route 233 may indicate changing recreation desires and/or decreased time available for recreation to residents of the region.

Table 4-5: Historical Traffic Count Locations (Northwest Adams County):

Locations from County Comprehensive Plan	1972	1990	2002	2005
Route 234 through Biglerville	2,000	2,829	4,600	4,800
Route 30 East of Cashtown	4,613	12,597	8,615	7,700
Route 30 West of Cashtown	4,440	5,370	7,600	8,000
Route 34 North of Biglerville	3,200	5,947	4,954	5,300

Source: PennDOT, Adams County Comprehensive Plan

Table 4-6: New Count Locations (Northwest Adams County):

Other Northwest Region Locations (New Locations)	2007
Orrtanna Road (South of Cashtown)	1,373
Route 34 (South of Bendersville)	4,817
Old Carlisle Road	2,246

Source: Adams County Office of Planning and Development

Table 4-7: Additional Traffic Count Locations (Northwest Adams County):

Northwest Region Locations (State Roads)	1998	2005	1998 – 2005 % Change
Route 30 at Franklin County Line	6,500	9,300	43.1%
Route 34 South of Biglerville	5,900	5,900	0.0%
Route 34 North of Bendersville	2,300	4,600	100.0%
Route 233 (through Michaux State Forest)	900	700	-22.2%
Route 234 East of Biglerville	4,200	4,800	14.3%
Route 234 between Biglerville and Arendtsville	2,800	3,700	32.1%
Route 234 West of Arendtsville (Narrows)	1,200	1,900	58.3%
Route 234 West of Arendtsville (Buchanan Valley)	700	1,000	42.9%
Route 394 East of Biglerville	3,700	2,200	-40.5%
Cashtown Road	3,000	3,400	13.3%
Mummasburg Road	1,700	1,600	-5.9%
Orrtanna Road	2,200	2,500	13.7%
Brysonia–Wenksville Road	700	1,800	157.1%
Center Mills Road	1,400	1,500	7.1%
Fairview Fruit Road	300	400	33.3%
Gablers Road	650	600	-7.7%
Old Carlisle Road	2,300	1,900	-17.4%
Shippensburg Road	450	750	66.7%
Table Rock Road	1,800	1,900	5.56%

Source: PennDOT

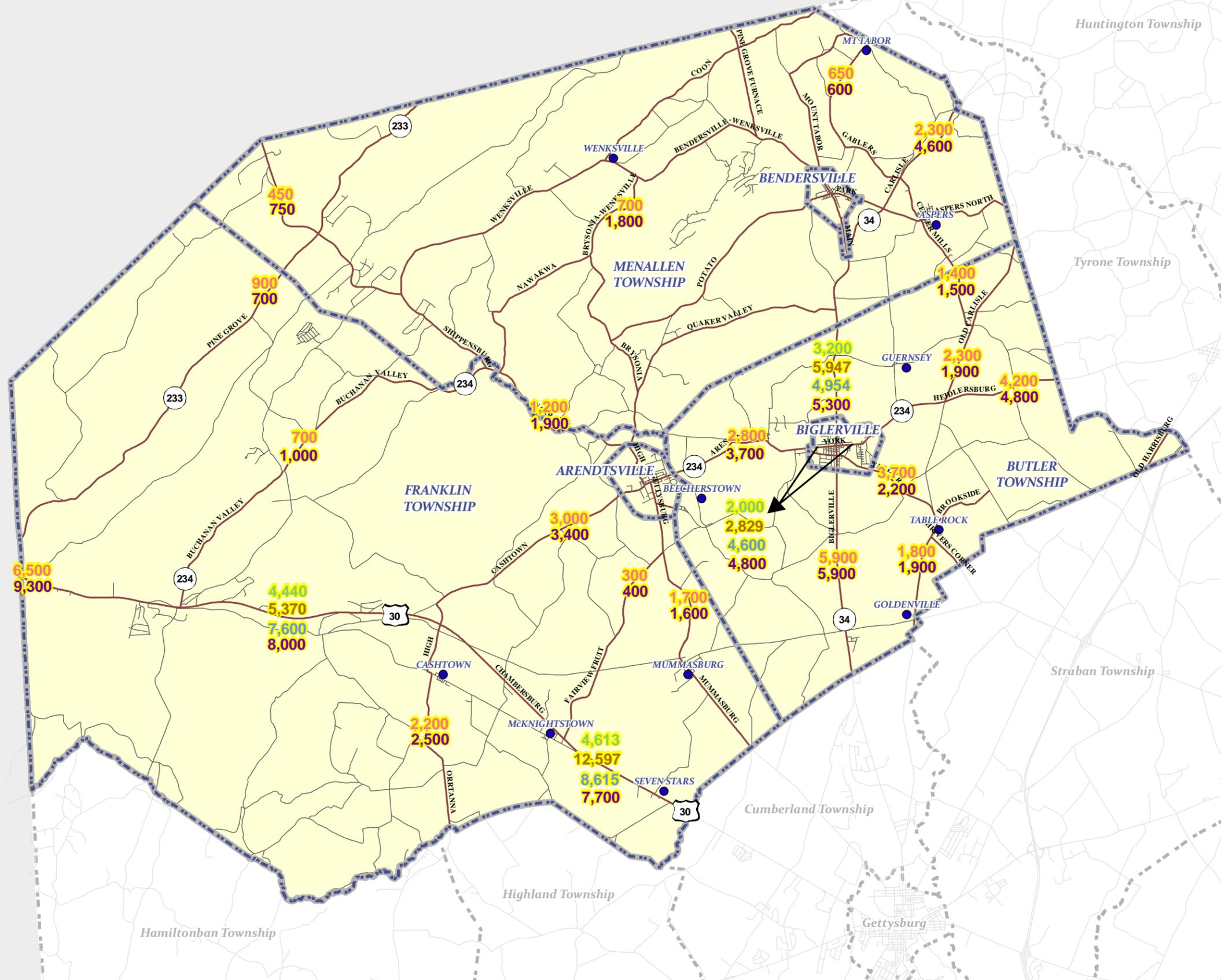
Travel Time Studies in Northwest Adams County

Travel time and delay are two of the principal measures of highway system performance used by traffic engineers and planners. Travel time along a corridor varies inversely with travel speed. A travel time study provides data on the amount of time it takes to traverse a section of street or highway. This information, along with length of the roadway section under study, provides average travel speed. Typically, travel time delay information is useful for:

- Determining the efficiency of a route with respect to its ability to carry traffic,
- Providing input to capacity analysis of roadway segments, and
- Identifying problem locations by delay.

The Adams County Office of Planning and Development conducted a series of travel time delay studies using the average vehicle method in which a study vehicle travels in the traffic stream along the study route while observations are recorded by study personnel. Using this method information on travel time, running time, and distance traveled, and type, location duration, and cause of delays along the study route can be collected. Data was collected during the morning (AM) peak period (7:00 to 9:00 AM) and the afternoon (PM) peak period (3:00 to 6:00 PM). Travel time delay data was collected on three major road corridors in Northwest Adams County, Cashtown Road, PA Route 34, and PA Route 234.

Average Daily Traffic Volumes



- 1972 Average Daily Traffic (ADT)
- 1990 Average Daily Traffic
- 1998 Average Daily Traffic
- 2002 Average Daily Traffic
- 2005 Average Daily Traffic
- Village
- State Road
- Local/ Private Road
- Northwest Study Region

The Average Daily Traffic Volumes were determined through the collection of traffic count data. These counts were conducted in preparation of the original Adams County Comprehensive Plan (1972) and compared to the data collected for the 1991 Adams County Comprehensive Plan. Traffic Count data was also obtained through PennDOT.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
PennDOT, ACOPOD

Prepared By:
Adams County Office of
Planning & Development,
November 6, 2008



- **Cashtown Road, between Arendtsville (PA Route 234) and US 30** – Cashtown Road links US Route 30 west of Gettysburg with PA Route 234 in Arendtsville north of Gettysburg. This route may be used as a cut-through route for through traffic avoiding Gettysburg, and is less distance than traveling along PA 234 from US Route 30.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Northeastbound	5.5	36.0
PM Northeastbound	5.1	38.6
AM Southwestbound	6.0	29.4
PM Southwestbound	5.2	35.1

The actual location of delay on this route varies by the travel run. In the morning, the delay was exclusively at the end of the study; at US Route 30 in the southwest bound direction and High Street (Arendtsville) in the northeast bound direction. In the afternoon peak, the delay is located only at US Route 30 in the southwest bound direction and by the Round Barn in the northeast bound direction. In all of these cases, the maximum of the average delay for the four scenarios is 33 second, observed in the southwest bound direction in the morning peak. This corresponds to a level of service D for an unsignalized intersection.

- **PA Route 34, between Biglerville (PA 234) and Cumberland Co. Line** – PA 34 serves as a corridor linking Carlisle with Gettysburg. It is one of two primary corridors linking Gettysburg with points north, the other being US Route 15. The corridor was divided into two segments in Adams County, this being the northern portion.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Northbound	9.9	47.7
PM Northbound	10.0	47.6
AM Southbound	10.0	48.9
PM Southbound	9.9	47.6

There was minimal delay recorded along this corridor. The only delay was recorded in the south bound direction at the signalized intersection with PA 234 in Biglerville during the morning peak. At this intersection, the average delay was recorded as 15 seconds. At a signalized intersection, a delay of 15 seconds corresponds to a level of service B. The minimal delay recorded here indicated that the corridor flows relatively well. Additionally, the average travel speed is slightly higher than the speed limit, which further indicates that the corridor is relatively free flowing and that there were minimal delays due to through traffic.

- **PA Route 34, between Gettysburg and Biglerville (PA 234)** – This is the southern portion of the PA 34 corridor linking Carlisle with Gettysburg.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Northbound	8.8	39.5
PM Northbound	10.0	33.9
AM Southbound	9.8	34.9
PM Southbound	9.2	37.5

The most delay was recorded in the south bound direction in the morning peak. Delay was recorded at three locations, PA Route 394, Herr’s Ridge Road, and approaching the Gettysburg Borough line. The delay was caused by signalized intersections and trash trucks. While not present during the data collection process, additional delay due to stopped school vehicles is likely present during the school year. The remaining three runs had travel delay at only one location, attributable to signal delay at Business Route 15 in Gettysburg.

- **PA Route 234, between Arendtsville and US Route 30** – PA 234 serves as a corridor linking US Route 30 west of Gettysburg with US Route 15 north of Gettysburg. East-west traffic most likely uses this roadway as an easier route to travel than US Route 30 within Gettysburg. This corridor was divided into three segments, between US Route 30 and Arendtsville, Arendtsville to Biglerville, and Biglerville to US Route 15.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Eastbound	13.4	41.8
PM Eastbound	13.2	42.2
AM Westbound	14.4	38.7
PM Westbound	13.5	41.0

The only delay recorded along this segment was at the intersection with US Route 30 in both the morning and afternoon peaks. The greater average delay was recorded in the afternoon peak at 23 seconds. This corresponds to a level of service D for that intersection approach. The travel speeds were at or slightly above the speed limit throughout the corridor on all other section of the corridor, indicative of relatively minimal delay along the length of the corridor.

- **PA Route 234, between Biglerville (PA 34) and Arendtsville** – This is the central section of the PA 234 corridor, extending between Biglerville and Arendtsville.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Eastbound	5.4	31.6
PM Eastbound	4.9	34.5
AM Westbound	5.4	30.4
PM Westbound	4.6	35.1

There was delay recorded in both directions for both time periods. The delay was caused by entering unsignalized intersections, as well as waiting for turning vehicles. While not present during the data collection process, delay due to stopped school vehicles is likely present during the school year. The maximum average delay at a single location, 42 seconds, was recorded approaching Main Street in Biglerville eastbound in the morning peak. This corresponds to a level of service D for the signalized intersection. The eastbound direction in the morning also had the highest overall delay.

- **PA Route 234, between Biglerville (PA 34) and US Route 15** – This is the eastern section of the PA 234 corridor, extending between Biglerville and US Route 15.

Direction	Average Trip Time (Min.)	Average Travel Speed (MPH)
AM Eastbound	8.6	43.4
PM Eastbound	7.9	46.5
AM Westbound	9.0	41.7
PM Westbound	8.9	43.0

There is delay recorded in the westbound direction in both peak periods studied. The majority of the delay was recorded at the intersection with PA Route 34 in Biglerville. The delay averaged 39 seconds in the morning and 30 seconds in the evening peak periods. This corresponds to signalized intersection levels of service of D (morning peak) and C (evening peak). All average speeds were recorded above 40 miles per hour and the average speed for the one scenario exceeded 45 miles per hour, the highest posted speed limit for the corridor. This indicated that the corridor flows fairly well.

Trucks / Goods Movements / Origin-Destination Surveys

In 1991, the Office of Planning conducted a Truck Origin-Destination Study at several locations in downtown Gettysburg. Subsequently, a follow-up Origin-Destination Study was conducted in 2005 at the same locations in Gettysburg, as well as several additional locations within Gettysburg Borough, three new locations in Biglerville, and two new locations in East Berlin. The data was obtained using a postcard handed out to trucks at each location. The overall response rate was 21% with a high individual response rate of 31% in East Berlin. Trips were classified into four types:

- **Through** – Trips originating from a location outside Adams County destined for a location outside Adams County traveling through Adams County with no local stops.
- **Through with Local Stop** – Trips originating from a location outside Adams County destined for a location outside Adams County traveling through Adams County with a local delivery.
- **To/From External to Local** – Trips originating from a location outside Adams County with a destination in Adams County, or vice-versa.
- **Local** – Trips with both beginning and ending points within Adams County, did not leave the County, and had local deliveries.

The three (3) sites in Biglerville Borough were selected to analyze eastbound and westbound truck trips on PA Route 234 and southbound trips and PA Route 34. A total of one hundred and three (103) postcards were distributed in Biglerville with twenty-one (21) being returned for a 20% response rate. The specific results for these three (3) sites are summarized as follows:

- **PA Route 234 Eastbound, Biglerville** – A total of twenty-four (24) postcards were distributed at this site with four (4) being returned for a 17% response rate. Of these trips, two (2) were identified as Through trips, and one (1) each as Local and To/From External to Local trips. Destinations included West Virginia, York, and Chambersburg. Cargo being transported included lumber, wood/paper, and boxes.
- **PA Route 234 Westbound, Biglerville** – A total of forty-one (41) postcards were distributed at this site with nine (9) being returned for a 22% response rate. Of these trips, two (2) were identified as Through trips, three (3) were identified as To/From External to Local trips, two (2) were identified as Through with Local Stop trips, and two (2) were identified as Local trips. Destinations included Chambersburg, Spring Grove, Aspers, and Pittsburgh. Cargo being transported included logs, pallets, and hardware.
- **PA Route 34 Southbound, Biglerville** – A total of thirty-eight (38) postcards were distributed at this site with eight (8) being returned for a 21% response rate. Of these trips, six (6) were identified as To/From External to Local trips and two (2) were identified as Local trips. Destinations included West Virginia, Virginia, Gardners, Biglerville, and Cashtown. Cargo being transported included fruit products, pallets, freight, and food case goods.

While it is not possible to compare the Biglerville Borough sites to past results as historical origin-destination data does not exist, the Adams County Truck Origin-Destination Study does offer some overall analysis that is of interest throughout Adams County. The overall countywide percentage of through trips with or without a local stop has decreased from 59% in 1991 to 35% in 2005. During that same time frame, the percentage of countywide To/From External to Local trips increased from 7% in 1991 to 40% in 2005.

Several possible reasons can explain these changing patterns. Significantly more commercial retail opportunities exist throughout Adams County in 2005 than existed in 1991. US Route 15 is now a four-lane limited access road compared to its previously two lane form. This allows more residents, visitors, and businesses to reside, visit, or locate in Adams County generating additional truck deliveries of material supplies and durable good. Finally, changes in business shipping patterns to computer-based “just in time” delivery pattern have lead to an overall increase in number of trucks on the road.

Travel Mode Choice

Over 93% of Northwest Adams residents rely on a personal vehicle (either driving alone or carpooling) to reach their place of employment. Biglerville exhibited a high percentage of workers who walked to work in comparison to the Northwest Area and Adams County overall. Surprisingly, Bendersville Borough had the highest percentage of work from home employees (along with Freedom Township) in the county.

Table 4-8: Northwest Planning Area Mode Choice

Municipality	Total Workers (age 16 and above)	Single occupant car, truck or van	Carpool	Transit	Motorcycle	Bicycle	Walked	Other means	Worked at home
Arendtsville	389	311 (80%)	31 (8%)	0 (0%)	0 (0%)	0 (0%)	8 (2%)	21 (5%)	18 (5%)
Bendersville	257	200 (78%)	30 (12%)	2 (0.8%)	0 (0%)	0 (0%)	5 (2%)	2 (0.8%)	18 (7%)
Biglerville	585	419 (72%)	90 (15%)	0 (0%)	0 (0%)	3 (0.5%)	36 (6%)	14 (2%)	23 (4%)
Butler	1,296	1,046 (81%)	177 (14%)	0 (0%)	0 (0%)	0 (0%)	10 (0.8%)	30 (2%)	33 (2%)
Franklin	2,240	1,877 (84%)	238 (11%)	0 (0%)	7 (0.3%)	0 (0%)	36 (2%)	14 (0.6%)	68 (3%)
Menallen	1,522	1,216 (80%)	216 (14%)	0 (0%)	0 (0%)	0 (0%)	33 (2%)	5 (0.3%)	52 (3%)
TOTAL	6,289	5,069 (81%)	782 (12%)	2 (<0.1%)	7 (0.1%)	3 (<0.1%)	128 (2%)	86 (1%)	212 (3%)

Source: U.S. Census Bureau

Travel Time to Work

Travel time to work for Northwest Adams area workers is similar to other areas of the county, although the Northwest Adams area exhibits the highest percentage of all workers traveling between 15 and 29 minutes to their place of employment. This is indicative of a rural area with a greater separation of housing and jobs than suburban or rural areas. This area also exhibited the smallest percentage of workers making commutes of 90 minutes or more.

Table 4-9: Northwest Planning Area Travel Time to Work

Municipality	Total Commuters	Less than 15 min	% of total	15 to 29 min	% of total	30 to 44 min	% of total	45 to 59 min	% of total	60 to 89 min	% of total	90 or more min	% of total
Arendtsville	371	103	27.8%	153	41.2%	43	11.6%	41	11.1%	21	5.7%	10	2.7%
Bendersville	239	65	27.2%	81	33.9%	41	17.2%	35	14.6%	10	4.2%	7	2.9%
Biglerville	562	237	42.2%	186	33.1%	63	11.2%	32	5.7%	23	4.1%	21	3.7%
Butler	1263	345	27.3%	488	38.6%	196	15.5%	121	9.6%	82	6.5%	31	2.5%
Franklin	2172	458	21.1%	1015	46.7%	362	16.7%	172	7.9%	142	6.5%	23	1.1%
Menallen	1470	384	26.1%	506	34.4%	310	21.1%	183	12.4%	61	4.1%	26	1.8%
TOTAL	6,077	1,592	26.2%	2,429	40.0%	1,015	16.7%	584	9.6%	339	5.6%	118	1.9%

Source: U.S. Census Bureau

Commuter Patterns

In comparison with other regions in Adams County, workers from Northwest Adams tend to be employed in neighboring municipalities or within other areas of Adams County. Carlisle Borough is in the top 3 employment locations for Northwest Adams as a whole, and it is the only such employment location outside Adams County. While some employees travel to Cumberland County, York County, and Frederick County, MD, most Northwest Adams employees work within the planning area or the Central Adams County which includes the Gettysburg-Cumberland-Straban area.

Table 4-10: Northwest Planning Area Top Commuting Locations
(not including home municipality)

Municipality	#1	#2	#3	#4	#5
Arendtsville	Gettysburg bor. Adams Co. PA	Cumberland Twp. Adams Co. PA	Tyrone Twp. Adams Co. PA	Straban Twp. Adams Co. PA	Biglerville bor. Adams Co. PA
Bendersville	Gettysburg bor. Adams Co. PA	Biglerville bor. Adams Co. PA	Carlisle bor. Cumberland Co. PA	Menallen Twp. Adams Co. PA	Butler Twp. Adams Co. PA
Biglerville	Gettysburg bor. Adams Co. PA	Cumberland Twp. Adams Co. PA	Straban Twp. Adams Co. PA	Butler Twp. Adams Co. PA	Menallen Twp. Adams Co. PA
Butler	Gettysburg bor. Adams Co. PA	Cumberland Twp. Adams Co. PA	Biglerville bor. Adams Co. PA	Straban Twp. Adams Co. PA	Hanover bor. York Co. PA
Franklin	Gettysburg bor. Adams Co. PA	Cumberland Twp. Adams Co. PA	Straban Twp. Adams Co. PA	Biglerville bor. Adams Co. PA	Frederick Co. MD
Menallen	Gettysburg bor. Adams Co. PA	Cumberland Twp. Adams Co. PA	Tyrone Twp. Adams Co. PA	Biglerville bor. Adams Co. PA	Straban Twp. Adams Co. PA

Source: U.S. Census Bureau

Prior Transportation Improvement Recommendations

1990 Adams County Comprehensive Plan

As part of the 1990 Adams County Comprehensive Plan, an enhance transportation component was completed through a then innovative funding partnership where PennDOT provided grant funds to perform this enhanced component. That element of the County Comprehensive Plan

provided a lengthy list of proposed improvements and policy recommendations. The specific project recommendations that impact the Northwest Adams County area are as follows:

- **US Route 30 Relief Corridor** – The County Comprehensive Plan identifies a US Route 30 Relief Route as an essential improvement for several major reasons. First, the streets of the historic boroughs (Gettysburg, New Oxford, Abbottstown), and in particular, Lincoln Square, cannot accommodate increased traffic generated by new development along the arteries connecting to Gettysburg. Second, the level of truck traffic in these boroughs is intolerable today and *can* only grow worse; and third, much of the growth in traffic passing through Gettysburg has neither an origin nor a destination in the Borough. The fourth reason is more regional in nature and is based upon projected development along US Route 30 east of Gettysburg. The traffic increases associated with this projected development cannot be accommodated in Abbottstown and New Oxford while retaining their historic, small-settlement ambience. Finally, there is some evidence locally in Gettysburg, New Oxford, and Abbottstown that steadily increasing truck traffic has contributed to the structural deterioration of historic buildings.

The Comprehensive Plan calls for a two-lane, controlled access road beginning west of Gettysburg in the vicinity of Cashtown Road and extending north of New Oxford and Abbottstown to York County. This alternative was chosen for a variety of reasons, including projected future traffic volumes, construction costs, and land use effects. The relief route was anticipated to be a 45 mile-per-hour arterial road, located in its own right-of-way approximating (but not duplicating) the route of Goldenville Road for much of the relief route's length from Cashtown to Abbottstown, with at-grade intersections at Mummasburg Road, PA Route 34 (Biglerville Road), Business US Route 15 (Old Harrisburg Road), Coleman Road, Oxford Road, PA Route 94 (Carlisle Pike), and PA Route 194.

Since the adoption of the County Comprehensive Plan, two additional studies have examined the issue of “east-west” traffic movement through Adams County. In the early 1990’s, PennDOT conducted a major planning study of the US Route 30 corridor from Chambersburg, Franklin County to Thomasville, York County. The outcome of this study identified minor improvements along the corridor but did not address a long-term relief route recommendation. More importantly, this study brought to light serious concerns from Arendtsville, Biglerville, and East Berlin Boroughs along the PA 234 corridor that Route 234 was to become the US 30 relief route. A second study was conducted in 2001 to evaluate “east-west” traffic movement through Adams County. The Adams County Comprehensive Road Improvement Study (CRIS Study) looked at many of the same issues identified in the 1990 County Comprehensive Plan and the early 1990’s PennDOT planning study but once again did not address the issue of a long-term US Route 30 relief route.

- **Fruitbelt Connector – PA 116 to Cashtown** – This roadway connection was proposed to primarily to serve local county traffic. Drivers using PA Route 116 west of Gettysburg today must travel through Gettysburg to join the regional roadway system and travel to commercial areas. This improved collector road would accommodate this demand and eliminate the need for travel through the center of Gettysburg.

In the context of creating the Fruit Belt connector, the County Comprehensive Plan recommends that a study should be undertaken to determine the best connection between Orrtanna Road, south of Cashtown, and US Route 30. This study should determine a routing that would be compatible with the historic character of Cashtown.

Over the planning period, traffic volumes on Bullfrog Road are likely to increase and modest improvements to that roadway may become necessary. Due to the many historic features lining Bullfrog Road, however, this route is not slated for substantial improvements in order to accommodate regional traffic patterns.

- **SAMI Projects – Biglerville** – The County Comprehensive Plan called for a series of Safety and Mobility Improvement (SAMI) projects throughout the county, including Biglerville Borough. Specific recommendations included modernizing traffic signals and adding left turn lanes at the PA 34 and PA 234 intersection
- **US Route 30 and Cashtown Road** – At the time the 1990 County Comprehensive Plan was under development, this intersection was un-signalized. However, there was significant local concern over the safety of vehicular movements through this intersection. The current four-way blinking signal was installed in 1996.

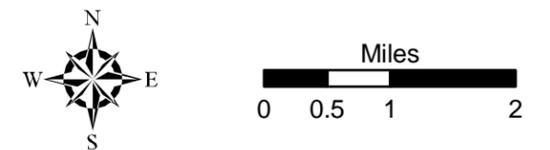
2001 Comprehensive Road Improvement Study (CRIS Study)

The 1998 Federal transportation reauthorization legislation, known as the Transportation Equity Act for the 21st Century (TEA-21), included a \$3.0 million earmark to conduct the Adams County Comprehensive Road Improvement Study, or CRIS Study. Completed in 2001, the CRIS Study contained a series of recommendations for improvements to existing intersections and roadway corridors, as well as improvements in non-motorized and multi-person vehicle transportation modes such as public transit and bicycle-pedestrian facilities. The specific project recommendations that impact the Northwest Adams County area are as follows: **(Locations can be seen on Map 4-3 and Map 4-4)**

- **US Route 30 and Cashtown Road** –The CRIS study analyzed this intersection for signal warrants in both 2010 and 2020. While this analysis indicated that a warrant for a full signal was not met, a mitigation of restriping the northbound and southbound approaches to provide exclusive left turn lanes was suggested for 2020.
- **US Route 30 and Old Route 30** – This location was identified as a problem area by the CRIS Study Steering Committee. However, at that time, no accident data was available to substantiate a deficient or unsafe condition. Possible solutions identified

Intersections and Corridors of Concern

- Village
- ⊙ Intersection of Concern
- ▬ Road Corridor of Concern
- ▬ State Road
- ▬ Local/ Private Road
- Northwest Study Region

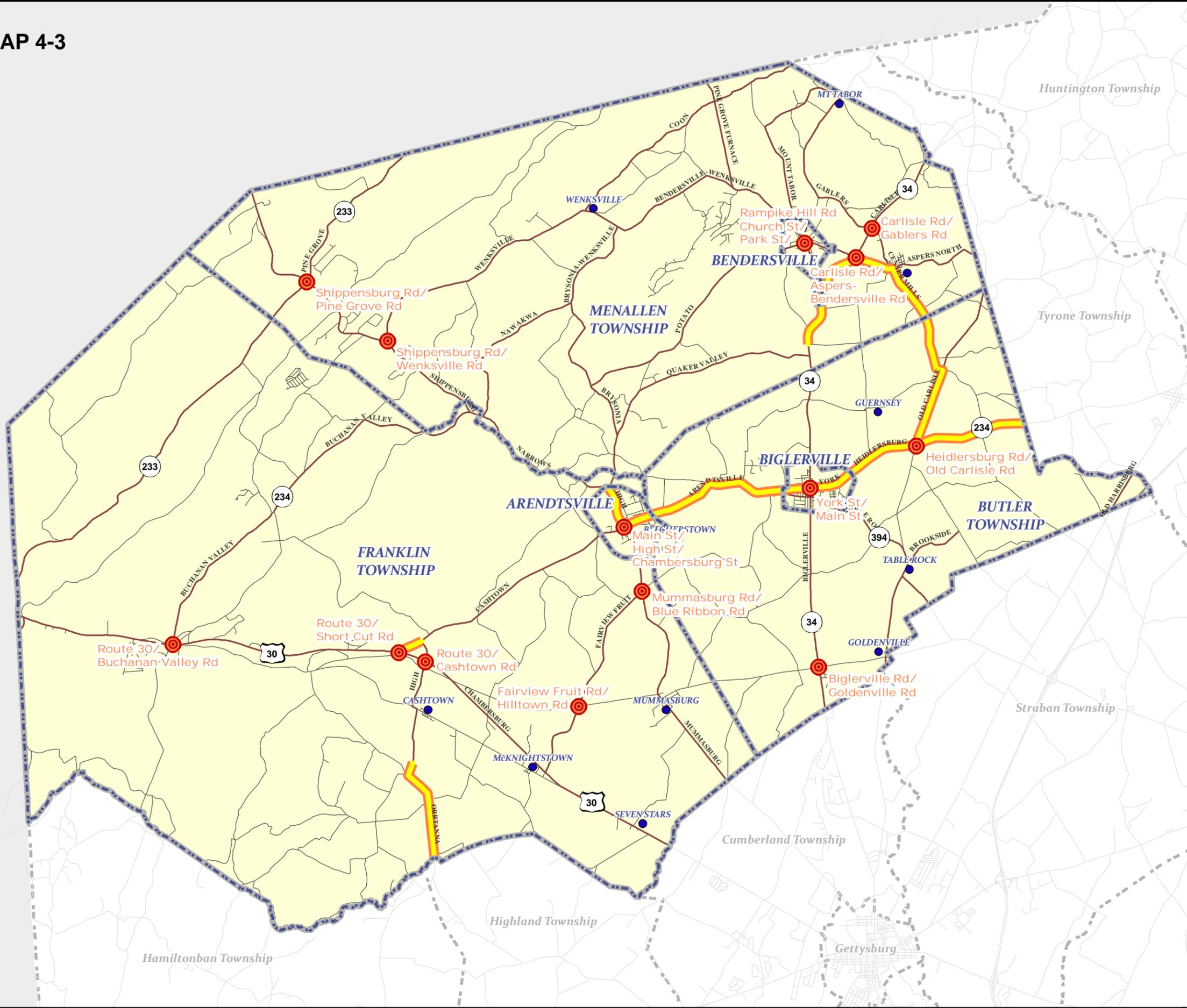


Northwest Adams Joint Comprehensive Plan Adams County, PA

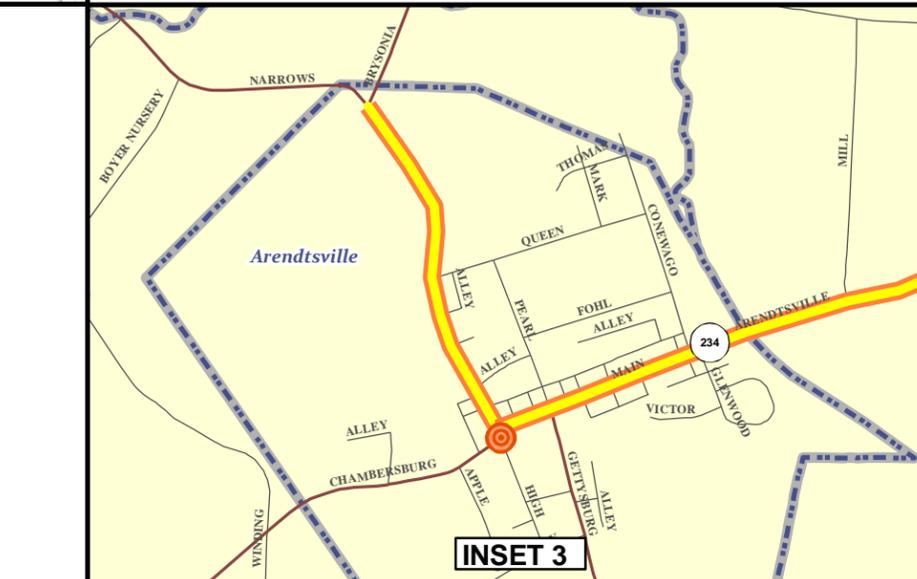
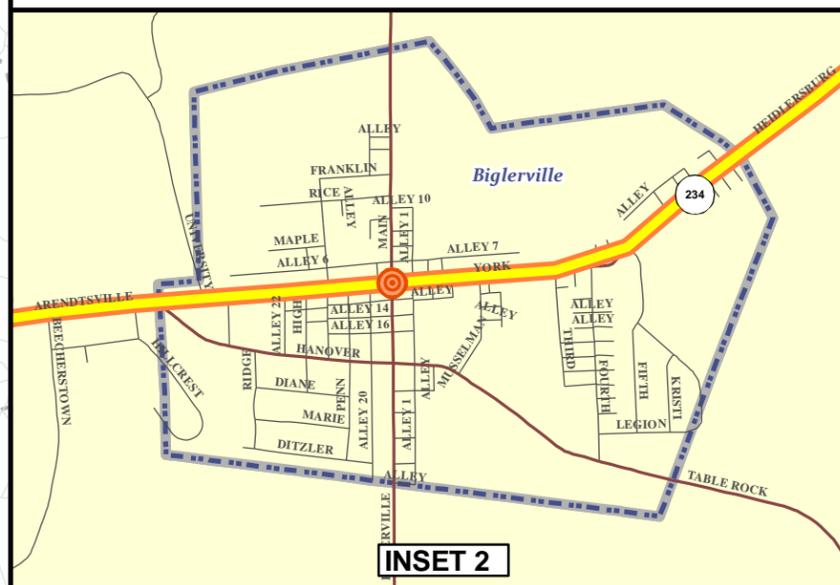
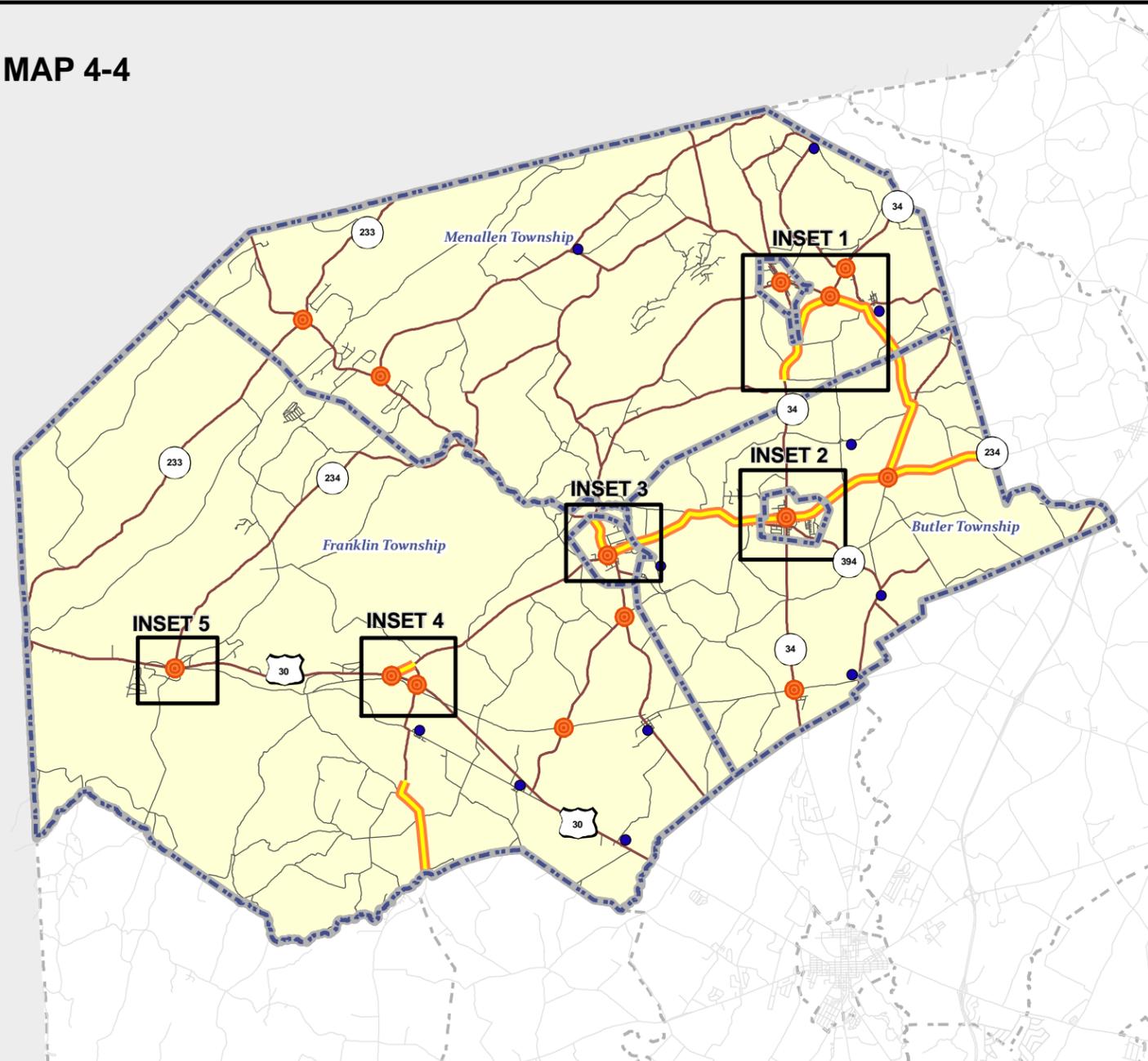
Data Source:
Adams County GIS/ Mapping



Prepared By:
Adams County Office of
Planning & Development,
May 12, 2008



MAP 4-4



Intersections and Corridors of Concern Insets

- Village
- Intersection of Concern
- ▬ Road Corridor of Concern
- ▬ State Road
- ▬ Local/ Private Road
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
PennDOT



Prepared By:
Adams County Office of
Planning & Development,
May 12, 2008



included adding an acceleration lane for eastbound Old Route 30 and diverting traffic to access Route 30 at a different location.

- **US Route 30 and PA 234** – The study investigated this intersection for the installation of a traffic signal in both 2010 and 2020. While warrants for a signal were not met, the restriping of the northbound and southbound approaches to provide an exclusive right-turn lane in 2010 was suggested.
- **PA 34 and PA 234** – The PA Route 34 and PA Route 234 intersection was identified as having poor turning radii for trucks. The stop bars are already set back from the intersection to allow trucks to make turns without conflicting with stopped vehicles and the receiving approaches. Suggested improvements included revisions to traffic signal timing, the addition of turning lanes by 2020, and geometric corner radii changes.
- **PA 34 and PA 394** – This intersection was identified as one that met warrants for the installation of a traffic signal along with geometric turning radii improvements, on-street parking restrictions, and an exclusive right-turn lane on the eastbound approach. The traffic signal and associated work was completed for this intersection in 2004.

Current Transportation Projects

2007-2010 Transportation Improvement Program (TIP) Projects

At any given time the Adams County Transportation Improvement program has between twenty (20) and thirty (30) highway and bridge projects in various stages of completion, as well as five (5) to ten (10) funding specific line items. The specific projects that impact the Northwest Adams County area are as follows:

- **Main Street Arendtsville (PA 234) Bridge Replacement** – The Main Street Bridge carries Route 234 over the Conewago Creek at the Arendtsville Borough line. It was identified as a candidate project for the 2005-2008 TIP. It was subsequently programmed as a bridge replacement project for preliminary engineering in FY 2007. The project is currently in the preliminary engineering phase with the final design, utilities, and right-of-way phases programmed for FY 2009 on the draft 2009-2012 TIP.
- **Crooked Creek Road Bridge Replacement** – The Crooked Creek Road Bridge over Marsh Creek, Franklin Township was added to the TIP in 1999 for preliminary engineering, final design, utilities, right-of-way, and construction. The project is currently programmed on the 2007-2010 TIP for construction in the amount of \$980,000. A project letting date of December, 2008 is anticipated.

Recently Completed TIP Projects

While relatively few of the recent highway and bridge projects on the Adams County TIP's have been in the Northwest Adams County area, one project has been completed to date.

- **Opossum Creek Bridge (SR 4008)** – The Opossum Creek Bridge carries Bendersville-Wenksville Road over Opossum Creek north of Bendersville Borough. The project was added to the TIP in 2001 for preliminary engineering, final design, utilities, right-of-way, and construction. The construction of the bridge was completed and the facility opened to traffic in December 2005. The total construction cost was \$1,327,000.

Issues of Concern

During this planning process, as well as in recent, countywide transportation planning processes, a series of community open-house events, stakeholder interviews, and municipal interviews were conducted to identify transportation issues and concerns at a local level. The feedback from these events focused on the need to address several locally important issues.

- **Traffic Calming** – A significant concern was identified regarding the need to reduce overall traffic speed and traffic volumes. Specifically, a need to focus traffic calming efforts in borough and village settings to improve quality of life and reduce vehicle–pedestrian conflicts. Additionally, high, seasonal and event-specific traffic volumes on PA Route 234 during fairs and festivals, such as the Apple Blossom and Apple Harvest Festivals, were noted. Solutions identified included increased enforcement activities targeted to known problem areas.
- **Truck Traffic** – A related concern was raised regarding increased truck traffic volumes. While the primary focus of this concern relates to increased truck volumes on U.S. Route 30 and PA Route 234, conflicts between trucks and local traffic on “back roads” has been increasing. Possible solutions identified include new east-west routes to relieve truck traffic volumes and smaller, individual “bypasses” around existing boroughs for the same reason.
- **Bicycle/Pedestrian Facilities** – The lack of connection between residential, community, educational, and recreational facilities was noted. In many cases sidewalks were in poor condition, incompletely installed, or non-existent. Additionally, many roads lack adequate shoulders for bicycle and pedestrian travel.
- **Agriculture/Commuter Conflicts** – Given the extensive portion of the Adams County Fruitbelt in Northwest Adams County, the potential for conflict between daily commuter traffic and agricultural machinery is a constant presence. This conflict often presents itself through slower traffic speeds and long lines of vehicles following a slow moving piece of agricultural machinery. There is also a tendency for aggressive driving behavior, i.e. “road rage”, as drivers become impatient at the slower travel speeds.

Chapter Five

WATER, SEWER, & STORMWATER

Introduction

Adams County is growing and changing rapidly, with a shifting demographic composition. Although the municipalities of the Northwest Region may be growing at a rate slightly lower than Adams County as a whole, these municipalities are centrally located in respect to several growth areas, inducing development projects. While the Northwest Region is expected to grow at a somewhat lower rate than Adams County, it is still expected to grow much faster than the state of Pennsylvania.

Although the Region's boroughs grew at a faster rate than the Region's townships between 1990 and 2000, the extent of future population growth within the boroughs of Bendersville and Biglerville is somewhat limited by the availability of land. Arendtsville is an exception since a majority of the Borough's land is not developed. As a result, between 2010 and 2020 the boroughs are projected to grow at the same rate as the townships. The availability of public water and sewage disposal systems will, to a degree, impact the ability to grow.

Adequate water and sewer systems are essential for sustaining public health and safety while protecting natural resources, recreational activities, wildlife and other issues. While there are some areas of the Northwest Adams County Region that are served by public, private community, and industrial water and wastewater systems, primarily within and amongst the boroughs, the majority of the region relies on private wells and on-lot sewage disposal systems.

WATER SUPPLY

Water is provided to the Northwest Region by community, non-community, and on-lot water systems. Public water systems, including both community and non-community systems, are those systems that provide water to the public for human consumption and have at least 15 service connections or regularly serve an average of at least 25 individuals daily at least 60 days out of the year.

A community water system (CWS) is a system that regularly serves at least 15 connections used by year-round residents or regularly serves at least 25 year-round residents. Normally, community water systems serve entire communities, as well as larger residential developments, mobile home parks and resident institutional uses.

Non-community water systems serve commercial, industrial, institutional, and seasonal residential uses with 25 or more individuals, while on-lot water systems serve individual residences and other uses with fewer than 25 persons. Non-transient non-community (NN) water systems are those that regularly serve at least 25 of the same persons for at least six months every year, while transient non-community (TN) water systems provide service to at least 25 persons who are not the same for at least six months every year.

To build a clearer picture of region's water use, this chapter provides a detailed inventory for each of the Northwest Region's community water systems and presents general information on non-community and individual on-lot water systems. There are ten (10) community water systems five (5) non-transient non-community water systems (list/name these), and fourteen (14) transient non-community water systems located within the study area (see **Map 5-1, Sewer and Water Systems**).

Community water systems:

1. Anchor Estates Mobile Home Park (private)
2. Arendtsville Borough Water Authority (public)
3. Bendersville Water Co. (public)
4. Biglerville Borough (public)
5. Franklin Township Authority (public)
6. Chambersburg Borough Water System (public)
7. Guilford Water Authority (public),
8. The Village of Laurel Run (Private)
9. Possum Valley (public)
10. Hundredfold Farm (private)

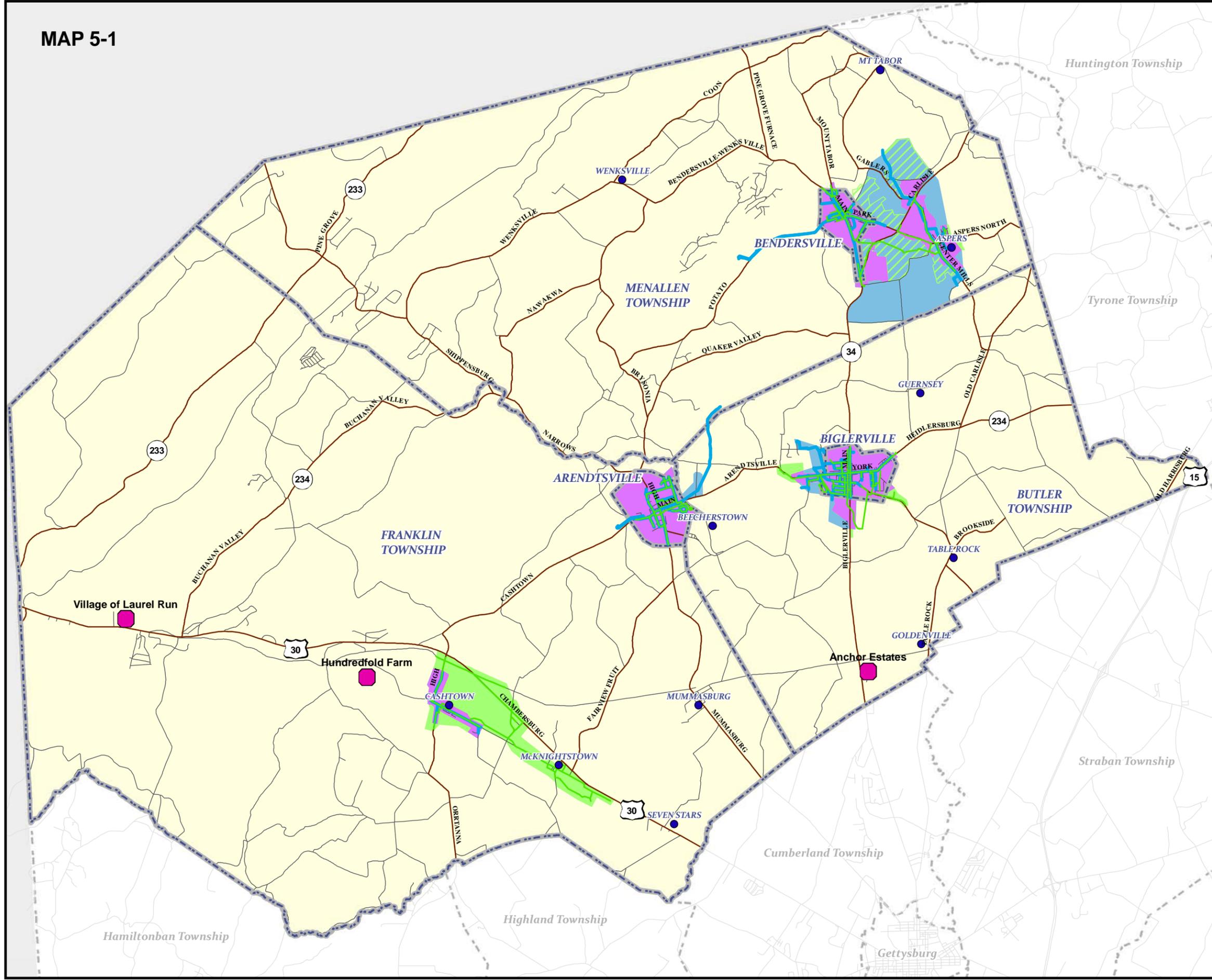
Non-Community water systems:

1. Ifco Systems (private)
2. Janes market (private)
3. Knouse Foods Inc. Gardners (private)
4. Knouse Foods Inc. Orrtanna (private)
5. Knouse Foods Inc. Peach Glen (private)

Both Chambersburg and Guilford have facilities physically located within Franklin Township but serve customers outside of the study area. None of the private water systems provide service outside of their respective developments. The non-community non-transient and community transient systems serve individual restaurants, institutions, and convenience stores.

The Arendtsville, Bendersville, Biglerville, Franklin, and Possum Valley public water systems (Table 5-1) utilize groundwater sources and are considered to be small community water systems by the Pennsylvania Department of Environmental Protection (PADEP) – those serving less than 3,300 customers.

Sewer and Water Systems



- Village
- Private System
- Sewer Line
- Water Line
- State Road
- Local/ Private Road
- + Public Sewer and Water Service Area
- Public Sewer Service Area**
 - + Existing
 - + Future
- + Public Water Service Area
- Northwest Study Region

The locations of the sewer and water lines are approximate. The Public Sewer Service Areas and Public Water Service Areas represent an area. It does not mean that all properties within this area are currently served by public utilities.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
Wm. F. Hill & Assoc., KPI Tech.,
ACOPD

Prepared By:
Adams County Office of
Planning & Development,
August 28, 2008



Table 5-1 Public Water Systems

Water System Name	Population Served	Primary Water Source Type	PWSID Number	Capacity	Service Area
Arendtsville Municipal Water System	850	Groundwater	PA7010001	0.25 MGD	Arendtsville/ Butler
Bendersville Water Company	618	Groundwater	PA7010002	0.15 MGD No available capacity	Bendersville and outside borough
Biglerville Authority	1245	Groundwater	PA7010020	0.35 MGD Limited capacity	Biglerville/Butler
Franklin Township Municipal Authority	441	Groundwater	PA7010032	0.2 MGD	Cashtown
Possum Valley Municipal Authority	511	Groundwater Under the Influence of Surface Water	PA7010034	0.1 MGD No capacity	Bendersville/ Menallen

Source: EPA Envirofacts Safe Drinking Water Information System data extracted January 18, 2008.

Expansion and Rehabilitation Efforts

Bendersville Borough Water System Improvements

Bendersville Borough began applying for Community Development Block Grant (CDBG) funding in 1999 for the replacement of waterlines containing asbestos, and upgrading their water system. Through Adams County's CDBG Program, funding has been provided to replace 5,200 lineal feet of water mains, construct a new precast water storage facility, re-line an existing reservoir, and provide additional pipeline replacement.

Possum Valley Municipal Authority

Since the 1990's Possum Valley Municipal Authority has been working to eliminate water pressure problems and improve water supplies to the Village of Aspers and surrounding areas. CDBG funding through Adams County and PA Growing Greener funding has provided support to protect the natural springs in the area, drill new wells, install a new filtration system, and install a system to withdraw water from the Opossum Creek. The municipal authority is currently working to replace approximately 1,000 feet of service line to increase water pressure to its customers.

Biglerville Authority

In 1994 Biglerville incurred a debt to finance an additional well (#7), install a storage tank, close a reservoir, and connect and coordinate pumping operations between wells 6 & 7. The debt for these improvements was retired in 2007. By 2008, all three wells were enclosed with security fencing and hooked-up for a generator. Currently the water system is being upgraded to touch read meters.

Table 5-2 presents detailed information on the community water systems (public and private) located within Northwest.

Table 5-2 Community Water Systems Inventory

Community Water System Inventory - Source: Adams County Water Supply Plan								Connections		Water Use per Person		
Community Water System	Area Served	Water Source Type	Safe Yield (gpd)	Water Use (gpd) Average Daily	Peak Daily (1)	Treatment Process (2)	Finished Storage (gal)	Pop. Served	Residential	Other (3)	Average Daily Residential (gpd) (4)	Peak Daily Residential (gpd) (5)
Anchor MHP Association	Butler Twp.	2 wells	50,000	15,890	23,000	D,M	5,420	170	90	-	93	135
Arendtsville Municipal Water Co.	Arendtsvil B., Butler Twp., Franklin Twp.	3 wells	172,000	73,937	114,900	D,C	300,000	846	304	27	48	76
Bendersville Water Co.	Bendersville B., Menallen T.	3 wells, 3 springs*	81,473	82,739	104,700	D,C	-	617	218	17	n/a	n/a
Biglerville Water Co.	Biglerville B., Butler Twp.	3 wells	316,000	186,323**	302,000	D	512,726	1,200	409	75	53	86
Franklin Twp. Municipal Authority	Franklin Twp.	2 wells	72,000	16,882	44,500	D	-	403	109	7	26	110
Piney Mountain Home Est.	Franklin Twp.	2 wells	158,000	18,591	47,900	D,C	125,000	124	-	1	n/a	n/a
Possum Valley Municipal Authority	Menallen Twp.	2 wells, 2 springs*	76,000	24,600	54,000	D,C	-	303	109	11	58	128

1 – Total includes average daily water use values for three unknown peak daily water use values

2 – D = disinfection, M = manganese removal, C = corrosion control, P = particulates removal, T = taste/odor control, S = softening, I = inorganic removal, R = radio nuclides removal

3 – Commercial, industrial, institutional, bulk and other uses

4 – Average daily residential water use / population served

5 – Peak daily residential water use/population served; where nonresidential water use exists, peak daily residential water use estimated as total peak daily water use x average daily residential water use/total average daily water use

* - Springs have since been converted to infiltration galleries

** - 2008 average daily water use was 106,401 gallons. This is a 42% decrease attributed to finding and repairing several major leaks.

Geologic Settings

Groundwater is the primary source of water for the region's community systems as well as the individual water systems. Understanding the geology and the physical geographic factors that influence ground water availability and quality is an important factor in developing a comprehensive plan for the region.

Ground water is stored in, and moves slowly through, moderately to highly permeable rocks called aquifers. The use of groundwater as a drinking source is dependent upon drilling into aquifers. As water is withdrawn from a well, the level of water in the aquifer is lowered. The extent of this effect may extend for hundreds of feet or farther depending upon the characteristics of the aquifer. The replenishing of water through rain or snow events is called recharge, a result of hydrologic interconnections to an aquifer.

Groundwater recharge occurs at rates dependent on the texture and composition of the soil and underlying strata, the slope of the land, the amount of vegetative cover, and the impervious surface area. Chemical composition of rock can contribute to the chemical properties of groundwater, and rock types and structures can affect the transport rates of groundwater and the vulnerability of groundwater to potential contamination.

The Northwest Adams study area consists of two (2) physiographic sections: the Gettysburg-Newark Lowland, which is part of the Piedmont Province, and the South Mountain, which is part of the Ridge and Valley Province (see Map 1-1 Physiographic Provinces).

The *Gettysburg-Newark Lowland Section* is primarily found in Arendtsville Borough, Biglerville Borough, Butler Township, and the southeast region of Franklin Township. Triassic-Jurassic sedimentary rocks (shales, siltstones, sandstones, minor limestone, and conglomerate) and igneous rocks (diabase) underlie the Gettysburg Lowland. Rolling lowlands, isolated hills, and highlands are representative of the topography in this region.

Recharge is best found in the sedimentary geology of the *Gettysburg-Newark Lowland Section*, particularly in the unconsolidated geology of stream valleys. Groundwater in the region occurs in and moves through the secondary openings of water bearing geologic. As water percolates downward from the surface (either from precipitation or streams) to the water table, the basic quality and chemical characteristics of the groundwater are established as various chemical components are dissolved or adsorbed from the surrounding soil and rock. The quality of the source water is considered excellent and requires little post treatment other than standard chlorination and corrosion control. However, potential for groundwater contamination in both urbanizing and rural areas is probable if stormwater is not managed properly.

The *South Mountain Section* is located in the northwestern part of the Region, primarily in NW Franklin Township, Menallen Township, and Bendersville Borough and is underlain by Precambrian age metavolcanic rocks that consist of metabasalt, metarhyolite, and Greenstone schist. Primarily, these rocks are part of the *Catoctin Formation*. Pronounced ridges and deep valleys are characteristic of the erosion patterns and topographic relief of this hydrogeologic unit.

The *South Mountain Section* is underlain by dense, almost impermeable bedrock that yields water primarily from secondary porosity and permeability provided by fractures. The bedrock in this province is partly covered by glacial deposits, which include productive sand and gravel aquifers that are part of the surficial aquifer system typically found in Eastern Pennsylvania. The principal differences between the two provinces are relief, altitude, and geographic position. The Ridge and Valley Province is typically characterized by the mountain ridges found in Eastern Pennsylvania.

Recharge is highly variable in the South Mountain because it is determined by local precipitation and runoff, which are highly variable and are influenced by topographic relief and the capacity of the land surface to accept infiltrating water. The water generally is suitable for drinking and other uses, but iron, manganese, and sulfate locally occur in objectionable concentrations.

Potentially Stressed & Water Challenged Areas

The Susquehanna River Basin Commission (SRBC) prepared a Groundwater Management Plan in 2005. The purpose of this study and subsequent plan is to balance environmental, human, and economic needs and the management of the basin's water resources. Groundwater resource problems were assessed by reviewing issues and impacts that have developed in the last few decades.

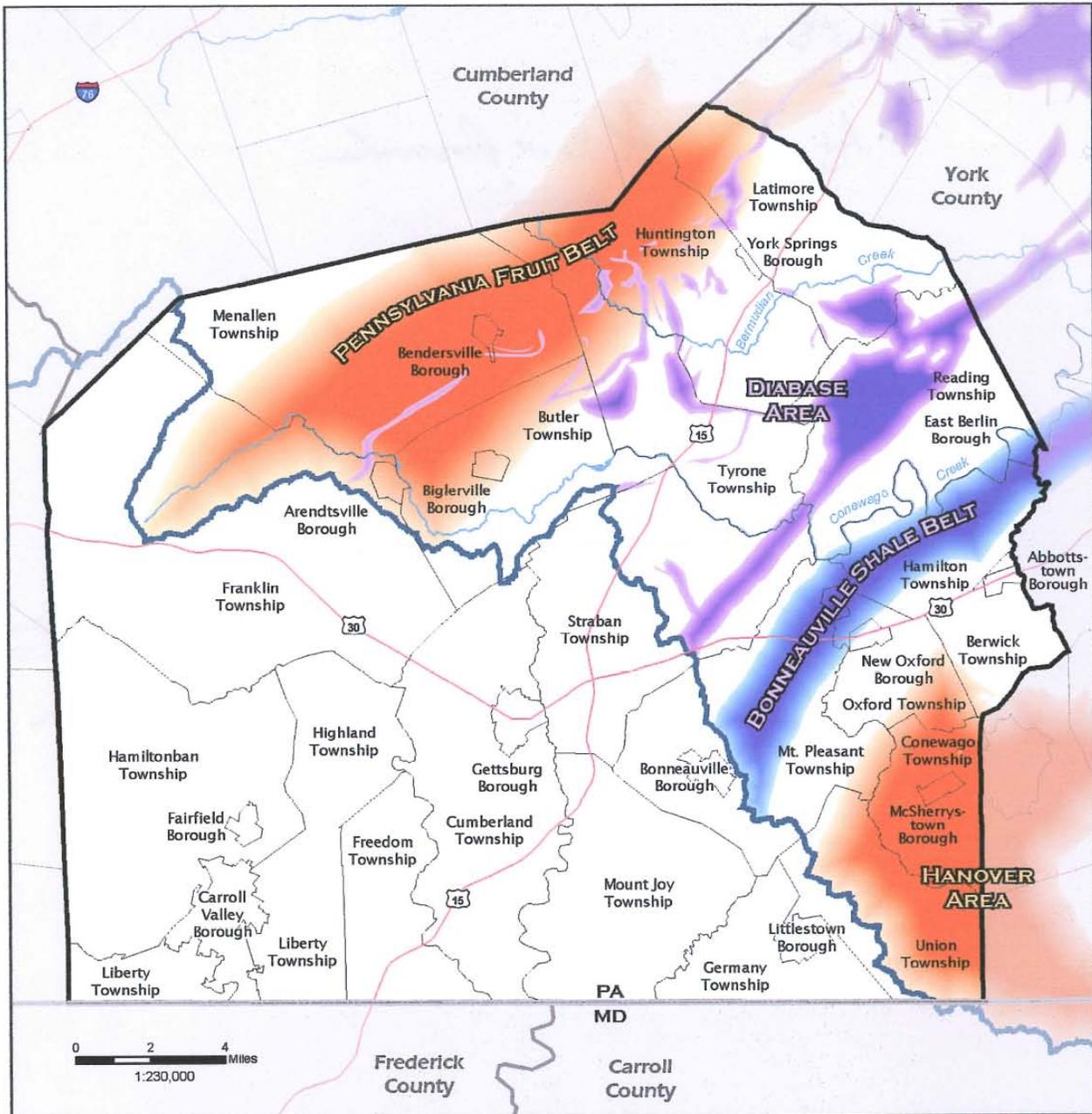
Of particular significance was the identification of several Potentially Stressed Areas (PSAs) in the basin where the utilization of groundwater resources is potentially approaching or has exceeded the sustainable limit of the resources, defined as the average annual base flow (recharge) available in the “local” watershed during a 1-in-10-year average annual drought.

Using a series of criteria, SRBC identified a number of PSAs (see Map 5-2 for areas within Adams County). They include seven areas in Pennsylvania: the Manheim/Lititz/Ephrata Valley, the *Fruit Belt* (in York and Adams Counties), Hanover Area, Hershey Area (Spring Creek Basin), Fredericksburg Area, Roaring Spring Area, and State College Area; and the Corning area in New York State. Applications submitted to the Commission for review of projects located in PSAs receive a greater degree of scrutiny. The requests for groundwater withdrawals will be considered in relation to the availability of groundwater and they may be denied, approved for lower quantities than requested, or approved with conditions.

Included in the PSAs are several low-yielding (low permeability) bedrock units in the southern Pennsylvania portion of the basin. These units will produce only limited amounts of groundwater to support water resource development, and, for this reason, are called Water Challenged Areas (WCAs). While the area-specific conditions in PSAs vary, all of them share certain conditions, including well interference, exceedance of sustainable yield, and loss of recharge area.

MAP 5-2

POTENTIALLY STRESSED & WATER CHALLENGED AREAS
in Adams County, Pennsylvania



	 Potentially Stressed Area	 Municipal Boundary	 Major Road
	 Water Challenged Areas	 County Boundary	 River/Stream
	 Shale Geology	 State Boundary	 Susquehanna River Basin
	 Diabase Geology		

DISCLAIMER: Intended for Educational Display Purposes Only; SRBC (1180) 11-04-2005; Jeff Zimmerman, Jr.

The Fruit Belt. This is an area in York and Adams Counties with very intensive fruit production, both orchards and processing, that extends into the Potomac River Basin, and ends near the Pennsylvania-Maryland state line. The fruit growers in this area of York and Adams Counties are gradually turning to irrigation to meet their orchards' water needs, and fruit processing facilities have expanded their operations from primarily seasonal fruit processing to year-round food production. This area includes one of the lowest yielding (Catoctin Formation Metavolcanics) and one of the higher yielding (Gettysburg Formation) bedrock units in the region. The natural ability of the low-yielding Catoctin Formation to provide groundwater is limited. Numerous low-capacity wells in the poor aquifers and stream intakes are utilized to supply the water for irrigation, fruit processing, and food production. Many of the uses are consumptive and do not return any water to surface or groundwater locations.

Diabase. Diabase is widely known as one of the lowest yielding aquifers in the Susquehanna River Basin. It is a massive, poorly fractured igneous rock formation and occurs as bands, typically ½ to 2 miles wide and 10's of miles long, and as narrower belts, with irregular patches covering several square miles. Areas underlain by diabase are characterized with thin soils and abundant boulder fields, a relatively high percentage of wetland area and wetlands springs, and a relatively high density of small streams.

There are a high percentage of low yielding wells in the diabase, and many diabase wells rely on shallow water-bearing zones. Locally, large quantities of water may be obtainable by drilling through the diabase where it is not deep rooted (often several hundred to more than 1,000 feet thick) into the underlying strata. However, this deep groundwater is often not potable, exceeding safe drinking water standards for hardness, total dissolved solids, sulfate, iron, and manganese.

Adams County Water Supply and Wellhead Protection Plan

To help ensure the sustainability of adequate and safe drinking water resources in Adams County, the County developed a *Water Supply and Wellhead Protection Plan* in 2001. The primary purpose of the Plan is to evaluate community water system capabilities, project future water needs, identify service deficiencies, evaluate alternative solutions and make recommendations to promote coordination and consistency with County and municipal efforts.

The County's *Water Supply and Wellhead Protection Plan* provides a five step process that communities can use to protect water quality and yields:

- Adopt well siting, construction, water quality testing, and abandonment standards as part of the subdivision and permitting process to protect groundwater quality; such requirements should involve siting wells at safe distances from potential contaminant threats, grouting, and the placement of a sanitary seal on all at- or below-grade well openings.

- Adopt on-lot septic system ordinances to assure adequate siting, maintenance, pumping, and replacement of systems so as to minimize potential adverse impacts on groundwater. On-lot septic systems should be pumped every three years. Alternatively, a municipality might create a local sewer district in which it charges each household a small annual fee, and in return takes responsibility for the maintenance and replacement of septic systems.
- Adopt aquifer testing requirements for proposed new subdivisions and land developments to assure adequate water supply and to assure no adverse impacts on adjacent existing development.
- Require that any new development within one-half mile of an existing municipal community water system be connected to the municipal water system.
- Discourage the proliferation of on-lot water systems by revising comprehensive plans and zoning ordinances to:
 1. direct future development into planned growth areas with densities conducive to the provision of community water and sewer systems (three to four units per acre),
 2. rezone large areas of productive agricultural and forest lands using a fixed area or sliding scale district that results in a maximum density of one unit per 25 acres,
 3. rezone suburbanizing areas at the edge of municipal water systems for cluster development that can be served by the municipal system

The municipalities should work with the water suppliers to establish a regional approach to and policies for water supply serving development in designated growth areas.

The Plan goes on to recommend some additional techniques. “Several types of regulatory and non-regulatory protection techniques exist that could help protect the county's groundwater sources for future consumptive use. For instance, the delineation of Wellhead Protection Areas (WHPAs) and the adoption of regulatory measures to protect community water system supply wells would safeguard not only existing wells, but potential future wells.” The municipalities should work with the water suppliers to assure that existing and future wells are protected through wellhead protection zoning.

Groundwater quality in the county can only be protected through a coordinated effort among residents, municipalities and the county. Intensive community planning programs and the application of appropriate zoning standards are absolutely essential. Residents must also be educated as to the necessity of regularly pumping septic systems and proper septic system usage. At a minimum, municipalities should monitor the incidence of septic system pumping. If indicated, municipalities should require such pumping through the adoption of on-lot disposal system ordinances.

Other methods of groundwater protection, in areas where community water systems do not currently exist, include zoning and subdivision and land development (SALDO) regulations, which can be used to protect potential source water locations from contamination; these measures can also be used to protect vital areas of groundwater recharge. Some specific zoning and SLDO techniques include:

- Land purchase or easement acquisition,
- Creation of regional watershed associations,
- Very low-density zoning, including cluster and rural conservation zoning that requires large areas to be retained in a natural state,
- On-lot septic maintenance, cleaning and replacement regulations,
- On-lot water system well construction and abandonment requirements, and demonstration of adequate supply,
- The promotion of integrated pest management practices on farms and in gardens,
- Annual hazardous materials collection days,
- Identification and careful monitoring of hazardous materials production, use, storage, transport, and disposal (see county's GIS database),
- Up-to-date municipal emergency operations plans,
- Zoning protection for floodplains, wetlands, riparian corridors, steep slopes, and woodland areas, low maximum impervious surface standards and the promotion of pervious surfaces for development,
- Best management practices for storm water management, including the promotion of non-structural solutions, and
- Non-regulatory approaches supporting the protection of groundwater include education, conservation, land acquisition, easement acquisition and transfer of development rights, to name a few.

The implementation of these techniques will require the cooperation and coordination of the efforts of municipalities, the County Conservation District, Cooperative Extension, Adams County, and other participants. Most of these techniques have been discussed elsewhere in the Comprehensive Plan. The important first step in implementing them within the region is to establish a mechanism to take an overview of water resource protection activities in the region and bring the municipalities, water suppliers and other groups together to map out an action plan for the future.

Pennsylvania Water Resources Planning Act – Potential Impacts on the NW Adams County Region

In December of 2002, Pennsylvania passed the Water Resources Planning Act (Act 220). The Plan consists of inventories of water availability, an assessment of current and future water use demands, assessments of resources management alternatives, and proposed methods of implementing recommended actions. Major components of the legislation include:

Update the State Water Plan within 5 Years

- The Act directed DEP to complete an update of the State Water Plan within five years and have updates every five years thereafter.
- A new Statewide Water Resources Committee would be formed to establish the guidelines and policies that will guide the planning process. The Statewide Committee will also have a formal review and approval role of the updated State Water Plan.
- The act also creates six regional water resource committees to represent Pennsylvania's geographic diversity and facilitate the development of the regional components of the State Water Plan and critical area resource plans.
- Memberships on the Statewide and regional committees include a broad representation of business and industry, agriculture, local government, and environmental interests.
- Through an open public process, in consultation with the Statewide Committee and DEP, regional committees will recommend the regional plan components to the Statewide Committee for incorporation into the State Water Plan.
- The Statewide Committee will guide the development of, approve, and recommend to the Secretary of DEP, approval and adoption of the State Water Plan.

Register and Report Certain Water Withdrawals

- The Act requires users of 10,000 gallons a day or more to register and then periodically report their water use to DEP.
- There will be no fees associated with registering and reporting.
- DEP will work with the existing river basin commissions to share information and avoid duplicate reporting.
- Regulations will be adopted by the Environmental Quality Board that will provide for the use of alternative methods to metering by water users with withdrawals between 10,000 and 50,000 gallons.
- The Act expressly prohibits any requirement of metering of homeowner wells.

Identification of Critical Water Planning Areas

- It is expected that during the updating of the State Water Plan, areas will be identified where the demand for water exceeds, or is projected to exceed, available supplies.
- These areas would be designated as Critical Water Planning Areas and identified on a multi-municipal watershed basis.

- 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.
- Regional Committees, in consultation with Critical Area Advisory Committees, representing the broad interest of the identified area, will guide the development of Critical Area Resource Plans through an open public process.
- Critical Area Resource plans will be submitted for review and comment for consistency to the Official Planning Agency and governing body of each municipality in the identified area prior to final recommendation.
- Once reviewed, the Regional Committees will recommend to the Statewide Committee and the Secretary of DEP, the Critical Area Resource Plan.

Creation of Critical Area Resource Plans

- 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.

Establishment of a Voluntary Water Conservation Program

- The act establishes a formal program to promote voluntary water conservation and water use efficiency practices for all water users.
- A Water Resources Technical Assistance Center would also be created to promote the use and development of water conservation and water use efficiency education, and technical assistance programs.
- Grants are authorized for water resources education and technical assistance.

The six (6) regional watershed areas include:

- The Delaware River basin
- West Branch, Upper, Middle Susquehanna River and Chemung River Basins
- Juniata River, Lower Susquehanna River, Gunpowder, Northeast and Elk Creek Basins
- Ohio River Basin
- Lake Erie and Genesee River Basins
- Potomac River Basin

The Northwest Adams study area falls into both the Lower Susquehanna River Basin and the Potomac River basin watershed area (see Map 1-9, Watersheds). On March 21, 2008, the Statewide Water Resources Committee and the Secretary of the Department of Environmental Protection presented a status report to the Statewide Water Resources Committee with the State Water Plan expected to be made available to the public in draft form this fall.

The Susquehanna River Basin Commission (SRBC) has already identified the Fruit Belt in Adams County, including large parts of the Northwest Region potentially water stressed and challenged. Outcomes from the statewide Water Planning Process should be forthcoming in 2008 or 2009.

SEWAGE SYSTEMS

There are five (5) municipal sewage dischargers, six (6) non-municipal sewage dischargers, three (3) industrial sewage dischargers and one (1) small flow treatment facility located on a residential property within the study area (see Map 5-1, Sewer and Water Systems). It is noted that the location of the small flow treatment facility is not mapped to respect the privacy of the property owner. Properties located outside of the public and private service areas are served by individual on-lot sewage disposal systems including: septic systems, sand mounds, and other approved systems.

The seven municipal systems include:

- Arendtsville Municipal Authority
- Biglerville Borough Wastewater Treatment Facility
- Chambersburg Borough Water Treatment System*
- Franklin Township Cashtown/McKnightstown Sewage Treatment Plant
- Possum Valley Municipal Authority

* The discharge from this facility is associated with the processing of potable water.

There are six non-municipal* systems including:

- Franklin Township Elementary School
- Anchor Estates Mobile Home Park
- South Mountain Restoration Center
- Village of Laurel Run Health Care Facility
- Columbia Gas Pipeline and Compressor Station
- Hundredfold Farm

* The non-municipal systems provide service to their own facilities and not beyond.

There are three industrial wastewater dischargers including:

- Knouse Foods Biglerville
- Knouse Foods Orrtanna
- Motts Inc.

Table 5-3 Municipal Sewer System Capacities

Wastewater Treatment Facility	NPDES Permit #	Permitted Flow	Available Capacity	Connects	Act 537 Planning Status	Service Area
Arendtsville MA	PA 0022233	0.147 MGD	.06 MG	391	10+ years	Arendtsville
Possum Valley MA	PA 0247154	0.12 MGD	none	615	Just started (includes Menallen)	Bendersville/ Menallen
Biglerville WWTP	PA0022250	0.37MGD	*	910	Recently completed	Biglerville/Butler
Franklin Township MA	PA 0248088	.0129 MGD	300 future EDU's	Not yet constructed/ no connections	Recently completed	McKnightstown
Franklin Elementary	PA 0084131	.0129 MGD	N/A	N/A	N/A	School + 3 homes

Source: Source: EPA Envirofacts Water Discharge Permits (PCS) data extracted January 18, 2008.

* - The Biglerville Authority is under a Corrective Action Plan by DEP. DEP allocated limited connections based on ongoing improvements to the collection system and recent upgrades to the WWTP.

Permitted flow in Table 5-3 above refers to the capacity of the facility, while available capacity is the remaining flow available for connection. The Arendtsville wastewater treatment facility has available capacity of .06 MG: **60,000 gallons/250 gpd/EDU = 240 EDU's**.

Expansion and Rehabilitation

Franklin Township

The Franklin Township Municipal Authority has received Water Quality Management Part II approval for the construction of a 12,900 gallon Sequential Batch Reactor. The Permit was issued on April 17, 2007 and construction of the treatment facility is expected to commence this year.

Franklin Township is constructing a sewer system in the Cashtown and McKnightstown area to replace failing on-site sewage systems. The township updated their Act 537 Sewage Facilities Plan for the Cashtown, McKnightstown, and Seven Stars service areas. The new Act 537 plan, approved by DEP (2005), included a review of on-site sewage systems and drinking well sampling. The study concluded that 70 percent of the surveyed properties have a potential system malfunction and 30 percent have confirmed malfunctions under DEP guidelines. CDBG funding has been provided to install new sewer lines and to assist qualified homeowners with hook-up and tapping fees. The completion of the new lines and customer hook-ups is expected to be completed by the end of 2009.

Butler Township

Butler Township is in the process of completing a Sewage Facilities Management Plan (Act 537 Plan) for the entire Township. A draft of this Plan is expected to be presented to the public within the next 3 months.

Possum Valley Sewer Authority

The Possum Valley Sewer Authority's wastewater treatment plant is currently at capacity. The Borough of Bendersville and Menallen Township are beginning the process of updating their Act 537 Plans to include expansion of the wastewater treatment facility and service into Menallen Township.

Any other capacity or treatment problems, permit compliance issues, on-lot sewage problem areas will be developed within the context of the Act 537 planning process and as yet are unknown.

Chesapeake Bay Tributary Strategy

On January 10th, 2005, Pennsylvania's Governor Edward Rendell unveiled Pennsylvania's Chesapeake Bay Tributary Strategy – Pennsylvania's Plan to clean up the nutrient impaired bay (total nitrogen and total phosphorous) and meet the goals set forth in the Chesapeake Bay Agreement of 2000. Under this plan, municipally owned wastewater treatment facilities located within the Chesapeake Bay Watershed (Potomac River Basin and Susquehanna River Basin) are "capped" at certain nutrient levels. Wastewater treatment facilities with NPDES permits for 400,000 or more gallons per day were given site specific nutrient limits based upon their design hydraulic flow and a pollutant concentration of 6 mg/l for Total Nitrogen and 0.8 mg/k for Total Phosphorous. For those facilities with flows under 400,000 gallons per day; they are being "capped" at their TN and TP discharge loadings as of the date of August 29, 2005.

In both instances, any increase in flow (new or expanded discharges) must result in no net nutrient increase to the receiving waters. As a result of this initiative, many facilities are implementing advanced wastewater treatment technologies designed to treat nutrient levels down to Best Available Technology (BAT) levels and/or alternative options such as the purchase of nutrient credits.

The wastewater treatment plants in the study area will not have to meet the "cap loads" before 2013; actual loadings are not known.

STORMWATER MANAGEMENT PLANNING

Most of Adams County and Northwest Adams County are in the Monocacy and Conewago Watersheds (see Map 1-8, Watersheds). The eastern half of Franklin Township and the southwestern tip of Butler Township are in the Monocacy River Watershed, for which a Watershed Stormwater Management Plan was completed in 2002. Adams County is now in the

beginning stages of completing a county-wide stormwater management plan per Pennsylvania's Act 167 requirements.

Pennsylvania's Act 167, the Pennsylvania Stormwater Management Act, requires that local municipalities adopt standards to implement Stormwater Management Plans prepared by the County. The basic standard for stormwater management as established by Act 167 requires those involved in activities which can generate additional stormwater runoff, increase its velocity, or change the direction of its flow to be responsible for controlling and managing the runoff so that these changes will not cause harm to other persons or property throughout the watershed.

In addition, recent guidance provided by the Pennsylvania Department of Environmental Protection (DEP) requires that stormwater management plans incorporate concepts addressing water quality, groundwater recharge, and stream channel protection. Proper implementation of the stormwater management plan may necessitate the use of one or more of the Best Management Practices (BMPs) presented in the plan.

The Department of Environmental Protection is providing support for this plan to evaluate the five (5) watersheds, identified by Act 167, composing the County. These watersheds include the Conewago, Monocacy, Antietam, Conococheague, and Mountain Creek. The stormwater management plan for the Monocacy River Watershed will be revisited and the plan for the Conewago Watershed will be prepared in conjunction with York County, PA.

Monocacy River Watershed Stormwater Management Plan

In 2002, Adams County completed the Monocacy River Watershed Stormwater Management Plan. This effort involved the portion of Adams County within the Monocacy River watershed, an area that includes all or part of 17 Adams County municipalities. Approximately 52% of Franklin Township, 10% of Butler Township and 3% of Menallen Township are included in the watershed.

The Monocacy Plan establishes three technical standards involving peak runoff control, runoff capture, and water quality. The stormwater management standards presented in the Monocacy River Watershed Plan are the minimum standards that have been determined to be appropriate and effective in the Monocacy River Watershed. If a municipality determines that local conditions warrant more stringent controls, it may adopt such controls provided that, prior to adoption, the municipality demonstrates to DEP that its proposed standards: 1) meet the minimum standards established by the Plan, and 2) that the implementation of the proposed standards will not adversely affect downstream public property, health and welfare.

The following three sets of quantitative control standards have been established by the Plan:

1. Runoff Capture Volume/ Groundwater Recharge Standard

The runoff capture/groundwater recharge standard recognizes that land development activities typically create impervious surfaces and/or reduce the perviousness of the ground

surface. These conditions reduce the amount of rainfall that percolates into the soil. This, in turn, decreases the amount of groundwater recharge that occurs as the result of precipitation events. A reduction in groundwater recharge can lead to a depletion of groundwater aquifers and can reduce base flows in streams. Less groundwater recharge creates a potential for the reduced availability of groundwater for water supply and a reduction in base stream flows that can impair low flow water quality. The Plan states as follows:

The post development runoff capture volume for the site shall equal or exceed the predevelopment runoff capture volume for the site.

The runoff capture standard reflects the goal of maintaining groundwater recharge from precipitation at predevelopment levels. The runoff capture volume is calculated on a case-by-case basis to reflect the predevelopment conditions for each development site.

2. Water Quality Volume Standard

The water quality volume standard recognizes the impacts of stormwater runoff on receiving water quality. The water quality standard recommended for use in the Monocacy River Watershed is as follows:

The water quality volume standard for the Monocacy River Watershed is that all runoff produced by 2.3 inches of rainfall over 24-hours shall be captured and treated using acceptable best management practices and water quality enhancement techniques.

The water quality volume standard reflects the goal that approximately 90 percent of the runoff produced at development sites will receive water quality enhancement prior to leaving the site. The 2.3-inch rainfall volume was determined to meet this requirement based upon an analysis of local rainfall records.

3. Peak Rate of Discharge Standard

The runoff peak flow attenuation standard seeks to avoid increases in the peak rates of stormwater discharges from developing areas. By limiting the damaging peak discharges, the potential for increased downstream flooding and channel erosion can be reduced. The Plan states:

The runoff peak flow attenuation standard for the Monocacy River Watershed is that post-development peak discharge rates shall not exceed the predevelopment discharge rates for the 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour design storms. The rainfall volumes for the 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hours design storms are 2.8, 3.6, 4.5, 5.5, 6.8, and 7.8 inches, respectively. The rainfall shall be distributed over the 24-hour duration in accordance with the NRCS Type II Design Storm Distribution.

The development of a Watershed Plan provides a framework for the correction of the following:

1. existing storm drainage problems have been identified;

2. implementation of the runoff control criteria specified in the Plan will prevent the existing drainage problems from becoming worse (and prevent the creation of new drainage problem areas); and
3. the hydrologic model developed to formulate the runoff control criteria could be used as an analytical tool for identifying engineering solutions to existing drainage problems.

The principal flood problems in Northwest Adams County reported in the Plan are:

The history of flooding on the streams in Franklin Township indicates that flooding may occur during any season of the year. Major floods have occurred during the late summer and fall and have been associated with tropical storms moving up the Atlantic coast. On January 24, 1979, a combination of drastic temperature changes and rainfall, over antecedent accumulation of snow, caused a significant runoff resulting in overbank flow of the study area streams.

In regard to the reported stormwater problems in Northwest Adams County, two areas of flooding in southern Franklin Township were identified in 1996 and 1998. The areas include the McKnightstown Station area along Tillie Town Road near Muskrat Run and an area along Poplar Springs Road along an un-named tributary of Poplar Springs Creek. Flooding occurred because of excessive runoff volume/rate, once a year, for one day, and involved road flooding during heavy storms.

It is recommended that municipalities within the Northwest Region should include the following steps in their efforts to implement solutions to existing storm drainage problem areas:

1. Prioritize storm drainage problems within the municipality based upon frequency of occurrence, potential for injury to persons or property, damage history, public perception of the problems and other appropriate criteria.
2. For the top priority drainage problems in the municipality, conduct detailed engineering evaluations to determine the exact nature of the problems, determine alternative solutions, provide cost estimates for the alternative solutions, and recommend a course of municipal action. The number of drainage problems to be evaluated by a municipality as a first cut from the priority list should be based on a schedule commensurate with completing engineering studies on all problem areas. The engineering studies should include consideration of the downstream effects of eliminating specific drainage problems so as to avoid transfer of problems progressively downstream.
3. On the priority and cost basis, incorporate implementation of recommended solutions to the drainage problems in the annual municipal capital or maintenance budgets as funds are available.

WATER, SEWER, AND STORM WATER – GENERAL OBSERVATIONS

- The majority of the region relies on private wells and on-lot sewage disposal systems.

- Public water systems include the Arendtsville Municipal Water System, Bendersville Water Company, Biglerville Authority, Franklin Township Municipal Authority, and Possum Valley Municipal Authority. The Bendersville and Possum Valley systems have no available capacity and the Biglerville system has limited available capacity.
- Groundwater is the primary source of water for the region's community systems as well as the individual systems. This reliance on groundwater creates a challenge to protect watersheds that feed the aquifers.
- Heavy reliance on groundwater has resulted in less than adequate supplies, both communally and individually, during drought or near drought conditions. Water withdrawals must be balanced to ensure an adequate, safe and reliable resource, not only for the present, but for future generations to come.
- The Susquehanna River Basin Commission has identified the Fruitbelt areas as a Potentially Stressed Area (PSA). Applications submitted to the Commission for review of projects located in PSAs receive a greater degree of scrutiny and the requests for groundwater withdrawals will be considered in relation to the availability of groundwater and they may be denied, approved for lower quantities than requested, or approved with conditions.
- Groundwater can become contaminated through recharge, such contamination can be natural or from manmade activities.
- Failing septic systems, improper disposal of hazardous household wastes, and residential construction activities are all examples of manmade activities that could cause groundwater contamination.
- Industrial and commercial activities frequently generate hazardous substances and wastes, with materials such as chemicals, petroleum products, cleaning fluids as examples of materials that can potentially contaminate groundwater.
- Pesticides, fertilizers and manure application are all examples of materials that can potentially contaminate groundwater from agricultural applications.
- The primary purpose of wellhead protection is to recognize and implement controls that will prevent these activities from contaminating the overall system, such as industrial contamination, commercial contamination and contamination from residential on-lot septic systems. Additional information regarding wellhead protection may be found in the County's *Water Supply and Wellhead Protection Plan, 2001*.
- Franklin Township recently constructed a sanitary sewer system in the Cashtown and McKnightstown area to replace failing on-site sewage systems.

- Butler Township is in the process of completing a Sewage Facilities Management Plan for the entire Township.
- The Possum Valley Sewer Authority's wastewater treatment plant is currently at capacity. The Borough of Bendersville and Menallen Township are beginning the process of updating their Act 537 Plans to include expansion of the wastewater treatment facility and service into Menallen Township.
- The Arendtsville wastewater treatment facility has available capacity of .06 MG or 240 EDUs. The Biglerville Authority is under a Corrective Action Plan by DEP. DEP allocated limited connections based on ongoing improvements to the collection system and recent upgrades to the WWTP.
- The Chesapeake Bay Tributary Strategy "caps" municipally owned wastewater treatment facilities located within the Chesapeake Bay Watershed at certain nutrient loads.
- The Monocacy River Watershed Stormwater Management Plan, which includes the eastern half of Franklin Township and the southwestern tip of Butler Township, has established standards for runoff capture volume/groundwater recharge; water quality volume; and peak rate of discharge.

Chapter Six

ECONOMIC DEVELOPMENT

The Adams County Fruitbelt represents a highly inter-related and interdependent system of orchards, fruit storage, packing, processing operations, and support industries. The Fruitbelt represents not only a beautiful, manicured agricultural landscape, but also one of the most unique agriculturally based economies in Pennsylvania. The fruit industry plays a critically important role in the economy of both the Northwest Adams County region and Adams County as a whole.

The following table (Table 6-1) indicates the 25 largest employers in the Region, the type of business, and number of local employees. **Map 6-1**, Employment Locations, shows the location of these employers and other employers in the region. Many of the largest employers in the region, including the top three, are fruit-related industries (Cadbury Schweppes with 380, Cadbury Beverages with 300, and Knouse Foods Cooperative, Inc. with 220). There are only six employers with more than 100 employees in the Region.

Table 6-2 indicates the top 10 industries in Northwest Adams County. The fruit and vegetable canning industry is tops, with 600. Other commercial equipment merchant wholesalers is second with 300, elementary/secondary/universities and professional schools is third with 285, and nursing care facilities is next with 200.

Table 6-3 indicates the top 25 employers in Adams County. Knouse Foods Cooperative, Inc. ranks #2 in Adams County with 1,025 employees. The remainder of the top five employers includes Lincoln Intermediate Unit 12, first, with 1096 employees, Gettysburg College (850 employees), the Gettysburg Hospital (700 employees), and the Brethren Home (669 employees). The top 5 employers in Northwest Adams County are included in the County's top 25.

The next table, Table 6-4, indicates the top 10 industries in Adams County. The fruit and canning industry, the top industry in Northwest Adams County, is third in the County as a whole. Elementary/Secondary/Universities and Professional Schools is first by a wide margin. Eating/Drinking establishments is second.

Employment Locations

Industry Type - Top 25 Employers

- Accomodation and Food Service
- Agriculture, Forestry, Fishing, Hunting
- Construction
- Educational Services
- Health Care and Social Assistance
- Manufacturing
- Professional, Scientific, Technical Services
- Retail Trade
- Transportation and Warehousing
- Wholesale Trade
- Place of Employment
- Village
- State Road
- Local/ Private Road
- Northwest Study Region

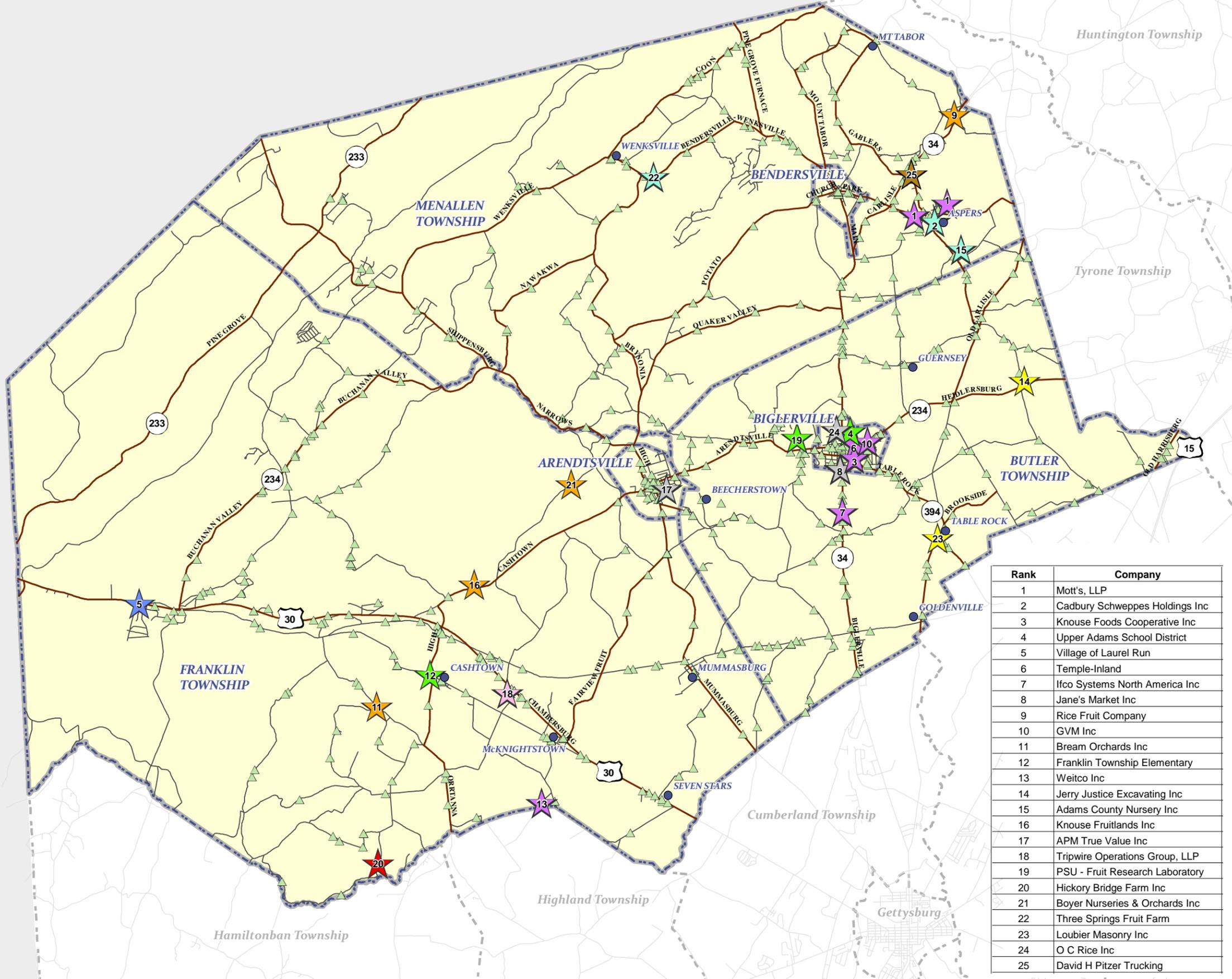


Rank	Company
1	Mott's, LLP
2	Cadbury Schweppes Holdings Inc
3	Knouse Foods Cooperative Inc
4	Upper Adams School District
5	Village of Laurel Run
6	Temple-Inland
7	Ifco Systems North America Inc
8	Jane's Market Inc
9	Rice Fruit Company
10	GVM Inc
11	Bream Orchards Inc
12	Franklin Township Elementary
13	Weitco Inc
14	Jerry Justice Excavating Inc
15	Adams County Nursery Inc
16	Knouse Fruitlands Inc
17	APM True Value Inc
18	Tripwire Operations Group, LLP
19	PSU - Fruit Research Laboratory
20	Hickory Bridge Farm Inc
21	Boyer Nurseries & Orchards Inc
22	Three Springs Fruit Farm
23	Loubier Masonry Inc
24	O C Rice Inc
25	David H Pitzer Trucking

Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
Gannett Fleming, Inc.,
The D&B Corp., 2007

Prepared By:
Adams County Office of
Planning & Development,
October 15, 2008, rev. 01/15/09



**Table 6-1
Top 25 Employers - Northwest Adams County**

NAICS Code	Company	AKA	Industry Title	Industry Subsector	Employed
311421	Mott's, LLP		Manufacturing	Fruit & Vegetable Canning	380
423440	Cadbury Schweppes Holdings Inc	Dr. Pepper Snapple Group	Wholesale Trade	Other Commercial Equipment Merchant Wholesalers	300
311421	Knouse Foods Cooperative Inc		Manufacturing	Fruit & Vegetable Canning	220
611110	Upper Adams School District		Educational Services	Elementary & Secondary Schools	218
623110	Pine Partners LP	Village of Laurel Run	Health Care and Social Assistance	Nursing Care Facilities	200
322211	Tin Inc	Temple-Inland	Manufacturing	Corrugated & Solid Fiber Box Manufacturing	175
321920	Ifco Systems North America Inc		Manufacturing	Wood Container & Pallet Manufacturing	90
445110	Jane's Market Inc		Retail Trade	Supermarkets & Other Grocery (Except Convenience) Stores	65
115114	Rice Fruit Company		Agriculture, Forestry, Fishing, Hunting	Packing Fruits and Vegetables	65
333111	GVM Inc		Manufacturing	Farm Machine & Equipment Manufacturing	60
111331	Bream Orchards Inc		Agriculture, Forestry, Fishing, Hunting	Apple Orchards	60
611110	Gettysburg Area School District	Franklin Township Elementary	Educational Services	Elementary & Secondary Schools	41
321918	Weitco Inc		Manufacturing	Other Millwork (including Flooring)	35
238910	Jerry Justice Excavating Inc		Construction	Site Preparation Contractors	35
424930	Adams County Nursery Inc		Wholesale Trade	Flower, Nursery Stock & Florists Splys Merchant Wholesalers	35
111339	Knouse Fruitlands Inc		Agriculture, Forestry, Fishing, Hunting	Other Noncitrus Fruit Farming	34
444110	APM True Value Inc	Arendtsville Planing Mill	Retail Trade	Home Centers	34
541618	Tripwire Operations Group, LLP		Professional, Scientific, Technical Services	Other Management Consulting Services	30
611310	Pennsylvania State University	Fruit Research Laboratory	Educational Services	Colleges, Universities & Professional Schools	26
722110	Hickory Bride Farm Inc		Accommodation and Food Services	Full-Service Restaurants	25
111421	Boyer Nurseries & Orchards Inc		Agriculture, Forestry, Fishing, Hunting	Nursery & Tree Production	25
424480	Three Springs Fruit Farm		Wholesale Trade	Fresh Fruit & Vegetable Merchant Wholesalers	20
238140	Loubier Masonry Inc		Construction	Masonry Contractors	20
453998	O C Rice Inc		Retail Trade	All Other Miscellaneous Store Retailers Except Tobacco	18
484121	David H Pitzer Trucking, Inc.		Transportation and Warehousing	General Freight Trucking, Long Distance, Truckload	17

Note: Employed in the Northwest Region: 3,539

Prepared By: ACO PD,

Total 2,228

April 2008 Source: The D and B Corporation 2007

**Table 6-2
Top 10 Industries - Northwest Adams County**

NAICS Code	Industry Subsector	Industry Title	# Employee	% of Total Employed in NW
311421	Fruit & Vegetable Canning	Manufacturing	600	17.0%
423440	Other Commercial Equipment Merchant Wholesalers	Wholesale Trade	300	8.5%
611110	Elementary/ Secondary/ Universities & Professional Schools	Educational Services	285	8.0%
623110	Nursing Care Facilities	Health Care and Social Assistance	200	5.7%
238990	Building/ Specialty Contractors (Except Site Preparation & Foundation)	Construction	181	5.1%
322211	Corrugated & Solid Fiber Box Manufacturing	Manufacturing	180	5.1%
111339	Other Noncitrus Fruit Farming	Agriculture, Forestry, Fishing, & Hunting	149	4.2%
722110	Restaurants Full & Limited Service	Accommodation and Food Services	93	2.6%
321920	Wood Container & Pallet Manufacturing	Manufacturing	90	2.5%
445110	Supermarkets & Other Grocery (Except Convenience) Stores	Retail Trade	75	2.1%

Total 2,153

60.8% Employed in the Northwest Region: 3,539

Prepared By: ACOPD, April 2008

Source: The D and B Corporation 2007

**Table 6-3
TOP 25 EMPLOYERS - ADAMS COUNTY, PA**

NAICS Code	Company	AKA	Industry Title	Industry Subsector	Employed
611110	Lincoln Intermediate Unit 12		Educational Services	Elementary & Secondary Schools	1096
311421	Knouse Foods Cooperative Inc		Manufacturing	Fruit & Vegetable Canning	1025
611310	Gettysburg College Inc		Educational Services	Colleges, Universities & Professional Schools	850
622110	Gettysburg Hospital Inc		Health Care & Social Assistance	General Medical & Surgical Hospitals	700
623110	Brethren Home Community		Health Care & Social Assistance	Nursing Care Facilities	669
337110	MasterBrand Cabinets Inc		Manufacturing	Wood Kitchen Cabinet & Countertop Manufacturing	600
611110	Conewago Valley School District		Educational Services	Elementary & Secondary Schools	500
323117	Quebecor World Fairfield Inc		Manufacturing	Book Printing	500
921110	County of Adams	Ind. Green Acres	Public Administration	Executive Offices	496
611110	Gettysburg Area School District		Educational Services	Elementary & Secondary Schools	461
334417	Tyco Electronics Corp		Manufacturing	Electronic Connector Manufacturing	400
311421	Motts. LLP		Manufacturing	Fruit & Vegetable Canning	380
333921	Schindler Elevator Corp		Manufacturing	Elevator & Moving Stairway Manufacturing	330
236210	Conewago Enterprises Inc		Construction	Industrial Building Construction	325
423440	Cadbury Schweppes Holdings Inc	Dr. Pepper Snapple Group	Wholesale Trade	Other Commercial Equipment Merchant Wholesalers	300
424990	Boyds Collection Ltd		Wholesale Trade	Other Miscellaneous Nondurable Goods Merchant Wholesalers	275
311999	Winter Gardens Quality Foods		Manufacturing	All Other Miscellaneous Food Manufacturing	250
323110	Jones Herff Inc	Herff Jones Yearbooks	Manufacturing	Commercial Lithographic Printing	240
311919	Todds Snax Inc	Shultz Food Co	Manufacturing	Other Snack Food Manufacturing	220
611110	Upper Adams School District		Educational Services	Elementary & Secondary _ Schools	218
623312	Lutheran Social Services of SCPA		Health Care & Social Assistance	Homes For The Elderly	200
445110	Nell's Inc		Retail Trade	Supermarkets & Other Grocery (Except Convenience) Stores	200
623110	Piney Partners LP	Village of Laurel Run	Beach Care & Social Assistance	Nursing Care Facilities	200
322211	Tim-Bar Corp	Timbar Packaging & Display	Manufacturing	Corrugated & Solid Fiber Box Manufacturing	200
452112	Wal-Mart Stores Inc		Retail Trade	Discount Department Stores	190
Total					10,825

Notes: Knouse Foods is comprised of 4 plants.

The Biglerville plant is within the Northwest, the other 3 are located just outside the NW region.

Employed in Adams County: 33,653

Prepared by: ACOPD, April 2008

Source: The D and B Corporation 200

Place of Work

Table 6-4 contains data relative to the place of work for residents of Adams County. The table enables an assessment of the number of workers who live and work in Adams County and those that live in Adams County, but commute to jobs in other counties or outside of Pennsylvania.

Table 6-4: Place of Work

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Worked in Adams County	301	170	473	938	1,662	1,099	4,643	73.8%	24,495	53.9%
Worked from home	18	18	23	33	68	52	212	(3.4%)	1,510	(3.3%)
Worked outside Adams Co., in PA	70	69	83	277	418	362	1,279	20.3%	15,219	33.5%
Worked outside PA	18	18	29	81	160	61	367	5.8%	5,761	12.7%

Source: U.S. Bureau of the Census, 2000

The Northwest Region, when compared with Adams County as a whole, has a much higher percentage of its workforce who live and work in the County. Seventy-four percent (73.8%) of the Region's workers are employed in Adams County, compared to 53.9% of the County's workforce. The Northwest Region has a much more localized workforce than the County as a whole. For many residents, this localization means shorter commutes to work, which enable parents to be closer to home and schools. A shorter commute to work also helps reduce traffic congestion in some locations. Less time spent in a car traveling to work also allows for more personal and family time. At the same time, the statistics suggest that the loss of local jobs could result in stress for families with dependent children or aging parents. The Region and Adams County had comparable percentages of those that worked from home. With changing workforce characteristics and increase in available internet options, this number is anticipated to be higher in the 2010 Census.

Interestingly, in a comparison of the Region's municipalities, Bendersville Borough had the highest percentage of its workforce in three measurable categories including: worked from home (7%), worked outside Adams County (27%), and worked outside of Pennsylvania (7%). Bendersville also the lowest percentage of its workforce employed within Adams County (66%).

In comparison with southern Adams County, the relative distance of the municipalities in Northwest to the Mason-Dixon Line could have an effect on the percentage of the workforce that is employed outside of Pennsylvania. The NW Region has a significantly lower percentage (5.8%) of the workforce that works outside of Pennsylvania when compared to Adams County as a whole (12.7%).

Employment Classifications

The employed population, age 16 and over, is further examined in Figure 6-1 and Table 6-6. These records offer information pertaining to the employment classifications or "sectors" that employed the civilian population during the 2000 Census. For those persons who worked at two or more jobs, the data refer to the job at which the person worked the greatest number of hours. The industries also correspond with the classifications used by the North American Industry Classification System (NAICS).

The percentage of persons employed in each sector is fairly consistent between the Northwest Region and Adams County. There were only a few exceptions. In the NW Region, a higher percentage of the workforce (6.6%) was employed in sectors that include agriculture, forestry, fishing, hunting, and mining, than the county as a whole. The manufacturing industry also employed a higher percentage of the work-force in the Northwest (26.7%), than the county as a whole (22.6%). Many of these industries are related to food processing. One sector that employed a significantly lower percentage of the workforce, compared to the county, was retail trade. Retail trade employed 7.6% of the NW workforce compared with 11.6% of the county workforce.

Fig. 6-1 Employment Classification

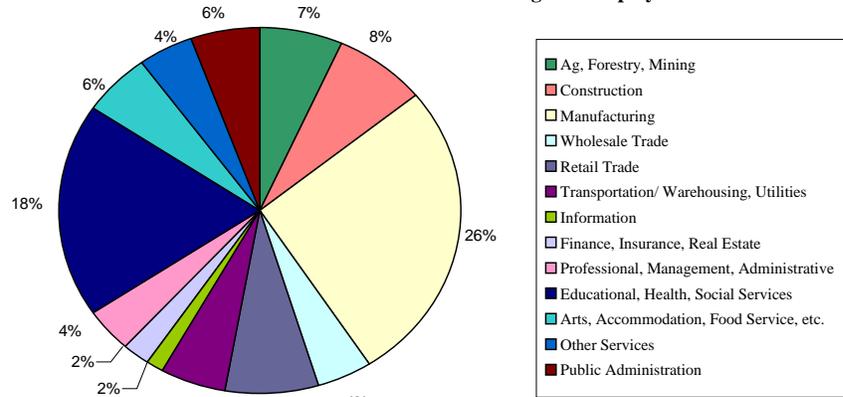


Table 6-6: Industry

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	NW Region	Region %	Adams Co.	Co. %
Ag, Forestry, Mining	31	16	15	56	137	169	424	6.6%	1,623	3.5%
Construction	17	22	41	122	197	98	497	7.7%	3,718	8.0%
Manufacturing	125	81	149	410	550	402	1,717	26.7%	10,439	22.6%
Wholesale Trade	19	8	40	35	96	81	279	4.3%	1,773	3.8%
Retail Trade	34	11	61	125	114	144	489	7.6%	5,381	11.6%
Transportation/ Warehousing, Utilities	17	11	17	71	153	59	328	5.1%	1,954	4.2%
Information	0	9	3	26	39	24	101	1.6%	1,188	2.6%
Finance, Insurance, Real Estate	8	9	17	21	55	26	136	2.1%	1,719	3.7%
Professional, mgmnt, administrative	18	6	33	42	94	59	252	3.9%	2,272	4.9%
Educational, Health, Social Services	84	54	120	211	488	250	1,207	18.7%	8,634	18.7%
Arts, Accomodation, Food Service, etc.	19	18	50	40	152	92	371	5.8%	3,445	7.5%
Other Services	15	10	29	73	87	62	276	4.3%	2,046	4.4%
Public Administration	20	13	28	85	107	109	362	5.6%	1,996	4.3%
Total	407	268	603	1,317	2,269	1,575	6,439	100%	46,188	100%

Source: U.S. Bureau of the Census, 2000

The data for occupation is consistent with the data for Industry in that the municipalities in Northwest Adams are consistently more likely than Adams County as a whole and Pennsylvania to have people employed in farming, fishing and forestry occupations; construction, extraction, and maintenance; and production, transportation and material moving; and consistently less likely to have people employed in sales and office occupations.

**Table 6-5
Top 10 Industries - Adams County, PA**

NAICS Code	Industry Subsector	Industry Title	## Employed	% of Total Employed in AC
611110	Elementary/ Secondary/ Universities & Professional Schools	Educational Services	4,440	13.2%
722110	Eating/ Drinking Establishment (Full & Limited Service Restaurant)	Accommodation and Food Services	1,834	5.4%
311421	Fruit & Vegetable Canning	Manufacturing	1,405	4.2%
623110	Nursing Care Facilities	Health Care & Social Assistance	971	2.9%
238990	Building/ Specialty Contractors (Except Site Preparation & Foundation	Construction	935	2.8%
445110	Supermarkets, Grocery & Convenience Stores	Retail Trade	828	2.5%
622110	General Medical & Surgical Hospitals	Health Care & Social Assistance	707	2.1%
721110	Hotels, Motels, Inns, Bed & Breakfasts	Accommodation and Food Services	687	2.0%
337110	Wood Kitchen Cabinet & Countertop Manufacturing	Manufacturing	639	1.9%
921110	Executive Offices	Public Administration	562	1.7%
334417	Electronic Connector, Coil, & Transformer Manufacturing	Manufacturing	450	1.3%
Total			13,458	40.0%

Employed in Adams County: 33,653

Prepared By: ACOPD, April 2008

Source: The D and B Corporation 2000

Income and Poverty

The data shown in Table 2-9 indicates the median income of households as well as the number of persons who were living below the poverty level for the year that the data was collected (1999). Income includes all sources of household revenue. Overall, the Region's median household income was slightly lower than the County as a whole. Households residing in the boroughs had lower median incomes than those residing in the townships. However, Table 2-11 indicates that Arendtsville and Biglerville had higher percentages of single person households, 23% and 25%, respectively. Arendtsville and Biglerville also the smallest average household sizes. Smaller or individual person households often have fewer sources of revenue to contribute toward household income. Larger households can include children or extended family members who are employed.

Table 2-9: Income and Poverty

	Arendtsville	Bendersville	Biglerville	Butler	Franklin	Menallen	Region Avg.	Adams Co.
Median Household Income	\$41,087	\$39,688	\$39,861	\$43,640	\$44,974	\$41,404	\$41,776	42,704
Per Capita Income	\$18,256	\$15,066	\$18,142	\$17,623	\$18,510	\$17,415	\$17,502	18,577
Persons Below Poverty Level (%)	89 (10.6%)	55 (9.6%)	101 (9.2%)	199 (7.5%)	278 (6.3%)	152 (8.4%)	874 (7.0%)	6235 (7.1%)

Source: U.S. Bureau of the Census, 2000

The percentage of the Region's population living below the poverty level in 1999 was comparable to the County. Both hovered at approximately 7%. However, for the NW, the three boroughs had a higher percentage of residents who lived in poverty. The percentage of persons who earned below the poverty level in 1999 in Arendtsville was 10.6%, Bendersville was 9.6%, and Biglerville was 9.2%.

Wages

Current wage data (2006), upon which incomes and poverty levels can be measured, is not available for individual municipalities. Data is only available at the county level (see Table 6-8). Recent information, on a county level, may give an indication of the locality's standing in regard to average annual wages. Since 1990, wages paid in Adams County have been increasing faster than wages paid in the surrounding counties of Cumberland, Franklin, and York. Part of the reason could be the wages paid in Adams County have been lower than the surrounding counties. However, the average annual wage paid in Adams County in 2006 was slightly higher than Franklin County. Wages paid in Adams County are significantly lower than wages paid to the York County and Cumberland County workforce and still lag behind the Commonwealth of Pennsylvania, as a whole.

Table 6-8: Average Annual Wage

Location	Average Annual Wage				% Change in Wages	
	1990	2000	2003	2006	1990 - 2000	2000 - 2006
Pennsylvania	\$23,457	\$33,809	\$36,972	\$46,748	44.1%	38.3%
Adams County	\$17,303	\$25,300	\$28,184	\$32,656	46.2%	29.1%
Cumberland County	\$22,480	\$31,940	\$36,088	\$38,792	42.1%	21.5%
Franklin County	\$18,961	\$26,805	\$29,276	\$32,136	41.4%	19.9%
York County	\$22,052	\$30,721	\$33,644	\$39,572	39.3%	28.8%

Source: PA Department of Labor & Industry

Existing Land Use and Zoning

Zoning influences economic development by generally establishing where economic development can occur and to what extent. The Composite Zoning Map for the region is found in Map 6-2. Commercial, Highway Commercial, Business, Employment Center, and Industrial Zoning is generally found along Route 30 in McKnightstown, Cashtown, and western Franklin Township, the Route 34 corridor, Biglerville, Bendersville, and Aspers. Arendtsville is not zoned. Opportunities for industrial uses are generally limited to a small area along Route 30 near Seven Stars Road in Franklin Township, Biglerville, near Bendersville, and Aspers. The amount of industrial zoning has been reduced from what was available previously in Franklin Township.

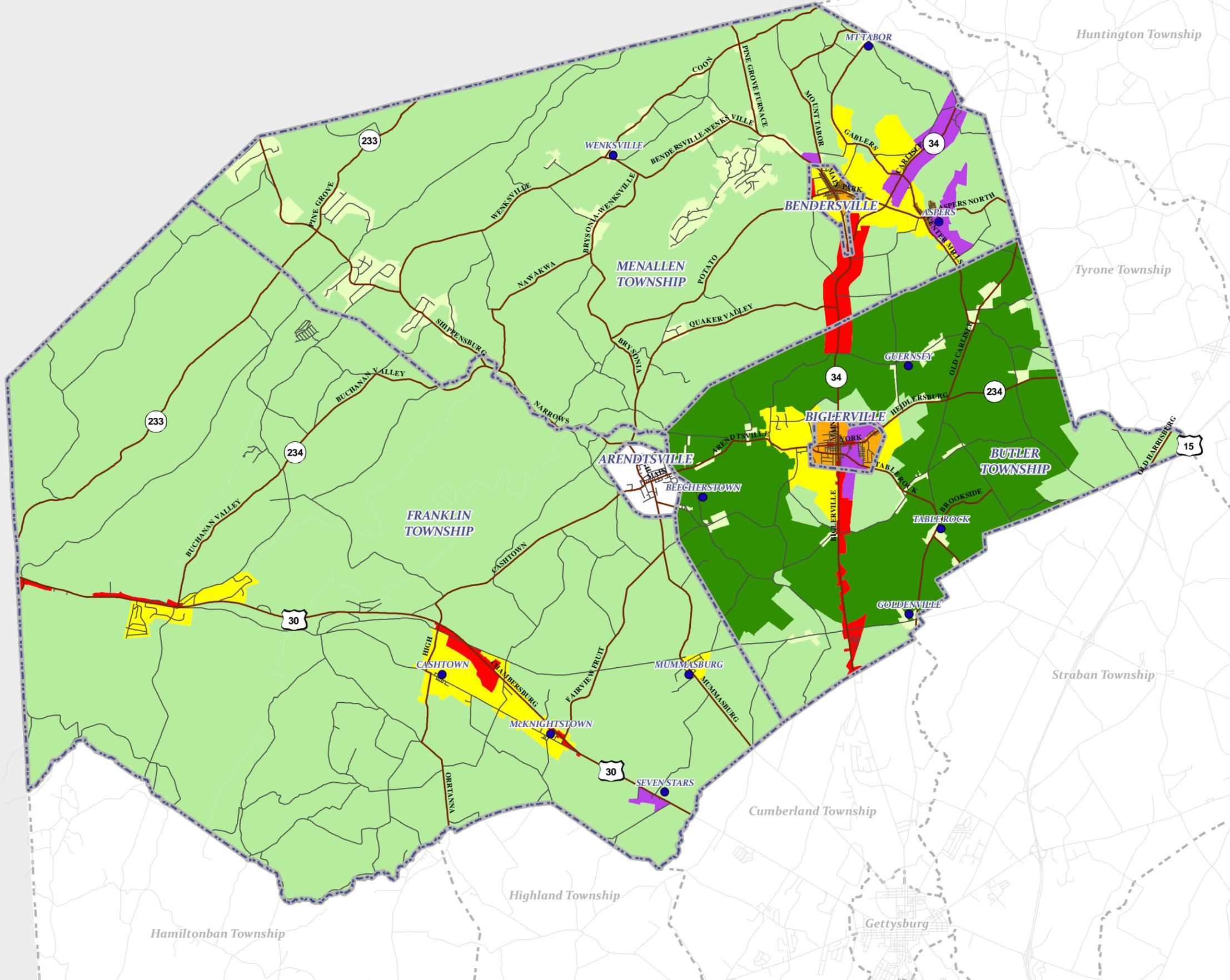
Some capacity exists for additional commercial development along Route 30 in Franklin Township, though no major commercial development, such as a shopping center or office park, is anticipated or readily feasible. Individual highway-oriented or local service businesses are most likely.

In Menallen Township, subject to the County zoning, a small area of employment-center zoned land is located north of Bendersville. A larger area of employment center zoning is found in Aspers, reflecting existing fruit-related industry. Employment center zoning is also found along Carlisle Road, where the Rice Fruit Company is located. Capacity for additional economic development exists here, but the stripped nature of the zoning tends to limit development of a business park. Strip highway commercial zoning is found along Route 34 south of Bendersville, and extends into Butler Township. There is substantial capacity for strip commercial development here, which could create conflicts with through traffic on Route 34.

Butler Township, also under County zoning, has an area of employment center zoning north of Biglerville. This area is now developed. An area of employment center zoning south of the Borough is not developed. Strip and scattered highway commercial zoning is found along Route 34 south of Biglerville to the southern Township line. This zoning will allow for additional individual developments, but no planned business development.

In Biglerville, a large area of industrially zoned land is already developed, primarily for fruit-related businesses. Transitional residential/commercial zoning and commercial zoning are found

Composite Zoning



● Village

— State Road

Composite Zoning Categories

- Agricultural Preservation
(Sliding scale and maximum lot size)
- Rural Conservation
(Density based or other forms of ag preservation)
- Lower Density Residential*
- Moderate Density Residential
(1 - 5 dwelling units/ acre)
- High Density Residential
(Over 5 dwelling units/ acre)
- Village Core
- Commercial
- Employment-Industrial

* (Less than 1 dwelling unit per acre without conservation or up to 2 dwelling units per acre with substantial conservation techniques)

The "Zoning Categories" represented by this map are not to be interpreted as the actual municipal zoning districts, nor should they be interpreted as a critique of individual districts or the techniques they employ. Please see individual municipal/ county zoning ordinances and maps for the adopted zoning district.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
ACOPD

Prepared By:
Adams County Office of
Planning & Development,
June 5, 2008



along Routes 34 and 234 in the Borough Center. Most of these properties are small and already developed for commercial, residential, or mixed use.

Bendersville has village zoning in the Borough Center, where a mix of residential and commercial uses exist. Likely future uses would be residence/serving commercial. Limited business zoning is found on the outskirts of town, on Main, Park, and Church Streets. Little capacity exists for business development.

Zoning in the Region is not conducive to small scale business parks, and will not accommodate larger scale business parks. The best opportunities for planned development would be along Route 34 and Carlisle Road in Menallen Township, but deeper zoning than is now in place would be more desirable if small business park development were to be encouraged.

The Composite Existing Land Use Map is found in Chapter 7. Commercial and industrial uses tend to be more scattered than commercial and industrial zoning, because of the presence of non-conforming uses, but are generally found in the Route 30 Corridor, the Route 34 Corridor, the Boroughs of Arendtsville, Biglerville, Bendersville, and Aspers.

Agri-Tourism

Agri-Tourism is important to the Region, given the Apple Blossom and Harvest Festivals at the South Mountain Fairgrounds, Apple Museum, farm stands, scenic drives, and bed and breakfasts in the Region (see Map 6-3, Agri-Tourism). One means of economic development is to encourage expansion of the agri-tourism industry. The Apple Blossom and Apple Harvest Festivals generate 150,000 or more visitors annually. Many of these visitors will also patronize farm stands, wineries, other farm related businesses, and other businesses in the Region.

The National Apple Harvest Festival began more than 40 years ago by the Adams County Fruitgrowers Association after having successfully run Apple Blossom Sunday since the early 1950s. Today, the Festival includes over 300 arts artists and dealers, with a craft demonstration area, indoor and outdoor stages for musical entertainment, a pie auction, petting zoo, apple bobbing, pie eating contests, and other attractions.

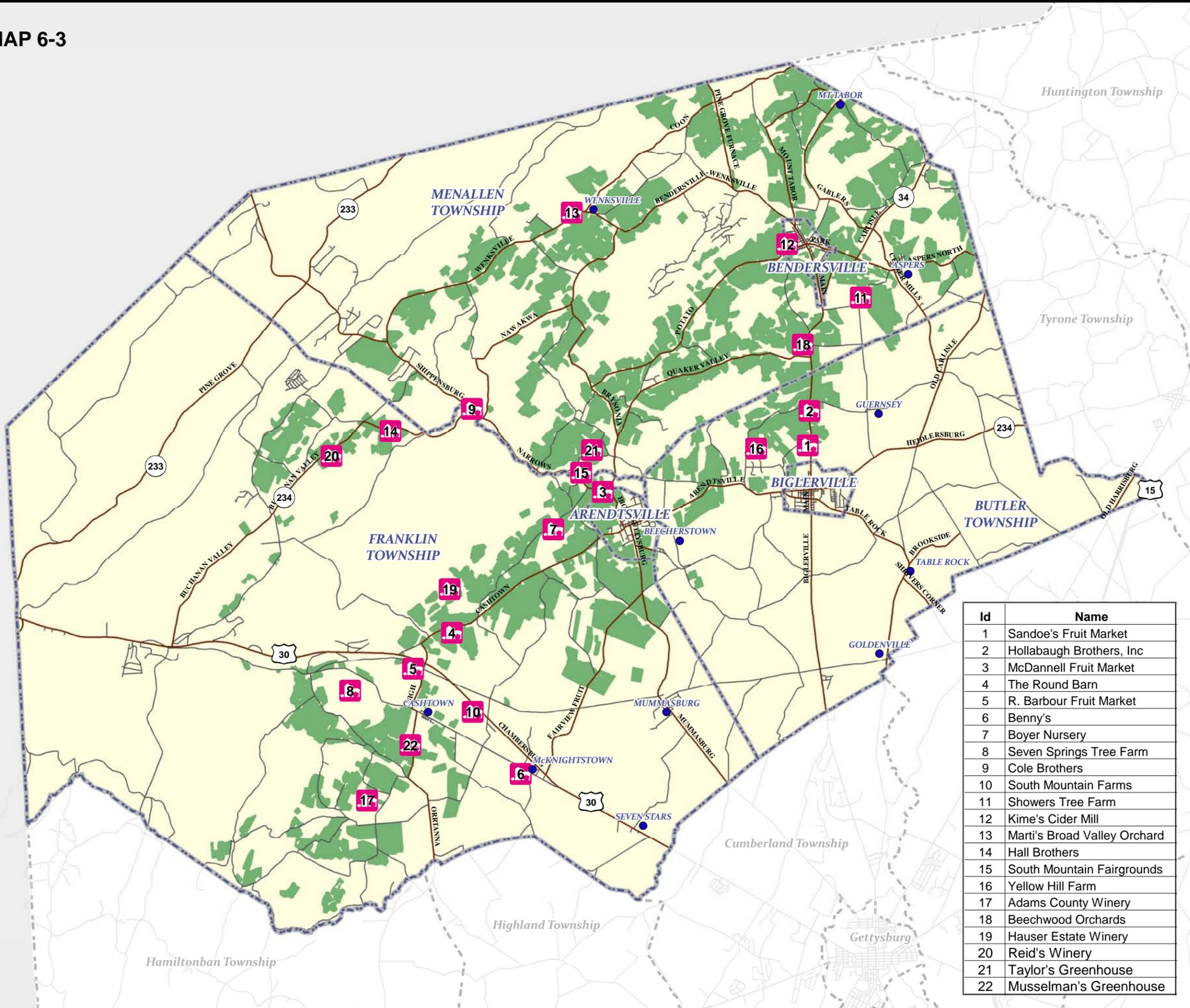
The Apple Blossom Festival is held each year. This festival includes live entertainment, fresh foods, free orchard bus tours, hundreds of arts and craft demonstrations and sales, antique tractor pulled rides and fruit agricultural exhibits. This event is a social and economic event including the presentation of the Adams County Apple Queen contestants.

The South Mountain Fairgrounds also hosts the annual South Mountain Fair.

Forestry Industry

The Narrows area is the center of the Adams County forestry industry, with sawmills, tree farms, timber companies, and several large privately-held parcels managed for timber. The logging industry has an important, but difficult to measure, impact on the local economy.

Agri-Tourism



- Village
- Local Fruit Stands, Farm Markets, Christmas Trees Sales, & Wine
- State Road
- Local/ Private Road
- Orchard Land
- Northwest Study Region

Notes:
There are approximately 13,080 acres of active orchard land in northwest Adams County.

The locations of local agri-businesses were compiled through Steering Committee input and a list of Adams County Fruit Growers Farm Markets posted on the Nation Apple Museum website:
www.nationalapplemuseum.com

Id	Name
1	Sandoe's Fruit Market
2	Hollabaugh Brothers, Inc
3	McDannell Fruit Market
4	The Round Barn
5	R. Barbour Fruit Market
6	Benny's
7	Boyer Nursery
8	Seven Springs Tree Farm
9	Cole Brothers
10	South Mountain Farms
11	Showers Tree Farm
12	Kime's Cider Mill
13	Marti's Broad Valley Orchard
14	Hall Brothers
15	South Mountain Fairgrounds
16	Yellow Hill Farm
17	Adams County Winery
18	Beechwood Orchards
19	Hauser Estate Winery
20	Reid's Winery
21	Taylor's Greenhouse
22	Musselman's Greenhouse



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
ACOPD

Prepared By:
Adams County Office of
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Nov 3, 2008, rev. 03/03/09



Demand for timber harvested from the Michaux State Forest has remained steady. Historically, the Michaux State Forest has been a consistent and steady supplier of hardwood stumpage, which has undoubtedly had a somewhat stabilizing effect on the local forest products industry. The district continues to be a leader in fuel wood sales within the bureau of state forests.

Outdoor Recreation Tourism

There are many outdoor recreation opportunities in and near the Region, especially the northwest portion of the Region. Michaux State Forest and Caledonia State Park are major resources. Bicycle Route S passes through the Region using PA Route 234. The Michaux State Forest includes passive open space, pavilions, picnic tables, track, benches, access to the Appalachian Trail, canopy, hiking, snowmobiling, cross-country skiing, vistas, hunting, and fishing. The Lippencote Trail (mountain biking) and Appalachian Trail are just beyond the County's western border in Franklin County.

Excellent fishing areas are located near Arendtsville. Several camps and campgrounds are located in the western and northwestern portions of the Region in the vicinity of Michaux State Forest and Caledonia State Park.

Because of its proximity to Harrisburg, York, Baltimore, and Washington, D.C., the Michaux State Forest attracts an increasing number of visitors to the area, which is a significant boost for the local economy. Recreational use has increased dramatically during the past management period and this trend is expected to continue; as such, the Michaux State Forest will play an increasingly significant role in the area's economy.

Economic Development Resources

Economic planning for the future of the Region, attracting new industries and commercial opportunities, and supporting the fruit industry, is a complicated and multi-faceted process requiring collaboration and coordination by organizations and agencies at many levels. Below is a list of organizations that may be contacted to obtain information on available properties and the different tax incentives, economic development opportunities, business support, and workforce assistance which are available in the Region.

<u>Organization</u>	<u>Primary Functions</u>
Adams County Fruit Growers Association	Promote the fruit industry
Gettysburg/Adams Chamber of Commerce	Economic Development/ Business Support
Adams County Economic Development Corporation (ACDEC)	Economic Development
Adams County Assistance Office	Workforce Assistance

Municipal Interviews

Near the beginning of the planning process, interviews were held with municipal officials. Two questions regarding economic development were asked: Identify the major employers in your community and are there any economic development initiatives on-going or planned in the municipality.

Major Employers

Arendtsville – The Borough of Arendtsville is primarily a bedroom community and people commute as far as Virginia. The elementary school and Arendtsville Planing Mill (APM) are the major employers in the Borough.

Bendersville – About 1% of residents work in the Borough. People working in agriculturally related businesses comprise approximately 30% of population. Kime’s Cider Mill is a local employer along with the elementary school.

Biglerville – The major employers include Knouse Foods, the Upper Adams School District, Inland Container, and GVM Inc.

Butler – The major employers within the Township include Knouse Foods (Biglerville Plant), Rice Fruit, Musselmans, Motts, GVM Inc., and the Upper Adams School District. The food processing industries employ many migrant workers. The Township is largely a bedroom community. Employment remains at consistent levels, but the number of people residing in the Township is increasing. There are few “high end” job opportunities in the Township.

Franklin – Major employers within the Township include Brems Orchards, Boyers Nursery, Franklin Township Elementary School, and the Village of Laurel Run (nursing home). An increasing number of residents commute to Washington DC and Baltimore. The Township is becoming a bedroom community.

Menallen – The major employers within the Township include Knouse Foods, Motts in Aspers, Rice Fruit Packing, Bear Mountain Orchards, construction and excavation, and a sawmill - Mountain Valley Lumber. Keystone Taxidermist employs between 20-30 people. Other employers include Camp Nawakwa Church Camp, Pitzers Trucking, and Adams County Nursery.

AGRICULTURAL ANALYSIS AND RECOMMENDATIONS

A report on Agricultural Analysis and Recommendations for Northwest Adams County is found in Appendix A. The Agricultural Analysis and Recommendations were prepared by Shepstone Management Company, Planning and Research Consultants. The purpose of the analysis was to identify agricultural resources in the Region and the status of the industry; review economic development and land use and issues to be faced; and make recommendations to support the continued viability of the agriculture industry.

The following points are made in that report:

- The local economy revolves around agricultural production, food processing, agricultural supply and transportation, and marketing support industries. In 2002, Adams County ranked No. 1 among Pennsylvania Counties and No. 62 among all U.S. Counties in the market value of fruits, tree nuts, and berries sold. Adams County ranked No. 5 among all U.S. Counties for apple production.
- The Fruitbelt attracts thousands of tourists each year. The agricultural tourism industry includes the annual Apple Blossom and Apple Harvest Festivals and visitors to farm stands, wineries, and other farm-related businesses.
- Maintaining the Fruitbelt and the working landscape it presents is essential to both the economy and the quality of life Northwest Adams County possesses.
- It is necessary to preserve agriculture as an industry, which demands maintaining the critical mass of activity which supports the industry (farms, processing facilities, suppliers, transportation systems, and community support networks).
- Housing demand from outside the Region is causing property values to increase and encouraging buyers to look to Northwest Adams County for good land value. This competing demand for land will increasingly put pressure on the Fruitbelt, leading to further erosion of the land base and the critical mass of activity required to sustain the industry.
- Managing growth within the Fruitbelt requires a delicate balancing of development with preservation and the application of “smart growth” principles.
- The communities of Northwest Adams County must continue to accommodate both the fresh market and processing sectors if the industry is to continue to prosper and the Fruitbelt remain vibrant.
- Global competition will probably limit the growth potential for processed apples. Staying competitive demands Northwest Adams County producers consistently find ways to reduce costs through applications of new technologies while simultaneously identifying new products and markets (such as the fresh market).
- Possibilities for diversification include nectarines, peaches, vegetables, cattle, Christmas trees (U-pick), and wine.
- The Northwest Adams County agricultural industry faces several economic development issues:
 - Questionable stability of the migrant workforce, an essential source of labor supply in an industry where labor costs are a major budget item.

- Providing social services and cost-effective housing for guest workers.
- Impacts from growth, including nuisance complaints from neighbors (such as the use of pesticides) and competition for a limited water supply.
- Retention of harvested cropland at or near current levels through good farm management and land use policies which will allow for conversion of excess realty to equity for new technology, high density planting, new products, and marketing.
- Likelihood the processing sector will increasingly be oriented toward production of by-products made with fresh market leftovers. They may attract new processors and product lines with special infrastructure, labor, and land use policies.
- Niche marketing of special products and high quality fruit will require accommodation of new types of land use, including larger farm stands, distribution facilities, and wineries.
- Agricultural tourism needs to be anticipated in land use policies.
- Trout streams are part of the tourism economy and need to be protected.
- There are conflicts between residential traffic and agricultural trucking on some roads. Also, heavy truck traffic cuts across the Fruitbelt region in an east-west direction to avoid Turnpike tolls.
- It is important to maintain farm-friendly regulations that address new activities and uses, provide for processing both on and off farms, and retail and lodging to accommodate revolving forms of agriculture.
- Farmers need ways of capturing equity from increased land values without giving up the farm to do so. Farmland needs to be affordable to attract young farmers.
- Orchards generate potential conflicts with nearby residential uses because of pesticide application. It is better to steer all but farm-related residential development to existing or new centers (inside or outside Northwest Adams County) where the infrastructure exists to serve them and land use conflicts are minimized.

ADAMS COUNTY FRUIT INDUSTRY ASSESSMENT

An assessment of the fruit industry in Adams County is found in Appendix A. The Adams County Fruit Industry Assessment was prepared by Jason K. Harper, Professor of Agricultural Economics at the Pennsylvania State University. The purpose of the study was to review the current status of and issues facing the fruit industry, including the trends in Adams County and the influence of local, regional, and world markets. The study assessed the history of the

industry, impact of the plum pox virus, the market, the value chain for Adams County Fruit, current production situation, and production alternatives.

The following points are made in that assessment:

- The fruit industry is at a crossroads in Adams County. Development pressures are accelerating some of these trends and changes in consumer demand are dictating others.
- The move towards more fresh-market production is likely to continue and proximity to large urban markets makes this a logical progression.
- The processing industry will remain the dominant player in the fruit industry such as wine grapes for the foreseeable future, but the move of one processor from the area and increasing foreign competition from places like China represent formidable challenges for growers in the long-term. Diversification into the fresh-market and possibly other enterprises may help ease the stress of this uncertainty.
- Replanting of peaches and nectarines should be a priority for many growers once the plum pox virus quarantine is no longer a factor.
- Investment in newer production systems to maximize land efficiency will be necessary to maintain production as land prices increase due to development pressure.
- Labor is the biggest cost in growing fruit, and labor costs (including insurance) will continue to increase, and uncertainty concerning labor supply will be an on-going problem. Pesticide and fuel costs have also increased.
- High density production offers the promise of early production, higher quality, and adaptability to mechanization.
- High quality, locally-grown fruits will continue to have strong consumer demand and will ensure the continuance of the fruit industry in northwest Adams County.

ECONOMIC DEVELOPMENT - GENERAL OBSERVATIONS

- The most unique feature of the Region is the Fruitbelt Area. The Fruitbelt contains numerous orchards, fruit processing, storage and packing plants, and related support industries. The fruit industry plays a critically important role in the economy of both Northwest Adams Region and Adams County as a whole.
- The top 3 employers in the Region are Fruit industry related, as are many of the top 25 employers. There are only 6 employers with more than 100 employees in the Region.

- The top 5 employers in Northwest Adams are listed among the top 25 employers in Adams County. Knouse Foods Cooperative, Inc. is the second largest employer in Adams County.
- The Northwest Region, when compared with Adams County as a whole, has a much higher percentage of its workforce who live and work in the County.
- The relative distance of the municipalities in the Northwest Region to the Mason-Dixon Line results in a lower percentage of the workforce that works outside of Pennsylvania when compared to Adams County as a whole.
- In the Northwest Region, a higher percentage of the workforce was employed in sectors that include agriculture, forestry, fishing, hunting, and mining than the County as a whole.
- The manufacturing industry employs a higher percentage of the workforce than the County as a whole, and many of these industries are related to food processing.
- The retail trade sector employs a significantly lower percentage of the workforce compared to the County as a whole.
- Commercial, highway commercial, business, employment center, and industrial zoning is generally found along U.S. Route 30 in the village of McKnightstown, Cashtown Village, and western Franklin Township; and the PA Route 34 corridor through Biglerville Borough, Bendersville Borough, and the village of Aspers. Arendtsville is not zoned.
- Opportunities for industrial uses are generally limited to a small area along U.S. Route 30 near Seven Stars Road, Biglerville Borough, near Bendersville Borough, and the village of Aspers.
- Commercial and industrial land uses tend to be more scattered than commercial and industrial zoning, primarily because of the presence of non-conforming uses in which development preceded the adoption of zoning ordinances.
- Commercial and industrial uses are generally found in the U.S. Route 30 Corridor; the PA Route 34 Corridor; the Boroughs of Arendtsville, Biglerville, and Bendersville; and the village of Aspers.
- Limited land is available for major business or business park development.
- In some cases, in and near the villages, industrial and employment center zoning abuts residential areas. This typically reflects existing land use patterns and the prevalence of the fruit industry and related businesses within the communities.

- The fruit and vegetable canning industry is the third largest industry in terms of employment in Adams County.
- There are no identified economic development initiatives underway in the Region.
- The Adams County Zoning Ordinance recognized that parts of the Route 34 corridor serve Biglerville and Aspers. The zoning classification applied to the portions of Menallen Township that include Aspers and Route 34, northeast of Bendersville Borough, have been zoned for moderate industrial uses.
- Agri-tourism is important to the County and the region
- There are many outdoor recreation opportunities in and near the Region.
- The Narrows area of the Region in Menallen and Franklin Townships is the center of the Adams County forestry industry.
- Michaux State Forest is a recreational resource as well as a component in the forest industry.
- The municipalities in the Region should determine to what extent agritourism and outdoor recreation tourism will be promoted within the Region, and what linkages should be established between the existing centers in the Region and facilities such as the South Mountain Fairgrounds, Michaux State Forest, the Narrows, and other elements of agritourism.

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Chapter Seven

EXISTING LAND USE

Introduction

An examination and inventory of existing conditions is vital to the preparation of a Comprehensive Plan. Assessing present land use patterns provides an understanding of existing conditions, settlement patterns, and the extent of land consumption. The existing land use inventory offers a foundation for making future residential, commercial, industrial, natural resource, and agricultural land use decisions.

The existing land use inventory is presented by category and acreage. The approximate acreage and number of parcels comprising each category is provided for a comprehensive overview. Existing land use patterns not only have a significant impact on the development of the future land use plan, but they affect circulation within the area and the demand for community facilities and services as well. An understanding of existing land use patterns is necessary to plan for uses that may be desired, or that are currently lacking, in the Region. This understanding is also important when considering changes in planning and zoning policies to improve the relationship between land uses (e.g. – minimize conflicts) and the protection of important natural resources.

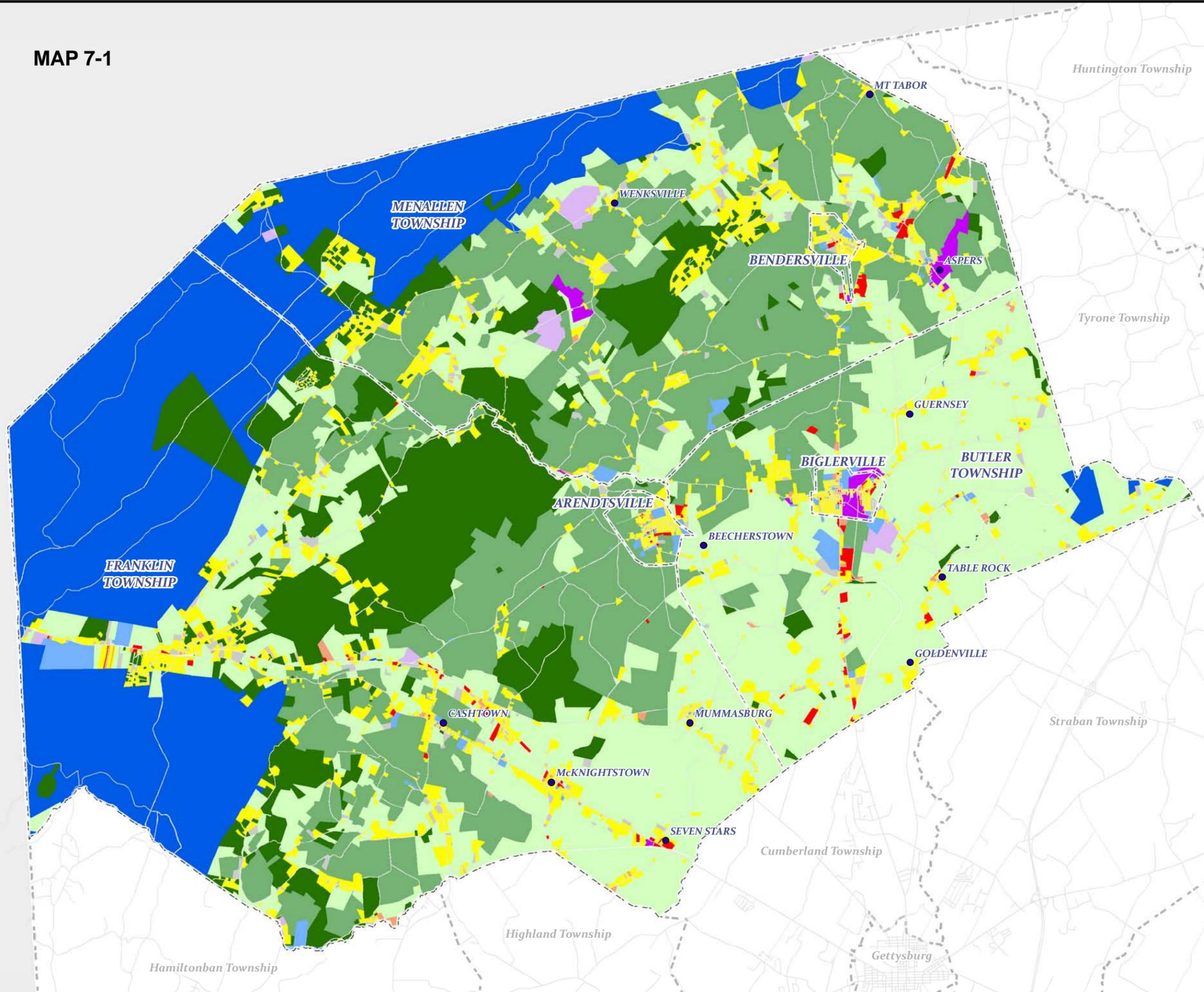
The Existing Land Use Map (Map 7-1) of the region was developed from Adams County Tax Assessment records for each parcel in the region, aerial photography, and field survey.

The Existing Land Use Map utilizes the following classification system. The majority of the categories are based on traditional land use categories (e.g. residential, commercial, etc.). Several, however, reflect an ownership status (e.g. federal, institutional).

- Wooded
- Orchard
- Agricultural/ Vacant/ Residential (>10 acres)
- Residential (< 10 acres)
- Mixed Use
- Commercial
- Industrial
- State/ Federal
- Public/ Institutional/ Utility
- Outdoor Recreation
- Vacant (<10 acres)

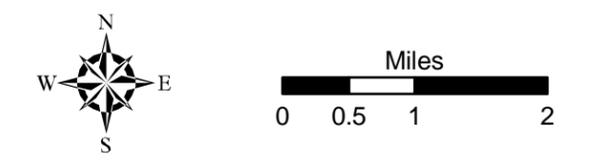
An important evaluation tool, the Existing Land Use Map should be used in conjunction with other maps prepared for the Northwest Adams County Joint Comprehensive Plan; such as the Prime Agricultural Soils Map (Map 1-4), the Protected Lands Map (Map 1-13), and other maps in Chapter 1, Natural and Cultural Resources, which depict the location of floodplains, forested lands, steep slopes, and wetlands.

Existing Land Use



- Village
- Existing Land Use**
- Wooded
- Fruit Farm
- Agricultural/ Vacant/ Residential - > 10 acres
- Residential - < 10 acres
- Mixed Use
- Commercial
- Industrial
- State Owned
- Public/ Institutional/ Utility
- Outdoor Recreation
- Vacant - < 10 acres

Note: The land use classification is based on the predominant use of a parcel.



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
Adams County Tax
Assessment Office, Dec 2006



Prepared By:
Adams County Office of
Planning & Development,
February 25, 2009



LAND USE PATTERNS

The Northwest Adams County Region has experienced modest population growth and urban expansion over the past 20 years. The region's land use pattern reflects the region's rural roots and the predominance of the fruit growing industry. The majority of the land in the region continues to be used as orchards, other forms of agriculture, or woodlands.

A relatively unaltered development pattern, which includes three boroughs and several small villages, has helped maintain the region's rural character. Outside of the Borough's, scattered farmsteads, single family dwellings locating along the region's roadways, and several small, remote subdivisions contribute to the area's landscape characteristics. Lower density residential development transitions to small scale suburban development in and around the boroughs and along portions of the US Route 30 corridor. These areas are also characterized by a variety of uses and higher densities.

Limited highway oriented commercial uses are found along Route 30 and Route 34, although many of the parcels adjoining these roadways retain a rural character, which is conducive to "agri-tourism" activities.

Finally, the existence of State owned land in the region contributes to the undeveloped landscape. South Mountain, and the associated hills and "faces", present a dramatic "green" backdrop for the Fruitbelt, as well for the lowlands in Butler Township and parts of Franklin Township.

TABLE 7.1 EXISTING LAND USE ALLOCATION

Existing Land Use	Parcels	Acreage	Percentage
Wooded	608	10,769	12.5%
Fruit Farm	356	22,697	26.3%
Agricultural/ Vacant/ Residential (>10 ac)	746	24,659	28.6%
Residential (<10 ac)	4190	6,093	7.1%
Mixed Use	92	175	0.2%
Commercial	124	308	0.4%
Industrial	17	346	0.4%
State Owned	10	19,099	22.1%
Public/ Institutional/ Utility	123	761	0.9%
Outdoor Recreation	11	423	0.5%
Vacant (<10 ac)	601	867	1.0%
Total	6,878	86,197	100%

Figures in acres; percentages may not sum to 100.0 due to rounding error.

Source: Adams County Office of Planning and Development, January 2007

EXISTING LAND USE CATEGORIES (Table 7-1)

The acreage included in each category of Table 7-1 Existing Land Use Allocation is based on the primary use of each parcel in the region. The calculations are derived from the acreage of the entire parcel. In some instances, the whole parcel may not be used for the primary land use, but the parcel's entire acreage will be included that land use category.

Wooded

The lands classified as wooded in the Northwest Adams Region only include those properties that are entirely forested and typically do not contain a dwelling. Forest land does cover a greater portion of the region as shown on Map 7-1. However, only the properties covered entirely by trees are considered "wooded" on the Existing Land Use Map.

Fruit Farm

Land included in the Fruit Farms that extend across Adams County are concentrated in the Northwest region, and can be found in all six municipalities. Fruit Farms are a specialized agricultural use, but because of their predominance and the importance of the fruit growing industry to the region, a separate land use category has been created. Land in Fruit Farms encompasses 22,697 acres, or about 26% of the region's land. The orchards primarily produce apples, but other types of fruit are also grown.

Land used for fruit production has certain geologic characteristics, most of which relate to drainage capabilities or micro-climate features. Highly productive fruit soils drain well, which is conducive not only to fruit crop production, but also to the accommodation of on-lot sewer systems. These characteristics could lead to land use conflicts in the future.

Agricultural/ Vacant/ Rural Residential

This land use category consists of areas in active agricultural use (cropland, pastureland, dairy facilities, barns, and stables), along with agriculturally based businesses. Vacant land in this category represents open land that is not currently used for agriculture, is not entirely wooded, and does not contain any structures. Larger, rural residential lots of 10 acre or more are also included in this category. Lands classified as Agricultural/Vacant/Rural Residential occupy 24,659 acres of land, or about 29% of the total land designated in the region. The rural/agricultural land is found throughout the region, including Arendtsville and Biglerville Boroughs. Active, contiguous, farmland covers the majority of Butler Township and southern Franklin Township.

Residential

This category comprises all forms of residential dwelling types on lots that are less than 10 acres in size. These dwelling types may include single family detached, semi-detached, as well as multi-family and mobile home parks. Residential uses consist of 6,093 acres, approximately 7% of the total land area. This use represents a small portion of the region's land base. Although,

4,190 of the region's 6,878 land parcels are classified as residential. Residential uses are concentrated within the Boroughs, small villages, and along some of the region's roadways.

Mixed Use

Areas classified as Mixed Use typically include a combination of residential and commercial functions on the same property. Commercial uses typically include low-intensity activities, such as car repair, hair salon, tax preparation, etc. and are generally scattered throughout the region. Mixed uses comprise 175 acres, less than 1 percent of the region's land area.

Commercial

Commercial uses consist of properties where goods and services are sold, ranging from restaurants, convenience stores, gas stations, and storage units to professional offices and retail stores. As illustrated by the data in Table 7.1, the region contains about 300 acres of commercial uses. The largest concentrations of commercial uses are located in and around the boroughs, US Route 30 Corridor, and PA Route 34.

Industrial

The industrial land use category includes all properties being used for intensive manufacturing, processing, or warehousing facilities. There are approximately 346 acres devoted to industry, or less than 1% of the region's land base. A few major industrial land uses are located Biglerville Borough and Menallen Township. These industries focus on fruit processing, production of corrugated products and pallets, and agricultural equipment distribution.

State Owned Land

State owned land includes 19,099 acres. This is the third largest use in the Northwest region. This land is predominately wooded, with Michaux State Forest comprising 18,771 acres across the northern and western portions of Menallen and Franklin Townships. Approximately 22% of the land in the Northwest Region is constrained within state forest land. Also, nearly 200 acres of Pennsylvania State Game Lands are located in eastern Butler Township.

Public/Institutional/Utility

Land within the Public/Institutional/Utility category includes parcels owned by municipal or county governments, schools, churches and cemeteries, utility companies, fire stations, libraries, and cultural facilities. There are 761 acres of public or institutionally owned land in the region. Specific descriptions and examples of these uses are provided in the Community Facilities and Services chapter, Chapter 3.

Outdoor Recreation

The outdoor recreation category contains those properties that can be under any type of ownership (excluding State owned), but provide a public or private outdoor recreational function.

There are approximately 423 acres that are classified as outdoor recreation in the Northwest region. The largest parcels include Oakside Park, Camp Nawakwa, and Piney Apple Golf Course, but also include hunting and fishing clubs.

Vacant/Undeveloped

Land classified as vacant are those parcels that are less than 10 acres in size and do not contain any structures. These lands are typically open areas or are lots that have been subdivided for residential purposes, but not yet sold. These lots may still retain some agricultural function if they were subdivided from an agricultural lot. Vacant uses include 867 acres.

General Observations

Several generalized observations can be made regarding the region's existing land use patterns:

- The three boroughs stand out as small, but distinctively different, urbanized communities. Of the three, Biglerville has the most diverse mix of urban land uses. Arendtsville and Bendersville contain substantial areas of orchard.
- Cashtown and McKnightstown continue to reflect a linear village form, typical of 19th century Pennsylvania.
- Fairly significant areas of single family residential development are easily recognizable on the Existing Land Use Map. Several of these areas are located on Bear Mountain, within wooded tracts off of Shippensburg Road, and near the intersection of Route 234 and Route 30. Due to forest screening, these residential enclaves are not particularly visible from adjacent roadways.
- Aspers village contains numerous residential units on moderately large lots which are located in close proximity to industrial facilities.
- Routes 30 and 34 are two major roadway corridors extending through the region which contain a mix of agricultural, scattered residential, and commercial, uses. The overall character of the corridors, however, remains rural. To an even greater extent, the land use characteristics along Route 234 and the Mummasburg Road remain essentially rural.
- With the exception of Bear Mountain and several "mountain retreat" residential developments, the land use pattern of the Northwest region reflects the late 19th and early 20th century landscape that has sustained agriculture and related industries for generations.
- To date, the Northwest region of Adams County has avoided extensive examples of what is often referred to as "urban sprawl". Two exceptions include the "mountain retreat" developments in Menallen Township and a strip of relatively narrow roadside residential development which lines Orrtanna Road in part of Franklin Township.

PROPOSED MAJOR SUBDIVISIONS

As the following table shows, there could be significant capacity within approved and proposed subdivisions to accommodate growth in the Region.

NORTHWEST ADAMS COUNTY MAJOR SUBDIVISION PLANS TO ACCOMMODATE PROJECTED HOUSING UNIT DEMANDS

Orchard Heights	- 378 Dwelling Units
Summerdale Crossing	- 155 Dwelling Units
Biglerville Crossing	- 157 Dwelling Units
Quaker Ridge	- 127 Dwelling Units
Quaker Valley Estates Phase IV	- 33 Dwelling Units
Applewood II	- <u>286</u> Dwelling Units
Total	1,136 Dwelling Units

PLANNING IMPLICATIONS OF EXISTING ZONING AND LAND USE

- In general, existing zoning supports growth management. Areas intended to accommodate growth are typically within the three boroughs, in villages, or in areas of the townships near the boroughs or villages.
- Much of the region is zoned Agricultural Preservation, Agriculture, Land Conservation, or Open Space, reflecting the predominant land use pattern in the region and intentions to maintain that land use pattern.
- Zoning to support economic development is generally found along US Route 30, within the boroughs and villages and nearby areas, and along PA Route 34. Strip commercial zoning along Routes 30 and 34 should be reviewed for appropriateness.
- Most commercial and industrial development has occurred in the boroughs and villages and along the Route 30 and Route 34 corridors.
- Limited land is available for major business or industrial park development. The largest parcels are located along Carlisle Road south of Biglerville and along Carlisle road roughly from the Butler Township / Menallen Township line north to the Menallen Township / Tyrone Township line.
- To support logical growth patterns in the Region in the future, additional land to be designated for growth should be in the vicinity of the boroughs and villages.

- In some cases in and near the villages, industrial and employment center zoning abuts residential areas. This typically reflects existing land use patterns and is in support of fruit industry related businesses.
- The boroughs and villages are the activity centers of the region.
- In the past, residential development has been scattered throughout the region, often occurring along existing roads.
- Michaux State Forest is a major land use in the region.
- Most of the region is still rural/agricultural in nature.

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Chapter Eight

NW ADAMS COUNTY GOALS AND OBJECTIVES

Goals are relatively general aspirations for the Region, indicating desired direction and providing criteria for measuring the success of this Plan. Stated objectives are more specific guidelines for the Region to follow in order to realize the goals. Goals and objectives should be reviewed periodically for their continued relevancy and success in achieving them through implementation of the Action Plan.

STATEMENT OF REGIONAL GOALS

Natural and Scenic Resources

Goal: Protect, preserve and interpret the natural and scenic resources in Northwest Adams County.

Historic, Architectural and Cultural Resources

Goal: Protect, preserve, interpret and enhance the remaining historic, architectural, and cultural resources.

Agricultural Resources

Goal: Preserve the Fruitbelt and other productive farmland and maintain agricultural support operations in Northwest Adams County.

Open Space, Parks and Recreation

Goal: Provide for open space within the region through the preservation of natural resources and the development and retention of recreation areas and parks.

Land Use

Goal: Manage and guide development to preserve natural and historic resources, Agricultural uses, and existing communities in order to retain a mix of small town atmosphere, suburban environment, and rural character within Northwest Adams County.

Transportation/ Circulation

Goal: Achieve a safe, efficient, multi-modal, and cost effective regional circulation system that will enhance pedestrian and bicycle movement, and facilitate vehicular travel within the municipalities, minimize adverse impacts on residential neighborhoods, maintain the character of the boroughs, balance goods

movement with livability, and enhance the safety and mobility of road corridors within the region.

Community and Economic Development

Goal: Sustain and enhance the vitality of NW Adams County while identifying appropriate locations for environmentally responsible agricultural business, industrial, office, retail and service use that maximizes economic opportunities for residents and are appropriate in scale and character to the character of Northwest Adams County.

Housing

Goal: Provide for a diversity of housing opportunities for the economic and demographic groups within the region, in harmony with existing development and the historical and natural environments and in a manner that allows existing and potential residents to live in the region throughout their life cycle.

Water, Sewer Services and Facilities Management

Goal: Provide sufficient water and sewer capacity to sustain growth while conserving groundwater resources and promoting orderly development in and adjacent to existing boroughs.

Community Facilities and Services

Goal: Provide quality community facilities and services to the region's residents in an efficient and cost-effective manner within the financial resources of the municipalities.

Energy

Goal: Provide for a sustainable future by infusing energy conservation principles into all aspects of community planning, strengthening our long-term viability and quality of life through a decreased reliance on non-renewable energy sources.

Planning

Goal: Identify and implement a variety of approaches, mechanisms, and tools appropriate for dealing with the challenges posed by growth within the region.

STATEMENT OF REGIONAL OBJECTIVES

Natural and Scenic Resources

Goal: Protect, preserve and interpret the natural and scenic resources in Northwest Adams County.

Objectives:

- Encourage retention of the visual quality associated with landscapes in Northwest Adams County, such as the Buchanan Valley, the Narrows and the South Mountain Faces.
- Encourage the preservation of scenic road corridors and viewsheds along them through agricultural and open space preservation programs.
- Establish standards and processes for developers that will incorporate respect for visual qualities of Northwest Adams County and that will result in development that incorporates the protection of environmental resources and unique natural features.
- Maintain and initiate partnerships with conservancies and government agencies to protect the region's natural resources such as wooded areas, riparian corridors, and other wildlife habitats and migration routes. Monitor "protected" lands to encourage their continued existence.
- Encourage forest management plans and sustainable forestry practices in municipal ordinances while expanding tree cover in non-agriculture lands.
- Protect the night sky from excessive light pollution.
- Identify South Mountain as a major natural, visual and recreational asset.

Historic, Architectural and Cultural Resources

Goal: Protect, preserve, interpret and enhance the remaining historic, architectural, and cultural resources.

Objectives:

- Discourage inappropriate development in historic areas of the region, such as the Fruitbelt, utilize impact studies for development near historic resources, and utilize mitigation of any potential adverse impacts on historic resources.
- Discourage the demolition of existing historic resources while encouraging continued use of historic buildings and sites.
- Maintain and initiate partnerships with conservancies and other organizations to protect the region's treasures.
- Encourage the identification, marking, interpretation, and public knowledge of historic resources in the Region.
- Promote historic preservation through land use ordinances and historic overlay zoning.
- Encourage new development to reflect the history, form and development patterns of the municipalities in order to preserve the important historic and architectural resources of the Region.
- Support and encourage the continuation of cultural events that celebrate the historic and cultural heritage of the region, such as the apple festivals and the South Mountain Fair.
- Develop financial incentives to preserve historic sites.
- Encourage marketing initiatives in order to promote agri-tourism, eco-tourism and heritage tourism in Northwest Adams County.

Agricultural Resources

Goal: Preserve the Fruit Belt and other productive farmland and maintain Agricultural support operations in Northwest Adams County.

Objectives:

- Minimize urbanization that interferes with farming operations and discourage the conversion of productive farmland to non-farm uses.
- Encourage the maintenance and enhancement of local small scale and organic farming initiatives.
- Discourage scattered urbanization that causes conflicts with farming by designating growth and potential future growth areas.
- Support agricultural operations in Agricultural Security Areas (ASAs) from incompatible, non-farming-related uses, and identify areas that are appropriate for ASA designation, but which are not currently designated as such.
- Encourage the designation of Agricultural Security Areas within areas designated for farmland preservation, but not within designated growth areas.
- Encourage participation in the “Clean and Green” Program (preferential tax assessment)
- Encourage the participation in the Adams County Agricultural Land Preservation Program (purchase of development rights), the Adams County Greenspace Grant Program, and private land preservation programs.
- Apply a full range of agricultural preservation techniques to ensure that a substantial amount of the agricultural land base is preserved.
- Minimize costs to farmers caused by excessively restrictive regulations that could interfere with normal farming practices.
- Support a federal and state tax climate favorable to production agriculture.
- Ensure farm owners can conduct processes on land by allowing for many accessory uses while supporting main farming use.
- Provide opportunities for agriculturally-related businesses to locate and expand.
- Ensure that roadways continue to accommodate agriculturally-related traffic.
- Connect agricultural producers with existing fresh food markets.

- Support farmers' ability to grow a diverse set of crops.
- Develop a program for new residents educating them on the possible nuisances associated with agricultural activities.

Open Space, Parks and Recreation

Goal: Provide for open space within the Region through the preservation of natural resources and the development and retention of recreation areas and parks.

Objectives:

- Identify methods for open space conservation and preservation, such as participation in county and state programs and cooperation with conservation-oriented agencies.
- Encourage a greenway system within Northwest Adams County that will be consistent with the County-wide Greenway Plan.
- Preserve a network of woodlands, floodplains, stream corridors, and agricultural lands.
- Encourage residential development to incorporate useful and contiguous open space conservation areas into project design.
- Where appropriate, require developers to provide open space and recreation areas for active and passive recreation and to coordinate open space systems among adjoining developments. Otherwise, require fees in lieu to implement recreation, park and open space plans.
- Encourage developers to provide both visual and physical access to the open space system.
- Provide an adequate supply and mix of parks, playgrounds, and other recreation facilities, both active and passive, for all segments of the population with particular attention to families with children, older persons and the disabled.
- Provide for active recreation opportunities to reduce the incidence of public health threats such as obesity, heart disease and diabetes.

Land Use

Goal: Manage, control, and guide development to preserve natural and historic resources, agricultural uses, and existing communities in order to retain a mix of small town atmosphere, suburban environment, and rural character within Northwest Adams County.

Objectives:

- Ensure that development occurs in ways that minimize degradation of natural and cultural environments.
- Ensure that development occurs in ways that minimize short- and long-term costs to the public and private sectors by designating designated growth areas and potential future growth areas that are or will be serviced by public sewer, water and transportation improvements.
- Discourage leap frog development into rural areas.
- Preserve large areas of contiguous farmlands and orchards.
- Tie the type and intensity of development to the adequate provision of transportation, water, sewerage, drainage, parks and recreation, and community facilities by developers.
- Allocate sufficient land to accommodate future population growth, commercial activities and municipal uses.
- Encourage most new housing development to occur within designated growth areas.
- Minimize the conflict between agriculture and residential uses through proper allocation of land use on the Future Land Use Plan and utilization of performance and design standards and buffer yards in zoning ordinances.
- Consider agreements that would allocate land use on a regional rather than municipality by municipality basis.
- Provide for agri-tourism and eco-tourism opportunities in appropriate locations.
- Encourage well-designed developments that include public and semi-public spaces, appropriate landscaping, and architectural forms that blend in with the scale and character of the setting.
- Encourage diversity within business development areas, including a mix of retail, industrial, service and office development consistent with resident needs.

- Establish appropriate policies for residential conversions within the Boroughs that will be consistent with retention of the character, stability, and upkeep of residential neighborhoods and provision of adequate parking facilities.
- Provide for more productive and sustainable farms on smaller parcels of land by applying new and innovative Agriculture technology and marketing strategies.
- Encourage mixed use development.

Transportation/ Circulation

Goal: Achieve a safe, efficient, multi-modal, and cost effective regional circulation system that will enhance pedestrian and bicycle movement, and facilitate vehicular travel within the municipalities, minimize adverse impacts on residential neighborhoods, maintain the character of the boroughs, balance goods movement with livability, and enhance the safety and mobility of road corridors

Objectives:

- Establish priorities for NW Adams projects that are appropriate for inclusion on the Rural Planning Organization's (ACTPO) long range transportation plan for Adams County.
- Monitor impacts on roadway capacity from new development and require developers to address projected increased traffic volumes and safety concerns by making appropriate improvements to the local roadway system.
- Identify projects that can be implemented to improve safety and relieve congestion along Northwest Adams County's roadways and minimize conflicts between agriculture and commuter traffic.
- Identify opportunities for transit and paratransit in Northwest Adams County in coordination with ACTPO and the Adams County Transit Authority.
- Identify physical improvements to new roads and roads undergoing upgrading to accommodate bicyclists and pedestrians.
- Implement access management practices and procedures along local roadways with special emphasis on Rt. 34 & Rt. 234 corridors with enhanced coordination with Penn DOT and ACTPO.
- Encourage development of roadway and bridge maintenance programs for each municipality to prevent deterioration and ensure safety of road system.
- Where economically feasible, enhance mobility for older and disabled persons, and those who do not own or operate an automobile.
- Address parking needs with the three boroughs.
- Establish consistent signage policies along roads within the Region. This may include upgraded Valley Tour signage

- Encourage the development of a bicycle and pedestrian network that enhances connections between neighborhoods and activity centers, that can serve as a regional recreation amenity, and that can contribute to maintaining community health.
- Participate in the development of an alternative to U.S. 30 and P.A. Rt. 234 through Adams County.
- Preserve railroad right of way and service.
- Evaluate the need for truck restrictions on Rt. 234.

Community and Economic Development

Goal: Sustain and enhance the vitality of NW Adams County while identifying appropriate locations for environmentally responsible agricultural business, industrial, office, retail and service use that maximizes economic opportunities for residents and are appropriate in scale and character to the character of Northwest Adams County.

Objectives:

- Retain existing fruit processing businesses and industries and identify strategies to attract complimentary businesses.
- Coordinate with county and local business associations, economic development agencies and planning agencies to create a positive investment climate which will retain and attract a well qualified labor force.
- Encourage investment in each core community in Northwest Adams County that is compatible with the character of that community.
- Avoid random or scattered large impact warehousing/distribution development patterns, which can produce environmental, traffic, aesthetic, and other problems. Direct industrial development to designated areas on the Future Land Use Plan.
- Establish developer responsibilities in providing infrastructure improvements within Subdivision and Land Development Ordinances.
- Identify potential designated business development areas on the Future Land Use Plan.
- Minimize strip development of business uses along major roadways such as Routes 30, 234 and 34.
- Improve access to data networks by developing broadband and other telecommunication technology.
- Create and promote opportunities for eco and agri-tourism as well as heritage tourism.
- Increase opportunities for fresh produce sales on local farms and in the surrounding region in order to diversify agriculture product demand in Northwest Adams County.
- Facilitate opportunities for agriculture related renewable energy sources such as corn and switch grass.

Housing

Goal: Provide for a diversity of housing opportunities for the economic and demographic groups within the region, in harmony with existing development and the historical and natural environments and in a manner that allows existing and potential residents to live in the region throughout their life cycle.

Objectives:

- Encourage use of the existing housing stock. Promote rehabilitation and renovation of existing housing.
- Promote residential development within and adjacent to the boroughs in order to reduce infrastructure needs.
- Ensure that opportunities exist to promote the development of affordable housing that, in particular, meets the needs of the region's current and likely future work force.
- Maintain the historical and architectural integrity of existing residential neighborhoods in and around the boroughs.
- Identify policies that can facilitate provision for the future housing needs of the elderly and physically impaired, as well as individuals and families of Northwest Adams County throughout their lifecycles.
- Encourage municipal cooperation to increase the supply of high quality, energy efficient, and affordable housing of various types and sizes.

Water and Sewer Services and Facilities Management

Goal: Provide sufficient water and sewer capacity to sustain growth while conserving groundwater resources and promoting orderly development in and adjacent to existing boroughs.

Objectives:

- Encourage water supply and wastewater treatment providers to plan ahead for expanded capacities of service in accordance with growth projections and the establishment of growth areas and future growth areas.
- Achieve consistency of the PA Sewage Facilities Act plans and infrastructure planning with this Plan and its land use element.
- Encourage utilization of public sewer and water facilities when development occurs in designated growth areas, but coordinate land use and sewer and water planning so the extension of public sewer and water facilities is consistent with the Northwest Adams County Comprehensive Plan.
- Discourage water/sewer service in preservation or conservation areas of Northwest Adams County.
- Require developers to adequately manage stormwater runoff and erosion and sedimentation.
- Ensure safe, reliable water supply for all residents.
- Protect groundwater aquifers and recharge areas from pollution.
- Use public-private partnerships and/or developer contributions to construct future infrastructure.
- Identify opportunities for regional cooperation and sharing of equipment, facilities and services.

Community Facilities and Services

Goal: Provide quality community facilities and services to the region's residents in an efficient and cost-effective manner within the financial resources of the municipalities.

Objectives:

- Consider additional community, cultural and social facilities and services in the Region, such as expanded senior center facilities, daycare, community, cultural and social services.
- Encourage and support adequate community services in Northwest Adams County.
- Expand and develop agreements with the state and local police departments to educate the community regarding local crime watches, and other community policing initiatives.
- Facilitate school district cooperation with municipalities when planning school facilities, bus routes and pedestrian/bike connections.
- Encourage the school districts, churches, clubs, and other organizations in the community to allow use of facilities for community activities.
- Identify opportunities for cooperation among municipalities and the school district in providing facilities and programs to area residents.
- Identify activities that can bring people together and create community cohesion and create gathering places for community activities.
- Evaluate the potential for broadband Internet service to facilitate economic development in Northwest Adams County.
- Encourage retention of community based schools.
- Consider the recommendations of the Adams County Water Supply and Wellhead Protection Plan.

Energy

Goal: Provide for a sustainable future by infusing energy conservation principles into all aspects of community planning, strengthening our long-term viability and quality of life through a decreased reliance on non-renewable energy sources.

Objectives

- Encourage mixed use development in boroughs and planned developments in order to reduce the number of auto trips in the region.
- Reduce energy use through efficient street and parking designs.
- Encourage the creation of a multi-modal transportation system, including sidewalks, greenway connections, and biking lanes.
- Assess opportunities for renewable energy sources such as ethanol production, wind and solar power.
- Encourage telecommuting to further reduce automobile trips.
- Promote community food systems such as community gardens, farmers markets, roadside stalls, farmer cooperatives and sales of produce to local shops and restaurants.
- Evaluate the potential for agricultural products that can be used in energy production.
- Encourage the utilization of “green building” technologies by local engineers, builders, business people, and residents.

Planning

Goal: Identify and implement a variety of approaches, mechanisms, and tools appropriate for dealing with the challenges posed by growth within the region.

Objectives:

- Coordinate planning and development efforts with adjacent municipalities, the school districts, the Adams County Office of Planning and Development and other County, State and Federal agencies.
- Create cooperative mechanisms to implement this Comprehensive Plan, including an on-going plan implementation committee.
- Identify opportunities for continued inter-municipal cooperation and planning, such as intermunicipal sewage facilities planning and coordination of recreation planning.
- Support efforts for interregional and regional/county cooperation in addressing transportation, economic development, and community development issues.
- Identify and pursue adequate funding of implementation actions listed in the Action Plan, with consideration of listed grant programs.
- Promote public-private cooperation in implementation of this Plan, such as involving business support organizations and/or individual businesses in revitalization efforts in the boroughs.
- Establish a framework for education regarding planning issues in the region through the plan implementation committee.
- Implement municipal functional plans such as recreation plans, and intermunicipal functional plans, such as an intermunicipal Act 537 plan.

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Chapter Nine

FUTURE LAND USE PLAN

The Future Land Use Plan is one of the most important elements of the comprehensive plan. It graphically brings together all of the chapters of the plan and evaluates all of the information that has been mapped and gathered during this planning process. Based on stated goals and objectives, this Plan will determine what future land uses pertaining to economic development, housing, and conservation would be most appropriate throughout Northwest Adams County. Factors such as existing land use, natural features, soil conditions, demographics, housing, economic development trends, road conditions, sewer and water facilities, all play a role in the development of the Future Land Use Plan.

The Future Land Use Plan should serve as a guide for future municipal ordinance amendments and regulations. Municipal regulatory controls such as zoning ordinances and subdivision and land development ordinances, and planning initiatives involving sewer and water facilities, transportation, and open space and recreation should be based upon the recommendations of the Future Land Use Plan.

It is important to stress that the Future Land Use Plan is **not** a zoning map, nor does it change the zoning ordinances and maps that have been adopted by the municipalities. It is a reference tool and a guide that may be used by municipal officials and planners when making decisions regarding future development, ordinance provisions, and utility systems.

In the land use categories established below, the types of land uses recommended in each category are indicated, as well as the suggested range of densities. The zoning ordinances and maps adopted by the townships and the boroughs in the region will establish actual zoning district boundaries, permitted land uses and the permitted density of development.

A critical element of the Future Land Use Plan is to promote the retention of agricultural activities and maintain rural character in Agricultural-Rural Conservation-Agricultural Preservation areas, particularly the Fruitbelt. These areas are not identified for intensive residential development. The plan also sets a strategy that minimizes strip residential and commercial development along roads, reduces access management concerns, and decreases the impacts on rural character that accompanies development.

This joint comprehensive plan supports the continued integrity and utility of the region's boroughs, villages, and rural landscapes. This plan promotes a mix of land use that retains the small town atmosphere unique to the boroughs, villages, and suburban neighborhoods of this region, while supporting the rural agricultural landscape that has been the backbone to the region.

The Future Land Use Plan attempts to maintain the small town atmosphere, the beauty of the surrounding landscapes, and agricultural productivity. To accomplish this challenge, this plan recommends directing future growth to the Designated Growth Areas established throughout the

development of this plan. If this is accomplished, growth can be more easily managed, sprawl can be minimized, and the unique character of the region can be preserved.

A major contributor to accomplishing this goal will be to align future policies with this plan. Public sewer and water facilities provisions have been established consistent with the land use plan. Service areas should be created and maintained in those areas designated for growth. In Rural Residential areas, provisions are made for limited additional low-density single-family development, where such development has already occurred.

Provisions are also made for additional economic development in Commercial, Employment Center, and Borough Center areas. Given the location of the region within the County and the limitations of the region's transportation system, no new major business areas are identified.

As development occurs, natural resources should be protected and/or integrated into the design of the developments. Development should be landscaped, attractive, and well-planned to provide attractive environments. Visual and physical connections to natural features and corridors and scenic landscapes should be maintained. Walkability should be improved and incorporated into development, road access managed, and traffic impacts mitigated. Agricultural and open space conservation should be emphasized and greenways and trails promoted.

Development should be in scale and character of the setting in which it occurs and compatible with existing uses. Conflicts between residential and non-residential uses should be mitigated. Need for streetscape enhancements in the boroughs should be considered.

Goals established for land use and related plan elements:

Agricultural Resources Goal: Preserve the Fruitbelt and other productive farmland and maintain agricultural support operations in Northwest Adams County. This includes adopting land use policies which direct new development into designated growth areas to minimize development that interferes with farming operations and discourage the conversion of productive farmland to non-farm uses, providing opportunities for agriculturally related businesses to locate and expand, allowing farmers numerous options in the uses conducted to continue farming, and encouraging agri-tourism.

Land Use Goal: Manage and guide development to preserve natural and historic resources, agricultural uses, and existing communities in order to retain a mix of small town atmosphere, suburban environment, and rural character within Northwest Adams County. This can be achieved by directing new development to areas with adequate services to accommodate growth, preserving open space and greenways, and encouraging mixed use developments.

Community and Economic Development: Sustain and enhance the vitality of NW Adams County while identifying appropriate locations for environmentally responsible agricultural business, industrial, office, retail and service use that maximizes economic opportunities for residents and are appropriate in scale and character to Northwest Adams County. This can be accomplished by encouraging fruit processing support businesses; directing large scale industrial

and warehousing operations to areas with adequate infrastructure and access; minimizing strip commercial development; promoting opportunities for eco-tourism, agri-tourism, and heritage tourism; and allowing for a diversity of agricultural uses.

Keystone Principles for Growth, Investment and Resource Conservation

The Keystone Principles for Growth, Investment and Resource Conservation were adopted by the Pennsylvania Economic Development Cabinet on May 31, 2005. They are designed as a coordinated inter-agency approach to fostering sustainable economic development and conservation of resources through the state's investments in its diverse communities. The Principles are:

- Redevelop First
- Provide efficient infrastructure
- Concentrate development
- Increase job opportunities
- Foster sustainable businesses
- Restore and enhance the environment
- Enhance recreational and heritage resources
- Expand housing opportunities
- Plan regionally, implement locally
- Be fair

The Future Land Use Plan for Northwest Adams County should and does follow these principles.

Northwest Adams County Future Land Use Planning Process

Prior to developing the Future Land Use Plan, three “alternative futures” were reviewed with the Steering Committee over the course of several meetings (see Maps 9-1 to 9-4). Alternative I was Low Growth, and was based on preservation and existing zoning. New development was confined to existing centers, with limited room for expansion per existing zoning. Alternative II, Medium Growth, was focused on center-driven development, with expansion of growth areas around existing population centers. Alternative III was High Growth, with development along the Route 30, Route 234, and U.S. Route 30 corridors. Map 9-4 depicts all of the growth alternatives on a single map.

Growth Alternatives

Alternative I Low Growth

Preservation and Existing Zoning Driven

- Village
- State Road
- Local/ Private Road
- Growth Area
- Northwest Study Region



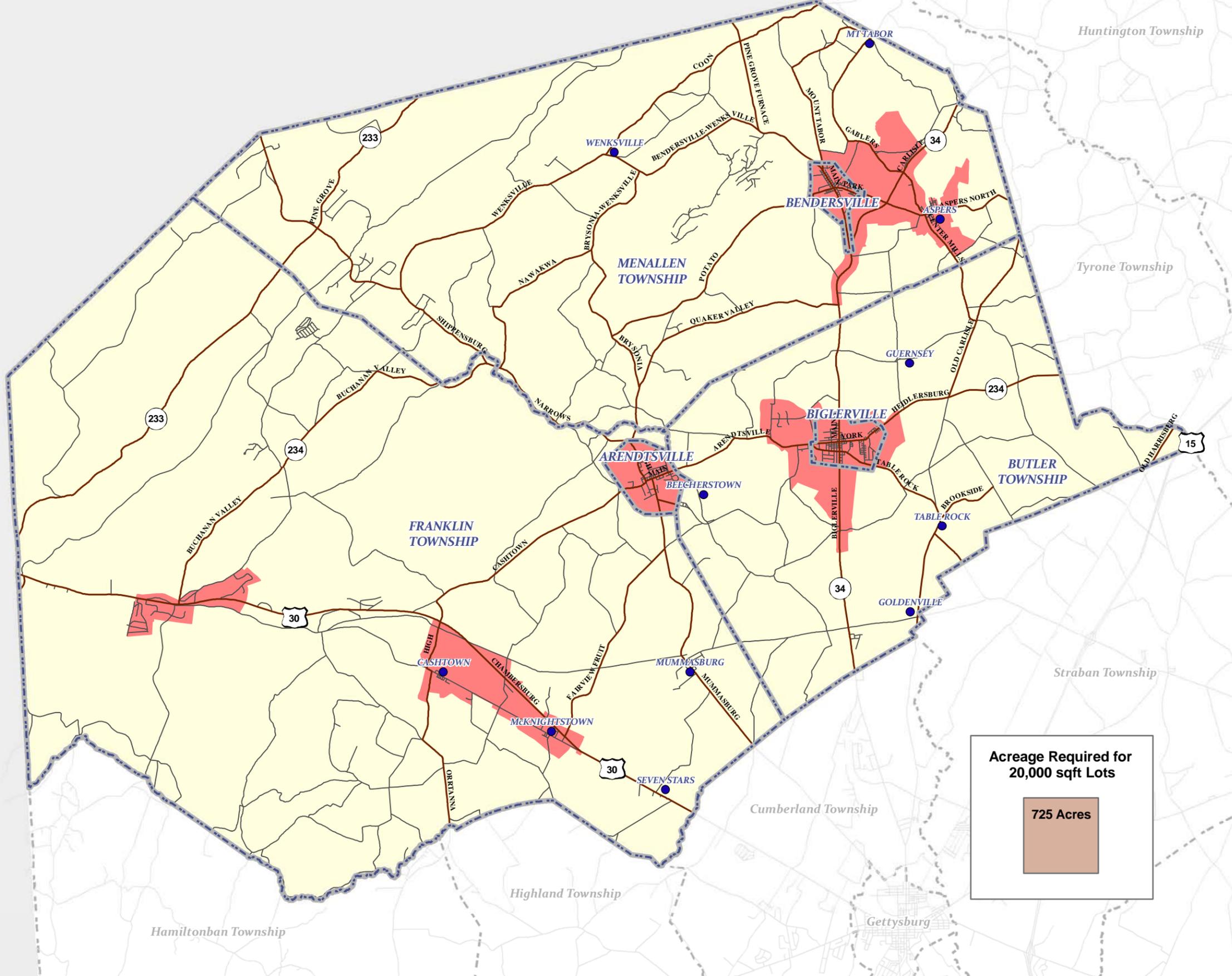
**Acres Required for
20,000 sqft Lots**

725 Acres

Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
SSM

Prepared By:
Adams County Office of
Planning & Development,
August 6, 2008



Growth Alternatives

Alternative II Medium Growth

Center Driven Development
(Expansion of Existing Zoning)

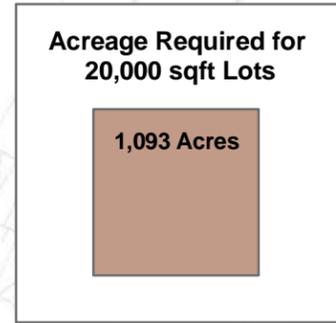
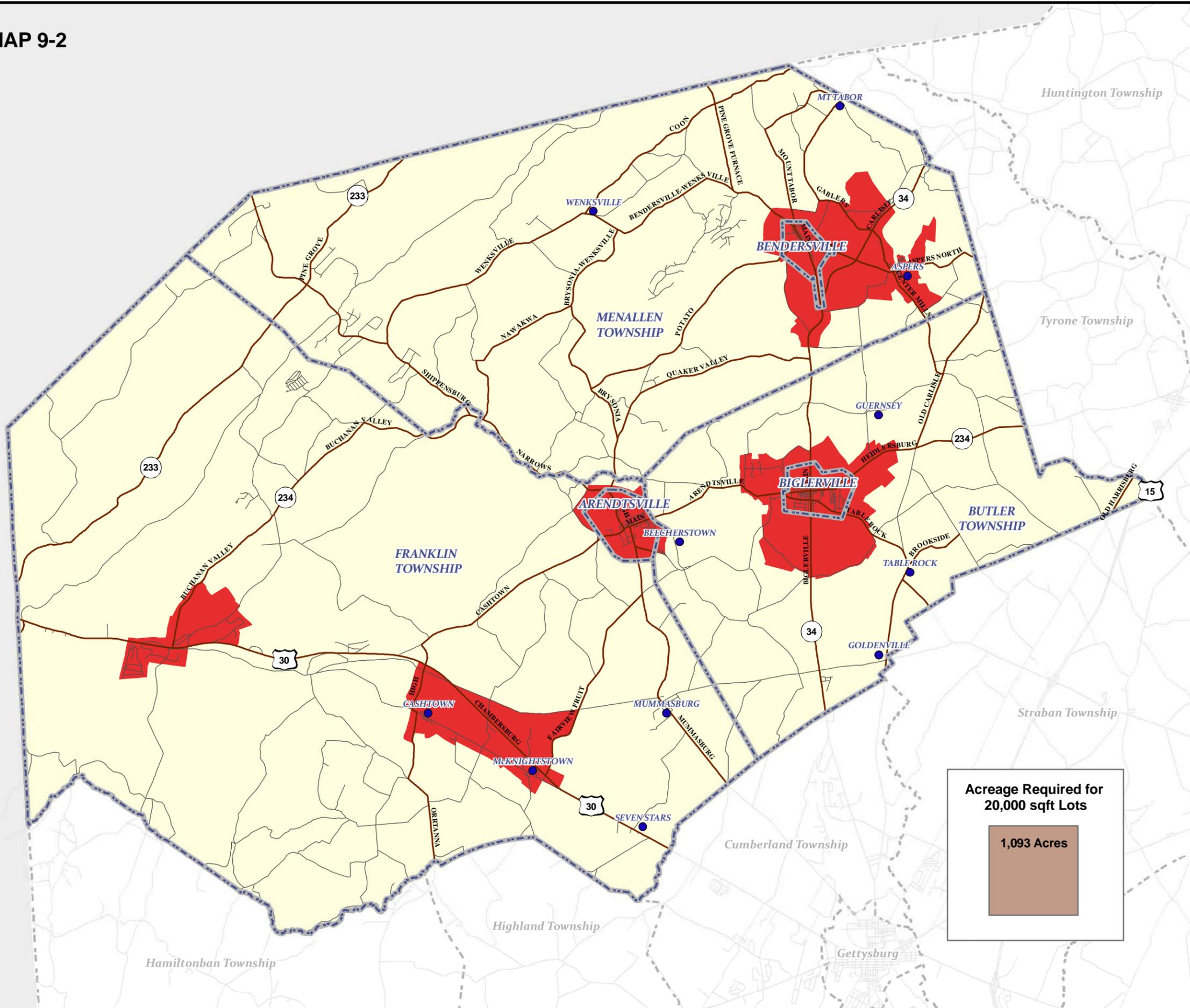
- Village
- State Road
- Local/ Private Road
- Growth Area
- Northwest Study Region



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
SSM

Prepared By:
Adams County Office of
Planning & Development,
August 7, 2008



Growth Alternatives

Alternative III High Growth

Corridor Driven Development

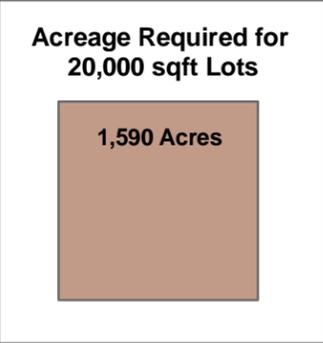
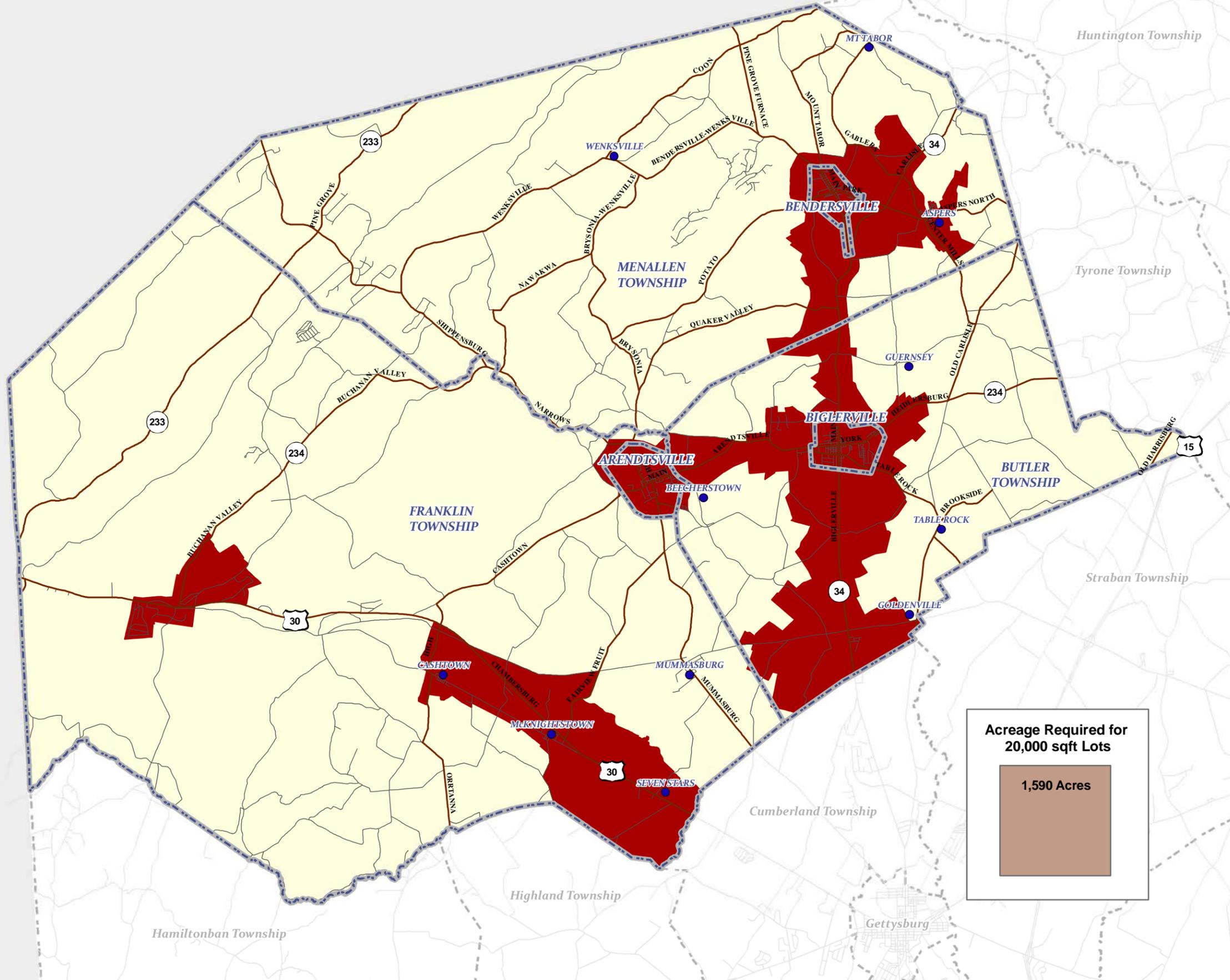
-  Village
-  State Road
-  Local/ Private Road
-  Growth Area
-  Northwest Study Region



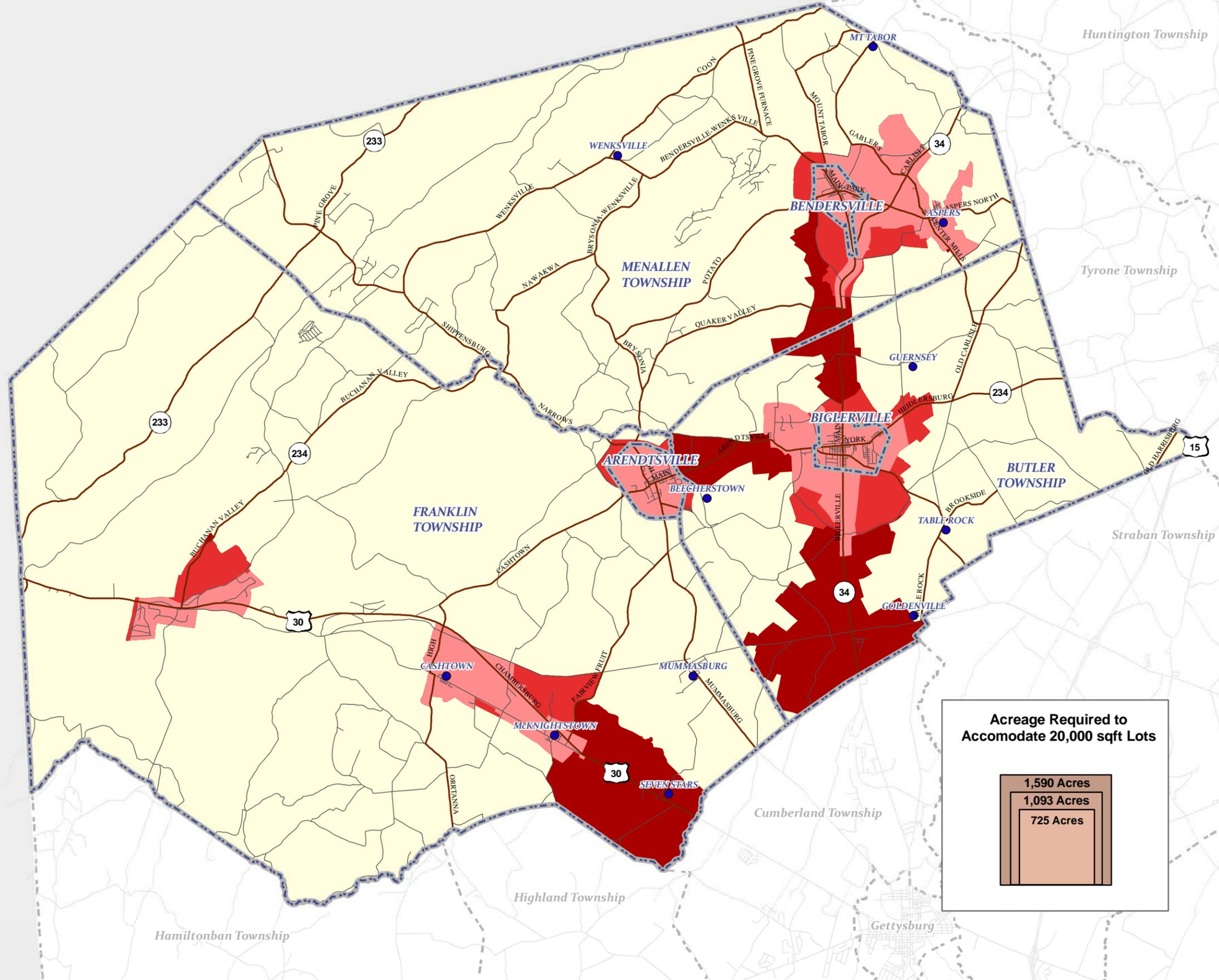
Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
SSM

Prepared By:
Adams County Office of
Planning & Development,
August 7, 2008



Composite Growth Alternatives



- Village
- State Road
- Local/ Private Road
- Low Growth
Preservation & Existing Zoning Driven
- Medium Growth
Center Driven Development
- High Growth
Corridor Driven Development
- Northwest Study Region

This map depicts the different growth alternatives on a single map.



Acreeage Required to Accomodate 20,000 sqft Lots

1,590 Acres
1,093 Acres
725 Acres

Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
SSM

Prepared By:
Adams County Office of
Planning & Development,
August 7, 2008, rev. June 26, 2009



The available acres in each alternative for new development were as follows:

<p align="center">Table 9-1 NORTHWEST ADAMS COUNTY POTENTIALLY AVAILABLE ACRES IN ALTERNATIVE GROWTH AREAS</p>			
	Vacant Acres	Rural/Agricultural Acres	Total Potentially Available Acres
Alternative I (Low Growth)	244	1,747	1,991
Alternative II (Medium Growth)	320	3,361	3,681
Alternative III (High Growth)	450	7,825	8,275

Source: SSM

The alternatives were then evaluated for their adequacy to accommodate the high range population projection for the region of 20,900 by the year 2020 (see Chapter 2) using a range of lot sizes (10,000 sq. ft., 20,000 sq. ft., and 40,000 sq. ft.). With 20% added to the 10,000 sq. ft. and 20,000 sq. ft. lot sizes for infrastructure (i.e. – streets), the equivalent density values are as follows:

10,000 sq. ft. (adjusted by adding 20% for infrastructure)	3.63 d.u./acre
20,000 sq. ft. (adjusted by adding 20% for infrastructure)	1.82 d.u./acre
40,000 sq. ft.	1.09 d.u./acre

As indicated in Chapter 2, it is estimated that approximately 708 acres will be required to accommodate the increased population resulting from the high 2020 projection on 10,000 sq. ft. lots, while 1,416 acres would be required to accommodate the same population increase on 20,000 sq. ft. lots. For 40,000 sq. ft. lots, it would be necessary to convert 2,360 acres of land to development. This analysis assumed that single-family detached housing would remain the dominate dwelling unit type in the region, however, with energy prices likely to rise in the future and with an aging population, it is expected that there will be increased demands for higher density, lower maintenance, attached and alternative forms of housing in mixed use, cluster, and village settings.

Since it provided sufficient capacity to meet the high population projection for the year 2020 in designated growth areas adjacent to existing population centers, the alternative chosen by the Steering Committee on which to base preparation of the Future Land Use Plan was Alternative II, Medium Growth. The Low Growth Alternative (Alternative I) did not provide enough flexibility to accommodate the year 2020 population projection and the High Growth Alternative (Alternative III) required significant sprawl and strip development outside of existing centers,

particularly along Rt. 30 and 34, and would have negatively impacted goals for agricultural preservation.

Medium Growth Scenario Build-Out Analysis within Growth Areas

Under the medium growth scenario selected by the Steering Committee, if all 3,681 potentially available acres (excluding land that is already developed) were built out *within* the growth areas, the following calculations would serve as a preliminary guide indicating the number of new housing units and population possible⁵⁴:

Total Potentially Available Acres – 3,681 acres

10,000 sq. ft. lots – 16,731 units (43,500 people at 2.6 people per unit)

20,000 sq. ft. lots - 8,180 units (21,268 people at 2.6 people per unit)

40,000 sq. ft. lots - 4,045 units (10,517 people at 2.6 people per unit)

Build-Out Analysis Outside of Growth Areas

For areas outside of growth areas, the implications of existing zoning policies in the region were reviewed to determine the potential number of dwelling units and future population allowed by existing land use policies. If land outside of the potential growth area based on existing zoning is developed for housing purposes at its maximum capacity while taking into account current zoning and agricultural constraints, a total of 10,062 additional housing units or an additional 26,161 people are possible when taking into account the following constraints:

- Land within potential growth area, protected agriculture, and state forest land was excluded.
- Undeveloped lands taken from the following existing land use categories: vacant/undeveloped and rural/agriculture was included.
- Zoning district density requirements, when presented in sliding scale or adjusted tract area, were averaged to produce consistent results across the district.
- When zoning regulations differ for tracts with or without sewer and water services, it was assumed that these areas outside of the proposed service areas (see Water and Sewer Chapter, Chapter 5) will not have sewer and water service.
- This analysis does not include commercial, employment center, or industrial district, designated land⁵⁵.
- The sum for the potential number of dwelling units per district is based upon raw data and does not factor in the need for infrastructure (roads, utilities).

The breakdown by municipality and zoning district is summarized in the tables below.

⁵⁴ This is assuming all undeveloped land within the growth area is zoned to allow for such lot sizes. Infrastructure needs are not accounted for.

⁵⁵ Certain commercial and industrial districts allow for limited residential development. Though the number of residential units added in these districts will be minimal, they may increase the total build out figure.

FRANKLIN TOWNSHIP (Franklin Township Zoning Ordinance)

Zoning District	District Requirements	Acres of Undeveloped Land Eligible for Development	Potential Units at Build Out
Agriculture	Maximum of 30% of tract for development, then 1 unit per acre	Total- 17,516 acres Adjusted (30%)- 5,254 acres	5,254
Open Space	Average 1 unit per 10 acres, depending on adjusted tract area (ATA)	4,810 acres	481
Residential	1 unit per 30,000 square feet	27 acres	39

BUTLER AND MENALLEN TOWNSHIPS (Adams County Zoning Ordinance)

Zoning District	District Requirements	Acres of Undeveloped Land	Potential Units at Build Out
Agricultural Preservation	Sliding Scale regulations averaged to 1 unit per 15 acres	9,451 acres	630
Land Conservation	1 unit per 5 acres ⁵⁶	15,536 acres	3,107
Rural Residential	1 unit per acre	504 acres	504
Residential	1 unit per acre	47 acres	47

Totals:**10,062 units****Total Build-Out Scenario – Potential Impacts**

Combining the results of the build-out scenario for available land inside and outside of the designated growth area, a total of 18,242 additional units could potentially be built in Northwest Adams County. This estimation assumes an average of 20,000 sq. ft. lots in the growth area and existing zoning densities outside of these areas. If an average household size of 2.6 persons per household is applied to these additional housing units, an additional 47,429 people could be added to the future population of Northwest Adams County. Other impacts of this additional population on the region based on a range of possibilities would be as follows:

⁵⁶ Under cluster designs, which are an option in the Land Conservation District, 1 unit per 3 acres is allowed. If 15 percent of the total 15,536 acres in the district are developed as cluster units, a total of 3,417 units are possible in the Land Conservation District.

Vehicle Trips Generated

- 8 trips per day per unit – 145,936 new trips per day
- 10 trips per day per unit – 182,420 new trips per day

School Children

- 0.3 school aged children per unit – 5,473 additional school children⁵⁷
- 0.4 school aged children per unit – 7,297 additional school children
- 0.5 school aged children per unit – 9,121 additional school children

With the population of the region in the 2000 Census at 12,767, the total future population could be 60,196 at build-out. The population of the region in 2020 is projected at between 17,000 and 20,900. Given this disparity between the projected population and the theoretically population at build-out, the opportunity exists to concentrate new development in the growth areas and to preserve agriculture outside of these areas.

Future Land Use Plan

As previously discussed, the Steering Committee reviewed a series of alternative scenarios before deciding on the Medium Growth Scenario and proceeding to develop the Future Land Use Plan included in this Chapter. The following steps were then taken prior to allocating and distributing the various land uses throughout the region:

1. Mapping of protected lands, including preserved farms, conservation easements, State Game Lands, and Michaux State Forest (see Map1-13, Protected Lands).
2. Mapping of primary environmental constraints (i.e. – floodplains and wetlands).

These features are set aside as Conservation and Permanent Open Space since they are unavailable for future development. Future development was then added to arrive at the final Future Land Use Plan (Map 9-5).

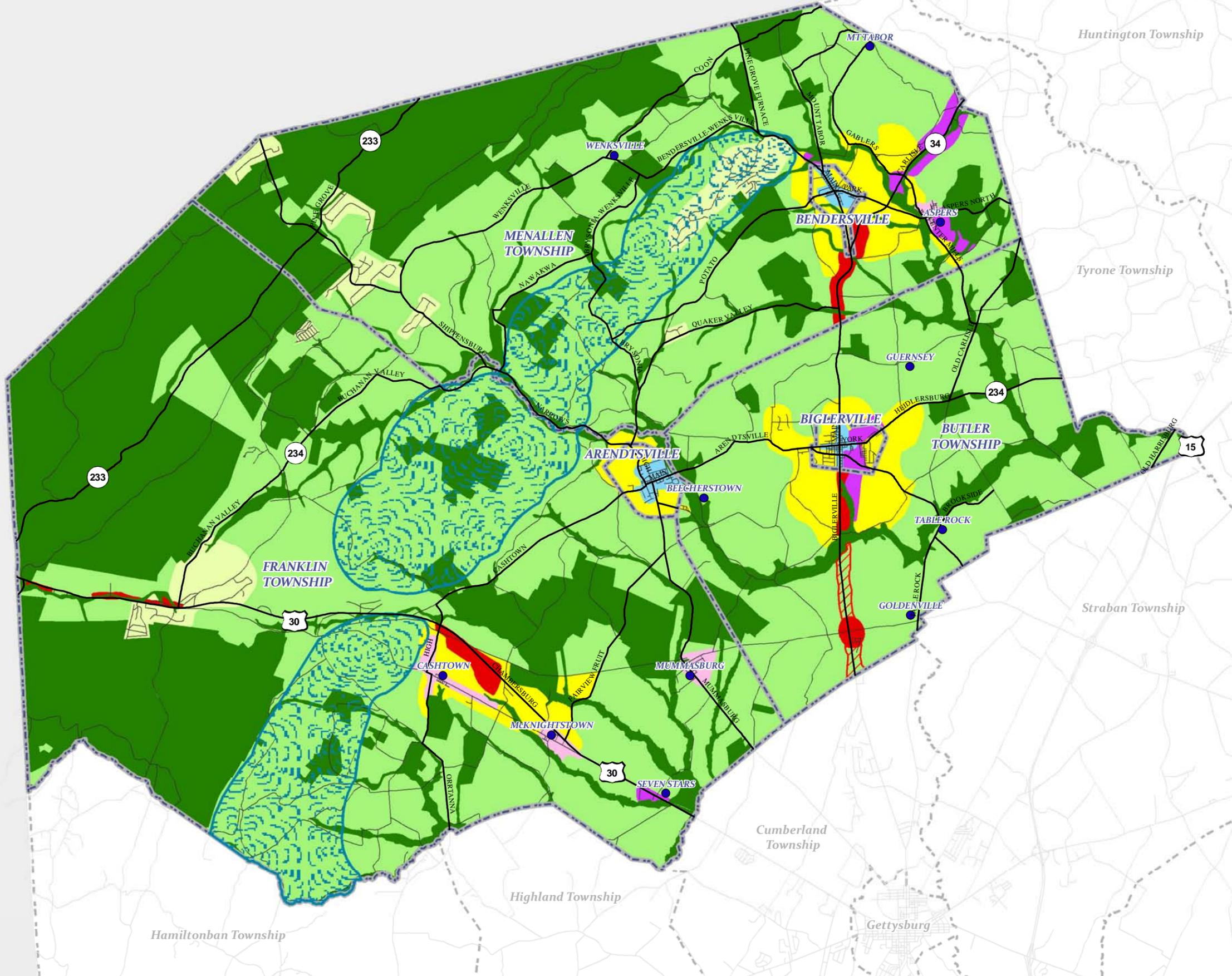
The following table lists the categories in the Plan and the total acres in each category.

Table 9-2: Future Land Use Plan

Future Land Use Plan Categories	Acres
Agriculture, Rural Conservation	47,328
Conservation, Permanent Open Space	31,925
Designated Growth Area	4,269
Rural Residential	2,253
Commercial	617
Employment Center	577
Village	458
Borough Core	383
Limited Commercial	163

⁵⁷ The average percentage of families in NW Adams County with children under 18 was 34 percent, or .34 school aged children per unit, according to the 2000 Census.

Future Land Use



- Village
- Land Use Category**
- Conservation, Permanent Open Space
 - Agriculture, Rural Conservation
 - Rural Residential
 - Designated Growth Area
 - Village
 - Borough Core
 - Commercial
 - Employment Center
 - Limited Commercial
 - South Mountain Faces/
Conservation Landscape Area



Northwest Adams Joint Comprehensive Plan Adams County, PA

Data Source:
Adams County GIS/ Mapping,
ACOPD

Prepared By:
Adams County Office of
Planning & Development,
November 3, 2008, rev. 02/25/09



The next table gives approximate acreages of existing undeveloped land in each future land use plan category as a baseline of potentially available land for future development. Please note that within the Agricultural-Rural-Agricultural Preservation category, land may be already be permanently preserved through easements or purchase of development rights and therefore would not available for future development.

Table 9-3: Existing Undeveloped Land within Future Land Use Categories

Northwest Adams County Future Land Use Plan Categories	Acres
Conservation, Permanent Open Space	130
Agricultural-Rural Conservation-	52,542
Rural Residential	632
Designated Growth Area	2,759
Commercial	195
Employment Center	281
Borough Center	134
Limited Commercial	
Village	47

Conservation and Permanent Open Space

This category includes preserved farms, conservation easements held by the Land Conservancy of Adams County, State Game Lands, the Michaux State Forest, floodplains, and wetlands. These important natural, cultural, and recreational resources are and should continue to be protected.

Agriculture-Rural Conservation-

The Agriculture-Rural Conservation- area is located outside designated growth areas and is intended for the continuation of agricultural activities and retention of rural character. Intensive growth is not proposed for this area.

Agriculture is highly valued, and the goal is to have agriculture continue in the region. It is also recognized that the fruit industry is in flux and there must be flexibility for landowners to change crops, conduct agricultural support businesses, and if necessary, sell some land to realize equity.

Fruitbelt

As stressed throughout this Plan, the Fruitbelt is a unique resource in the region, as evidenced with the preparation of two special reports as components to the Plan: *Agricultural Analysis and Recommendations* and *Adams County Fruit Industry Assessment* (see Appendix A). Addressing economic development issues related to agriculture in general, and specifically the inter-relatedness of the fruit growing economy in Northwest Adams County is therefore perhaps the most essential element of the Comprehensive Plan. The following specific recommendations have been developed to maintain and enhance the Fruitbelt as a distinct agricultural land base and integrated agricultural economy:

1. Farm-Friendly Land Use Regulations

The communities of Northwest Adams County, especially the three Townships, need to ensure their land use regulations are farm-friendly. The following are specific regulations in this regard:

- A. Zoning ordinances should define broad categories of farm and agricultural support businesses that can be treated as principal permitted uses and given expedited approvals.
- B. Zoning Ordinances should include flexible development standards for ancillary income-generating farm activities such as cabin rentals, farm festivals and events.
- C. Right-to-farm policies should be included among the community development objectives of zoning ordinances so as to enshrine this concept into the review process for other discretionary lands uses.

2. Farmland Protection Incentives

- A. Employ a simple Transfer of Density Rights (TDR) program that allows for multi-municipal transfers of such rights and provides major incentives for both development and farmers to participate.
- B. Zoning densities in the urbanizing areas of the planning area and the County need to be lowered (especially where infrastructure is presently lacking) to create the demand for additional density that could then be acquired by purchasing and transferring density rights from farmland.
- C. Innovate approaches are needed to encourage use of agricultural conservation easements within the Fruitbelt as additional means of allowing farmers to recover equity without selling the farm.
- D. Agricultural preservation concepts, incorporating very low densities, together with maximum lot sizes, should be considered as zoning is updated.

3. Infrastructure Needs

- A. Public water supply infrastructure is needed within developing centers to accommodate higher density residential development.
- B. Transportation infrastructure improvements need to be focused on upgrading of two-lane roads to handle additional capacity required rather than large new projects that will change the development pattern and put more pressure on the Fruitbelt.

Community services and facilities needed to provide adequate service to the farm population and the role that tourism (agri-tourism, cultural heritage tourism, and recreational tourism) plays in helping the agricultural economy are discussed elsewhere in this Plan.

It is expected that much of the Agriculture-Rural Conservation- area will remain in agricultural use. Municipalities may utilize varieties of agricultural zoning in some areas to preserve agriculture. Butler Township now has agricultural preservation zoning in place and intends to continue that practice. Agricultural zoning which permits 30% of a tract to be developed for one acre lots is used in Franklin Township. Large lot land conservation zoning (1 unit per 5 acres) is utilized in Menallen Township, and portions of Butler Township. When effective agricultural zones are utilized, very limited single-family detached dwellings are permitted (typically one dwelling unit per 10 to 25 acres). Continued purchase of agricultural conservation easements will be promoted to permanently protect existing farms in this category.

Another goal of this land use category is to conserve areas of steep slopes, woodlands, aquifer recharge areas, and cultural resources. It is also intended to protect historic and rural landscapes such as the Fruitbelt and South Mountain Faces.

Low-intensity residential uses, to the extent that new development does not diminish or conflict with agricultural lands or degrade areas of scenic beauty or environmental sensitivity, can be permitted. Except for agricultural-related enterprises, new commercial and industrial uses should be limited in this area.

Large scale development is discouraged in this area. This can be coupled with incentives to develop within designated growth areas. Discouragement of development in rural areas may be achieved through the promotion and enactment of agricultural conservation easements, the adoption of agricultural zoning, and restricting the extension of infrastructure. At the same time, the expansion of existing central water and sewer systems can serve to encourage development within designated growth areas. Generally, proposals to construct central sewer and water service in rural areas should be discouraged. Exceptions should be made only in cases where specific development proposals, when implemented, would result in the preservation of agricultural lands or assist in addressing on-lot sewage disposal problem areas.

Portions of the Agricultural-Rural Conservation area will allow very low density single-family residential development. When development occurs, it is to be of high quality, utilize processes of development that actually contribute to long-term conservation of land, and not diminish or conflict with agricultural lands or degrade areas of environmental sensitivity. Conservation or open space development can be used to limit residential development to only a small portion of a tract, preserving most of the acreage for agriculture or resource conservation in perpetuity.

More detailed discussion of specific implementation tools follows:

Adams County Zoning Ordinance Land Conservation District Model

This district is a low density residential zoning district for use in rural settings that are not truly agriculture, but where significant rural features (e.g. – open space, natural features, rural landscapes) still exist at a frequency where conservation is encouraged (e.g. – South

Mountain and other areas outside of the Fruitbelt). The district is based on maintaining a maximum overall lot density of 1 dwelling unit per 5 acres, or 3 acres if cluster design is used. Lot sizes can be smaller provided that the overall gross density is achieved.

Better Models for Development in Pennsylvania

Better Models for Development in Pennsylvania, developed by The Conservation Fund in partnership with DCNR in April 2005, presents six principles for better development, with examples of alternatives to conventional development that are more attractive, more efficient, and more profitable. The six principles are 1) conserve Pennsylvania's farmland, natural areas and scenic assets; 2) maintain a clear edge between town and countryside; 3) build and maintain livable and attractive communities; 4) preserve historic resources; 5) respect local community character in new construction; and 6) reduce the impact of the car and promote walkability. Although all six can be used to help preserve agriculture and rural areas outside of designated growth areas, 1 and 2 relate directly to agricultural preservation.

Conservation by Design

Growing Greener: Conservation by Design was developed by the Natural Lands Trust and is DCNR's model for local smart growth land use policies and subdivision design. It achieves land conservation through zoning and subdivision design by requiring that open space and environmental features be set aside prior to arriving at the density and design of new development. Design options range from large conservation lots to cluster designs with 50% or more of the site preserved as open space. *Conservation by Design* offers municipalities a legally-defensible system that works with existing land use regulations to conserve land as development occurs. It should be noted that this technique, along with the Adams County Land Conservation District model, should not be employed in areas where agricultural preservation is the primary goal and should not substitute for zoning or other implementation tools that are designed to preserve agricultural lands, uses, and economy.

Franklin Township Agricultural Zoning District Approach

Franklin Township's Agricultural (A) District is based on a standard that requires that 70% of the property be retained as agriculture, with development allowed to occur on the remaining 30% in accordance with the dimensional requirements and other standards of the district. This district is located in the Buchanan Valley, Fruitbelt, and southeast portions of the Township.

Sliding-Scale Agricultural Zoning

Sliding scale agricultural zoning is an area-based allocation zoning technique that establishes the number of non-farm dwelling units that may be subdivided from an agricultural parcel by basing that number on the size of the original tract. It then requires that the non-farm dwelling units be built on small lots (e.g. – 2 acres or less), leaving large areas left intact for agricultural uses. A fixed-system formula allows one dwelling for a specified number of acres (e.g. – 25 acres), while a sliding scale formula varies the number of allowed dwelling units based on the size of the parcel. Generally, larger agricultural parcels may subdivide proportionally fewer non-farm dwelling units than smaller agricultural parcels, based on the fact that smaller agricultural parcels are less viable than larger parcels. One example of

sliding scale agricultural zoning is the one adopted by Shrewsbury Township, York County, and upheld by the Pennsylvania Supreme Court:⁵⁸

Size of Parcel Number of Dwellings Permitted

0-5 acres	1
5-15 acres	2
15-30 acres	3
30-60 acres	4
60-90 acres	5
90-120 acres	6

While preserving farmland, it also plays the dual role of conserving the Township’s woodlands, riparian areas, steep slopes, natural areas and habitats, along with scenic vistas.⁵⁹

Transfer of Development Rights

Transfer of development rights can also be utilized, where a property owner would sell the rights to develop his/her property to another property owner, more appropriately located for development and specifically designated for development on the Future Land Use Plan. Using transfer of development rights, the owner of a property in the Agricultural-Rural Conservation-Agricultural Preservation area (sending area) could sell development rights to someone wishing to develop land in the Designated Growth Area (receiving area).

Rural Residential - The intent of the Rural Residential areas is to provide for single family residential uses at a low density of no more than one dwelling unit per acre utilizing on-lot water and sewage disposal systems. Development would occur in a rural setting and agricultural operations could continue, though intensive agricultural activities would not be permitted. Actual lot size would depend upon site characteristics, suitability for on-site sewage disposal, and municipal zoning. These are areas where development has already occurred outside and separated from growth areas, where retention of rural character would be difficult to achieve, and additional development adjacent to existing developments would be permitted.

Designated Growth Areas (DGA’s) – The Designated Growth Areas are intended to accommodate most of the Northwest Region’s residential growth the next 10-20 years. The DGA’s include remaining available land in the boroughs and development of surrounding land in the townships, providing for logical extension of growth from the borough cores. Provision is also made for growth in the Cashtown-McKnightstown service area of Franklin Township. These areas are intended to be served by public sewer and water facilities provided that sufficient capacity is available. The types of dwelling units permitted would include single family, two family, and multiple family dwellings, with mobile home parks in some areas. Actual uses may vary by zoning districts and municipalities, with some areas reserved exclusively for single family development, and other permitted mixture of various dwelling unit types and uses to

⁵⁸ Boundary Drive Association v. Shrewsbury Township Board of Supervisors, 507 Pa. 481 (1985).

⁵⁹ *Shrewsbury Township Receives 2008 Government Conservation Leadership Award*, Pennsylvania Land Trust Association, conserveland.org.

accommodate various needs. Land development within the boroughs will be required to be served by public sewer and water facilities. While it is anticipated that public sewer and water facilities would serve surrounding areas in the townships, if such facilities were not available, development would occur at a density no greater than one dwelling unit per acre. Actual density would depend upon suitability for on-site sewage disposal. With public sewer and water facilities available, densities would be higher, depending upon municipal zoning, ranging from 3 to 10 dwelling units per acre.

It is recommended that the preparation of additional development studies be considered for these Designated Growth Areas providing additional and more detailed planned development strategies and master plans for these borough and village areas.

Commercial

Commercial areas for consumer-oriented retail and service activities and office uses are found in the Route 34 Corridor south of Bendersville Borough and south of Biglerville Borough; and in the U.S. Route 30 corridor in the Cashtown area and the western portion of the region in Franklin Township. Generally, these areas have an existing nucleus of commercial uses and are currently zoned commercial.

New commercial areas have been limited in order to reinforce borough business districts, conserve rural landscapes, and reduce transportation demands. Where commercial development occurs, planned clusters with limited access points to the existing road network of uses are recommended. Shared access should be encouraged.

Remedial action plans should focus on the issues of shared vehicular access, but also address parcel development standards (such as those pertaining to impervious coverage and stormwater management) in order to improve the image and environment of commercial areas. Once these standards have been determined, they may be incorporated into land development regulations and municipalities can limit issuance of building permits for any alterations to existing establishments based on compliance with the new standards.

A major objective of this Plan is to limit commercial strip development since it leads to the decline of commercial activity in existing centers and designated growth areas, reduces traffic safety, contributes greatly to traffic congestion, has pronounced visual effects, and may diminish the region's potential for agri-tourism business development.

The following objectives should be a guide to establishing planned commercial districts:

- Provide for a compatible mix of commercial uses fronting on major roadways, where some commercial development already exists, or where land use patterns and planning goals suggest that commercial development is appropriate.
- Prevent commercial areas from developing at an intensity which is beyond the capability of the surrounding roadway network to accommodate the traffic generated by such development.

- Provide for the future economic vitality of highway commercial areas by discouraging premature land uses of an inappropriate scale from utilizing roadway frontage.
- Require appropriate building setbacks and other design standards, which will facilitate potential future roadway improvements and/or widening projects.
- Enhance public safety by preventing excessive curb cuts, regulating the location and spacing of ingress and egress points, requiring pedestrian and vehicular inter-connections between adjacent uses, and establishing appropriate sight distances at the intersection of property access drives and the surrounding roadway network.
- Provide for appropriate site improvements, landscaping, community infrastructure, and environmental protection standards for development locating along the surrounding roadway network.
- Enhance the visual appearance and appeal of highly visible commercial development located along segments of the roadway network by requiring the installation of landscaping and signage of an appropriate size, scale, and design.
- Enhance public safety for highway users by avoiding excessive and confusing signage along roadways.
- Commercial districts should recognize a mix of uses (e.g. – retail, medical, office space, etc.), including residential uses where truck traffic is low.

Employment Center

The Employment Center areas are located in Biglerville Borough; nearby areas in Butler Township; just outside of Bendersville Borough in Menallen Township; in Aspers and along Carlisle Road in Menallen Township; and along Route 30 in Franklin Township. The Employment Center areas reflect existing facilities in support of the fruit industry and current industrial and employment zoning policies. Limited land is available for new development, primarily along Carlisle Road. Existing areas should be preserved, including small employment centers in the Seven Stars area and along Rt. 34.

The intent of the Employment Center category is to allow continued use of existing facilities and expansion of those facilities, recognizing most of them, at least in the near future, will be in support of the fruit industry. Future development should be compatible with residential development in adjoining areas through use of appropriate buffering and landscaping, setbacks, and performance and design standards. Residential development should be prohibited to ensure availability of land for business development.

Although it is unlikely development in a campus-like setting would occur, Northwest Adams County should monitor the future feasibility of a planned agricultural business location,

functioning as a marketing center for locally-produced agricultural products and a supply center for farm-related equipment and materials. Such a facility would require sufficient land to support development under single, unified direction, while minimizing traffic congestion and hazardous traffic flow conditions.

Borough Core

The Borough Core category recognizes existing mixed use areas in the centers of Arendtsville, Bendersville, and Biglerville Boroughs. Borough Cores are intended to continue to allow for an appropriate and compatible mix of residential, commercial, office and public uses in a compact setting, and maintain the character of the borough cores. The character and economic significance of each center should be recognized and reinforced through the adoption of appropriate zoning regulations and design standards.

Additional commercial uses in boroughs ensure the centers' long-term economic viability, which is the critical component towards maintaining community functions and character. If carefully planned and designed, new uses in older communities can enhance their aesthetic harmony and ambience. The combination of new and existing residential areas focused on traditional core functions of boroughs allows for home-to-work and home-to-shopping connections that are physically close, and that present the opportunity for short-distance trips by automobile or alternate means, such as bicycle or on foot. All new development should be constructed with sidewalks.

Residential uses would vary from borough to borough and within each borough, and depend upon the zoning policies of each. Single family, two family, and multiple family dwellings should be accommodated. Commercial uses should be neighborhood serving uses, rather than highway oriented uses and generators of high traffic volumes.

The boroughs should determine the extent to which design guidelines and controls should be used. It is desirable that infill development and redevelopment be consistent with existing patterns of architectural style, setback, height, bulk, and placement of buildings. Designation of historic districts should be considered. Limitations should be placed on drive-through businesses and parking should be located consistent with existing patterns.

Boroughs should recognize the inherent economic, social, and aesthetic value of their existing settlements, and identify community economic revitalization efforts in the future as necessary. This could include preparation and implementation of streetscape plans.

As also suggested for the Designated Growth Areas, the preparation of more detailed development or master plans should be considered for the Borough Centers to understand how each has uniquely developed and to determine how each will develop in the future. For example:

Arendtsville – Borough infill and adult education emphasis

Biglerville – Traditional smart growth

Bendersville/Aspers – production and manufacturing, housing, support services

Village

The Village category recognizes the villages of Cashtown, McKnightstown, and Mummasburg in Franklin Township.

Villages are existing nodes of activity, primarily residential in character, with limited-scale commercial uses. Particularly when historic structures are present, the retention of existing buildings and other notable features should be promoted through carefully-crafted development regulations that also provide for home occupations, mixed-use structures, and incentives for architecturally-compatible rehabilitations and new small-scale “infill” development.

Villages provide for a compatible mix of residential, commercial, and community facilities with a small-town rural neighborhood atmosphere. Provision of pedestrian orientation and a human scale of development are expected. Non-residential uses would be those intended to primarily serve the needs of the local residents and would be limited by size and intensity to prevent the establishment of intensive commercial uses which exceed the community orientation of these areas. The density or intensity of development and permissible uses would be dependent upon availability of public sewage treatment and water supply facilities and the protection of community character. Single family detached dwellings would be the primary residential use permitted. If and when public sewer and water facilities are available, single family development on smaller lots and two family and multiple family dwellings could be permitted if deemed appropriate by the Township.

As with the Designated Growth Areas and Borough Centers, the preparation of more detailed development or master plans should be considered for the villages of Cashtown, McKnightstown, and Mummasburg, particularly the retention of historic resources.

Limited Commercial

The Limited Commercial category is a special category of mixed land uses which recognizes that some, but not all, forms of commercial development may be appropriate along some roadway segments. In general, relatively intense forms of “drive through” businesses or large scale “box buildings” are not appropriate for limited commercial. A mixture of agricultural, residential, professional office, and low impact commercial uses are appropriate for this category.

LAND USE POLICIES

Based on the Future Land Use Plan, the following policies are recommended to implement the Plan:

- Consider adopting zoning maps and districts consistent with the Future Land Use Plan, including sliding scale agricultural zoning or other agricultural preservation zoning in the Fruitbelt area and directing future development to boroughs and designated growth areas through mixed uses, a variety of housing types, and higher densities.

- Consider agricultural zoning which limits the introduction of large-scale residential uses in the Fruitbelt and other agricultural areas targeted for preservation. This could involve sliding scale zoning which would define the density of residential units in relation to overall tract size (e.g. – 1 unit for 5 acres, 2 for 5-15 acres, 3 for 15-30 acres, and 1 dwelling for every 30 acres for larger tracts)⁶⁰ or requiring that prime agricultural soils be set aside from development (e.g. – on tracts containing 10 or more acres, the minimum lot size is 1 acre after 60% of the prime farmland and 50% of the farmland of statewide importance have been set aside and protected)⁶¹.
- Provide standards and techniques to protect the character of boroughs and villages and designed to enhance streetscapes, including historic preservation standards, sidewalks, street lights, landscaping, etc.
- Allow apartments above commercial uses in borough cores and village settings.
- Assure Act 537 Sewage Facilities Plans are compatible with the Future Land Use Plan and limit public sewer service to designated growth areas.
- Assure that government and school district policies for major land use decisions are consistent with the Plan.
- Increase density and intensity of development, particularly in the designated growth areas, only when public sewer and water and other necessary infrastructure of sufficient capacity can be made available.
- Encourage walkable neighborhoods by requiring the provision of walking and bicycling facilities in new development and ensuring that new developments are connected to each other or to existing street, sidewalk, and pathway networks.
- In zoning ordinances, provide for regulations and standards designed to protect existing natural resources, provide open spaces, enhance streetscapes, and protect the character of existing boroughs and villages, such as conservation zoning, traditional neighborhood development, village design, and corridor overlay zoning along major commercial roads, such as PA Route 34 and U.S. Route 30.
- Promote flexibility and incentives in zoning ordinances (e.g. – conditional uses, *Conservation by Design* site design options, density bonuses, expedited review) to secure better design (e.g. – parks, open space, sidewalks and trails, mixed uses/densities, architectural controls, transfer of development rights).
- Consider providing incentives for aesthetic design standards in zoning ordinances, particularly in historic areas, villages, and scenic resource areas.

⁶⁰ *Boundary Drive Associates v. Shrewsbury Township*, 81 PA Commonwealth 7 (1984) *affd* 507 PA 481 (1985).

⁶¹ *C. M. Developers, Inc. v. Bedminster Township*, 772 A2nd 99 (PA Commonwealth 2001).

- Monitor zoning along municipal boundaries and amend zoning ordinances to provide for compatible zoning districts adjacent to each other.
- Address Conservation by Design techniques within zoning and subdivision/land development ordinances to conserve natural resources and environmental features in rural conservation and rural residential areas.
- Adopt zoning provisions that allow home employment and home occupations.
- Encourage and promote appropriate adaptive re-use of vacant and underutilized commercial and industrial buildings through zoning provisions and incentives.
- Analyze and evaluate occupancy and capacity of commercial and industrial zoned land and consider providing additional areas if warranted to increase the tax base for school districts and municipalities.
- Require buffers and/or performance and design standards where there will be potentially conflicting land uses.
- Support participation in agricultural preservation programs, including Agricultural Security Areas, preferential tax assessment (Clean and Green) programs, and conservation easement programs.
- Enact farm-friendly land use regulations which contribute to the viability of farming and which allow farmers to continue farming.
- Review the feasibility of a Transfer of Development Rights (TDR) program in the region to help preserve agriculture and natural resources.
- Allow a variety of accessory uses in Agricultural-Rural Conservation-Agricultural Preservation areas to allow farmers to generate secondary income while supporting the principal agricultural activity.
- Provide opportunities in municipal zoning ordinances for agriculturally-related businesses and support facilities to locate and expand.
- Encourage marketing initiatives such as guidebooks, map brochures, and signage by the Adams County Fruit Growers' Association, Chamber of Commerce, and the Gettysburg Convention and Visitors Bureau to promote agri-tourism in the region.
- Support the continuation of the forestry industry by adopting zoning provisions which allow logging and best management practices which do not place unnecessary restrictions on logging practices.

- Continue the efforts of the Northwest Adams County Joint Comprehensive Planning Committee through periodic meetings to monitor implementation of the Joint Comprehensive Plan, discuss regional development activity and issues, and the potential for sharing land use obligations and inter-municipal cooperation planning agreements.
- Encourage increased community and interest group involvement in the development review process (e.g. – expanded public notice requirements, creation of Environmental Advisory Councils, site visits, sketch plan and pre-application presentations, etc.).

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Chapter Ten

HOUSING PLAN

Goal: to provide for a diversity of housing opportunities for the economic and demographic groups within the Region in harmony with existing development and the historical and natural environments and in a manner that allows existing and potential residents to live in the region throughout their life cycle.

Observations from Existing Conditions Inventory Chapter

Observations related to housing issues which have been made previously in the Inventory of Existing Conditions section of this Plan include:

- The boroughs have high percentages of rental units.
- There is an older housing stock, especially in the boroughs. The average home in Northwest Adams County is 50 years old.
- Housing units are predominantly single family detached, with more mobile homes on individual lots than in mobile home parks.
- Although still less than the County average, average home sale prices jumped significantly in the region since 2000.
- The projected number of new dwelling units needed to accommodate the projected increase in population range from 1,115 to 2,570 new units by the year 2020.
- Housing demand from outside the Region is causing property values to increase and encouraging buyers to look to Northwest Adams County for good land value. This competing demand for land will increasingly put pressure on the Fruitbelt, leading to further erosion of the land base and the critical mass of activity required to sustain the industry.
- Managing growth within the Fruitbelt requires a delicate balancing of development with preservation and the application of “smart growth” principles.
- The Northwest Adams County agricultural industry faces several economic development issues:
 - Providing social services and cost-effective housing for guest workers.
 - Impacts from growth, including nuisance complaints from neighbors (such as the use of pesticides) and competition for a limited water supply.

- Orchards generate potential conflicts with nearby residential uses because of pesticide application. It is better to steer all but farm-related residential development to existing or new centers (inside or outside Northwest Adams County) where the infrastructure exists to serve them and land use conflicts are minimized.
- The Agricultural Analysis and Recommendations report for Northwest Adams County included the following recommendations related to housing:
 - Consider developing a simple Transfer of Density Rights (TDR) program that allows for multi-municipal transfers of such rights and provides major incentives for both developers and farmers to participate.
 - Consider offering density bonuses within the Designated Growth Areas to developers when purchasing Development Rights from donors.
 - In areas designated for future growth, consider adding “bonus provisions” to the applicable zoning districts which would allow landowners in these areas to achieve somewhat higher densities if they purchased and transferred development rights from farmers.

Opportunities should therefore be provided for accommodating new housing in different dwelling types and at a variety of densities for households of all incomes, particularly low and moderate incomes. This will include providing for single family, two family, multi-family, and mobile homes (individually and in mobile home parks), depending on zoning district and available infrastructure. Densities of development will also vary with the zoning district and available infrastructure, with higher density housing concentrated in the Boroughs and designated growth areas (see Future Land Use Plan map, Map 9-5). Zoning should be generally consistent with the Future Land Use Plan.

It is intended by this Plan to retain the existing character of the region, the boroughs, and of existing residential neighborhoods. Neighborhoods should be protected from adverse impacts of potentially incompatible uses through appropriate zoning regulations and design standards for subdivisions and land developments. Increased owner occupancy of housing units in the boroughs should be encouraged as a way for lower income residents and families to invest financially, socially, and emotionally into the community.

The aging housing in the Region should be suitable, safe, and sound for residents. The necessary maintenance, rehabilitation and renovation of the existing housing stock should be encouraged. This can be accomplished through the reasonable enforcement of minimum construction, housing, and property maintenance codes. Municipalities can maintain construction and housing codes which are reasonably based on protecting public health, safety and general welfare, and which do not contain provisions solely to increase the luxury or the costs of dwelling units. Excessive standards in municipal regulations can unnecessarily raise housing costs.

New housing developments should be well-planned, attractive living environments. A variety of development options can be made available, such as conservation or open space development,

traditional neighborhood and village patterns, and infill residential development, in addition to more typical single family development.

The need for housing for people, including young adults and young families, trying to enter the housing market and housing for those working in Adams County should also be accommodated. Allowing for a variety of housing types, including multi-family housing, and higher densities of development when public sewer and water is available, is important to addressing this need. A particular concern in Northwest Adams is providing cost-effective housing for guest workers, for which temporary or modular housing should be provided.

Efforts to provide housing alternatives for the elderly could include such projects as smaller-scale elderly housing units, accessory dwelling units, apartments, and retirement villages. Seniors should reside close to family, community and social services, doctors and other medical facilities. Programs and policies which help the elderly maintain and remain in their homes or live with an extended family, such as conversions and accessory dwelling units, should be considered and efforts of the Adams County Office on Aging supported.

Housing affordability is becoming an increasingly serious issue with the current economic, credit, and housing crisis. Coupled with the pending expiration of electric rate caps which will significantly increase home utility costs, the demand for smaller and more energy efficient housing will likely intensify. Municipal ordinances and building codes must be prepared to permit higher densities and attached housing units, while requiring improved energy and utility efficiency.

Policies of the Northwest Adams County Plan

1. Support the policies and recommendations of the Adams County Comprehensive Plan.
2. Consider establishing and maintaining adequate housing and property maintenance codes to maintain the building stock and properties within the region and to ensure public safety.
3. Support and promote programs, such as grants and revolving low-interest loan programs, that encourage home renovation and rehabilitation in existing neighborhoods.
4. Enact land use regulations that provide adequate opportunities for affordable workforce housing. Consider density incentives to encourage provision of affordable workforce housing.
5. Work to identify programs and policies that will help residents maintain and enhance their properties, improve energy efficiency, meet housing expenses and retain their homes.
6. Consider the inclusion of “green building” and energy conservation standards in applicable building codes.

7. Regulate housing conversions through zoning provisions that permit higher densities in the Boroughs and designated growth areas, but also maintain the character and housing values of the neighborhood.
8. Consider the establishment of historic districts and historic preservation standards and the creation of Historical and Architectural Review Boards (HARBs) in the Boroughs to maintain the historical and architectural integrity of existing buildings and residential neighborhoods.
9. Allow for a variety of housing types, densities, and flexible housing designs through zoning as a way to create affordable housing and which preserve open space and provide recreation.
10. Enact zoning regulations that provide incentives for senior housing in the Boroughs and designated growth areas where services exist. Consider appropriateness of such techniques as density incentives or overlay districts. Provide for accessory dwelling units, independent housing, congregate care, personal care, and nursing care.
11. Encourage housing development in designated growth areas at densities consistent with the Land Use Plan.
12. Support development of both new owner-occupied housing and rental housing.
13. Identify programs that assist first time home ownership, including down payment assistance programs, grants, and low-interest loans.
14. Work with the Adams County Housing Authority, Adams County Interfaith Housing Corporation, and Adams County Habitat for Humanity to help meet the housing needs of the region's residents, including migrant workers.

INCLUSION OF HOUSING TYPES

The adequate opportunity for diverse types and densities of housing can be provided in the region through zoning ordinances adopted pursuant to this Plan. The actual land use category in which the various dwelling unit types are permitted, however, can not be definitively established at this time since this depends on the implementation decisions of each individual municipality. The following list does give an idea of where different housing types could be accommodated. Specific policies will be established in municipal zoning ordinances, and may differ from this list.

<u>Type of Dwelling</u>	<u>Where These Dwelling Types May Be Included</u>
Single family detached dwellings	Agricultural-Rural Conservation-Agricultural Preservation, Rural Residential, Designated Growth Area, Borough Center, Village.
Two Family Dwellings	Designated Growth Area, Borough Center, Village.
Multiple Family Units	Designated Growth Area, Borough Center, Village.
Mobile Home Parks	Designated Growth Areas – depending on zoning district.
Residential Conversions	Designated Growth Area, Borough Center, Village.
Accessory Dwelling	Agricultural-Rural Conservation-Agricultural Preservation, Rural Residential, Designated Growth Area, Borough Center, Village.

As noted previously, the municipalities in the region are concerned with the provision of housing for people at the different stages in their life cycle: when entering the job and housing market, when working and raising a family, through retirement, and housing needs for the elderly. While a variety in types of housing is necessary, a variety in cost of housing is also necessary so there will be housing affordable to those of low to moderate income in the region. An objective of note for the region is:

“Ensure that opportunities exist to promote the development of affordable housing that, in particular, meets the needs of the Region’s current and likely future work force.”

In addition to making provision for all housing types, including elderly housing, within the region, a more proactive approach should be considered to encourage affordable housing. One approach is to encourage a percentage of dwelling units in larger new developments to be designed and provided for lower income housing. Another approach is to give density bonuses to developers for inclusion of lower income housing or housing units intended for the elderly.

Because the six municipalities of Northwest Adams County have prepared a joint comprehensive plan, they can allocate dwelling uses and densities over the entire region instead of each municipality having to accommodate all housing types and densities. The municipalities should continue to work together to formulate consistent and coordinated policies on housing within the region.

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Chapter Eleven

NATURAL AND HISTORIC RESOURCES PLAN

Natural and historic resources help to define the character of an area and their preservation is important to maintaining the environmental and economic health and quality of life of the region. The Natural and Historic Resources background inventory chapter, Chapter 1, inventoried the various features in Northwest Adams County including physiography and geology, soils, water resources, forested areas, landscape and scenic resources, and historic resources.

Based on the observations from the background inventory chapter and the planning goals and objectives contained in Chapter 8 which relate to natural, cultural, and historic resources, the following recommendations were developed for the region:

RECOMMENDATIONS

The implication of the Northwest Adams County Joint Comprehensive Plan on the region's rural landscape is primarily the preservation of its existing character and resources. However, this preservation will occur only if the Plan can be implemented on the local level. A clear and effective Natural and Historic Resources Plan will be an important part of this implementation process. This process must guide development to, and promote development in, the locations and forms outlined in the Land Use Plan; protect rural and agricultural areas from scattered and unplanned development; and ensure that such development occurs in a manner consistent with the landscape and resources being protected.

Zoning Ordinance Amendments

- Consider agricultural zoning which limits the introduction of large-scale residential uses in the Fruitbelt and other agricultural areas targeted for preservation. This could involve sliding scale zoning which would define the density of residential units in relation to overall tract size (e.g. – 1 unit for 5 acres, 2 for 5-15 acres, 3 for 15-30 acres, and 1 dwelling for every 30 acres for larger tracts)⁶² or requiring that prime agricultural soils be set aside from development (e.g. – on tracts containing 10 or more acres, the minimum lot size is 1 acre after 60% of the prime farmland and 50% of the farmland of statewide importance have been set aside and protected)⁶³.
- Consider Transfer of Development Rights (TDR - *see Ch. 9*) zoning provisions which will allow the transfer of development rights from agricultural and natural areas in the Agricultural-Rural Conservation-Agricultural Preservation future land use category to Designated Growth Areas.

⁶² *Boundary Drive Associates v. Shrewsbury Township*, 81 PA Commonwealth 7 (1984) *affd* 507 PA 481 (1985).

⁶³ *C. M. Developers, Inc. v. Bedminster Township*, 772 A2nd 99 (PA Commonwealth 2001).

- There are a number of important natural resources in Northwest Adams County, including steep slopes, floodplains, wetlands, streams, hydric soils, woodlands, and scenic landscapes. These resources can be protected by overlay zoning districts, net-out of natural resources, grading guidelines for steep slopes, ridgeline development restrictions, forestry regulations, and lot clearance limits. The municipalities in the region should strive to protect these resources through the following methods:
 - Steep slopes (over 25%) – prohibit development through slope controls and net-out provisions.
 - Moderate slopes (15-25%) – require larger lots, limit lot clearance and impervious cover through slope controls and net-out provisions.
 - Floodplains – prohibit development through a floodplain overlay zoning district and net-out provisions.
 - Wetlands – prohibit development through net-out provisions.
 - Wetland Margins/Buffers – restrict development within a specified minimum distance (e.g. – 50 feet) from a wetlands area.
 - Hydric Soils (outside of floodplains and wetlands) – restrict development through net-out provisions. Where hydric soils lie outside the federally-designated floodplain and wetland areas, the burden of proof should be on land developers to demonstrate by specific on-site tests, engineering analysis, and the analysis of the effects of impervious cover of upstream development that could increase flow levels, that the generalized soil classification is in error for the specific site or that any construction will be designed to avoid any possibility of creating a hazard to human life and property or exacerbating local flooding.⁶⁴
 - Woodland – limit clearing and access roads, particularly on steep slopes, through forestry best management practices.
 - Riparian Buffers – establish riparian buffer requirements along watercourses, either through a specified minimum distance (e.g. – 100 feet) or a sliding scale based on slope conditions adjacent to the stream.
 - Ridgeline Setback – limit development along ridgelines through overlay zoning by establishing a minimum distance (e.g. – 100 feet) that a building can be constructed from a ridgeline.

⁶⁴ Comprehensive Plan, Adams County, Pennsylvania; Norman Day Associates, in association with Orth-Rodgers & Associates; Coughlin, Keene & Associates; John Milner Associates; and R. E. Wright Associates; page 3-10-1.

- In addition to the specific development limitations that each resource would be required to meet in local zoning ordinances, municipalities should adopt, through conservation zoning, “net-out” provisions in areas targeted for development which require developers to identify the resources present on the site during the zoning and subdivision process and then subtract a certain percentage of those resources from the maximum density calculation. This procedure from the “Growing Greener/ Conservation by Design” concept accomplishes the above resource protection scheme through time tested methodology approved by the Pennsylvania Department of Conservation and Natural Resources (DCNR).
- Municipalities should consider lot averaging and “Growing Greener” cluster design options in their zoning ordinances in areas where development is to be encouraged to allow a developer to provide a range of lot sizes to provide flexibility in avoiding and protecting natural resources.
- Water resource protection standards should be incorporated into municipal zoning ordinances to help preserve the groundwater resources located in the Potentially Stressed Areas of the region.
- Consider amending the lighting standards in municipal zoning ordinances to comply with the International Dark-Sky Association’s Model Lighting Ordinance or other comparative standard.

Subdivision and Land Development Ordinance Amendments

- Consider incorporating the “four-step” Conservation by Design process into municipal subdivision and land development ordinances which require the applicant to set aside environmentally sensitive areas prior to the design of streets and lot layout.
- Municipalities should consider requiring development impact studies in their subdivision and land development regulations to determine the affect of development on these resources and to prepare a plan to mitigate these impacts.
- Subdivision and land development regulations should consider include Best Management Practices (BMPs) for erosion and sedimentation control, stormwater management and agricultural issues, including detention basins with natural cover, stream bank fencing, and cattle crossings to protect water quality.
- Consider adopting other provisions to protect the area’s water supplies from new development (e.g. – sustainable yield/ hydrogeologic studies, geothermal heat pump standards, wellhead protection standards, etc.).

Agricultural Preservation

- Coordinate and cooperate with the Adams County Agricultural Land Preservation Board, the Land Conservancy of Adams County and other land conservancy organizations on the identification and preservation of priority agricultural soils, including permitting the use of TDRs as a revolving fund for purchase of conservation easements.
- Municipalities should consider applying for County Green Space Grant Program funds to preserve agricultural soils in the region.
- Encourage farmers to adopt best management practices to preserve agricultural soils and to reduce soil erosion.

Environmental Preservation

- Municipal Sewage Facilities (Act 537) Plans should be amended to encourage community sewage systems with spray or drip irrigation disposal for large-scale development vs. individual on-lot septic systems in areas where public sewer service is unavailable.
- Municipal ordinances should reflect the intent of the Pennsylvania Act 167, Storm Water Management Act, to help protect the watersheds in the region.
- Participate with Adams County in the development of a countywide Act 167 stormwater management plan.
- Evaluate existing drainage problems and provide funding in capital improvement planning and maintenance budgets to correct such problems.
- Shade tree master plans and ordinances should be prepared and adopted by the Boroughs of Arendtsville, Bendersville, and Biglerville, and for the Cashtown area of Franklin Township. The establishment of a Northwest Adams County Shade Commission should be considered to work on this master plan and to coordinate the purchasing, planting, and maintenance of street trees.
- Participate in and promote the South Mountain Initiative and preserve the scenic nature of South Mountain, the South Mountain Faces, the Narrows, and the Fruitbelt in the region.
- Coordinate and cooperate with the Land Conservancy of Adams County and other land conservancy organizations on the identification and preservation of priority environmentally sensitive lands, including use of County Green Space Grant Program funds and permitting the use of TDRs as a revolving fund for purchase of conservation easements.

- Municipalities should consider applying for County Green Space Grant Program funds to preserve scenic resources and environmentally sensitive areas in the region.
- Municipalities should consider the adoption of Official Maps to reserve areas identified as scenic resources or environmentally sensitive lands for possible acquisition.
- Promote and encourage landowners, particularly in the South Mountain Faces area, to participate in the USDA Forest Legacy Program.
- Investigate the feasibility of adding the South Mountain Faces to the Michaux State Forest for the continued protection and management of woodlands in this area.
- Promote and encourage landowners of non-industrial private forests to participate in and utilize the educational, technical, and financial service of USDA's Forest Land Enhancement Program.
- Promote and encourage landowner participation in the Stream ReLeaf Program to restore and enhance riparian buffers along streams in the region.
- Prepare drought contingency plans in coordination with area water suppliers.
- Encourage the establishment of environmental advisory committees (EAC) in each municipality as an advisory committee to the planning commission and board of supervisors/borough council to focus on the environmental impacts of development during the subdivision and land development review process and to promote environmental education and stewardship with area residents.
- Encourage and support the formation of watershed associations.
- Encourage marketing initiatives such as guidebooks, map brochures, and signage by organizations such as the Chamber of Commerce and the Gettysburg Convention and Visitors Bureau to promote eco-tourism and scenic corridor auto tours in the region.

Greenways

- The Northwest Adams County region or the individual municipalities of the region should prepare a greenway, open space, and trail plan to link the environmental, scenic, natural, and historic resources of the area into a single resource protection plan. *The individual municipal plans or a regional plan should be developed in a manner that provides specific recommendations and implementation strategies to initiatives generally referenced in the Adams County Vision for Parks, Recreation and Open Space and the forthcoming Adams County Greenways Plan.*

- Municipalities should work directly with landowners and through conservation organizations to acquire fee simple ownership or conservation easements to protect the greenway corridors identified in the Adams County Greenway Plan.
- Municipalities should consider the adoption of Official Maps to reserve areas identified in the Adams County Greenway Plan as important greenway corridors for possible acquisition.
- Municipalities should consider applying for County Green Space Grant Program funds to preserve greenways in the region.

Historic Preservation

- Options available to municipalities in Pennsylvania for protection of historic resources include designating historic districts under local ordinance as authorized by the 1961 Historic District Act (Act 167) as well as using provisions of the Municipal Planning Code (Act 67 & 68, Article 6, Section 603-8-7-G-2 and Section 604) that authorizes municipalities to use zoning for protection and preservation purposes. In addition, municipalities with ordinances that protect and regulate historic properties, including the creation of a Historical Architectural Review Board, may be eligible for Certified Local Government (CLG) status, a program authorized under the National Historic Preservation Act.⁶⁵
- Establish municipal historic commissions as an advisory committee to the planning commission and governing body. An alternative would be to establish a Joint Commission for the Adams County Fruitbelt National Historic District to all include all municipalities within the Fruitbelt. This commission(s) would assist in local historic inventories, reviews of subdivision for impacts to historic resources, and proposed mitigation of impacts to these resources. The following issues could also be addressed by the Commission(s):
 - Assist in the on-going statewide inventory of barns and one room school houses.
 - Assist the municipalities in educating the public regarding the nationally significant historic resources in the region.
 - Submit a revised nomination form for the Adams County Fruitbelt National Historic District to include the portion of the Buchanan Valley with the fruit industry resources and landscapes consistent with the eligibility criteria (e.g. – extended to approximately the PA Route 234/ Mountain Road intersection) and pursue placement of the District on the National Register of Historic Places with the Pennsylvania Historic and Museum Commission and U.S. Department of the Interior.

⁶⁵ Pennsylvania Historical Museum Commission.

- Consideration should be given to the preparation of a historic district nomination for the Mary Jemison family homestead and the St. Ignatius Loyola Church area within the Buchanan Valley.
- Pursue Pennsylvania Main Street designations for the Boroughs of Arendtsville, Bendersville, and Biglerville, including a Main Street Manager position serving jointly for all three municipalities.
- Work towards establishing scenic gateways to the boroughs and the region through landscaping, historic signage, and lighting.
- Contact the Gettysburg Northern Railroad Co. and work to establish a stop in Biglerville that tourists could disembark and tour the Borough's shop, restaurants, and historic resources.
- Reopen a dialogue with the National Park Service regarding Civil War sites in the region and potential avenues for preservation, nomination, and marketing of these sites and the Civil War era agricultural landscape in the region.
- Participate in the Lincoln Highway Heritage Corridor marketing and planning teams and look to providing protection to the Corridor in Franklin Township.
- Support the Journey Through Hallowed Ground National Heritage Area and work with the Partnership to provides opportunities for interpretive history, heritage education and recreational programs within this region.
- Municipalities should consider amending existing zoning and subdivision regulations to preserve and conserve historic resources and landscapes.
- Encourage and promote marketing initiatives such as guidebooks, map brochures, and signage by organizations such as the Chamber of Commerce and the Gettysburg Convention and Visitors Bureau to promote heritage tourism and historic corridor auto tours in the region.
- Municipalities should consider applying for County Green Space Grant Program funds to preserve historically and culturally significant sites in the region.
- Coordinate and cooperate with historic preservation organizations in the County with the preservation of historically and culturally significant sites in the region.
- Municipalities should consider the adoption of Official Maps to reserve historically and culturally significant sites for possible acquisition and to delay demolition.

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Chapter Twelve

TRANSPORTATION PLAN – RECOMMENDATIONS

REGIONAL ISSUES

In Chapter 8 a detailed summary of the existing transportation network conditions was presented. Through analysis of this summary as well as community open-house events, stakeholder interviews, municipal interviews, and steering committee feedback, a number of regionally important issues and concerns have been identified.

1. ***The potential for conflict between commuter traffic and agricultural machinery is present due to the presence of the Fruitbelt and other agricultural operations.***

While available data indicates that, as a region, congestion levels in Northwest Adams County are low, the presence of the Fruitbelt and associated processing industries creates isolated areas on the road network where slow-moving agricultural or industrial vehicles create bottlenecks. These incidents, while frustrating for motorists, are not indicated as a long-term problem by available data.

Potential Solutions: Support future road improvements that improve traffic flow and provide additional shoulder width to allow for reasonable maneuverability around slow-moving agricultural machinery. Adopt access management practices at a municipal level to minimize future conflicts.

2. ***Increasing truck traffic serving industries in Northwest Adams County as well as pass-through truck traffic on US Route 30 and PA 34 and 234 has created conflict points throughout the region, particularly in borough and village settings and along some roadways where “road geometry” may result in safety concerns.***

Northwest Adams County is a major import and export area for fruit and fruit related products. This generates a substantial number of shipping movements, both truck and rail related. Additionally, congestion in other areas of Adams County has forced an increasing number of trucks to seek alternative east-west paths across the County. This has placed increased pressure on the PA 34 and 234 and PA 34 and 394 intersections in Biglerville Borough, the PA 234/High Street/ Cashtown Road intersection in Arendtsville Borough and US Route 30 and Short Cut Road. As a result, area residents and municipal officials have indicated that an increasing number of trucks are using road corridors that are unsuitable due to road width and geometry. These include the Cashtown Road, Hilltown Road, and PA 234 (through the Narrows) corridors despite concerns over the ability of such vehicles to safely traverse those roads.

Potential Solutions: Targeted intersection turning movement improvements and/or realignments should be pursued to alleviate conflicts with trucks at specific intersections. Alternative road alignments should be sought in a manner reflective of the rural character of the region. Work with Penn DOT and State Motor Carrier Enforcement personnel to establish restrictions on road corridors that are not capable of handling larger trucks.

3. *A lack of connectivity between residential, community, educational, and recreational facilities limits the efficient use of the transportation network.*

Increasingly residential development is proposed and constructed in a disconnected manner from the existing transportation network. Internal roads are often laid out with no connection to adjacent neighborhoods. Sidewalks, if present, often stop at the primary entrance and are rarely proposed along the primary road frontage of the development. Off-road bicycle and pedestrian trails are often developed within a single development site rather than in a manner that would create a broader trail network benefitting more of the regional community.

Potential Solutions: Require new development to be designed in a manner that provides connections from new roads to streets in adjacent neighborhood and/or developments. Also, encourage bicycle and pedestrian facilities, including sidewalks, within new developments to be designed in a manner that provides connection to other regional destinations. Identify appropriate traffic calming measures and street design techniques to reduce vehicle speeds on interconnected streets. Through the use of the Official Map identify existing areas where infill road and sidewalk connections can be made. Require developers to improve shoulders and provide sidewalks, where appropriate, along road frontage of development sites.

4. *Inadequate pedestrian facilities within existing borough and village settings further limit mobility for those who do not or cannot operate an automobile.*

While Arendtsville, Bendersville and Biglerville Boroughs and the Village of Aspers have existing sidewalk networks in place, a number of sections are in poor condition and incomplete. Such conditions create unsafe conditions for older and disabled individuals. A special focus should be placed on connecting school sites with adjacent residential areas by safe bicycle-pedestrian linkages.

Potential Solutions: Municipal Planning Commissions, Township Supervisors and Borough Councils should strive to have pedestrian connections included in all development proposals. Municipalities should also investigate funding sources, including Transportation Enhancements and the Hometown Streets and Safe Routes to Schools programs, to repair and extend existing sidewalk and trail networks. Consult with the Upper Adams and Gettysburg School Districts to provide bicycle-pedestrian connections from existing school sites to adjacent neighborhoods.

5. *Roads within the region lack adequate shoulders or run-off area creating unsafe travel conditions for pedestrian, bicyclists and disabled vehicles.*

Generally, the road network in Northwest Adams County is characterized by a lack of adequate shoulder area on roads. Existing shoulders are often a narrow, 1' – 2' paved area with additional unpaved area outside the paved section. This is a particular concern on PA 234 which is designated "BicyclePA Route S", one of nine cross-state bicycle routes.

Potential Solutions: Shoulder areas should be widened as roads are repaved over time. New shoulders should be wide enough to safely accommodate bicycle traffic and provide safe pull-off areas for disabled vehicles.

6. ***A high-number of single-occupancy vehicle work trips occur to and from the Northwest Adams County region. Daily, fixed-route transit service is also lacking.***

According to US Census data, over 80% of work trips in the Northwest region occur in single-occupancy vehicles. Additionally, over 40% of trips to work within the region take between 15 and 29 minutes to complete. This suggests that most trips are to destinations outside the Northwest Adams County region. Finally, while the Adams County Transit Authority provides on-demand paratransit services there is no fixed-route transit service in the region.

Potential Solutions: Identify potential areas for “Park & Ride” lots to encourage carpooling and ridesharing. Expand awareness of the PA Commuter Services program, which is designed to connect people who are making frequent trips to nearby destinations. Support the logical expansion of fixed-route transit services as population densities and ridership demand dictates.

7. ***The Gettysburg & Northern Railroad Co. provides freight service to industries in Biglerville Borough, and the Villages of Aspers and Gardners. This service connects with CSX Transportation lines in Gettysburg and Norfolk Southern lines in Mt. Holly Springs. This same line also plays a role in the tourism industry of the region through the Pioneer Lines Scenic Railway that offers a variety of tourism oriented train tours.***

This line plays an important role delivering raw materials to and shipping finished product from the fruit processing plants in Aspers and Garners. It also delivers raw materials and ships finished paper products from Biglerville. While the railroad lines themselves are owned and maintained by a private entity, there are at least twelve “At-Grade” crossings with State and Municipal roads. While there is no history of major automobile-train accidents in Northwest Adams County, given the rural, open nature of many of the at-grade crossings it is an important situation to monitor. Additionally, existing railroad rights-of-way should be identified and preserved to avoid potential conflicts.

Potential Solutions: Municipalities should work with Penn DOT, the Gettysburg & Northern Railroad Co., and Pioneer Lines Scenic Railway to ensure proper safety measures and road crossing designs are implemented. All parties should work with ACTPO and Penn DOT to establish a priority within the region for the expenditure of Railroad Crossing funds. Establish protection zones around existing railroad rights-of-way.

8. ***Given the presence of PA 234, and to a lesser extent US Route 30 and PA 394, the efficient, east-west movement of traffic across Adams County must be addressed in a manner that provides safe and convenient circulation options. At the same time the solutions must preserve the historic and aesthetic qualities of existing boroughs and villages in Northwest Adams County while limiting conflicts between automobiles, trucks, and farm vehicles.***

While the issue of an alternative to US Route 30 has been prominently discussed throughout Adams County for many years, it is clear that PA 234 is not the answer. However, it is likely that any alternative route for US Route 30 will terminate within Northwest Adams County.

Potential Solutions: Participate in all planning discussions related to developing an alternative to US Route 30 to ensure that the historic and aesthetic qualities of Arendtsville and Biglerville Boroughs along Route 234 as well as the agricultural operational values of the region are maintained.

9. ***The Northwest Adams County Region contains a high percentage of state owned road and bridge facilities as well as municipalities with high amounts of local road mileage.***

Given the financial resources available, along with the amount of road and bridge infrastructure (both state and locally owned) needing repaired and maintained, escalating repair and maintenance costs suggests that a high priority for road and bridge repairs must be established within the region. For state-owned roads and bridges, priority should be given to facilities with high importance to the fruit industry and those near areas with higher than average population densities. These facilities are more likely to have a significant impact on residents and industries should a failure occur.

Potential Solutions: Work with ACTPO and Penn DOT to establish a priority order for road and bridge repairs on state-owned facilities. A similar priority should be established for municipal-owned facilities.

10. ***The scenic qualities within the region are should be preserved and enhanced.***

Beautiful views from roadways within the region are among the most attractive aspects of Northwest Adams County. These scenic qualities contribute strongly to the successful agri-tourism and cultural tourism venues in Northwest Adams County. Consistent, updated signage throughout the region is necessary to continue attracting to and directing visitors through the region. A primary focus should be on upgrading the Scenic Valley Tour signage. Additionally, the possibility of obtaining other scenic designations, such as Pennsylvania Scenic Byway designation, could be a means to draw additional tourism visitation to the region. Finally, the Fruitbelt has been included in the National Heritage Area designation for the Journey Through Hallowed Ground. This designation could benefit agricultural and natural tourism along PA 234, PA 34, Mummasburg Road and Cashtown Road.

Potential Solutions: Municipalities should work with County and State partners to secure funding for upgraded signage and additional scenic and historic designations as appropriate.

11. ***The presence of two major east-west road corridors and one major north-south road corridor as well as the presence of the fruit industry illustrate the regional importance in ensuring that the capacity and safety of the County's arterial road network is adequate. Alternative routes are limited.***

When viewed as individual road segments, substantial new capacity to serve the needs within Northwest Adams County is largely unwarranted. Serious capacity issues are forecast for only two of the regions roadway segments by 2035. However, the presence of severe capacity concerns in immediately adjacent regions of Adams County, in particular through the Gettysburg area, dictates that the Northwest Adams County region will play a role in developing solutions to these capacity problems. This role could take many forms, including additional through travel lanes, turning lanes, and new intersections or interchanges.

Potential Solutions: Participate in all planning discussions related to developing alternate and other capacity upgrades to ensure that the historic and aesthetic qualities of the region are maintained.

12. ***The impact of new development on the road network should be borne by the developers rather than the municipality.***

Despite increased awareness of the need to maximize investment of the private sector in improving the transportation network, the realization of this investment continues to lag. One increasingly popular technique to secure additional private sector investment is through the use of Traffic Impact Fee Ordinances. Franklin Township is one of four municipalities in Adams County to have adopted such an ordinance. The Transportation Capital Improvement Plan adopted by Franklin Township identifies twenty-four (24) improvements with a total estimated cost of \$11,745,286 (\$7,938,072 of which would come via Transportation Impact Fees).

Potential Solutions: Municipalities should consider adopting Impact Fee Ordinances to spread the cost of development-related transportation needs to the private sector.

13. ***The solutions to transportation issues in neighboring municipalities and other regions of Adams County will have an impact on Northwest Adams County that must be addressed.***

The solutions to transportation issues in the Gettysburg or eastern Adams County regions will require a broader coalition of support and discussion to bring the necessary solutions to realization. In order to achieve a community and countywide consensus, early and continued interaction with municipal officials in Northwest Adams County must occur.

Potential Solutions: Establish a regional forum or Council of Governments (COG) with adjacent municipalities and regions to establish a dialog on regional transportation issues and projects.

RECOMMENDED IMPROVEMENTS

Safety Improvements

The primary goal of any transportation plan is to improve the mobility of vehicles on the road network while at the same time improving safety conditions. This is typically achieved through

targeted improvements that range from simple to complex. Examples of safety improvements include:

- Straightening and widening curves
- Improving sight distance
- Improving traffic controls, such as new or improved traffic signals, curve warning signs, or “intersection ahead” warning signs
- Adding turning lanes
- Relocating roadside obstacle farther from the pavement.

After a review of available plans and data as well as consultation with municipal officials it is recommended that detailed analysis and specific improvements be identified at the following intersections:

- **Arendtsville Borough** – Arendtsville Borough contains one intersection of note. The primary concern relates to the movement of large trucks through the doglegged intersection of PA 234, High Street and Cashtown Road.
 - **PA 234, High Street and Cashtown Road** – Realign intersection to a four-way stop and evaluate the need for additional traffic control devices.
- **Bendersville Borough** – Bendersville Borough contains one intersection of note. The main intersection in the center of the borough has five different roads that lead into a four-way stop intersection. Poor sight distance and lack of visible traffic control devices motorists create driver indecision leading to sudden and unexpected vehicular movements.
 - **Rampike Hill Road, Church Street and Park Street** – Establish clear traffic controls at each leg of the intersection and evaluate whether new methods of traffic control is needed, such as the installation of a traffic signal. Consideration should be given to realigning one or more legs of the intersection to create better traffic flow.
- **Biglerville Borough** – The primary intersection of concern in Biglerville Borough is the PA 34 and PA 234 intersection in the center of town due to a large number of truck traffic movements.
 - **PA 34 and PA 234** – Modernize the existing signals and provide left-turn lanes on the PA 34 approaches.
- **Butler Township** – Two intersections of concern were identified in Butler Township.
 - **PA 234 and Old Carlisle Road** – This intersection has been the site of several major accidents in recent years. A detailed analysis of this intersection should be conducted to identify specific improvements.

- **PA 34 and Goldenville Road** – With several major residential and commercial proposals in various stages of development in the vicinity of this intersection, there is potential for a safety issue to arise in the future. A traffic signal and turning lanes on one or more approaches, especially on PA 34, may be needed. Funding from private development interests should be sought in proportion to their impact on this intersection.
- **Franklin Township** – Franklin Township has an approved Traffic Impact Fee Ordinance and an associated Capital Improvements Plan. While five intersections of concern were identified in Franklin Township through review of existing plans and data, additional intersections and road corridors have been identified as part of the Township Capital Improvements Plan.
 - **US Route 30 and PA 234** – This intersection was identified with a need for the installation of a new traffic signal.
 - **US Route 30 and Short Cut Road** – Short Cut Road functions just like its name suggests, as a “short cut” between Cashtown Road and US Route 30 for traffic heading west towards Chambersburg. While the intersection itself is wide enough to provide ample sight distance in all directions, large trucks often create hazardous conditions on US Route 30 by pulling into the roadway at an unexpected location to vehicles already on Route 30. Additional signage on Route 30 to warn motorists of slow moving vehicles entering the roadway should be considered.
 - **US Route 30 and Cashtown Road** – This intersection was identified with a need for the upgrade and installation of a new traffic signal to replace the existing four-way blinking signal.
 - **Fairview Fruit Road and Hilltown Road** – Hilltown Road is increasingly becoming one of several alternate east-west routes for vehicles seeking to avoid congestion in Gettysburg. Sight distance upgrades, traffic control improvements, as well as further restrictions of vehicle size legally authorized to use these roads should be considered.
 - **Mummasburg Road, Blue Ribbon Road and Fairview Fruit Road** – This intersection is located on the crest of a hill with Blue Ribbon and Fairview Fruit Roads crossing at a skewed angle creating sight distance issues. Consideration should be given to reducing the profile of Mummasburg Road. Signage warning motorists to slow down due to an intersection ahead should also be considered.
- **Menallen Township** – Four intersections of concern were identified in Butler Township.
 - **PA 34 and Aspers-Bendersville Road** – Heavy truck movements and the presence of the Aspers Post Office on the northeast corner of this intersection, combined with high travel speeds and limited sight-distance on PA 234 create a hazardous condition. Significant residential development potential around the intersection presents the possibility of increased amounts of vehicle and pedestrian movements through this intersection, particularly to the Post Office. A traffic signal and intersection geometry improvements, including turning lanes where appropriate should be considered.

- **PA 34 and Gablers Road** –This intersection and the adjacent stretches of PA 34 are characterized by a higher than average percentage of large truck traffic. The intersection also presents an extremely tight turning radius for large trucks, primarily related to the fruit industry, that use the intersection. Large, slow-moving vehicles present potential hazards to through trips on PA 34, particularly to distracted or speeding drivers.
- **PA 233 and Shippensburg Road** – This intersection is located at the foot of two significant hills on Shippensburg Road. Sight distance crossing PA 233 is also limited when heading north on Shippensburg Road. Steep road elevations also create a potential hazard of vehicles being unable to stop at existing stop signs during wet and icy road conditions.
- **Shippensburg Road and Wenksville Road**

Road Corridor Improvements

One of the major concerns on the road network throughout Adams County is a lack of adequate shoulders and run-off area. Adequate shoulder area allows for safe movements around stopped vehicles, provides a safe pull-off area for disabled vehicles, and allows safe movement of bicyclists and pedestrians. Additionally, sharp curves, and steep elevation changes also present significant problems. Seven road corridors in Northwest Adams County have been identified as having one or more of these areas of concern.

- PA 34 (Guernsey Road to Aspers–Bendersville Road)
- PA 234 (Butler Township Line to Arendtsville Borough – Franklin Township Line)
- Aspers –Bendersville Road (PA 34 to Village of Aspers)
- Cashtown Road (High Street to US Route 30)
- Old Carlisle Road/Center Mills Road (PA 234 to Village of Aspers)
- Orrtanna Road (Bingaman Road to Franklin Township Line)
- Short Cut Road (Cashtown Road to US Route 30)

Where a state-owned road is concerned, municipalities should work closely with ACTPO and Penn DOT to ensure that these concerns are addressed as these roads are repaired and maintained. Where a municipal-owned road is involved, municipalities should work to address these concerns through a Capital Improvements Plan as funding permits. Municipalities should also participate in available training courses on Capital Improvement Program budgeting to develop such plans. Municipal staff and road crews should also participate in Penn DOT’s Local Technical Assistance Program (LTAP) courses on road and bridge maintenance and safety issues to maintain up-to-date knowledge on current road construction and maintenance techniques.

Capacity Improvements

New capacity projects are needed to serve travel demand that is not accommodated by the current roadway network and would not be accommodated in the future through improvements to existing roads. The solutions identified below would be on new rights-of-way, creating travel paths that do not exist today. The implementation of these new linkages would require substantial lead time. Detailed traffic and environmental studies would be needed, rights-of-way acquired, and construction funding secured. While the ultimate design would be determined by the planning and design process, these projects are envisioned as two-lane, controlled access roadways.

- **US Route 30 Relief Corridor** – A US Route 30 Relief Route is an essential improvement for several major reasons. First, the streets of the historic boroughs across the central part of Adams County (Gettysburg, New Oxford, Abbottstown), and in particular, Lincoln Square, cannot accommodate increased traffic generated by new development along the arteries connecting to Gettysburg. Second, the level of truck traffic in these boroughs is intolerable today and *can* only grow worse. Third, much of the growth in traffic passing through Gettysburg has neither an origin nor a destination in the Borough. While this issue has been prominently discussed throughout Adams County for many years, it is clear that Northwest Adams County will play a prominent role in any outcome. At the same time the solutions must also preserve the historic and aesthetic qualities of existing boroughs and villages in Northern Adams County, as well as the historic, aesthetic and economic qualities of the Fruitbelt, while limiting conflicts between automobiles, trucks, and farm vehicles.
- **Biglerville Industrial Access Road** – In order to accommodate existing, and potentially significant, future industrial sites on the north and east sides of Biglerville, a new access road connecting PA Route 234 with PA 34 north of town could be considered. This new connection would allow truck traffic destined for in-town business sites and other, regional warehousing and fruit packing sites north of Biglerville to avoid the main intersection in downtown Biglerville. Due to the close proximity of existing buildings to this intersection there is a limited ability to accommodate additional turning movements, especially from large trucks.

FUNDING OPTIONS

Transportation Improvement Program

The Adams County Transportation Planning Organization (ACTPO), in coordination with PennDOT, develops a transportation improvement program (TIP). The TIP, updated every two (2) years, is an intermediate-range local planning document that reflects the transportation expenditures programmed over the forthcoming four years. Project details are provided in the TIP such as the general project description and cost, the funding source and funding year. The TIP contains budget data and other information on a wide array of transportation system components including aviation, bicycle facilities, planning studies, road improvements and transit, among others.

Federal and State Transportation Funding Programs

A wide variety of funding categories for federal and state transportation dollars are available from which transportation projects can receive funding. The Adams County Transportation Planning Organization (ACTPO), working in conjunction with Penn DOT is responsible for the budgeting of these funds. These categories include:

A Summary of Federal and State Transportation Funding Programs	
National Highway System (NHS) Program	Federal funds that may be used for all mileage identified on the NHS. Transit projects may be funded if they will improve the level of service on a NHS facility. US 30 in Franklin Township is part of the federally designated NHS program.
Surface Transportation Program	Federal funds that may be used for any road on the Federal Aid system, including any road on the NHS. In addition, this funding can be applied to transit capital projects and public bus terminals. Transportation enhancements funds are set aside for pedestrian and bicycle improvements, acquisition of scenic easements, scenic or historic highway programs, and other enhancement projects.
Federal Highway Bridge Program Funds	Federal funds that may be used to fund bridge replacement, rehabilitation or preventive maintenance for state and local bridges.
Congestion Mitigation & Air Quality (CMAQ) Improvement Program	Federal funds available to reduce the amount of air pollutants emitted by motor vehicles from congested travel areas. Adams County, as a federal air quality non-attainment area, is eligible to receive these funds. Eligible CMAQ projects transit improvements; transportation systems management (TSM) and travel demand management (TDM) strategies, traffic flow improvement, carpool/vanpool projects, and bicycle/pedestrian projects which strive to reduce dependence on motorized transportation.
Federal Earmark Funds	Federal funds as designated through the listing, by Congress, of specific projects in the Federal surface transportation legislation either in the yearly budget or the six-year Federal legislation bill. This funding can only be used on projects identified in the legislation.
Federal Transit Funds	Various federal funding categories for transit planning, capital, operating costs, and associated capital maintenance items. Federal funding is based on guaranteed authorizations only, and includes a mix of urban formula, fixed guideway, new starts, and bus project funding.

A Summary of Federal and State Transportation Funding Programs	
Federal Highway Safety Improvement Program	Funds available for projects aimed at improving highway safety on roadways that are a part of the Federal-aid highway system. Within this program some funding is set aside for safety improvement project involving high risk rural roadways and railway-highway crossings.
National Scenic Byways Program	Provided federal funds to implement projects on highways designated as National Scenic Byways, All-American Roads, America's Byways, State scenic or Indian tribe scenic byways
Federal Recreational Trails Program	Provides funds to the States to develop, construct, maintain, and rehabilitate trails and trail facilities. Trail uses include hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles.
Safe Routes to Schools Program	Provides federal funds to be administered by State departments of transportation to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. For infrastructure related projects, eligible activities are the planning, design, and construction of projects that will substantially improve the ability of students to walk and bicycle to school. These include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bike parking, and traffic diversion improvements in the vicinity of schools (within approximately 2 miles). Such projects may be carried out on any public road or any bicycle or pedestrian pathway or trail in the vicinity of schools.
Transportation, Community and System Preservation Program	Provides federal funds for use in carrying out projects that integrate transportation, community, and system preservation plans and practices.
State Highway Funds	Funds available for discretionary distribution by the state for projects on state highways. Adams County has 544.6 miles of state-owned roads managed by PennDOT. State revenues from the Commonwealth's Motor License Funds are targeted toward the following: capital highway improvements (construction of new roads or reconstruction of existing highways), Intelligent Transportation System (ITS), maintenance, and noise wall/sound barrier projects that are 100% State funded.

A Summary of Federal and State Transportation Funding Programs

State Bridge Funds	Funds available for discretionary distribution by the state for projects involving state and county/locally owned bridges. Adams County has 544.6 miles of state-owned roads managed by PennDOT. State revenues from the Commonwealth's Motor License Funds are targeted toward the following: bridge rehabilitation or replacement for State owned bridges, bridge rehabilitation or replacement for county or locally owned bridges, and bridge rehabilitation or replacement for county owned bridges in distressed counties.
State Transit Funds	Funds available primarily for capital improvements, with limited funding available for operating assistance.

POTENTIAL IMPLEMENTATION TOOLS

Access Management

Access management programs address provision of access to adjacent land while simultaneously preserving the flow of traffic on the road system in terms of safety, capacity, and speed. The result is a roadway that functions safely and efficiently with a prolonged functional life, shorter travel times, and a more attractive corridor. The primary goals of access management are:

- **Provide a specialized roadway system** – It is important to design and manage roadways according to the primary functions that they are expected to serve
- **Limit direct access to major roadways** – Roadways that serve higher volumes of regional through traffic need more access control to preserve their traffic function
- **Promote intersection hierarchy** – An efficient transportation network provides appropriate transitions from one classification of roadway to another
- **Locate signals to favor through movements** – Long, uniform spacing of intersections and signals on major roadways enhances the ability to coordinate signals and ensure continuous movement of traffic at the desired speed
- **Preserve the functional area of intersections and interchanges** – The functional area is where motorists are responding to the intersection (i.e., decelerating, maneuvering into the appropriate lane to stop or complete a turn)
- **Limit the number of conflict points** – Drivers make more mistakes and are more likely to have collisions when they are presented with the complex driving situations created by numerous conflicts. Traffic conflicts occur when the paths of vehicles intersect and may involve merging, diverging, stopping, weaving, or crossing movements
- **Separate conflict areas** – Drivers need sufficient time to address one potential set of conflicts before facing another

- **Remove turning vehicles from through-traffic lanes** – Turning lanes allow drivers to decelerate gradually out of the through lane and wait in a protected area for an opportunity to complete a turn, thereby reducing the severity and duration of conflict between turning vehicles and through traffic
- **Use non traversable medians to manage turn movements** – They minimize left turns or reduce driver workload and can be especially effective in improving roadway safety
- **Provide a supporting street and circulation system** – a supporting network of local and collector streets to accommodate development, and unify property access and circulation systems. Interconnected streets provide alternate routes for bicyclists, pedestrians, and drivers.

These goals are typically achieved through access management standards that are incorporated into municipal ordinance. Penn DOT has produced a publication, *Access Management, Model Ordinances for Pennsylvania Municipalities Handbook*, which contains many suggested techniques as well as model ordinances. Some sample techniques include the following. The appropriate technique(s) for specific sites will depend upon each individual case.

- Utilizing shared driveways for adjacent parcels, and cross access among adjoining businesses as alternatives to individual curb cuts.
- Requiring developers to provide a connected and sufficient local road system to minimize using the main arterial that is designed to accommodate through traffic.
- Reducing/limiting the number of curb cuts by considering the location, design, and spacing of driveways.
- Requiring shared access points and connectivity between parcels.
- Permitting shared parking arrangements among individual businesses.
- Aligning driveways and creating regular offsets.
- Relating driveway design to travel speeds and traffic volumes.
- Prohibiting direct parking access from parking spaces.
- Providing pedestrian friendly design.
- Providing adequate driveway length to allow stacking.
- Requiring connections between parking lots and building entrances.
- Providing incentives for smaller and fewer signs by allowing a reduced setback from roads.

Traffic Calming

As development in the Region continues to occur and traffic volumes increase, there will be increased traffic flow on residential streets in and around the Boroughs as motorists attempt to bypass or detour around congested areas. Although this Plan encourages through traffic to use roads outside of residential neighborhoods by using methods such as mixed use development, increased opportunities for pedestrian and bicycle traffic, access management, and road system improvements, traffic calming techniques should be considered if these methods are

unsuccessful. Traffic calming techniques should also be considered in areas of heavy pedestrian activity (e.g. – commercial areas, borough cores).

The purpose of traffic calming is to manage movement through an area in a way that is compatible with the land usage in the vicinity of the road. Two fundamental principles of traffic calming are (1) that streets are not just for cars, and (2) that residents have rights. Streets should be made safe for pedestrians and local drivers; and, traffic should not adversely affect the quality of life along the streets.

The general methods of traffic calming include:

- Active speed reduction (construct barriers to traffic movements)
- Passive speed reduction (installation of signage)
- Street-side design (landscaping changes the appearance of the area and driver attitudes)
- Regional planning efforts (external traffic directed to other routes)
- Opportunities for use of alternative modes (mass transportation, pedestrian, bicycle)
- Enforcement of violations

Penn DOT has produced *Publication No. 383, Pennsylvania's Traffic Calming Handbook* which contains specific design guidelines for a wide variety of traffic calming techniques. Examples of a few of the methods and techniques which could be used in Northwest Adams County include the following:

- **Active Speed Reduction (construct barriers)** – Active controls require changes in driver behavior. While the active methods send the message that the street is not just for through traffic, the methods are costly, and likely to be viewed negatively by some of the local users of the streets.
 - **Speed Tables** – Speed tables are raised areas on the street surface, which extend across the width of the street. Speed tables, which are really raised pedestrian crosswalks, would be most appropriate in areas with substantial pedestrian traffic.
 - **Changes in roadway surface** – This could include rumble strips, milling, and special roadway surfaces. These techniques can increase noise in areas and probably raise objections by area residents.
 - **Intersection Diverters** – This could involve a barrier placed across an intersection, typically to alter travel plans, such as permitting right turns only, to make travel through a neighborhood more indirect.
 - **Channelization** – This could involve provision of pedestrian refuge areas, providing protected parking bays through landscaped islands, altering motor vehicle traffic movements, and restricting movements at intersections by narrowing the space available for vehicular movement.

- **Passive Speed Reduction (installation of signage)**
 - **Traffic Signs** – Installation of traffic control signs such as Do Not Enter, Stop, Not a Through Street, Local Access Only, No Trucks, or signs that establish speed limits, indicate one-way streets, or prohibit turns.
 - **Traffic Signals**
 - **Pavement Markings** – This includes crosswalks, edge lines, and use of different materials for pedestrian crosswalks.
 - **Permit On-Street Parking**
 - **Speed Watch** – These methods have lower costs and can be applied to certain times of the day, if appropriate. However, signs are often ignored and enforcement is necessary.
 - **Enforcement of Violations**
- **Changing Driver Attitudes Within Neighborhoods** – Building design, street trees, landscaping, street furniture, lighting, paving, and land use can change the driver's perception of a road as not just an area to drive, but as a shared space with pedestrians and other occupants of that area. The intent is to have the driver recognize the street as not just a wide-open roadway designed for benefit of a car, but as a place where residents of a neighborhood will also be using the street. Any designs for streets should be compatible with the character of the neighborhood. Landscaping should be easy to maintain and not affect clear sight triangles.

Prior to implementation of any traffic calming program, it is necessary to clearly identify the specific problems which are to be addressed, identify and evaluate the alternative techniques and their drawbacks, benefits, and cost; identify alternative traffic patterns that could result from implementation of the techniques and the effects of those patterns on other streets and neighborhoods; and involve citizens of the community in the evaluation and selection of techniques. Techniques should not detract from the character or attractiveness of a neighborhood.

The need for traffic calming techniques should be monitored on all roads within and abutting existing Boroughs and Villages. The most likely techniques to use would be signage and street-side design, as these would be less objectionable to area residents. For new road segments, the municipalities can consider whether revised street design standards should be used to slow traffic down. This could include techniques such as reduced street widths, center planting strips, and design speeds to encourage reduction in travel speeds.

Capital Improvements Planning (CIP)

Capital Improvements Planning should be considered for programming transportation improvements in the Region. Capital improvements planning includes performing financial analysis of past trends in the community, evaluating existing road conditions, and projecting the

community's revenues and expenditures, debt limit, and tax rates, to determine the financial capabilities of the municipality. It also includes a capital improvements program which establishes a system of road and bridge improvement priorities. The final element is the capital budget which sets the schedule of improvements over a 5-year period on the basis of the community's financial capacity and availability of grant money.

In the capital improvements program, capital expenditures are separated from operational expenditures. Operational expenditures are those for administration, payroll, employee benefits, maintenance and similar functions, and are short term. Capital expenditures are for assets which have a substantial value compared to the total municipal budget and are expected to provide service for a number of years. The construction of a road is an example of a capital expenditure.

The capital improvements program schedules the purchase of capital items in a systematic manner rather than allocating a large amount of money for all expenditures in one year. Based on the assessment of future needs, future expenditures are planned so that the municipality can anticipate major expenditures prior to the budget year. The program is based on identified capital needs, goals for capital acquisitions, and a priority list of all proposed capital expenditures.

A time frame is established for the capital improvements program. Five-year programs are typical. Every year the schedule for capital improvements must be revised and updated as necessary, based on the current municipal priorities. For each project included in the program, estimated costs must be established and a budget prepared. The benefits of capital improvements programs include:

- It ensures that projects will be based upon the ability to pay and upon a schedule of priorities determined in advance.
- It helps ensure that capital improvements are viewed comprehensively and in the best public interest of the municipality as a whole.
- It promotes financial stability by scheduling projects at the proper intervals.
- It avoids severe changes in the tax structure by the proper scheduling of projects and facilitates the best allocation of community resources.

Transportation Impact Fees

Generally, municipal governments in Pennsylvania are not permitted to charge impact fees on new development. However, the *Pennsylvania Municipalities Planning Code* (MPC) grants two exceptions, 1) transportation, and 2) recreation fees in lieu of land dedication.

The MPC authorizes municipalities to enact, amend, and repeal impact fee ordinances and to charge impact fees to cover the cost of off-site road improvements necessitated by new land development. The MPC also enables municipalities to adopt joint transportation impact fee ordinances. Each of the participating municipalities must have adopted a joint comprehensive plan prior to adopting joint impact fees. The same requirements must be followed for joint impact fee ordinances as those for individual municipal impact fee ordinances. Cooperating municipalities must act on the appointment of the Transportation Impact Fee Advisory

Committee (TIFAC) and adopt the Land Use Assumptions Report, Roadway Sufficiency Analysis, and Capital Improvements Plan. A joint impact fee ordinance does not become effective until it has been properly adopted by all participating municipalities.

The MPC permits transportation impact fees to be used for costs incurred by a municipality for the construction of roadway improvements designated in a transportation Capital Improvements Plan that are attributable to new development within a designated Transportation Service Area or Areas. Impact fees can be utilized for the following project costs:

- Construction
 - Acquisition of land and rights-of-way
 - Engineering
 - Legal costs for activities such as right-of-way acquisition
 - Planning costs such as traffic studies and conceptual plans for design engineering
 - Debt service
 - Pro-rata share by TSA for preparing a roadway sufficiency analysis
- Transportation impact fees cannot be assessed or used for the following costs:
- Construction acquisition or expansion of municipal facilities other than capital improvements identified in the Capital Improvements Plan.
 - Repair, operation, or maintenance of existing or new capital improvements.
 - Upgrading, updating, expanding, or replacing capital improvements to serve existing land uses in order to meet stricter safety, efficiency, environmental, or regulatory standards.
 - Preparing the land use assumptions and capital improvements plan required for the adoption of a transportation impact fee ordinance.

Impact fees can be used for capacity improvements to accommodate traffic generated by new development, but not to address existing or anticipated deficiencies unrelated to the development. Eligible improvements include adjustments to existing traffic signals, new traffic signals, auxiliary turn lanes, additional through travel lanes, new roads, and any other items associated with those types of improvements. Improvements can also include the correction of any existing design deficiencies within the limits of work for the capacity improvements.

Official Map

The *Pennsylvania Municipalities Planning Code* (MPC) also grants the governing body of each municipality the power to prepare and adopt an Official Map for all or a portion of the municipality. This map may show elements of the Comprehensive Plan with regard to public lands and facilities, and may include, but need not be limited to, the following elements:

- Existing and proposed public streets, watercourses and public grounds, including widenings, narrowings, extensions, diminutions, openings or closings
- Existing and proposed public parks, playgrounds, and open space reservations
- Pedestrian ways and easements
- Railroad and transit rights-of-way and easements

- Flood control basins, floodways and floodplains, stormwater management areas and drainage easements
- Support facilities, easements and other properties held by public bodies undertaking the elements described in the Comprehensive Plan

Each municipality should consider preparing an Official Map. However, regional cooperation should occur on projects such as roadways, parks, and trails which will be located in more than one municipality and/or have a regional impact.

The governing body may make surveys and maps to identify the location of property, roadway alignment or utility easement by use of property records, aerial photography, photogrammetric mapping or other method sufficient for identification, description and publication of the map components. For eventual acquisition of lands and easements, boundary descriptions by metes and bounds must be made and sealed by a licensed surveyor. However, these are not necessary for the adoption of the Official Map.

The governing body may fix the time for which streets, watercourses and public grounds on the Official Map shall be deemed reserved for future taking or acquisition for public use. However, the reservation for public grounds shall lapse and become void one year after an owner of such property has submitted a written notice to the governing body announcing his intentions to build, subdivide or otherwise develop the land covered by the reservation, or has made formal application for an official permit to build a structure for private use, unless the governing body shall have acquired the property or begun condemnation proceedings to acquire such property before the end of the year.

Chapter Thirteen

COMMUNITY FACILITIES AND UTILITIES PLAN

The goal and objectives previously established for the region that relate to community facilities are repeated below to serve as the foundation and framework for the Community Facilities Plan.

Community Facilities and Services

Goal: Provide quality community facilities and services to the Region's residents in an efficient and cost-effective manner within the financial resources of the municipalities.

Observations from Existing Conditions Inventory Chapter

Observations related to community facilities which have been made previously in the Community Facilities chapter of this Plan include:

- Increasing enrollment pressure on the Upper Adams School District could be compounded if dwelling units proposed in the region are constructed. This could result in classroom additions or other expansion projects in the future.
- Increased development in Franklin Township, in the Gettysburg Area School District, could result in increased enrollment at the Franklin Township Elementary School. The school has capacity to absorb additional enrollment before expansion of the school would be necessary.
- Local volunteer fire companies continue to experience problems recruiting enough volunteers and securing adequate funding.
- There are some concerns about the level of service provided by the State Police. There are no current discussions about regionalization of facilities.
- Response time for ambulance service generally appears to be adequate based on personal opinions expressed in interviews.
- The region, except for Franklin Township, is classified as a Dental Health Professional Shortage Area and a Mental Health Professional Shortage Area.
- Library facilities are available in Arendtsville and Biglerville. The hours of operation at these facilities as well as the book collection of the Adams County Library System exceed state standards.
- Only one senior center is located in the region, next to Oakside Park near Biglerville.

- Solid waste collection is handled privately and there are no disposal facilities in the region.
- The Adams County Vision for Parks, Recreation, and Open Space recommended that the Upper Adams County area should work toward developing an additional 5 acres of community parkland by 2010 and develop an additional community park of approximately 25 acres to meet future needs.
- By 2010, the region could have a deficit of 17 acres in local park facilities and by 2020 the deficit could be 53 acres.
- The Adams County Greenway Plan has identified a number of proposed greenways, scenic resources, proposed bike routes on roads, trails, land preservation targets, agricultural landscape areas, and scenic and historic corridors in the region. Funds from the County Green Space Grant Program are available to purchase or protect these resources.
- The majority of the region relies on private wells and on-lot sewage disposal systems.
- Public water systems include the Arendtsville Municipal Water System, Bendersville Water Company, Biglerville Authority, Franklin Township Municipal Authority, and Possum Valley Municipal Authority. The Bendersville and Possum Valley systems have no available capacity and the Biglerville system has limited available capacity.
- Groundwater is the primary source of water for the region's community systems as well as the individual systems.
- The Susquehanna River Basin Commission has identified the Fruitbelt areas as a Potentially Stressed Area (PSA). Applications submitted to the Commission for review of projects located in PSAs receive a greater degree of scrutiny and the requests for groundwater withdrawals will be considered in relation to the availability of groundwater and they may be denied, approved for lower quantities than requested, or approved with conditions.
- Franklin Township will soon begin construction of a sanitary sewer system in the Cashtown and McKnightstown area to replace failing on-site sewage systems.
- Butler Township is in the process of completing a Sewage Facilities Management Plan for the entire Township.
- The Possum Valley Sewer Authority's wastewater treatment plant is currently at capacity. The Borough of Bendersville and Menallen Township are beginning the process of updating their Act 537 Plans to include expansion of the wastewater treatment facility and service into Menallen Township.

- The Arendtsville wastewater treatment facility has available capacity of .06 MG (240 EDUs). The Biglerville Authority is under a Corrective Action Plan by DEP. DEP allocated limited connections based on ongoing improvements to the collection system and recent upgrades to the WWTP.
- The Chesapeake Bay Tributary Strategy “caps” municipally owned wastewater treatment facilities located within the Chesapeake Bay Watershed at certain nutrient loads.
- The Monocacy River Watershed Stormwater Management Plan, which includes the eastern half of Franklin Township and the southwestern tip of Butler Township, has established standards for runoff capture volume/groundwater recharge; water quality volume; and peak rate of discharge.

Observations from Municipal Interviews

- The Upper Adams School District has experienced little or no growth in enrollment for 20-30 years, however, recent years have seen an increase. No new school building projects are planned, but there have been six classroom additions to handle student overflow.
- Upper Adams School District property owners pay the highest millage rates of any county school district.
- Walking to school is unfortunately not an option for most elementary schools due to the lack of sidewalks and traffic on PA Rt. 234 in Arendtsville Borough.
- Homebuyers want pathways, bikeways, playgrounds, open space, and walking areas within new developments and neighborhoods connected to each other by pathways.
- Parks and recreation planning has not been done in the region.
- Youth recreational programs need to increase.
- Potential recreation projects in Arendtsville Borough include a walking trail and soccer field.
- The Biglerville Trail will interconnect recreation facilities.
- As new development occurs in the region, there will likely be more demand for additional active recreational facilities.
- Residents in the region make use of existing public and semi-public recreation facilities in the region, such as Oakside Park, but also utilize state and other municipal facilities within and outside the region, including Michaux State Forest, Caledonia State Park, Pine Grove Furnace State Park, and Gettysburg facilities.

- Need a local health clinic for migrant farmworker families.
- Public transportation/ paratransit services need to improve.
- An increase in fire calls due to increased development may place an extra burden on emergency responders, especially during daytime hours when most volunteers are working.
- Fire companies receive very little financial support from municipalities, which forces companies to raise money through fundraising events; placing an additional burden on volunteers.
- Replacement of outdated fire fighting equipment may not be possible without increased funding.
- Police and fire service need improvement.
- There is a lack of sewer service for some residential areas.
- The amount of water supply reserves is unknown and there has been an over-reliance on the Susquehanna River.

RECOMMENDATIONS

Sewage Facilities Planning

- The region's governing bodies and municipal authorities should coordinate their plans and policies on extensions of public sewer facilities with the Future Land Use Plan to assure consistency. Public sewers should be extended into designated growth areas to permit higher densities and a mix of housing types and should not be extended into agricultural or rural preservation areas.
- Public sewer should be extended to areas with a concentration of malfunctioning on-lot systems or community sewage systems constructed if public sewer extension is unfeasible or uneconomical.
- Municipalities should adopt and enforce Sewage Management Ordinances to ensure that individual on-lot sewage disposal systems are properly maintained and not adversely affecting human health and the environment.
- The Butler Township Act 537 Plan, when completed, should be implemented.
- The recently completed Franklin Township Act 537 Plan should be implemented.

- The Borough of Bendersville and Menallen Township should prepare and implement a joint Act 537 Plan to consider expansion of the Possum Valley sewage treatment plant, which is currently at capacity, to service the Bendersville designated growth area.
- All new housing units in the Boroughs and designated growth areas should be served by public sewer. New development outside of these areas should be served by community sewer systems to encourage cluster development if the costs are economically feasible for the homeowners and if constructed and maintained in accordance with municipal and state standards. Developers and homeowners' associations should be discouraged from operating community sewer systems due to their practice of deferring maintenance, lack of technical experience, and their overall unreliability. Otherwise, new development in the region should be served by individual on-lot systems based on the suitability of the soils in the area.
- Periodically update Act 537 sewage facilities plans within the region as necessary.
- Work with PADEP to address implications of the Chesapeake Bay Tributary Strategy concerning maximum nutrient loads for municipally owned wastewater treatment systems in the region.

Plan for the Reliable Supply of Water

- Since this region has been designated as a Potentially Stressed Area, where utilization of groundwater resources is potentially approaching or has exceeded the sustainable limit of the resources, an Integrated Resource Plan (IRP) for water resources in the region should be considered. IRPs are discussed in Appendix B.
- With the Fruitbelt increasingly using irrigation to meet its water needs and the fruit processing industry's year-round production and water use, methods and processes need to be explored to reduce the water use in this Potentially Stressed Area, such as water recycling, water rationing, cisterns, rainwater barrels, vines vs. trees, etc.
- The Bendersville Water Company, Biglerville Authority, and Possum Valley Municipal Authority have limited or no available capacity. These suppliers should establish policies for developer responsibilities in serving additional customers and determine what other approaches should be taken to provide additional supply, including whether sustainable yields exist, additional wells, and water conservation standards. Interconnections between public water systems, increased storage capacity, and the construction surface water supplies should be explored.
- Recommendations of the Adams County Water Supply and Wellhead Protection Plan should be considered.

- Forthcoming recommendations of the State Water Plan should be considered.
- All new housing units in the Boroughs and designated growth areas should be served by public water. New development outside of these areas should be served by community water systems to encourage cluster development if adequate yields exist, the costs are economically feasible for the homeowners, and if constructed and maintained in accordance with municipal and state standards. Developers and homeowners' associations should be discouraged from operating community water systems due to their practice of deferring maintenance, lack of technical experience, and their overall unreliability. Otherwise, new development in the region should be served by individual on-lot wells based on the sustainable yield of the aquifer in the area.
- Zoning ordinances should contain provisions to protect sources of water supply through the following techniques.
 - Natural resource protection standards and net-out provisions protecting floodplains, wetlands, wetland margins, steep slopes, watercourses, water bodies, and lake and pond shores.
 - Conservation zoning in the townships to protect natural resources and aquifers through open space preservation.
 - Steep slope protection provisions to minimize erosion and sedimentation resulting from impervious surfaces and tree clearance.
 - Woodland protection provisions to assure sustainable forest practices.
 - Tree removal standards to minimize the adverse impacts of timber harvesting by requiring the use of established "Best Management Practices" developed by Penn State, College of Agriculture and DCRN, Bureau of Forestry.
 - Wetlands, wetland margin, and hydric soil protection provisions to protect groundwater and surface water supplies from contamination and to allow infiltration.
 - Floodplain protection provisions to protect human life and property, and surface water quality and quantity.
 - Aquifer protection standards to protect groundwater supplies from contamination through potentially harmful land uses and impervious restrictions and design standards, particularly for non-residential uses.
 - Wellhead protection provisions to protect central water supplies by restricting and regulating potential contaminating substances and uses.

- Stream corridor overlay zoning/riparian buffer requirements to protect surface water from adverse impacts from development and other nearby disturbance.
- Zoning strategies should be coordinated with efforts of the Adams County Conservation District, Penn State Cooperative Extension, Watershed Alliance of Adams County, Watershed Associations, County Planning Office, and other agencies to restore, protect, and stabilize stream banks. Development of impervious surfaces should be limited, riparian buffers established, and stream habitats improved. An organization in the region, such as a regional Environmental Advisory Council, should be given responsibility for such coordination.
- Subdivision and land development ordinances should be updated to address water resource protection and recharge of the groundwater supply. When subdivision and development plans are reviewed, developers should be required to adequately manage storm water runoff and erosion and sedimentation in manners consistent with the protection of water resources in the area. Storm water management should be considered as part of the hydrologic cycle with consideration of infiltration, reducing pollution, and reducing thermal impacts through best management practices (BMPs).
- Promote and encourage the adoption at the County level of well siting, construction, water quality testing, and abandonment standards as part of the subdivision and building permit process to protect groundwater quality. Such requirements should involve siting wells at safe distances from potential contaminant sources, grouting, and the placement of a sanitary seal on all at- or below-grade well openings.
- Recommendations and ordinances pursuant to adopted Act 167 stormwater management plans should be implemented.
- Water supply and distribution planning and review of development should involve fire companies to ensure that there will be adequate fire hydrants and volume and pressure of water to provide adequate fire protection.
- Developers should be required to identify the resources within their tracts, analyze the impacts of development, and mitigate those impacts. Natural resources should be incorporated into the open space system and stream corridors incorporated into greenways.
- Where residential developments, businesses, or other uses propose to utilize ground water or surface water supplies in substantial amounts, hydrologic studies should be required; and, the party causing the extraction should be required to demonstrate that there will be no adverse effects on the water supplies of other entities in the region. Hydrologic impact analyses should be incorporated into subdivision and land development regulations.

- Where greenways or watershed areas are used for public recreation purposes, any public access and usage should be consistent with the need to protect water supplies.
- Activities such as the extraction of minerals should be monitored for compliance with statutes regulating mineral extraction that specify replacement and restoration of water supplies affected by such activities.
- Municipalities should consider adoption of mandatory septic tank pumping programs to reduce the potential of malfunctioning on-lot sewage systems contaminating the ground and surface water supply.
- Commercial agricultural production should be encouraged to apply best management practices (BMPs) to mitigate the impact on water supply sources from both a water quantity and quality perspective. Practices to reduce the use and effect of pesticides, fertilizers, and manure application on contaminating the water supply should be encourage, promoted, and implemented.
- Promote and encourage integrated pest management practices on farms and in home gardens.
- The formation of watershed associations for creeks within the region and a regional or municipal environmental advisory council(s) to coordinate with those associations should be supported. Public education programs of the watershed associations should encourage the community to be aware of potential sources of water supply in their watersheds and to exercise good “housekeeping” and stewardship practices to help protect them. Watershed associations can encourage landscape management programs formulated to encourage residents to reduce nutrients and pesticides reaching streams and ground water.
- A regional program of household hazardous waste collection and public education programs could be considered.
- The municipalities, watershed associations, and water companies should work together to develop a program to protect watersheds and water supplies.
- Drought contingency plans should be prepared and be kept current to establish how water supplies will be continued during times of drought. Elements to address include alternative sources of supply, interconnections between systems, emergency water transfer agreements, and water conservation provisions. Even outside times of drought, water conservation programs should be promoted.
- Municipal emergency operations plans should be updated to adequately respond to drought emergencies and water contamination incidents.

PROTECTING WATER SUPPLIES

Stream Corridor Protection	Aquifer Protection	Groundwater Resource Protection Provisions	Hydrogeologic Impact Analyses Requirements of Major Users
<ul style="list-style-type: none"> Restrict development and impervious surfaces 	<ul style="list-style-type: none"> Review development plans to prevent groundwater pollution 	<ul style="list-style-type: none"> Wellhead Protection 	<ul style="list-style-type: none"> Proposed supply locations
<ul style="list-style-type: none"> Require riparian vegetative buffers 	<ul style="list-style-type: none"> Limit impervious surfaces 	<ul style="list-style-type: none"> Increase watershed awareness 	<ul style="list-style-type: none"> Geologic conditions, recharge rate, degree of renovation
<ul style="list-style-type: none"> Encourage use of best management practices 	<ul style="list-style-type: none"> Establish performance standards for commercial and industrial uses 	<ul style="list-style-type: none"> Regulation/restriction of potential contaminating uses 	<ul style="list-style-type: none"> Aquifer characteristics; groundwater movement, use, yield, quality, quantity, well interference
<ul style="list-style-type: none"> Encourage stream habitat improvement 	<ul style="list-style-type: none"> Protect aquifers through controlling uses and potential polluting activities 	<ul style="list-style-type: none"> Performance standards 	<ul style="list-style-type: none"> Test well results and impacts
<ul style="list-style-type: none"> Encourage conservation easements/donations/dedications 	<ul style="list-style-type: none"> Utilize appropriate sewage disposal and water supply techniques, with appropriate standards and management 	<ul style="list-style-type: none"> Design standards 	<ul style="list-style-type: none"> Plan to protect groundwater system underlying and adjacent to the site: prevention, remediation, emergency management
<ul style="list-style-type: none"> Protect wetlands and wetland margins 	<ul style="list-style-type: none"> Protect headwaters and groundwater recharge areas 	<ul style="list-style-type: none"> Operating requirements 	<ul style="list-style-type: none"> Monitoring of groundwater quality and quantity
<ul style="list-style-type: none"> Require floodplain and wetland studies where not identified 	<ul style="list-style-type: none"> Best Management Practices 	<ul style="list-style-type: none"> Review process 	
<ul style="list-style-type: none"> Restore stream banks and crossings 	<ul style="list-style-type: none"> Implement stormwater management plans 	<ul style="list-style-type: none"> Conservation subdivisions 	
<ul style="list-style-type: none"> Greenway development 	<ul style="list-style-type: none"> Implement erosion and sedimentation control plans 	<ul style="list-style-type: none"> Net-out zoning provisions 	
<ul style="list-style-type: none"> Steep slope protection within corridors 		<ul style="list-style-type: none"> Lot averaging Woodland protection On lot septic maintenance and pumping program 	

Stormwater Management

- Municipal ordinances should reflect the intent of Pennsylvania’s Act 167, Storm Water Management Act, to help protect the watersheds in the region.
- Prioritize storm drainage problems within each municipality based upon frequency of occurrence, potential for injury to persons or property, damage history, public perception of the problems and other appropriate criteria.
- For the top priority drainage problems in the municipality, conduct detailed engineering evaluations to determine the exact nature of the problems, determine alternative solutions, provide cost estimates for the alternative solutions, and recommend a course of municipal action. The number of drainage problems to be evaluated by a municipality as a first cut from the priority list should be based on a schedule commensurate with completing engineering studies on all problem areas. The engineering studies should include consideration of the downstream effects of eliminating specific drainage problems so as to avoid transfer of problems progressively downstream.
- On the priority and cost basis, incorporate implementation of recommended solutions to the drainage problems in the annual municipal capital or maintenance budgets as funds are available.

Recreation

- Each municipality should prepare a parks, recreation, and open space plan or participate in a multi-municipal or regional plan. In addition to establishing municipal policies, this will enable each municipality to require dedication of recreation land or charge a recreation fee in lieu of dedication through provisions in subdivision and land development ordinances.
- When parks, recreation and open space (PR&OS) plans are prepared, questionnaires should be distributed to the region’s residents to determine what facilities are now used by, desired by, are most likely to be used by them.
- PR&OS plans should establish standards for recreation facilities with consideration of those of the National Park and Recreation Association (NPRRA) and the Adams County Vision for Parks, Recreation, and Open Space. Without additional facilities, the region could have a deficit by 2020. It is recommended that this deficit be addressed.
- In expansion of park facilities and development of new facilities pursuant to the PR&OS plans, the needs of the handicapped and people in different stages of their life cycle, from young households with small children to the elderly, should be considered and addressed. Facilities needed to serve groups expected to reside in the

region will vary from tot lots to playfields, to more passive facilities such as walking trails.

- The PR&OS plans should also further detail greenway and trail planning in the region and make recommendations for implementation of such systems.
- Neighborhood parks should be required, if appropriate, by the municipalities within large subdivisions which are proposed in Designated Growth Areas.
- Existing recreation program offerings should be continued and expanded.
- Municipalities should coordinate with the school districts to ensure that their recreational facilities are available for community recreation.
- Activities and events that create community cohesion and gathering places for community activities should be identified, encouraged, and supported.
- Existing parks and facilities should be reviewed for compliance with ADA requirements and consumer safety regulations.
- Encourage volunteer involvement in the construction and maintenance of recreational facilities and the development and implementation of recreational activities and programs.
- Appropriate maintenance standard for local parks and facilities should be adopted to maximize safety and reduce the need for future capital replacement projects.
- Each municipality should prepare a greenway and trail plan or participate in a multi-municipal or regional plan. The Adams County Greenway Plan has identified a number of proposed greenways, scenic resources, proposed bike routes on roads, trails, land preservation targets, agricultural landscape areas, and scenic and historic corridors in the region.
- Additional walkway or trail connections should be established to link existing developed areas with recreational and community facilities, such as from Upper Adams Elementary School into Biglerville and the Narrows to Michaux State Forest.
- Municipalities should continually monitor the availability of county and state grant funds for the acquisition and construction of parks, recreational facilities, trails, and open space. Funds from the County Green Space Grant Program are available to purchase or protect these resources.
- Municipalities should prepare and adopt an Official Map to reserve land identified for public park, recreation, and trail use.

Provision of Other Services

- In the future, additional coordination between the fire companies should occur to monitor needs within the region, including the need for regional cooperation and paid fire staff.
- The municipalities should work with the Adams County Office on Aging to meet the needs of seniors, including additional senior center facilities.
- Encourage volunteerism for non-profit organizations such as emergency medical services. Monitor the need for paid personnel.
- Maintain current and workable emergency operations plans.
- Recognize and address the funding concerns of local emergency service providers.
- Seek to attract additional medical facilities to the region and address the fact that the region, except for Franklin Township, is classified as a Dental Health Professional Shortage Area and a Mental Health Professional Shortage Area. All residents of Northwest should have full access to medical and dental services.
- When analyzing the adequacy of police service in the region, the member municipalities should work with the Pennsylvania Department of Community and Economic Development (DCED) to establish categories of police service standards, such as response times, officer deployment, criminal activity, and citizen satisfaction; and to evaluate the need and feasibility of a shared, multi-municipal, or regional police force.
- Develop agreements with the state and local police departments to educate the community regarding local crime watches and other community policing initiatives.
- Promote and support efforts of community organizations to provide recreational facilities and programs for area residents and services and programs for seniors, families and youth.
- Work to establish additional community centers in the region, particularly for day care, cultural and social services, or as needs are identified.
- Encourage churches, clubs, and other organizations in the community to allow use of their facilities and programs to area residents.
- Support efforts of the Green Ribbon Commission to advance parks, recreation, and greenway conservation efforts and open space conservation efforts in the County.

- Additional public transportation/ paratransit services should be supported and encouraged.
- Review and use as appropriate resources of DCED to improve municipal government with regard to such issues as joint purchasing, shared services, website development, etc.
- Prepare capital improvement and maintenance programs.
- Encourage and promote broadband internet service to facilitate economic development in the region.

Subdivision and Land Development Ordinances

- Require new developments to provide sufficient water supplies for fire protection, such as ponds, cisterns, and dry hydrants.
- Involve local fire company and school district personnel in review of subdivision and land development plans, where appropriate.
- Include language in subdivision and land development ordinances to require developers to dedicate land for recreation or pay a fee in lieu of land for all new subdivisions. Adopt recreation plans to permit the charging of fees.
- Each subdivision or land development should be reviewed to determine whether the dedication of land or the fee in lieu of land would be more appropriate, based upon the size and location of the development and open space and recreation planning.
- Include standards in subdivision and land development ordinances for the design and construction of recreation facilities. Review standards of National Recreation and Park Association (NRPA) and Adams County Vision for Parks, Recreation, and Open Space for appropriateness.

Regional Cooperation

- The municipalities should continue to review opportunities and/or needs for regional cooperation in the provisions of services, equipment, programs and facilities. While some services and facilities can be provided within the region by municipalities or cooperative efforts of municipalities, in some cases it may be necessary to coordinate provision of services to and facilities for regional residents with community or government agencies serving larger geographic areas, such as Adams County as a whole.

- Expand cooperation and dialog between the municipalities and service providers such as fire companies.
- Recreation planning, emergency services planning, utility planning, implementation of this Plan should be considered on a regional basis where appropriate.
- Monitor regional needs in emergency services provision, and determine whether such services, such as police service, should be provided on a municipal basis, with cooperation of the municipalities, in a broader regionalization of services, or continued reliance on other providers such as the State Police.
- To implement this Joint Comprehensive Plan, an inter-municipal cooperative agreement should be executed and a regional planning committee/commission established with approved by-laws. That committee, and municipal planning commissions and governing bodies, should continue to meet to discuss trends and issues in the region, progress in meeting the goals set forth in this Plan, the effectiveness of this plan, and the implementation of this plan.
- The municipalities and region should continuously monitor the availability of grants for planning, recreation, and economic development, and cooperatively pursue such grants.
- In cooperation with Penn State Extension and the County Commissioners, several municipalities in Adams County are evaluating the potential for providing some services through a “Council of Governments” (COG). Northwest Adams municipalities should consider participating in this or similar efforts to achieve economies of scale.

Coordination with Upper Adams and Gettysburg Area School Districts

- Maintain a dialog with the school districts regarding development activities, school facilities needs, location of school facilities, and school bus routes.
- Encourage the retention of community based schools.
- Work with the school districts to assure availability of school district facilities to the region’s residents for community activities.
- Consideration should also be given to how children will be picked up and dropped off within residential developments. School district planners, developers, and reviewing municipal agencies should make sure adequate, well-lit stops are provided. School district personnel should be involved in the review of subdivision and land development plans where appropriate.

- The school districts should be consulted to determine the need and location of sidewalks to provide safe pedestrian and bicycle access to the area school facilities.
- The region should analyze and evaluate the current occupancy and capacity of commercial and industrial zoned land and consider providing additional areas if warranted to increase the tax base for the school districts.

Monitoring Needs within the Region

- The municipalities should continue to monitor the need and opportunities for additional, expanded, or improved community services and facilities as financial resources permit.
- The needs for specific groups, such as seniors, youth, families, and the low income population should be monitored.
- On an ongoing basis, the demographic trends within the region should be monitored and analyzed to assure that the needs of all residents in the region are met through provision of facilities in the region or elsewhere.
- Efficient, effective, and professional management of public facilities and services should be promoted. Resources of the Pennsylvania Department of Community and Economic Development should be reviewed and used as appropriate to improve municipal government.

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Chapter Fourteen

RELATIONSHIP OF PLAN COMPONENTS

The Future Land Use Plan identifies general land use categories and addresses the recommended types of land uses and densities for those uses. The availability of sanitary sewer and water facilities influence the shaping of development patterns, including location and density. It is critical to coordinate land use and infrastructure planning so future land use reflects the availability of public sewer and water facilities and public sewer and water facilities are proposed for those areas intended for future development.

It is intended that the Designated Growth Areas be served by public sewer and water facilities as capacity becomes available to permit a variety of types and densities of residential development. The Housing Plan addresses the need to provide a broad range of housing for all demographic groups in the community. In general, public sewer and water facilities should not be extended to Agricultural-Rural Conservation-Agricultural Preservation areas unless necessary to alleviate public safety concerns or support agricultural operations, as the Agricultural-Rural Conservation-Agricultural Preservation area is intended to promote retention of agriculture and rural character, and allow only very low density residential development. It is unlikely Rural Residential areas can feasibly be served by public sewer and water systems.

Through land use planning, such as designation of the Agricultural-Rural Conservation-Agricultural Preservation area, recharge areas for ground water supplies are established. Water resource planning in the region is critical, to assure supplies for residential land uses, economic development, and agricultural operations. Intensive residential development is not proposed where sewer infrastructure is not planned, available, or in close proximity.

It is important that community facilities, including recreation and open space, are available to serve the residents of the area. The Community Facilities Plan notes that additional parkland will be needed in the future to serve the region and that open space and recreation planning should occur in the future. Coordination with the County Greenways Plan and local planning for trails for recreational purposes and to better link residential areas and community facilities is also recommended. Future public facilities should be sited to be consistent with the objectives of the Future Land Use Plan, such as maintaining the rural character of the Agricultural-Rural Conservation-Agricultural Preservation area. Typically, public facilities should be located within residential areas to better serve residents. Emergency services, as well as other services in the region, need to be analyzed for adequacy, funding, and staffing, to support residential areas in the community.

The Future Land Use Plan supports economic vitality by providing areas for commercial, business and industrial development and agricultural activities and support businesses. Preservation and logical expansion of residential neighborhoods can provide support for local businesses and provide a work force. Providing for open space and preservation of natural resources, such as the South Mountain faces, the Narrows, and Michaux State Forest supports the quality of life in the area and can encourage additional investment in the Region.

It is necessary to maintain a circulation system, which can accommodate generated traffic volumes. In turn, future development should not adversely affect the circulation system. Land use decisions are influenced by the existing circulation system, while at the same time those land use decisions affect circulation systems and the functions which roads are expected to perform. Rural and residential areas should be protected as much as possible from the impacts of through traffic. Conflicts between through and local traffic and agricultural and other traffic need to be addressed. Efforts to provide and link a variety of modes of transportation, including auto travel, pedestrian and bicycle trails, and transit service are encouraged, particularly to serve residential areas, businesses, and community facilities.

Interrelationships of Plan Components

	Land Use and Housing	Sewer and Water	Community Facilities	Transportation	Natural Environment	Economic Development
Land Use and Housing	<ul style="list-style-type: none"> Support existing centers Provide housing opportunities for all 	<ul style="list-style-type: none"> Policies coordinated with land use goals to direct development to growth areas 	<ul style="list-style-type: none"> Make available to serve area residents 	<ul style="list-style-type: none"> Must consider impacts of growth within and outside the region Support agribusiness Existing residential areas should not have excessive volumes and speed 	<ul style="list-style-type: none"> Provide open space system through their protection 	<ul style="list-style-type: none"> Impacts on residential areas should be mitigated Provide jobs and services for residents Support agribusiness
Sewer and Water	<ul style="list-style-type: none"> Growth should occur where have adequate facilities 	<ul style="list-style-type: none"> Consider existing facilities and plans, appropriate discharge standards and methods 	<ul style="list-style-type: none"> Locate with consideration of ability to serve, consistent with land use goals 	<ul style="list-style-type: none"> Should be coordinated in support of growth areas 	<ul style="list-style-type: none"> Water Supply sources should be protected and pollution prevented 	<ul style="list-style-type: none"> Should not overburden systems or deplete water supplies
Community Facilities	<ul style="list-style-type: none"> Include facilities to service residents and growth areas 	<ul style="list-style-type: none"> Major facilities should be adequately served 	<ul style="list-style-type: none"> Consider existing facilities and plans, potential cooperative efforts 	<ul style="list-style-type: none"> Should adequately service facilities in the region Consider linkages of community facilities 	<ul style="list-style-type: none"> Can provide recreational opportunities 	<ul style="list-style-type: none"> Can provide a tax base to support provision of facilities
Transportation	<ul style="list-style-type: none"> Growth should occur where have adequate system Maintain functional operation and safety when growth occurs 	<ul style="list-style-type: none"> Should be coordinated in support of growth areas 	<ul style="list-style-type: none"> Locate major facilities where can be adequately serviced Concerns for school transportation system Consider impacts on system from growth 	<ul style="list-style-type: none"> Consider existing facilities and plans, coordinate with County and PennDOT Plan improvements to the system 	<ul style="list-style-type: none"> Can provide scenic roads and vistas 	<ul style="list-style-type: none"> Access management and necessary road improvements must be considered
Natural Environment	<ul style="list-style-type: none"> Development should occur where land is suitable and resources will not be harmed 	<ul style="list-style-type: none"> Should not extend to areas where irreparably harm important resources 	<ul style="list-style-type: none"> Can incorporate natural features 	<ul style="list-style-type: none"> Can facilitate access to resources Design system with consideration of existing environment and resources 	<ul style="list-style-type: none"> Existing natural resources should be protected, enhanced and interpreted 	<ul style="list-style-type: none"> Protect the natural environment
Economic Development	<ul style="list-style-type: none"> Identify appropriate land uses for sensitive areas Protect water resources Provide for commercial, industrial, business uses Neighborhoods provide workforce and market 	<ul style="list-style-type: none"> Can support development at appropriate locations 	<ul style="list-style-type: none"> Contribute to quality of life and the attractiveness of the area 	<ul style="list-style-type: none"> Can support economic development Enhance regional alternative transportation systems Address through-traffic issues and conflicts with agricultural traffic 	<ul style="list-style-type: none"> Contribute to quality of life and attractiveness of area to businesses 	<ul style="list-style-type: none"> Support existing business centers

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Chapter Fifteen

REGIONAL COMPATIBILITY STATEMENT

ADAMS COUNTY COMPREHENSIVE PLAN

Land Use Plan

The County Land Use Plan incorporates a growth-area concept to provide for the orderly extension of development. Growth is directed primarily to areas already served by central water and sewer systems, community facilities and services, and having a high level of accessibility. The growth-area concept provides an efficient and economical way to allow new growth to occur while limiting the consumption of agricultural land. The majority of the residential, commercial, industrial, and institutional development is planned to take place within designated growth areas. Areas outside the growth area are intended primarily for agricultural, recreational, and open space protection uses.

Growth areas are focused on existing boroughs – with their residential neighborhoods, shopping cores, community service facilities, and public utilities – and on a limited number of other discrete locations in the county, such as selected crossroads villages.

In Northwest Adams County, growth areas are focused on Arendtsville, Bendersville, and Biglerville Boroughs, Aspers and Mummasburg villages, the Route 34 Corridor, and the villages along Route 30 in Franklin Township. These growth areas consist of a mixture of Borough/Village/Crossroad Center (Mixed Use); Residential-Medium Density (in the boroughs); Residential-Medium-Low Density; and Employment Center (Bendersville and Biglerville) land use categories. Residential and Crossroad Center categories are indicated along Route 34.

The land use policies of the plan are:

- Promote the basic Growth Management Plan concepts of growth areas, resource conservation areas, and permanent open space and preservation areas, and their configuration in the Land Use Plan. Assist municipalities in the preparation and adoption of local comprehensive plans and land use controls consistent with the Land Use Plan.
- Assist municipalities and land developers in the planning and design of additions to existing built-up areas and new residential, employment, and mixed-use areas, consistent with the Land Use Plan.
- Encourage the establishment of employment centers in designated areas.
- Promote the establishment of a permanent, designated, interconnected open space network throughout the county and the development of recreational facilities at selected locations.

- Direct new commercial activity to existing borough cores and new mixed-use centers, in conformance with the Land Use Plan.

The Future Land Use Plan for Northwest Adams County is generally consistent with the Adams County Land Use Plan. The Regional Plan recognizes Michaux State Forest and designates much of Northwest Adams County Agricultural-Rural Conservation-Agricultural Preservation. These areas generally correspond to Park, Permanent Open Space, and Preservation Areas, and Agriculture, Resource Conservation, and Residential-Very Low Density areas in the County Plan.

The Plan for Northwest Adams County shows Designated Growth Areas around the Boroughs of Arendtsville, Bendersville, and Biglerville, Aspers and Mummasburg villages, and the village of Cashtown and McKnightstown along Route 30 in Franklin Township. This concept is also generally consistent with the Adams County Plan, though the actual extent of growth areas varies between the plans.

In the plan for Northwest Adams, commercial land use is shown along much of Route 34 south of Biglerville. In the Adams County Plan, much of this land is designated Residential-Medium-Low Density.

The Northwest Adams Plan recognizes some existing residential subdivisions in the northern portion of the Region as Rural Residential. These subdivisions are not recognized in the Adams County Plan.

Housing Plan

The Northwest Adams County Comprehensive Plan is generally consistent with the Housing Plan element of the Adams County Comprehensive Plan in that both recognize that designated growth areas are the primary locations for new housing development. They also recommend residential clustering as a technique to achieve a more efficient use of land, conserve agricultural land and other important natural resources, and to allow flexibility in the construction of various housing types that is better able to meet the needs of residents as they pass through the various stages of the life cycle.

Both plans also propose to increase opportunities for affordable housing principally by providing for housing construction at medium and medium-high densities within designated growth areas. In addition, housing opportunities are expanded through more efficient use of the current housing stock, such as provisions for residential conversions, accessory dwelling units, accessory apartments, and shared housing. Efforts should also continue, utilizing state and federal funding, to rehabilitate substandard homes as a way of maintaining an aging housing stock and providing affordable housing.

Enhanced Transportation Element

The Northwest Adams County Comprehensive Plan has been developed concurrently with the forthcoming Enhanced Transportation Element of the Adams County Comprehensive Plan. Both plans have been developed in a manner that carefully coordinates the transportation and land use elements of the respective plans. The transportation element of the Northwest Adams County Comprehensive Plan relies upon the much of the data developed for the Enhanced Transportation Element of the Adams County Comprehensive Plan as the basis for many of its transportation goals, recommendations, and implementation strategies.

Natural and Historic Resources Plan

The Northwest Adams County Natural and Historic Resources Plan is consistent with and helps implement the Land Use Plan in the 1990 County Comprehensive Plan in that both seek to maximize the preservation of the rural landscape by encouraging growth and new development in the vicinity of existing boroughs, historic villages, and crossroad centers. This growth and new development is proposed to occur in more compact form and clustered to achieve higher densities than that normally associated with conventional rural and suburban development.

This Plan is consistent with the Agricultural Resources Conservation Plan within the County Comprehensive Plan by establishing goals to maintain a strong agricultural industry and to protect farmland for agricultural use. If these goals for agriculture can be achieved, residents and visitors in the region will enjoy numerous additional benefits such as avoiding the social, economic, and environmental disadvantages of sprawl and enhancing a development pattern that is more convenient and less expensive, in addition to the continuation of the area's traditional culture and landscape. To protect farmland, the Plan stipulates that highway improvements in agricultural areas should be kept to a minimum, sewers and other utilities should not be extended into agricultural areas, the division of farmland into smaller tracts should be prevented through agricultural zoning and conservation easements, and the conversion of farmland to non-farm uses be prevented.

This Plan is also consistent with the Environmental Protection Plan of the County Comprehensive Plan by identified specific areas for protection which are environmentally sensitive, including floodplains, wetlands, high quality streams, and steep slopes, and other critical natural features such as wildlife and plant habitats.

Community Facilities Plan

The Northwest Adams County Comprehensive Plan is generally consistent with the Community Facilities Plan element of the Adams County Comprehensive Plan in that new community facilities are encouraged to be located convenient to the maximum number of residents and facilities are recommended to be shared to minimize costs and maximize convenience to area residents. All development proposals should be reviewed to determine their impacts on public services, including schools, emergency services, recreation, and community services. Water supply and sewage facilities and plans are recommended to be expanded and updated to be

consistent with the future land use plan, the development of wellhead and recharge area protection, water conservation standards, and stormwater management plans are encouraged.

ADAMS COUNTY VISION FOR PARKS, RECREATION AND OPEN SPACE

Both the Adams County Vision for Parks, Recreation and Open Space and the Northwest Adams County Comprehensive Plan encourage municipalities to adopt greenway planning and design principles, including streamside buffers, to enhance the preservation and enjoyment of the area's natural resources and stream corridors. The preparation of a scenic and historic roads plan is also recommended. The Northwest Plan concurs with the County Vision that the region should begin work toward developing an additional five (5) acres of community parkland, either as an addition to Oakside Park in Butler Township or at a different site, and by 2010 develop an additional community park of approximately 25 acres, one (1) soccer/football field, and two (2) tennis courts to meet future needs.

ADAMS COUNTY GREENWAYS PLAN

The Northwest Adams County Comprehensive Plan is consistent with and helps implements the Adams County Greenway Plan. Environmental features along Opossum Creek, Quaker Run, Bermudian Creek, and Conewago Creek are proposed for protection so as to serve as greenways; with a portion of Conewago Creek open to public access for active recreation. The agricultural resources of the Fruitbelt; the scenic resources of the South Mountain and South Mountain Faces, Buchanan Valley, Butler flatlands, and Table Rock vistas; and various scenic and historic road corridors in the region are also proposed for preservation. Off-road trails are suggested with the Michaux State Forest as the hub and on-road bicycle routes proposed on several selected, lightly traveled roads, in addition to the existing BicyclePA Route S on US Rt. 30 and PA Rt. 234.

ADAMS COUNTY WATER SUPPLY AND WELLHEAD PROTECTION PLAN

The Northwest Adams County Comprehensive Plan is generally consistent with the Adams County Water Supply and Wellhead Protection Plan by incorporating the following recommendations to protect the water quantity and quality in the region:

- Directing new development into the Boroughs and designated growth areas at densities conducive to the provision of public water and working with water suppliers to implement this policy.
- Effective agricultural zoning in proposed agricultural preservation areas.
- Conservation and cluster zoning and transfer of development rights (TDRs) to protect natural resources and aquifers through the preservation of open space.
- Aquifer testing requirements for new developments to assure adequate water supply and no adverse impacts on adjacent supply sources.

- Adoption of on-lot water system well construction and abandonment standards.
- Adoption of on-lot maintenance and pumping program.
- Establishment of wellhead protection areas to protect community water supply wells.
- Various other methods to protect water supplies from contamination and to promote groundwater recharge, such as creation of watershed associations, integrated pest management practices, hazardous waste collection programs, updated emergency operations plans, and best management practices for stormwater management.

CONSISTENCY WITH ADJACENT MUNICIPAL ZONING

Adams County

Northwest Adams County is adjacent to Tyrone, Straban, Cumberland, Highland, and Hamiltonban Townships to the east and south. Except for Employment Center designation along Route 34 in Menallen Township and Commercial designation along Route 34 in Butler Township, land in Northwest Adams County is designated either Agricultural-Rural Conservation-Agricultural Preservation or Michaux State Forest. Much of the land in Tyrone Township is zoned Agricultural Preservation, though there are pockets of Residential zoning near Coon Road and Route 34, and areas of Rural Residential zoning south of Bull Valley Road and Route 234. Where residential development occurs adjacent to agricultural areas, buffering should be considered to mitigate impacts of the development on agricultural operations.

Adjacent land in Straban Township is zoned Residential-Rural, with a density of one dwelling per two acres, more dense than is anticipated in Northwest Adams County. While the areas of Straban Township will retain some rural character, where development does occur buffering may be appropriate if cluster is the mode of development.

In Cumberland Township, much of the land is zoned Agricultural-Residential, which permits residential development on lots with a minimum lot size varying from about one-half acre up to two (2) acres, depending on availability of central water and sewer facilities. Buffering could be considered when residential development occurs. A small area of Mixed Use zoning is found along Route 30 and a small area of Residential zoning is found abutting the southern tip of Franklin Township.

Adjoining land in Highland Township is zoned Land Conservation under the Adams County Zoning Ordinance, which is consistent with the Agricultural-Rural Conservation-Agricultural Preservation designation in Northwest Adams. Land in the vicinity of Orrtanna Road is zoned Single Family Residential. Buffering is provided by Little Marsh Creek.

Adjoining land in Hamiltonban Township is zoned Moderate Density Residential, Agriculture, Low Density Residential, and Woodland Conservation west of Mount Carmel Road (including

Michaux State Forest land). The Moderate Density Residential and Low Density Residential areas are buffered by Little Marsh Creek.

Franklin County

Adjacent municipalities in Franklin County are Greene and Guilford Townships. Almost all adjacent land in these townships is in Michaux State Forest, which is consistent with the designation of Michaux State Forest in Franklin Township, Adams County.

Cumberland County

Land in Southampton Township to the northwest is zoned Woodland Conservation and is included within Michaux State Forest. Unzoned Cooke Township is located east of Southampton Township. Most of this Township's land is included within Michaux State Forest, though some land is privately owned. If the privately-owned land would be developed, buffering of adjacent undeveloped land should be considered.

Chapter Sixteen

IMPLEMENTATION STRATEGY

An Implementation Strategy is critical to the success of this Comprehensive Plan because it lists the actions to be taken to implement policies and accomplish goals and objectives for the Region. The Pennsylvania Municipalities Planning Code (MPC) enables municipalities to work together to undertake this challenge. An important step to implementing a multi-municipal comprehensive plan is for the municipalities to adopt an intergovernmental cooperative agreement that will address future actions, such as revision of ordinances.

The Implementation Strategy recommends the development of an intergovernmental cooperation agreement(s) between participating municipalities, as well as the establishment of a permanent Regional Planning Committee to review consistency issues, and establish the roles for each municipality. While, preferably, the six municipalities will agree to enter into a cooperative agreement, it is also possible for two or more municipalities to enter into an agreement.

Once an intergovernmental cooperation agreement(s) is in place, Article XI of the MPC allows municipalities to cooperate in the regional allocation of land uses through multi-municipal planning and zoning ordinances based on the future land use plan. Following the execution of an cooperative agreement, the municipalities participating in the agreement have two years to implement a regional allocation of land uses through multi-municipal planning and zoning ordinances based on the future land use plan. The Article also stresses general consistency between the multi-municipal plan and the County Comprehensive Plan.

This Comprehensive Plan does not require any municipality to take any action or change any existing policy, ordinance or regulation. It does describe existing conditions, and establish a framework for future inter-municipal agreements and cooperation. The implementation strategy and suggested action plan serves as a framework for those agreements and cooperation.

This Comprehensive Plan does not restrict or constrict any municipality from taking action, instituting any regulation or ordinance, or adopting any policy internal to its municipality. Any municipality can implement this Comprehensive Plan in whole or in part as it deems appropriate. Similarly, a majority of participating municipalities of this Comprehensive Plan can not adopt any policy, institute any regulation or ordinance that impacts another participant without the approval of that affected participant. Finally, any municipality can withdraw from this Comprehensive Plan at its discretion. Formal notification to the Regional Planning Committee is necessary for withdrawal.

Cooperation between the Governing Bodies, as well as between Planning Commissions and other local organizations in the community is vital to the success of this Plan. The citizens of the Region must also stay involved in the planning process. The Objectives of this Plan should be monitored, and updated when necessary. The Comprehensive Plan is a living document, and should remain a valuable tool for future decision making.

PRIORITY ACTIONS

Upon adoption of this Comprehensive Plan, the highest priority is to execute an Intergovernmental Cooperative Agreement to implement the Plan. A Regional Planning Committee consisting of representatives from the municipalities is established by that agreement.

The municipalities should cooperate to draft consistent zoning and subdivision and land development ordinance language. Achieving this general consistency with the plan is the next priority after executing the Agreement.

Arendtsville will determine whether to remain unzoned, or to adopt the County zoning or its own zoning ordinance. Menallen and Butler Townships will determine whether to maintain County zoning or adopt their own zoning ordinances.

The Borough of Bendersville and Butler and Menallen Township Act 537 Plan updates underway should be consistent with this Comprehensive Plan.

The next priority actions for follow-up planning efforts in the region are the adoption of individual Open Space and Recreation Plans or a regional Open Space and Recreation Plan; consideration of adoption of Official Maps; and consideration of preparation of an Integrated Resource Plan for water resources in the region.

ACTION PLAN TABLES

The following tables present a framework of potential actions for each Plan component of the Comprehensive Plan to be considered by the Regional Planning Committee; the time frame for accomplishment of the recommendation; the entity or entities with primary responsibility for seeing that the recommendation is carried out; and potential partners in implementation. Short-range actions should be considered initially. Mid-range actions should be considered after the short-range ones. Long-range actions should be considered after the mid-range ones. On-going actions are actions which are likely to be carried out through the course of plan implementation.

LAND USE - ACTION PLAN

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Regional Cooperation						
Convene multi-municipal forum among participants in the Joint Comprehensive Plan to determine the potential for “sharing” land use obligations.	X				Governing Bodies, Planning Commissions	Adams County Office of Planning and Development (ACOPD), PADCED
Evaluate potential for inter-municipal cooperative planning agreements.	X				Governing Bodies	ACOPD
Work with other levels of government to ensure policies regarding major land uses are consistent with the Future Land Use Plan.				X	Governing Bodies, Planning Commissions	ACOPD
Coordinate with school districts to ensure that the locations of new facilities, when and if needed, are consistent with the Future Land Use Plan.				X	Governing Bodies, Planning Commissions	Area School Districts
Provide compatible zoning districts along municipal boundaries.	X				"	"
Zoning Ordinances						
Amend zoning maps as necessary to direct future growth to Designated Growth Areas.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED

Promote residential development in designated growth areas in and near boroughs and villages, reducing development pressure on Fruitbelt land and minimizing conflicts between orchards and residences.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Manage growth within the Fruitbelt by encouraging a majority of development to occur in Designated Growth Areas and implementing effective agricultural zoning.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Ensure the continuation of agricultural friendly zoning within the Townships.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Permit broad categories of farm and agricultural support businesses that can be treated as principal permitted uses and given expedited approvals.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Include flexible development standards for ancillary income-generating farm activities such as cabin rentals, farm festivals, and events.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED

Include right-to-farm policies among the community development objectives of zoning ordinances so as to enshrine this concept into the review process for other discretionary land uses.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Allow income generating accessory uses, compatible with agriculture, on farms in agricultural areas.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Promote flexibility and incentives in zoning ordinances (e.g. – conditional uses, <i>Conservation by Design</i> site design options, density bonuses, expedited review) to secure better design (e.g. – parks, open space, sidewalks and trails, mixed uses/densities, architectural controls, transfer of development rights).	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Review the feasibility of a Transfer of Development Rights program within zoning ordinances.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Provide for a variety of dwelling types and housing densities in the zoning ordinances.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED

Ensure that zoning ordinances provide for housing options that are consistent with changing demographic circumstances	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Support zoning for higher density housing in the Boroughs, villages, and growth areas when adequate infrastructure is available.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Allow mixed uses in borough cores and village areas, as well as within areas immediately adjacent to such areas.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Allow apartments above commercial uses in borough cores and village settings.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Analyze and evaluate occupancy and capacity of commercial and industrial zoned land and consider providing additional areas if warranted to increase tax base for school districts.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Require buffering of potentially incompatible uses.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED

Consider providing incentives for aesthetic design in zoning ordinances, particularly in historic areas, villages, and scenic resource areas.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Consider corridor overlay zoning along the major roadway corridors to manage site design and access.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Agricultural Preservation						
Promote agricultural security areas within areas intended to be retained as agriculture.				X	Governing Bodies	Landowners
Procure funding to preserve agricultural lands.				X	Governing Bodies	Adams County Commissioners
Identify and preserve Priority Agricultural Lands.				X	Governing Bodies, Planning Commissions, EACs	Landowners, Adams County Agricultural Land Preservation Board, Land Conservancy of Adams County, ACOPD

Subdivision and Land Development Ordinances						
Provide for land development techniques designed to enhance streetscapes, and protect the character of boroughs and villages.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Adopt design and performance standards, especially for commercial and industrial uses.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Require new development to be designed and constructed to meet environmental performance standards, eliminate adverse impacts on adjacent land uses, provide necessary buffering.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Establish site data and analysis requirements within subdivision and land development ordinances.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Establish interactive processes (e.g. – pre-application review, optional sketch plan review, site visits) with developers.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Encourage walkable neighborhoods and require provision of walking and bicycling facilities in developments.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED

Ensure that new developments are connected to each other, if adjoining, and to existing community roadway, street, sidewalk, and pathway networks.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Encourage increased community and interest group involvement in the development review process (e.g. - expand public notices requirements, create Environmental Advisory Councils, site visits, sketch plan & pre-application applications).				X	Governing Bodies, Planning Commissions, EACs	ACOPD, PADCED

NATURAL AND HISTORIC RESOURCES – ACTION PLAN

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Natural Resources Recommendations						
Protect natural resources by applying overlay zoning districts, grading guidelines for steep slopes, and ridgeline development, forestry, lot clearance, riparian buffer standards.	X				Governing Bodies and Planning Commissions	Adams County Office of Planning and Development (ACOPD), PADCED
Incorporate water resource protection standards, such as aquifer recharge overlays, in zoning ordinances.	X				"	"
Incorporate Transfer of Development Rights (TDR) provisions in zoning ordinances to protect important natural and environmental resource areas.	X				"	"
Identify and preserve priority environmentally sensitive lands.				X	Governing Bodies, EACS, Planning Commissions	Landowners, Adams County Agricultural Land Preservation Board, Land Conservancy of Adams County
Consider adoption of official maps to reserve scenic and environmentally sensitive lands, greenway corridors, and historically and culturally significant sites for possible	X				Governing Bodies, Planning Commissions, EACs	ACOPD, PADCED

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
acquisition.						
Promote and encourage landowners to participate in Forest Legacy Program.				X	Governing Bodies, Landowners	ACOPD, PADCNr
Investigate feasibility of adding South Mountain Faces to Michaux State Forest.	X				Regional Planning Committee	PADCNR
Promote and encourage participation in Forest Land Enhancement Program.				X	Landowners, Governing Bodies	PADCNR
Promote and encourage participation in Stream Relief Program.				X	Landowners, Governing Bodies	PADCNR, PADEP
Consider requiring impact evaluations in SALDOs to mitigate impacts on resources.	X				"	"
Enact zoning ordinances and SALDO provisions to protect water supplies. Coordinate with conservation groups within the County.	X				Governing Bodies, Planning Commissions, EACs	ACOPD, PADCED, ACCD, Penn State Cooperative Extension, WAAC, Watershed Associations
Require hydrogeologic studies in SALDOs for substantial water uses	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Encourage agricultural operations to apply BMPs to protect groundwater				X	Governing Bodies, EACs	ACCD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
quality and enhance riparian buffers along streams, reduce soil erosion, etc.						
Prepare drought contingency plans	X				Governing Bodies, Municipal Authorities	PADEP
Amend zoning ordinances and SALDOs to preserve and conserve historic resources.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Historic, Landscape, and Scenic Resources Recommendations						
Participate in and promote the South Mountain Conservation Landscape Initiative (CLI).				X	Governing Bodies	ACOPD, Cooperating state and regional agencies
Adopt scenic resource protection provisions in zoning ordinances and SALDOs.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Prepare a regional or individual greenway and open space plans.		X			Governing Bodies, Planning Commissions	ACOPD, PADCNR
Protect identified greenway corridors through ownership or easements. Protect trout streams.				X	Governing Bodies, Landowners	Land Conservancy of Adams County
Support Journey Through Hallowed Ground National Heritage Area.				X	Governing Bodies	ACOPD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Stormwater Management Recommendations						
Include standards in SALDOs to encourage the use of BMPs for stormwater management.	X				"	"
Participate with Adams County in the development of a countywide Act 167 stormwater management plan.		X			"	
Adopt zoning ordinances and SALDO provisions pursuant to Act 167 plans and watershed and river conservation plans.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Incorporate the recommendations of the Conewago Creek Watershed Conservation Plan, Monocacy River Watershed Stormwater Management Plan, and the Yellow Breeches Creek Rivers Conservation Plan in municipal SALDOs/Stormwater Management Ordinances should to help protect the watersheds.	X				Governing Bodies, Municipal Engineers	ACOPD
Enact BMP requirements in SALDOs for stormwater management and erosion and sedimentation control.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED, ACCD
Evaluate existing drainage problems		X	X		"	

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
and providing funding in capital improvement planning or maintenance budgets to correct such problems.						
Development Techniques Recommendations						
Enact Conservation by Design zoning standards in appropriate settings.	X				"	"
Maintain historical and architectural integrity of existing residential neighborhoods by developing bulk, area, setback, and dimensional standards that are consistent with Borough and village development patterns.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Funding Recommendations						
Procure funding to preserve environmentally sensitive areas, scenic resources, and historically and culturally significant sites.				X	Governing Bodies	Adams County Commissioners
Administrative Recommendations						
Establish Environmental Advisory Councils.	X				Governing Bodies	
Support the formation of watershed associations		X			Governing Bodies, EACs	WAAC

TRANSPORTATION – ACTION PLAN

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Maintenance						
Work with ACTPO and Penn DOT to establish a priority order for road and bridge repairs on state-owned facilities.				X	Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT
Establish a priority for repairs to municipal-owned roads and bridges.	X				Governing Bodies	ACOPD ACTPO PennDOT
Work with County and State partners to secure funding for upgraded signage and additional scenic and historic designations as appropriate.				X	Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT DCNR
Require developers to improve shoulders and provide sidewalks, where appropriate, along road frontage of development sites.	X				Governing Bodies	ACOPD ACTPO PennDOT Development Community (Builders)
Capacity						
Alternative road alignments should be sought in a manner reflective of the rural character of the region.		X			Municipalities ACTPO ACOPD	Municipalities ACTPO ACOPD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Target intersection turning movement improvements and/or realignments to alleviate conflicts with trucks.		X			Municipalities ACTPO ACOPD	Municipalities ACTPO ACOPD Trucking Industry
Support future road improvements that improve traffic flow and provide additional shoulder width to allow for reasonable maneuverability around slow-moving agricultural machinery.				X	Governing Bodies	ACOPD ACTPO PennDOT Development Community (Builders)
Participate in all planning discussions related to developing an alternative to US Route 30 to ensure that the historic and aesthetic qualities of Arendtsville and Biglerville Boroughs along Route 234 as well as the agricultural operational values or the region are maintained.				X	Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT
Participate in all planning discussions related to developing alternate and other capacity upgrades to ensure that the historic and aesthetic qualities of the region are maintained.				X	Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT
Ordinances						
Adopt access management practices at a municipal level to minimize future	X				Governing Bodies Planning Commissions	ACOPD ACTPO

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
conflicts.						
Identify appropriate traffic calming measures and street design techniques to reduce vehicle speeds on interconnected streets.		X			Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT Development Community (Builders)
Through the use of the Official Map identify existing areas where infill road and sidewalk connections can be made.		X			Governing Bodies Planning Commissions	ACOPD ACTPO DCED
Require developers to improve shoulders and provide sidewalks, where appropriate, along road frontage of development sites.				X	Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT Development Community (Builders)
Adopt Impact Fee Ordinances to spread the cost of development-related transportation needs to the private sector.		X			Governing Bodies Planning Commissions	ACOPD ACTPO DCED Development Community (Builders)
Connectivity						
Require new development to be designed				X	Governing Bodies	ACOPD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
in a manner that provides connections from new roads to streets in adjacent neighborhood and/or developments.					Planning Commissions	ACTPO DCED Development Community (Builders)
Encourage bicycle and pedestrian facilities, including sidewalks, within new developments to be designed in a manner that provides connection to other regional destinations.				X	Governing Bodies Planning Commissions	ACOPD ACTPO DCED Development Community (Builders)
Enforcement						
Work with Penn DOT and State Motor Carrier Enforcement personnel to establish restrictions on road corridors that are not capable of handling larger trucks.				X	Governing Bodies Police Departments	PennDOT PA State Police Trucking Industry
Bicycle / Pedestrian						
Investigate funding sources, including Transportation Enhancements and the Hometown Streets and Safe Routes to Schools programs, to repair and extend existing sidewalk and trail networks.		X			Governing Bodies Planning Commissions	ACOPD ACTPO HABPI PennDOT
Consult with the Upper Adams and		X			Governing Bodies	ACOPD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Gettysburg School Districts on the best manner to provide bicycle-pedestrian connections from existing school sites to adjacent neighborhoods.					Planning Commission UASC	ACTPO HABPI PennDOT
Shoulder areas should be widened as roads are repaved over time to safely accommodate bicycle traffic and provide safe pull-off areas for disabled vehicles.		X			Governing Bodies Planning Commissions	ACOPD ACTPO HABPI PennDOT Development Community (Builders)
Transit						
Identify potential areas for “Park & Ride” lots to encourage carpooling and ridesharing.					Governing Bodies Planning Commissions	ACOPD ACTPO PennDOT ACTA Commuter Services of Southcentral PA
Expand awareness of the PA Commuter Services program, which is designed to connect people who are making frequent trips to nearby destinations.				X	Governing Bodies ACTPO ACOPD ACTA	Commuter Services of Southcentral PA PennDOT
Support the logical expansion of fixed-route transit services as population densities and ridership demand dictates.					Governing Bodies	ACTA ACTPO ACOPD

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
						PennDOT
Railroads						
Work with Penn DOT, the Gettysburg & Northern Railroad Co., and Pioneer Lines Scenic Railway to ensure proper safety measures and road crossing designs are implemented.				X	Governing Bodies	ACTPO ACOPD PennDOT
Work with ACTPO and Penn DOT to establish a priority within the region for the expenditure of Railroad Crossing funds. Establish protection zones around existing railroad rights-of-way.		X			Governing Bodies	ACTPO ACOPD PennDOT
Regional Cooperation						
Establish a regional forum or Council of Governments (COG) with adjacent municipalities and regions to establish a dialog on regional transportation issues and projects.			X		Governing Bodies Planning Commissions	ACTPO ACOPD PennDOT
Participate in all planning discussions related to developing an alternative to US Route 30 to ensure that the historic and aesthetic qualities of Arendtsville and Biglerville Boroughs along Route 234 as well as the agricultural operational values				X	Governing Bodies Planning Commissions	ACTPO ACOPD PennDOT

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
or the region are maintained.						
Participate in all planning discussions related to developing alternate and other capacity upgrades to ensure that the historic and aesthetic qualities of the region are maintained.				X	Governing Bodies Planning Commissions	ACTPO ACOPD PennDOT

COMMUNITY FACILITIES AND UTILITIES – ACTION PLAN

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Sewer and Water System Recommendations						
Update and implement municipal Act 537 plans or regional Act 537 plans as appropriate.	X	X	X		Governing Bodies, Municipal Authorities	PADEP, PENNVEST
Adopt and enforce Sewage Management Ordinances for on-lot systems when recommended by municipal Act 537 plans.		X			Governing Bodies	PADEP
Coordinate and periodically update Act 537 to ensure consistency with and implement the Designated Growth Area (DGA) recommendations of this Plan.	X				Governing Bodies, Municipal Authorities	PADEP
Discourage extension of public sewer and water services into areas designated for continued agricultural use.						
Address the requirements of the Chesapeake Bay Tributary Strategy concerning nutrient loading.				X	Governing Bodies, Municipal Authorities	PADEP
Increase the capacity of the Arendtsville, Bendersville, Possum		X	X		Governing Bodies, Municipal Authorities	Developers, PENNVEST

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Valley, and Biglerville water systems as necessary to implement the Designated Growth Area (DGA) recommendations of this Plan. Establish policies for developer responsibilities.						
Consider preparing an Integrated Resource Plan for water resources in the region.		X			Governing Bodies	ACOPD, PADEP
Consider recommendations of State Water Plan.		X			Governing Bodies, Municipal Authorities	
Consider Wellhead Protection Programs and implementing the recommendations of the Adams County Water Supply and Wellhead Protection Plan		X			Governing Bodies, Municipal Authorities	ACOPD, PADEP
Establish adequate infrastructure improvement requirements and standards for developers within SALDOs.	X				"	"
Park, Recreation, and Open Space Recommendations						
Prepare individual or multi-municipal park, recreation and open space plan (P, R & OS Plan)		X			Governing Bodies, Planning Commissions, Recreation Commissions	Adams County Office of Planning and Development (ACOPD),

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
						PADCNR
Require dedication of recreation land or charge a recreation fee in lieu of dedication in SALDOs.		X			Governing Bodies, Planning Commissions	Developers
Establish standards for recreation facilities in P, R & OS plans and SALDOs.		X			Governing Bodies, Planning Commissions, Recreation Commissions	PADCNR
Develop parkland and recreation facilities pursuant to recommendations of the Adams County vision for P, R & OS and local P, R & OS plan.			X		Governing Bodies, Recreation Commissions	PADCNR, volunteers for construction and maintenance
Continue and expand recreation programs pursuant to recommendations of P, R & OS plans.		X		X	Governing Bodies, Recreation Commissions	
Review existing parks and facilities for compliance with ADA requirements and consumer safety regulations. Adopt maintenance standards.				X	Governing Bodies, Recreation Commissions	
Prepare official maps to reserve land identified for public park, recreation, and trail use.		X			"	
Procure funding from applicable		X		X	"	Adams County

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
programs to acquire and construct parks, recreational facilities, trails, and open space.						Commissioners, PADCNr, PennDOT
Prepare individual or multi-municipal greenway plans. Coordinate with County and surrounding municipalities.		X			Governing Bodies, Planning Commissions, Recreation Commissions	ACOPD, PADCNr, Landowners
Support recommendations of the Adams County Greenways Plan for greenways, bike routes, and off-road trails.				X	Governing Bodies, Recreation Commissions	ACOPD, PADCNr, PENNDOT
Emergency Services Recommendations						
Support coordination between emergency service providers. Encourage volunteerism and seek additional sources of funding.				X	Governing Bodies, Emergency Services Providers	ACDES
Maintain current and workable emergency operations plan.				X	Governing Bodies	ACDES
Evaluate the need and feasibility of a shared, multi-municipal, or regional police force.		X			Governing Bodies	PADCED
Ensure adequate ambulance service.	X				Governing Bodies, Service providers	ACDES

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Attract additional medical facilities to address dental and mental health professional shortages, and serve the migrant farm worker population.				X	Governing Bodies	Chamber of Commerce, Health Providers
Require new developments to provide sufficient water supplies for fire protection.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Community Facilities Monitoring Recommendations						
Involve local fire company and school district personnel in review of subdivision and land development plans, where appropriate.				X	"	Fire Companies, School Districts
Identify needs of seniors particularly with regard to transportation, health support, and access to food and energy supplies.				X	Governing Bodies	ACOonA
Determine the need for additional community centers in the region and support their establishment as needed.				X	Governing Bodies, Recreation Commissions	County Offices, Community Organizations
Maintain a dialog with school districts regarding facilities planning, school bus routes and stops, and making school district facilities available to				X	Governing Bodies, Planning Commissions, Recreation Commissions	Upper Adams and Gettysburg Area School Districts

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
the Region's residents.						
Monitor needs and opportunities for additional, expanded, or improved community services and facilities, the needs of demographic groups in the region, and grant opportunities. Review opportunities for regional cooperation.				X	Governing Bodies, Municipal Staffs	
Community Facilities Planning / Provision – General Recommendations						
Review and use as appropriate resources of PADCED to improve municipal government with regard to issues such as joint purchasing, shared services, etc.).				X	Governing Bodies, Municipal Staffs	PADCED
Prepare Capital Improvements Programs.		X			Governing Bodies, Municipal Staffs	

ECONOMIC DEVELOPMENT – ACTION PLAN

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Agricultural Sector Recommendations						
Allow income generating accessory uses on farms in agricultural areas.	X				"	"
Provide for location and expansion of agriculturally-related businesses and support facilities in zoning ordinances.	X				"	"
Ensure reliable supply of water for the agricultural sector.		X	X		Governing Bodies	PADEP, SRBG, PENNVEST
Define broad categories of farm and agricultural support businesses that can be treated as principal permitted uses in agricultural areas.	X				Governing Bodies, Planning Commissions	ACOPD, PADCED
Consider adoption of official maps to reserve lands or corridors essential for economic development purposes.	X				Governing Bodies, Planning Commissions,	
Tourism and Promotion Recommendations						
Promote agri-tourism, scenic corridor auto tours, heritage tourism, and historic corridor auto tours.				X	Governing Bodies	Chamber of Commerce, Gettysburg Convention and Visitors Bureau

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
Develop tourism promotion activities related to the Journey Through Hallowed Ground National Heritage Area.				X	Governing Bodies	ACOPD Convention and Visitors Bureau, ACEDC, JTHGP
Support efforts to maintain a vibrant fruit industry, including diversification of crops and enterprises, replanting of varieties, investment in production systems, expanding the fresh market sector, continuing the processing sector, and developing new technologies, products and markets..			X	X	Governing Bodies	ACFGA, Penn State, ACEDC, PADCED
General Economic Development Recommendations						
Ensure that land use ordinances provide for sufficient areas to allow the development of regionally sustaining economic development projects in a manner consistent with the Future Land Use Plan.	X				"	"
Establish zoning policies for home employment and home occupations. Incorporate no-impact home-based businesses provisions pursuant to the Municipalities Planning Code.	X				"	"
Encourage appropriate adaptive re-use of	X				"	"

Recommendation	Short Range	Mid Range	Long Range	On-Going	Responsibility	Potential Partners
vacant and underutilized commercial and industrial buildings through zoning.						
Cooperate with ACEDC to develop a database of areas and buildings zoned and available for commercial and industrial development.				X	Governing Bodies	ACEDC
Support continuation of the forestry industry.				X	Governing Bodies	PADCNR

APPENDIX A

**Adams County Agricultural Analysis and Recommendations Report
(Shepstone Report)**

**Adams County Fruit Industry Assessment
(Harper Report)**

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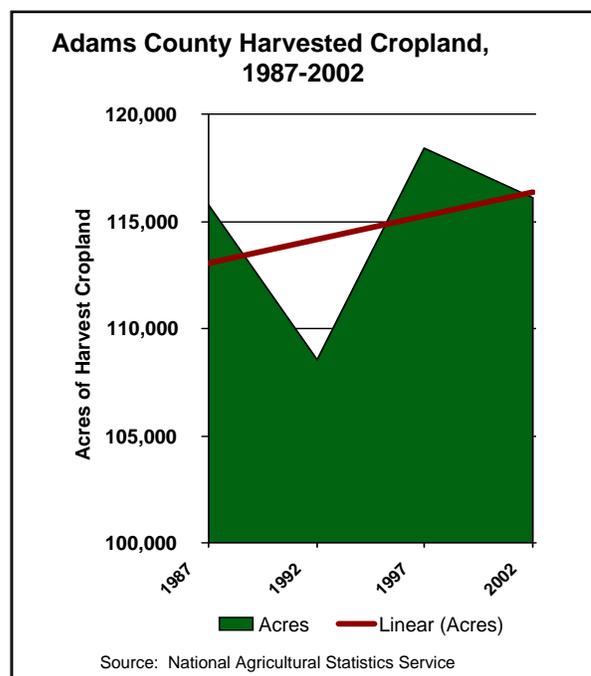
1.0 Agricultural Analysis and Recommendations

1.1 Background

1.1.1 Agricultural Resources

Northwest Adams County is the heart of its Adams County Fruitbelt. It includes much of the County's fruit acreage as well as its fruit processing industry. The Fruitbelt defines the character of area from an economic perspective and provides an appealing working landscape of rolling hills planted in fruit trees. The local economy revolves around agricultural production, food processing, agricultural supply and transportation and marketing support industries.

The Fruitbelt's special character also attracts thousands of tourists each year. The agricultural tourism industry includes annual Apple Blossom and Apple Harvest Festivals, held at the South Mountain Fairgrounds in Arendtsville. These events generate 150,000 or more visitors annually from throughout the region, including the Baltimore-Washington metro area. The Fruitbelt also offers an additional attraction for heritage tourists visiting the County's many historical sites as well as sportsmen drawn by the hunting and fishing opportunities that farming creates. Many of these visitors patronize the area's farm stands, wineries and other farm-related businesses, growing the economy in the process.



Adams County's harvested cropland acreage has trended upward slightly over the last two decades, as the above chart illustrates. This indicates the farmland foundation that supports the County agriculture industry as a whole remains intact, despite the moderate growth pressures the area has faced. While the pressures will clearly increase with metro area expansion, there is still a very strong agricultural resource base available. Roughly two-thirds of countywide fruit production is found in Northwest Adams County. This land resource base has declined somewhat, however, having dropped from approximately 20,600 acres in 1997 to 17,200 acres in 2002 (for the County as a whole).¹ Therefore, there has been some erosion of the land base with respect to the fruit industry. Nevertheless, 34.2% of all orchard land in Pennsylvania is located in Adams County, indicating just how special the agricultural land of Northwest Adams County is.

Maintaining the Fruitbelt and the working landscape it presents is essential to both the economy and the quality of life Northwest Adams County possesses. This requires not merely preserving farmland but also agriculture as an industry, which, in turn, demands maintaining the critical mass of activity that supports the industry. The Fruitbelt represents a highly integrated economic system comprised of farms, processing facilities, suppliers, transportation systems and community support networks. It can only be protected as a resource if the needs of industry as a whole are addressed.

Housing demand emanating from Maryland, Harrisburg, York, and the Interstate 81 Corridor is causing property values to increase throughout the region and encouraging buyers to look to Northwest Adams County for good land values. This competing demand for land will increasingly put pressure on the Fruitbelt, leading to further erosion of the land base and that critical mass of activity required to sustain the industry. Growth is better than the alternative from the perspective of many farmers, and offers opportunities for niche marketing of farm products as well as sources of collateral and equity for farm expansion or eventual retirement. Nonetheless, development that results in significant losses of orchard lands will also lead to accelerating losses of employment in agriculture and food processing, and other negative impacts on economic, cultural and natural features of this unique working landscape. Ironically, it is these very features that serve to attract the growth. Managing growth within the Fruitbelt, therefore, requires a delicate balancing of development with preservation. Few areas, in fact, more strongly suggest the need for application of “smart growth principles.”

The characteristics conducive to fruit growing in NW Adams County include:

- Soil drainage
- Depth to bedrock
- Slope
- Micro climate

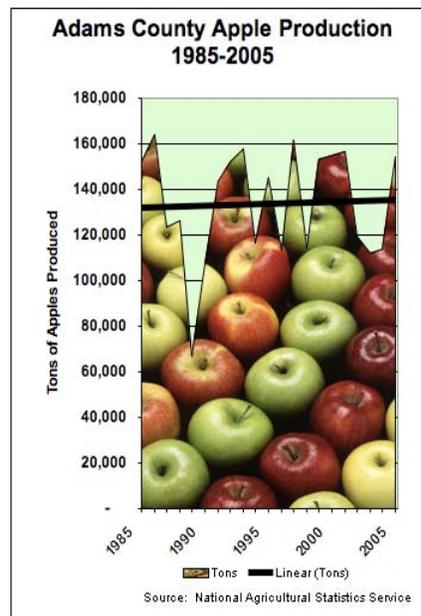
Special geological and climatological conditions are absent in other parts of the county, making NW Adams County a unique landscape for fruit growing. In fact, conditions conducive to successful fruit growth exist in relatively few locations in the Eastern U.S. Once the soils are “lost to development”, they are unlikely to be returned to agricultural production. If more land in NW Adams County is lost to development, production cannot be replaced in other parts of the county. Also, the ability to grow fresh fruit near burgeoning markets in DC/Baltimore will be increasingly important in the future, especially if transportation costs rise.

Status of Agricultural Industry

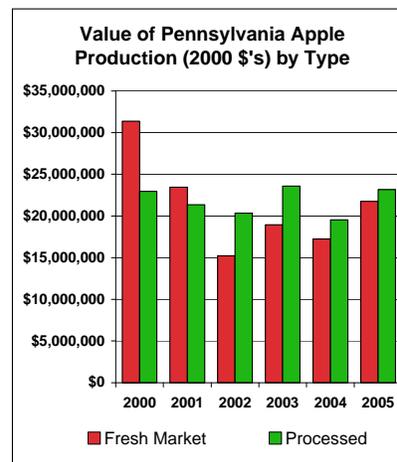
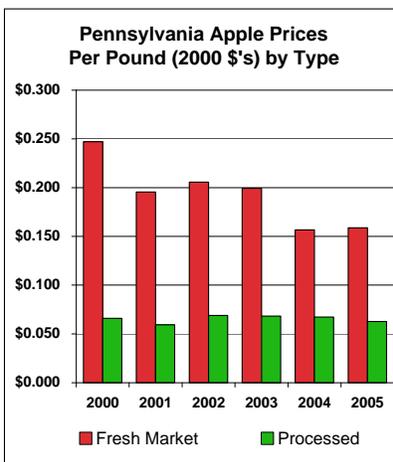
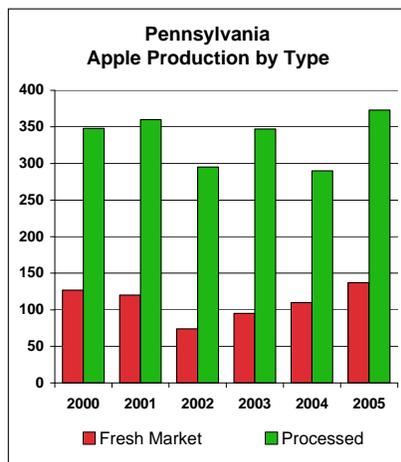
Adams County ranked No. 1 among Pennsylvania counties and No. 62 among all U.S. counties in the market value of fruits, tree nuts, and berries sold, with over \$34 million in sales in 2002. This accounted for 31.4% of statewide sales of fruits and related products. Adams County is also the Commonwealth's top grower of both apples and peaches. It produces over 150,000 tons of apples annually, and over 11,000 tons of peaches annually, representing 65.3% of Pennsylvania's total apple production, and 38.5% of Pennsylvania's total peach production.

Apple production alone generates over \$30 million in sales for Adams County and peaches account for another \$5 million of sales. Remarkably, Adams ranked No. 5 among all U.S. counties for apple production in 2002, indicating the very special value of the Fruitbelt region that is centered within Northwest Adams County. Apple production has also increased slightly on a trend basis as the chart on the following page indicates:

Statewide, about 27% of apples are utilized in the fresh market. The bulk of the production is used in processing enterprises, several of which are located in Adams County. Both fresh market and processed apple utilization have increased slightly since 2000.



The fresh market sector generates much higher prices, suggesting the best future opportunities are with specializing in fresh products. Nevertheless, adjusted for inflation, prices have remained steady at about 6-7¢ per pound for processed apples but have declined from 25¢ per pound to 16¢ per pound (in 2000 dollars) for the fresh market. Although farmers must exercise caution in pursuing fresh market options, more emphasis should be placed on the opportunity for fresh local fruit sales, especially considering growth in the DC/Baltimore, Hanover and Rt. 81 area which will expand the market for fresh fruit even further. Moreover, the communities of Northwest Adams County must continue to accommodate both the fresh market and processing sectors if the industry is to continue to prosper and the Fruitbelt remain vibrant.



The above charts illustrate Statewide apple utilization trends, indicating the total value of fresh market utilization declined sharply between 2000 and 2002, but has been on the upswing since. The value of apples production utilized in processing, however, has remained relatively stable, indicating the value of maintaining this commodity sector. Nevertheless, global competition will probably limit the growth potential for processed apples. The overall inflation-adjusted price of apples has declined over the last 25 years by about half. Staying competitive demands Northwest Adams County producers consistently find ways to reduce costs through applications of new technologies while simultaneously identifying new products and markets. Yields have been flat for the past 20 years but new technology also offers some opportunities to increase production using more high density growing practices, for example. Apple varieties well suited to the area and the fresh market include the Yellow Delicious and Nittany, both of which could also be promoted more extensively. Red Delicious apples have also been identified as one of the top foods to improve health.



There are, in addition, several possibilities for diversification. These include nectarines, peaches, vegetables, cattle, Christmas trees (U-pick) and wine. The proximity to metro areas, often viewed as a threat to farming, becomes an advantage in marketing many of these products. It is worth noting Lancaster, Chester and Berks Counties are the top agricultural producers among Pennsylvania counties. All are also urban counties and among the Commonwealth's top ten growth areas. They have a combined population of 1.3 million persons. Each is part of a metropolitan area. Similar patterns exist in New York State where the top producer is Suffolk County, Long Island. Agricultural can thrive in such growth areas but it has to adapt to market opportunities. Suffolk County was once a duck and potato farm area but it now produces large quantities of nursery products, cut flowers and wines. Similar opportunities exist in Northwest Adams County. Growth, although it must be managed, need not end farming. It could, indeed, open up many new possibilities, given the quality and appeal of the working landscape that already exists.

1.2 Agricultural Issues

1.2.1 Economic Development Issues

Northwest Adams County's agricultural industry faces several economic development issues. These include the following:

- Labor costs are a major budget item for the fruit industry. The migrant workforce is an essential source of this labor supply. Current conditions make the future stability of this resource questionable. The industry demands temporary workers and there is no effective legal program to accommodate this need. Many workers do not return to their home country due to lack of such a program. This has increased the guest worker population and accompanying needs with respect to social services. Cost-effective housing for these workers must also be provided. Northwest Adams County

municipalities will need to address these workforce needs in their community facilities, housing and land use policies.

- Competition from non-agricultural uses is increasing as growth accelerates. Reduced risk pesticides may be an answer to nuisance complaints by residential neighbors, but they cost more and make the industry less competitive. Water supplies are also limited, both a quantity and a quality perspective. Much of the area is identified by the Susquehanna River Basin Commission as “water distressed.” New residential development will, therefore, compete for this critical water supply, potentially depriving producers of irrigation sources, if not directed to areas of existing public water supply. Such supplies must be further developed as a way of managing the scarce water resources of the area.
- Although total agricultural acreage can be expected to decline somewhat as marginal land is converted to higher-value development uses, re-investment of this equity in new technology, higher density planting, new products and marketing can help ensure that harvested cropland is retained at or near current levels and production remains stable. This will demand both good farm management and land use policies that allow for conversion of excess realty to equity.
- The processing sector can be expected to remain strong but will, as the market necessarily shifts toward fresh market produce in the face of international competition, increasingly be oriented toward production of byproducts made with fresh market leftovers. This may well attract new processors and product lines with their own special needs in the way of infrastructure, labor and land use policies.
- Niche marketing of special products and high quality fruit will become a larger part of the industry. This requires accommodation of new types of land uses, including larger farm stands, distribution facilities and wineries. Wineries involve a combination of agricultural, industrial and retail uses that must be anticipated by land use regulations.
- Agricultural tourism is a key aspect of the industry today. This also needs to be anticipated in land use policies. Moreover, many trout streams run through the agricultural areas of Northwest Adams County. Fishing, therefore, is part of the tourism economy supported by the working landscapes of the Fruitbelt. These streams and the trout populations need to be protected.
- Traffic is increasing as a result of new development, presenting conflicts between residential traffic and agricultural trucking on some roads. This will need to be addressed with growth management, community education and infrastructure improvements. Additionally, increases in Pennsylvania Turnpike tolls have resulted in heavy truck traffic cutting across the Fruitbelt region in an east-west direction to avoid tolls. This issue can only be addressed jointly with the Commonwealth. A Gettysburg bypass could also be problematic if the corridor were to go through the Fruitbelt. Transportation planning must incorporate goals that go beyond Level-of-Service and address impacts on



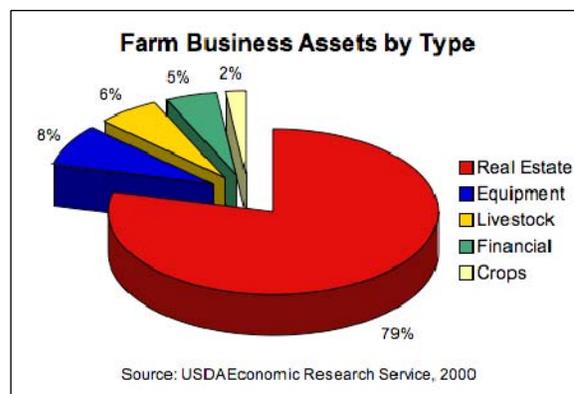
agriculture. PennDOT's *Sound Land Use Implementation Plan* provides some guidance in developing such "Smart Transportation" solutions.

- Expansion of vineyards and wineries (e.g. - new winery in Franklin Township).

1.2.2 Other Land Use and Zoning Issues

An agricultural forum held in October, 2006 with Northwest Adams County agricultural industry representatives suggests the following with regard to other land use and zoning issues:

- Land use regulations within Northwest Adams County and zoning, where it exists, is perceived as generally farm-friendly. Agricultural Security areas designations are often reflected in zoning. As residential development increases, however, there will increased demands to regulate all development, including agriculture and, especially, processing. There will also be new activities and uses that will need to be addressed. It is important to maintain farm-friendly regulations that also provide for processing both on and off farms as well as retail and even lodging to accommodate evolving forms of agriculture.
- Residential land values are outpacing agricultural land values due to increased housing demand from nearby metropolitan areas as well as growth that is occurring along the I-81 corridor. This is likely increase over time given better housing values obtainable by consumers coming to Adams County. This has the beneficial impact of increasing the farmer's equity in land value, the farm's chief asset and which is often that farmer's retirement fund (see chart to right). It can also provide a source of collateral for borrowing and encourages investment by younger generations. Agricultural tax assessment policies have helped by ensuring farms get taxed on their production, rather than development, value. However, the increased land values can still make it difficult for young farmers to buy into the farm. Farmers need ways to capture their equity without giving up the farm to do so. Farmland also needs to be affordable to attract young farmers at the outset.
- Some traditional smart growth techniques, although they have application to farmland protection, will not work especially well for orchards where application of pesticides is necessary. Conservation subdivision, for example, can be used in cases of beef grazing or equine operations, which generate relatively few concentrated odors or the need for pesticides, but more intensive animal agriculture and orchards are likely to generate perceived problems by unknowledgeable residential buyers. Putting too many small lots too near orchards increases the likelihood of conflicts and the degree of land use incompatibility. Incompatible neighbors and land uses cause social tension. This tension will increase as residential development increases. Therefore, it is better to steer all but farm-related residential development to existing or new centers (inside or outside



Northwest Adams County) where the infrastructure exists to serve them and land use conflicts are minimized (e.g. – through the use of transfer of development rights (TDR)).

1.3 Recommendations

1.3.1 Farm-Friendly Land Use Regulations

The communities of Northwest Adams County, especially the three Townships, need to ensure their land use regulations are farm-friendly. The following are specific regulations in this regard:

- A. **Zoning ordinances should define broad categories of agricultural businesses that can be treated as principal permitted uses.** While some basic set standards should be able proceed without extensive approvals. Not only farm stands, but also farm markets should be principal permitted uses. Likewise, many farm supply sales should be allowed on the basis of principal permitted uses. Zoning ordinances should also address such as parking and traffic access management.
- B. **Zoning ordinances should include flexible provisions for income-generating farm activities such as farm stands, farm markets, and farm supply sales.** Agricultural businesses focused on direct marketing have to incorporate elements of entertainment and tourism appeal in their operations, as noted earlier, and businesses such as wineries often include combinations of industrial, retail and agricultural land uses. Zoning ordinances should anticipate such mixes of uses and allow them, often on an accessory use basis. Once again, some basic set standards are appropriate but there should be assurance that such uses are permitted and able to be approved without lengthy delays. Providing for combined permit processing when activities are part of a farm operation will go a long way to ensure this.
- C. **Right-to-farm policies should be included among the community development objectives of zoning ordinances so as to enshrine this concept into the review process for other discretionary land uses.** These policies could also be linked to Agricultural Security Area designations to establish the principle that sound agricultural practices should neither be consider nuisances within these areas nor be subject to unreasonable approval conditions in cases where agricultural land use applications are before municipal boards for approvals.



1.3.2 Farmland Protection Incentives

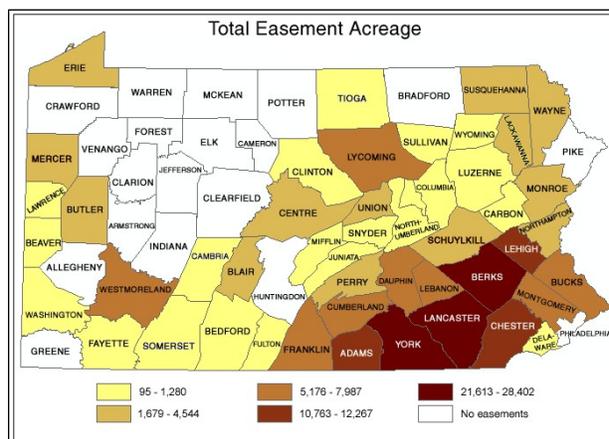
Farmland is an economic asset for Northwest Adams County. However, protection needs to be accomplished in a manner that does not destroy the basis of the farm's ability to borrow and capitalize operations or deprive farmers of the equity needed for retirement. The following recommendations are offered:

- A. **Employ a simple Transfer of Density/Development Rights (TDR) program that allows for multi-municipal transfers of such rights and provides major incentives for both developers and farmers to participate.** There are numerous jurisdictions with formal TDR provisions in place, but few have protected any farmland. The most successful program is one adopted by Montgomery County, Maryland. TDR has not worked well in many areas for three reasons; a) lack of buying and selling markets within single jurisdictions, b) excessive complexity and 3) lack of sufficient incentives. These problems can be resolved by; a) allowing cross-jurisdictional transfers of density rights, b) providing for transfers in connection with development approvals rather than establishing stand-apart land banks or markets for the rights, and 3) incorporating serious incentives.



- Countywide zoning and inter-municipal agreements can ensure the market for the rights is not an issue. The principal challenge, therefore, is to simplify TDR procedures and create incentives. Northwest Adams County municipalities should consider developing simplified TDR programs that allow transfers of density rights, at the time of final subdivision approvals, from farmland (“sending properties”) to areas developed centers with the infrastructure to accommodate such development (“receiving properties”). Such transfers should be conditioned on placement of conservation easements upon the affected farmland, the easement purchases to be financed by the developers. Creation of “development banks” should be avoided as causes of unnecessary complexity. Likewise, the designation of sending and receiving districts should be accomplished by simply referencing existing zoning districts rather than creating an overlapping system. Simplicity is essential.
- B. **Zoning densities in the urbanizing areas of the planning area and the County need to lowered (especially where infrastructure is presently lacking) to create the demand for additional density that could then be acquired by purchasing and transferring density rights from farmland.** Density within areas to which density is intended to be transferred can then be increased in a major way to create the powerful incentives needed to make TDR work. Overall, density adjustments should have a neutral effect such that density is simply shifted from farmland to developing centers. This will require bonuses such that density rights subject to transfer are significantly greater than those for development of the farms themselves. This will ensure farm equity is preserved if development rights are sold off.
- C. **Innovative approaches are needed to encourage use of agricultural conservation easements within the Fruitbelt as additional means of allowing farmers to recover**

equity without selling the farm. Funding through a realty transfer tax would be an appropriate source of funding, although this would require new legal authority to increase the tax beyond current limits. Another approach is “limited development” of non-prime farmland in partnership with organizations such as the North American Land Trust (NALT), headquartered in Chadds Ford. NALT specializes in maximizing tax benefits and development income from properties of high conservation value while preserving the bulk of those properties in open space uses.



An open space bond issue to develop new sources of funding for easement acquisition is warranted. Several Pennsylvania counties have done this and Adams County has launched a “Keep Adams County Green” initiative. Most programs, however, are very small, complex and too unwieldy to be effective in the real estate marketplace. They have gotten bogged down in excessive planning and procedure. A streamlined program, based on existing planning and targeted toward agricultural land with mechanisms to acquire options and rights of first refusal, would allow municipalities (or the County) to compete and offer fair value for the equity farmers have in their land. Adams County already has a successful program, funded by the Commonwealth, on which additional funding could be piggybacked.

- D. **Agricultural preservation concepts, incorporating very low densities, together with maximum lot sizes, should be considered as zoning is updated.** Very low densities (e.g. one dwelling unit per 10 acres) will preserve larger chunks of farmland and discourage sprawl. Maximum lot sizes (e.g. 1.0 to 1.5 acres) in the context of these very low densities will ensure farmers can give land to the younger generation or sell a limited number of small lots, without sacrificing the farm itself. These concepts should be further combined with TDR incentives or purchase of development rights, the farmer can fully recover equity while preserving the farm. Agricultural preservation zoning absent TDR or purchase of agricultural conservation easements will be difficult to implement, because it will necessarily reduce farm equity, which is counterproductive.

1.3.2 Infrastructure Needs

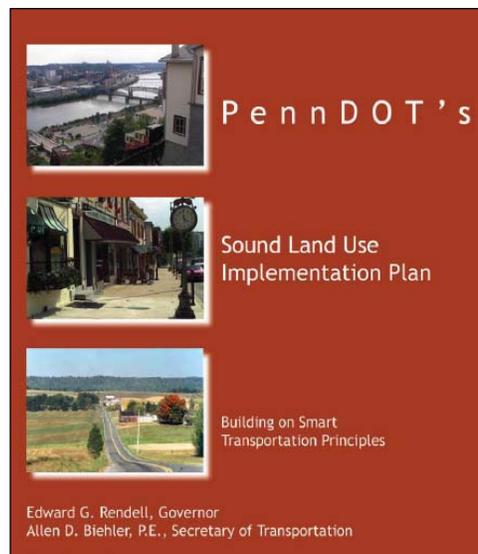
The agricultural sector also demands attention to specific infrastructure needs. These include the following:

- A. **Public water supply infrastructure is needed within developing centers to**

accommodate higher density residential development. The success of the industry will depend to a large extent on its ability to increase yields through such techniques as higher density planting which, in turn, requires large amounts of water. The processing sector, as it evolves into new product lines and production techniques, must also be assured of a reliable water supply. Public investment in urban infrastructure is, therefore, a necessary corollary to agricultural preservation in Northwest Adams County. Residential development cannot be allowed to divert essential water supplies from agriculture.

B. Transportation infrastructure improvements need to be focused on upgrading of two-lane roads to handle additional capacity required rather than large new projects that will change the development pattern and put more pressure on the Fruitbelt.

The County and Northwest Adams County municipalities should work together to influence the scheduling of projects on PennDOT's 12-Year Plan, giving priority to such upgrades over bypasses and similar projects that would cut through the Fruitbelt. Again, some innovative approaches may also be warranted. PennDOT projects of limited local benefit often require local funding matches. Given that both the agricultural sector and new residential development require highway improvements, there is potential for partnership efforts. Municipalities can create special road improvement districts to serve the former and, based upon thorough studies, impose impact fees on the latter to generate the local match. These options should be explored.



Adams County Fruit Industry Assessment Northwest Adams County Comprehensive Plan

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Adams County Fruit Industry Assessment Northwest Adams County Comprehensive Plan

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For a number of reasons (topography, climate, soils, knowledge, marketing/processing expertise, etc), tree fruit production has been the predominant form of agriculture practiced in Northwestern Adams County for most of the last century. Apples are the largest crop grown in volume and acreage, but there are significant plantings of peaches and tart cherries as well. Pears, plums, and sweet cherries are also produced, but to a much lesser extent.

History of the Industry

The fruit industry has been an integral part of Adams County since the mid-nineteenth century. There are accounts of Union and Confederate troops consuming apples and cherries at the time of the Battle of Gettysburg in July 1863. Fresh fruit was picked and packed in wooden barrels and shipped throughout the East coast and to markets overseas. The fruit processing industry was born from the need for local growers to have another outlet for their production.

The fruit processing industry in Adams County began in 1905 with the formation of the Biglerville Canning Company in Biglerville, Pennsylvania. The company began as a cooperative with 150 members and was in business for two years before being sold at Sheriff's sale to John S. Mussleman Sr. along with his two sons, John S. Mussleman Jr. and C.H. Musselman. C.H. Musselman purchased his brother's interest in the company in 1910 and his father's interest in 1911. In 1912, C.H. Musselman expanded the company by building a second facility in Gardners, about seven miles north of Biglerville. From 1922 through 1957, the company purchased several farms in the area and began growing apples and tart cherries to be processed in the plants.

In April 1949, Penn Mar VA Packers Cooperative began operations under the Board approved name of Knouse Foods Cooperative. The cooperative had plants in Peach Glen (the headquarters), Ortanna, and Chambersburg, PA and consisted of 260 grower members. In 1984 the Musselman Company label, plants, and orchards were purchased by Knouse Foods Cooperative, Inc. With the acquisition of the Musselman Company, Knouse Foods became the largest fruit processor in the eastern U.S. Knouse Foods currently processes over 10 million bushels of apples annually. Tart cherries, peaches, and blueberries (acquired from outside of Adams County) are also processed at its six plants.

The other large market for processing apples in Adams Co. is Cadbury-Schweppes, who markets apple products under the Mott's brand name. Cadbury-Schweppes obtained the apple processing facility located in Aspers after its purchase of the Duffy-Mott Company

in 1982. Beginning in 2007 this facility will no longer process apples, but Cadbury-Schweppes will continue to purchase apples from local growers for transportation to their processing plants in New York.

During the 1990's several events affected the processing industry. Alar, a chemical used to delay apple ripening, was found to be a carcinogen. This discovery led to a marked decrease in sales of processed products which also caused stagnating prices for processing apples. Also, China became a large producer of apple juice concentrate leading to another decrease in processing prices. The price paid for juice apples creates a price floor for processing apples, with canner prices are established from that level. Lower juice prices directly affect the price paid for canning grade apples. Legislation was passed in Congress to increase tariffs and limit the amount of Chinese apple concentrate, but China has found methods of circumventing the regulation and continues to be a major supplier of concentrate.

Plum pox virus. During the 1999 production season Adams County had approximately 3,000 acres of peach and nectarine trees. In September of that year, plum pox virus (PPV) was discovered in northeast Adams County. This discovery has led to the destruction of over 1,200 acres of peach and nectarine trees to date. The virus has also been found in Cumberland, Franklin, and York Counties since the initial discovery in Adams County.

In the spring of 2000, growers began to remove infected blocks of trees under the direction of the United States Department of Agriculture (USDA) and the Pennsylvania Department of Agriculture (PDA). PDA and USDA placed a quarantine on several townships within the infected areas and growers are unable to bring any stone fruit trees into the area. Growers were compensated for the removal and destruction of the trees and for planting a cover crop to combat erosion. Growers have also been compensated for lost production for the five year period that they have been unable to replant stone fruit within the quarantine area. The loss of production had a severe impact on the affected producers because this portion of their businesses had been the most profitable enterprise.

Two tree fruit nurseries have also been affected by the quarantine because they had to destroy nursery stock and have not been able to sell to local producers inside the quarantine zone. Both nurseries moved their stone fruit tree production out-of-state to maintain production to sell to producers in Pennsylvania and elsewhere who have had no impact from PPV.

Several packing houses were also impacted by PPV within the area. These businesses were forced to either purchase fruit from outside the immediate area or lose long-term customers. Another factor was the possible reluctance of consumers to purchase fruit from within the quarantine area (although PPV poses no threat to humans). To date, all packing houses have remained in business, but the "crate trade" (individuals buying fruit in bushel or half bushel crates from growers) has seen a dramatic decrease.

Beginning in 2007, quarantined acreage within Latimore, Huntington, and Tyrone Townships in Adams County may again be replanted to peaches and nectarines. Many of the growers plan to replant at much higher densities (300 to 500 trees per acre) than they previously planted (by comparison, the county average was 107 peach trees in 1997). By increasing the amount of trees per acre, growers will realize the benefits of earlier production and ultimately, more total production than they previously experienced. With the influx of acreage coming into production, local fruit packers will again be able to purchase the fruit they need locally. This will mean they will have fresher fruit to pack and ship to their customers.

In 2000, an economic and fiscal impact survey was conducted using the Community Impact Model-Penn State University (CIM-PSU) model to determine the predicted impacts beyond the farm gate of lost stone fruit production within Adams County. This study showed that for every 1,000 acres of trees removed, the impact on employment, County government revenues, and municipal revenues would be over \$1.1 million per year.

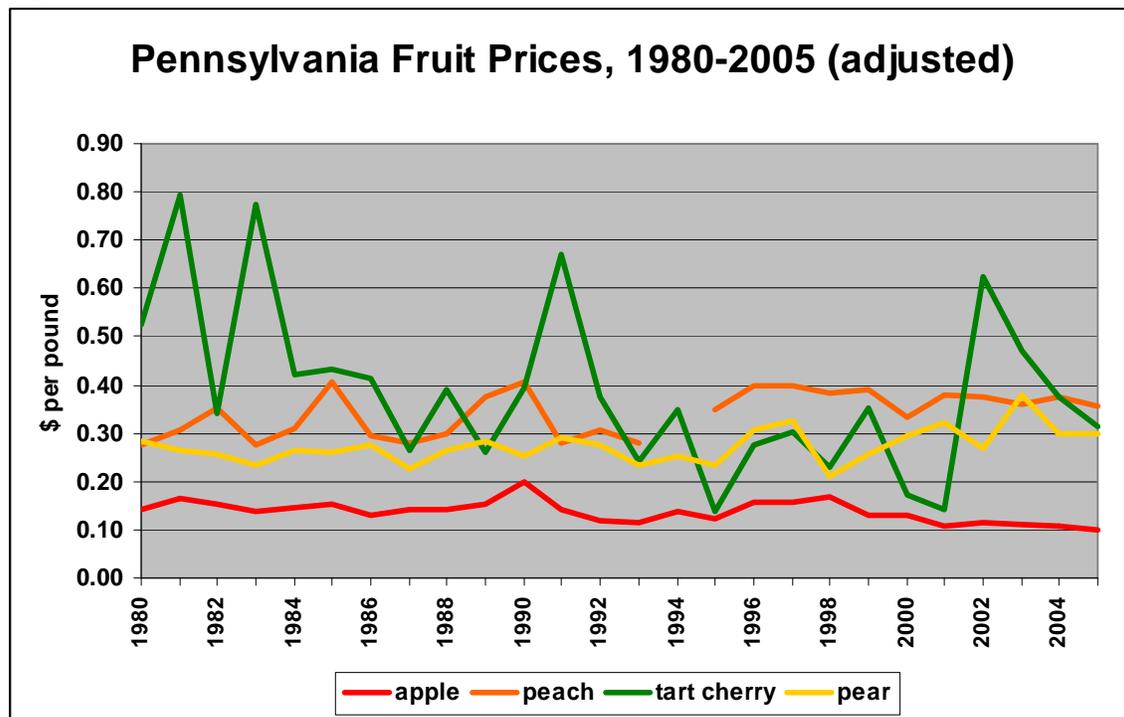
Fruit Marketing

Both external and internal factors have combined to put downward pressure on profitability for the fruit farms of Northwest Adams County over the past decade. Increased competition (both domestic and international), stagnant to declining prices, rising inputs costs, retail consolidation, and changing variety demands and consumer preferences are a few of the many trends impacting the industry. As can be seen in Figure 1, real apple prices (adjusted for inflation by USDA's Index of Prices Paid by Farmers), have shown a gradual decline since 1980. Peach and pear prices have shown a slight increasing trend over the same period, but have experienced times of considerable variability. Tart cherry prices have been extremely variable, reflecting the dominant impact of Michigan's industry on prices, but they too exhibit a downwards trend over this period.

The Value Chain for Adams County Fruit. The path that any agricultural product follows from "field to fork" can often be best understood and analyzed from a value chain perspective. 'Value chain' is a term used to describe the set of processes, activities, and ownership changes that a given product follows as it moves from primary producer to the final consumer (opposite ends of the value chain). In theory, as a product moves down the value chain, it increases in differentiation, with value being added as it moves through the various stages of development and ownership before reaching the final consumer.

The value chain for most fruit produced in Northwest Adams County begins with a basic decision between two primary market channels: processing and fresh. This decision applies to three primary tree fruit crops of the region (apples, peaches, and tart cherries), while for the lesser crops (pears, plums, sweet cherries), a processing market does not exist, so all fruit flows into the fresh market.

Figure 1.



Nominal fruit prices (unadjusted for inflation) from *Statistical Summary and Pennsylvania Department of Agricultural Annual Report* and *Pennsylvania Agricultural Statistics* (various years). Prices were adjusted to 2005 dollars using the index of prices paid by farmers [source: *Agricultural Statistics*, USDA (various years)]. Note: the Pennsylvania peach crop was destroyed by cold weather in 1994.

Processing Fruit. In many instances, the decision of processing versus fresh market channel is a long-term one, made at the time an orchard is established. Certain varieties of apple and peach are essentially only used for processing (i.e. York Imperial, Rome Beauty, older strains of Golden Delicious apples, and cling stone peaches), although limited fresh market sales do occur. Likewise, the vast majority of Montmorency tart cherries are intended solely for the processing market, although some do enter the fresh market.

For growers that choose the processing market, several options exist for the sale of their fruit. It is possible for growers to process their own fruit, and this does occur on a relatively small scale. However, the vast majority of fruit sold into the processing channel from Northwest Adams County is bought by a few large, highly specialized, regional fruit processing companies. Some fruit is bought through brokers while the majority is purchased directly from growers by the processing companies. These companies assume ownership of the fruit at the time of harvest (i.e. delivery to their plants) and either process it immediately (cling peaches and tart cherries) or store the fruit for use later (apples). Various processed fruit products including sauces, pie fillings, and juices are created by these companies. These products are then marketed through one of four final channels before reaching the end consumer: institutional, third party (co-pack),

ingredient or bulk, or company-owned consumer brands. Institutional sales involve the product being sold mainly into the food service and restaurant trades as well as governmental sales (school lunch programs) and can be either branded or unbranded. Ingredient sales would be product sold to other food processors for use in their products (for example, selling pie filling to a bakery). Third party or co-pack sales are products created by a processor specifically for sale under the customer's own brand. Finally, most processors sell a significant portion of their production to final consumers under consumer brands that the company controls in various consumer size packages through multiple retailers.

Fresh-Market Fruit. Fruit produced in Northwest Adams County for the fresh market follows a significantly different path down the value chain to the final consumer. At the time that a grower decides to sell fruit into the fresh market, they must also decide if they will take primary responsibility for marketing that fruit, or if they will pass that responsibility on to another party. If growers decide to sell fruit into the fresh market themselves there are two sales channels: wholesale and retail. Growers choosing to pass along responsibility for the sale of their fruit must make arrangements to do so with a packing house, which essentially dedicates that fruit to the wholesale "packed fruit" market.

Grower controlled wholesale movement of fresh fruit can take many forms and be targeted to a wide range of customers. In some instances growers that choose to sell wholesale will have their own packing and cold storage facilities and target their sales to grocery stores and produce distributors either with the help of a produce broker or through their own contacts. However, many growers that choose to sell wholesale fresh fruit do not have packing and storage facilities, thus limiting their sales to bins or crates of field-run (or field graded) fruit. These growers target their sales to other growers, truckers, packers, fruit stands, retailers, or specialty markets. In most cases these buyers would then sell the fruit to the end consumer, while in some instances fruit may pass through one (or more) additional hands before finally being consumed. Alternatively, a grower could choose to sell his fruit directly to consumers in the retail market. This would involve selling directly from the farm (fruit stand/farm market), or attending farmers' markets (tailgate markets) in locations closer to the final consumer.

For growers that choose to not take responsibility for selling their own fruit, they obligate themselves to the wholesale fresh market through either a broker (dealing in raw fruit) or to a packing house. Packing houses are highly specialized operations that deal with the grading, packing, storage, and sale of fruit into the wholesale fresh market in packed containers (i.e. tray-packed boxes, bulk boxes, bags, clamshells, etc.) or in some cases field run crates (the crate peach market). Traditionally packing houses have operated on what is known as a return basis. In this system, the packer doesn't actually purchase fruit from the grower. Rather, the grower delivers fruit at harvest time to the packer's facilities, and the packer provides storage, grading, packing, and sales as a service, deducting a fee for these operations from the final selling price of the fruit. Growers essentially retain ownership of their fruit until it is sold by the packing house under this regime. Packing houses generally will sell the bulk of the fruit they handle directly to

retail chains such as Giant, Food Lion, or Wal-Mart, many times on a contractual basis. However, fruit may also be sold to distributors, terminal markets, or fruit stands at various times before reaching the end consumer. Packing houses may also work with brokers to fulfill specific orders or contracts.

An important feature of the value chain for fresh market apples from Northwest Adams County is that an alternative market exists for cull fruit. In this region, cull fruit (fruit that is not of sufficient quality to be sold in the fresh market) is routinely sold into the processing market as a by-product of the apple grading and packing process. Often this fruit is used for juice (the low end of the processing market), but when quality is sufficient, these apples are utilized as “peelers”, and are paid for as such. The ability to sell these “packing house culls” is a significant feature of the eastern apple industry that does not exist in other production regions. In fact, in other areas these culls reduce the value of raw fruit delivered by growers, while in Adams County they are generally a cost-neutral to slightly positive component of grower returns in the fresh packed market.

Market Analysis. Having fully explored and understood the value chain for fruit from Northwest Adams County, it is possible to critically analyze the various potential markets that make up the chain including the processing, fresh packed, farm retail,

Analysis of Processing Market. Traditionally processing has been the “bread and butter” market for the majority of the fruit produced in Northwestern Adams County. It is estimated that 75% of the apples, 95% of the tart cherries, and a significant portion of the peaches (nearly 100% of the clingstone types) produced in the area are utilized in processed products. Most growers in the region are quite comfortable with the production of processing fruit, and the infrastructure needed to support the fruit processing industry exists locally. Many of the cosmetic concerns that dominate in the fresh market are much less of a concern in the processed market which allows growers more latitude in their production practices. Short distances to plants, established relationships with processing firms, ample technical support, and traditionally higher prices give growers of processing fruit in Adams County somewhat of an advantage over growers in nearby regions.

However, considerable challenges exist for the future of processing fruit production in Adams County, most of which relate to tight profitability. Rising input costs and stagnate to declining prices for raw fruit have caused the profitability of this marketing channel to decline significantly in the past decade. Increasing global competition from other regions that produce processed fruit products has put significant pressure on fruit processors (particularly in the apple juice market), which in turn has put pressure on growers in the form of low prices. Many processing growers have been slow to replant their orchards; a significant portion of those that are replanting are transitioning away from reliance on processing as a primary market and are focusing on fresh market varieties. Recently, one of the two major processing firms that operate in Northwest Adams County has announced it will no longer process fruit, a development which could have a significant long-term impact on the local processing fruit market.

Opportunities do exist in the process marketing channel. As families have generally become more pressed for time, demand for ready-to-serve products, particularly single serve apple sauce cups has increased. Sales of fresh sliced apples have increased dramatically in the last few years, which may offer a potential processing outlet for fruit as well. Although it is capital intensive, small scale processing at the farm level (i.e. cider, hard cider, apple butter, etc.) may be profitable, particularly for farms with direct outlets to the consumer.

Analysis of the Fresh Packed Market. Fruit production for the fresh packed market has long been a part of fruit growing in Adams County. Several packing houses exist locally and handle the majority of fresh fruit produced in the region. One operation packs over 1 million boxes fruit annually, while the other two would handle under 500,000 boxes per year; all take in fruit from growers outside of Adams County as well. These packing houses have traditionally enjoyed solid relationships with growers and overall favorable markets. Infrastructure needed to support the fresh packing industry exists locally. Several new varieties - Honeycrisp, Cameo, Pink Lady and to a lesser extent Gala and Fuji - seem to have energized fresh apple sales and moved pricing up to more sustainable levels in the last few years. Honeycrisp in particular in the words of one packer has “changed the game” and proven that apples can be sold for more than \$50/box.

The State of Washington dominates the market for fresh packed apples in the U.S., with annual output running around 100 million packed boxes. Local packers have been able to compete based on the high quality of fruit and location. The proximity of Adams County to major population centers of the eastern U.S. give local packers significant freight advantages (particularly in light of recent increases in fuel costs) as well as the ability to respond to customer orders in a significantly shorter time frame than fruit packed on the West Coast. Additionally, a growing number of consumers desire to “eat locally” and are seeking out foods produced in relatively close proximity to where they live, a trend that packed fruit from Adams County is well positioned to capitalize on.

Challenges do exist in the fresh pack market as well. Retailer consolidation has reduced the number buyers for packed fruit and shifted the marketplace toward large, regional contractual relationships, rather than small spot market purchases. An increasing number of growers are planting fruit, particularly apples, for the fresh market. Although several local packing facilities are currently expanding to meet an anticipated increase in volume, adequate cold storage and packing capacity is not assured. Washington’s domination of the fresh apple market exposes smaller production regions such as the mid-Atlantic to potentially large swings in price and volume volatility as well. Washington has many more packers and sellers than Adams County, and the apple market can be quite cut throat at times; when Washington packing houses have a large crop to move and start dropping prices the fallout is felt throughout the entire fresh apple sector. Additionally, alternative products in the fruit category pose a large threat to fresh apple sales. Most modern grocery produce sections offer a selection of fruits and vegetables from all over the world that was inconceivable 20 years ago. Spanish clementines, fresh crop southern hemisphere apples, mangos, and citrus, all compete directly with fruit produced in Adams County for consumer produce purchases.

Analysis of Retail Farm Markets. Several retail farm market operations exist in Northwestern Adams County. For most of these operations sales through their retail outlet are a component of larger operation that is likely small in volume, but high in profitability. As the population in the greater South-central Pennsylvania region continues to increase, it is likely that the opportunity for more direct farm retail sales will also continue to increase.

Retail farm markets offer producers several advantages over other marketing channels: a larger portion of the retail dollar is returned to the farm level, producers have total control of the handling of their production, and they receive direct feedback from consumers. Transportation costs are also minimized as fruit doesn't need to be hauled to another location (i.e. to a packing house, processing plant, or suburban farmers' market) and growers can easily diversify their production and sales (growing and selling other products and non-perishable items) to spread risk and increase income.

However, farm market sales are not without risks and challenges. Location is key to success in most cases; markets on main roads with easy access often do much better than those in out-of-the-way locations. Producers often need to invest significant capital in building or modifying a structure to be used as a farm market.

Analysis of Farmers' Markets. Tail-gate style farmers' markets can represent a significant marketing outlet for some farms. Tail-gate markets are generally located in urban or suburban areas with farmers coming from a wide geographic area. Usually a market is sponsored and organized by a local citizens group or a local government agency. Producers set up stalls at the market, generally consisting of tables for displays and canopies for sun/rain protection, and sell directly to the consumer. Many farmers markets' are "producer only" meaning vendors must be growers and can only sell what they produce.

Selling through this channel does not require a heavy investment in on-farm facilities, but does require significant investment of time and transportation. These markets take full advantage of the consumer desire for local food, and allow producers to capture a larger portion of the consumer food dollar. These markets also capitalize on consumer demand for local food in areas where disposable income is high.

However, this channel is not without limitations. Many of the best markets are full (i.e. not accepting new vendors). New markets are opened every season, but generally require investment of time and resources to be built into a success. As most markets are held in open parking lots, weather can play a large part in sales volume on a given day or season.

Alternative Production Strategies – Organic. A recent project by Penn State has given rise to the potential of organic fruit production in Adams County. Previously, it was perceived that growing organic fruit in this region would not be possible due mainly to the humid environment and complex pest control problems. However, it now appears that organic production in Northwest Adams County will be a reality. Demand for

organic products has risen steeply in recent years (over 20% annual growth) with continued increases expected. Coupled with the consumer trend towards eating locally, producers could be quite well positioned to take advantage of the rising organic market.

Current Fruit Production Situation

According to the Adams County Agricultural Land Preservation office, there are 11,259 acres of tillable orchard land within the six municipalities covered under the Northwest Adams County Joint Comprehensive Plan (Table 1).

Table 1. Tillable orchard land in NW Adams County, by municipality.

Municipality	Acres
Arendtsville	215
Bendersville	97
Biglerville	38
Butler	1,311
Franklin	5,185
Menallen	7,713

Source: Personal communication, Mark Clowney Adams County Agricultural Land Preservation office.

Fruit acreage trends. Data is not available on a municipality basis for acres of specific fruit crops, but the fruit surveys conducted every five years by USDA, National Agricultural Statistics Service (USDA, NASS) give some general idea of the trends within Adams County as a whole. As can be seen in Figure 2, apple acreage has decreased from slightly over 15,000 acres in 1972 to slightly over 10,000 acres in 2002 (the latest year of data available; a new survey is being conducted this year), a decline of one-third. During this same period, size controlled (dwarfing and semi-dwarfing) rootstocks went from only 8% to 77% of the apple acreage.

During the same period, the acreage of other tree fruits has fallen across the board during the period from 1972 to 2002 (Figure 3). After falling from their highs the early 1970's, peaches saw a slight increase in acreage during the mid-1980's, followed by a precipitous fall due to the impact of plum pox virus. Peach acreage fell by almost 60% during this period. Tart cherries experienced a similar pattern of acreage decline to peaches (falling 65%), mainly due to the boom and bust nature of prices and increasing cost of production. Pears saw an increase in acreage from the late 1970's to the late 1990's compared to earlier, but they have also declined in acreage, being only 42% the size of the industry in the late 1970's. Nectarine acreage showed impressive increases until the impact of plum pox virus reduced the number of acres by almost three-quarters in 2002. Sweet cherries and plums have showed a steady decline in acreage over this period; current acreage is only around a quarter of what it was in 1972.

Figure 2.

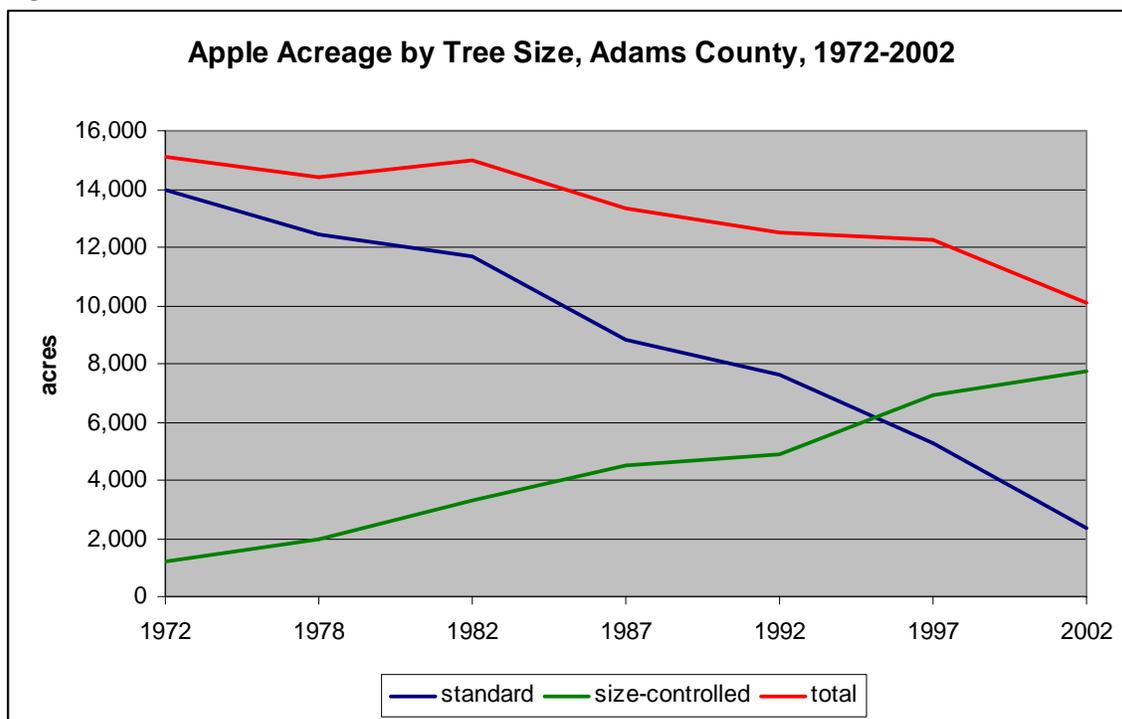
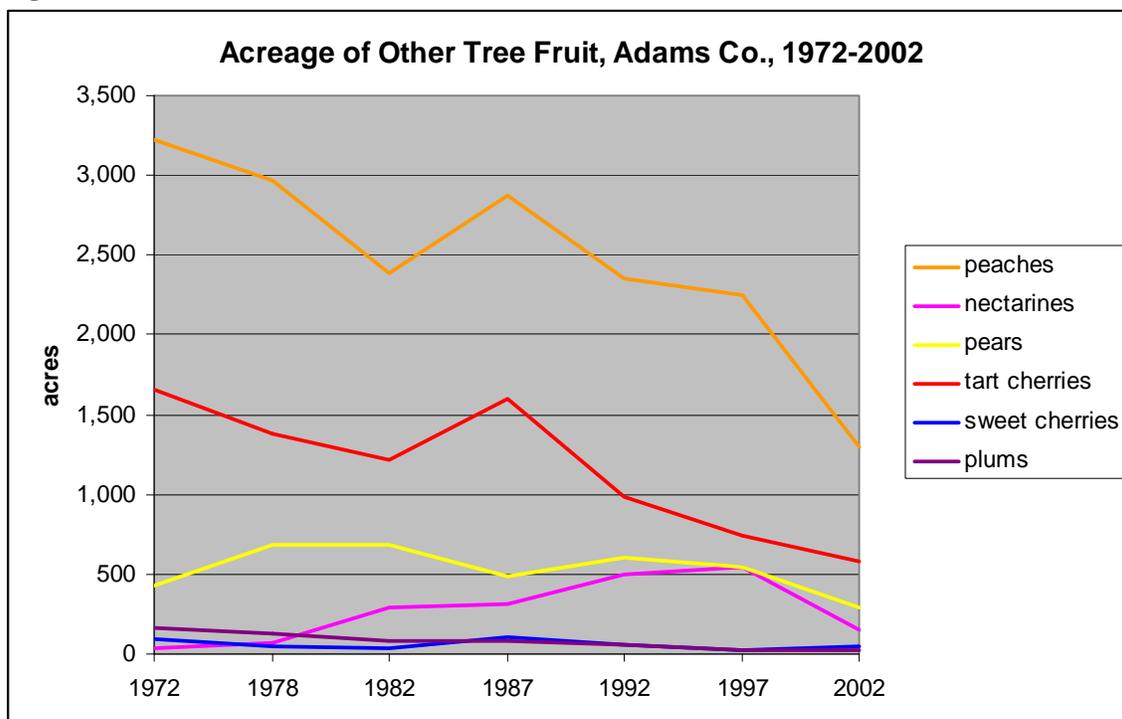
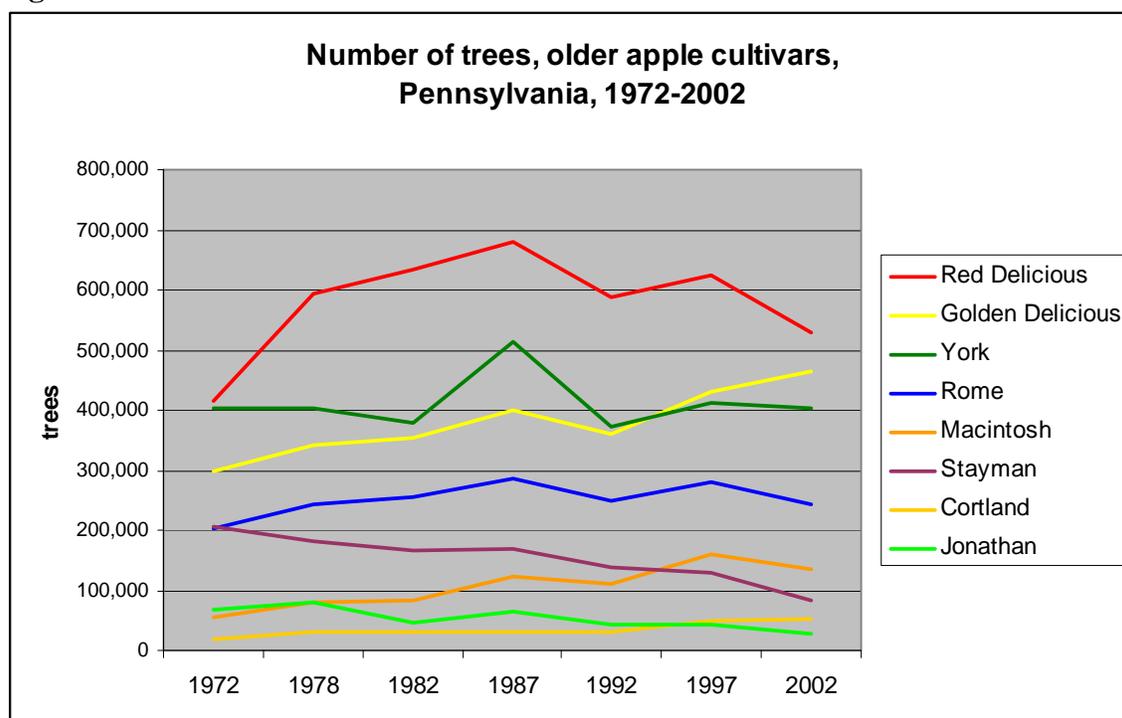


Figure 3.



Trends in production of apple cultivars. Historically, the processing fruit industry has been built on the production of one cultivar in particular, York Imperial. Other important varieties used for processing have included Golden Delicious and Rome Beauty. Although apple acreage has fallen over time, with the adoption of production systems using semi-dwarf and dwarf rootstocks, the number of trees in Adams County for these three cultivars are at the same level or higher than they were in 1972 (Figure 4). The number of trees of Golden Delicious has increased by 56%, Rome Beauty by 20%, and York Imperial is essentially the same. The cultivar with the most trees is Red Delicious, which saw a major increase in numbers from the early 1970's until the mid-1980's and then fairly rapid decreases thereafter as the cultivar lost consumer preference. The current numbers of trees in Red Delicious are 27% higher than in 1972, but are down almost 22% from its highs in the mid-1980's. Significant numbers of trees in certain older varieties of apples destined primarily for the fresh-market include Macintosh, Stayman, Cortland, and Jonathan. The number of Macintosh and Cortland trees increased dramatically over the period from 1972 to 2002, while the number of Stayman and Jonathan trees decreased dramatically.

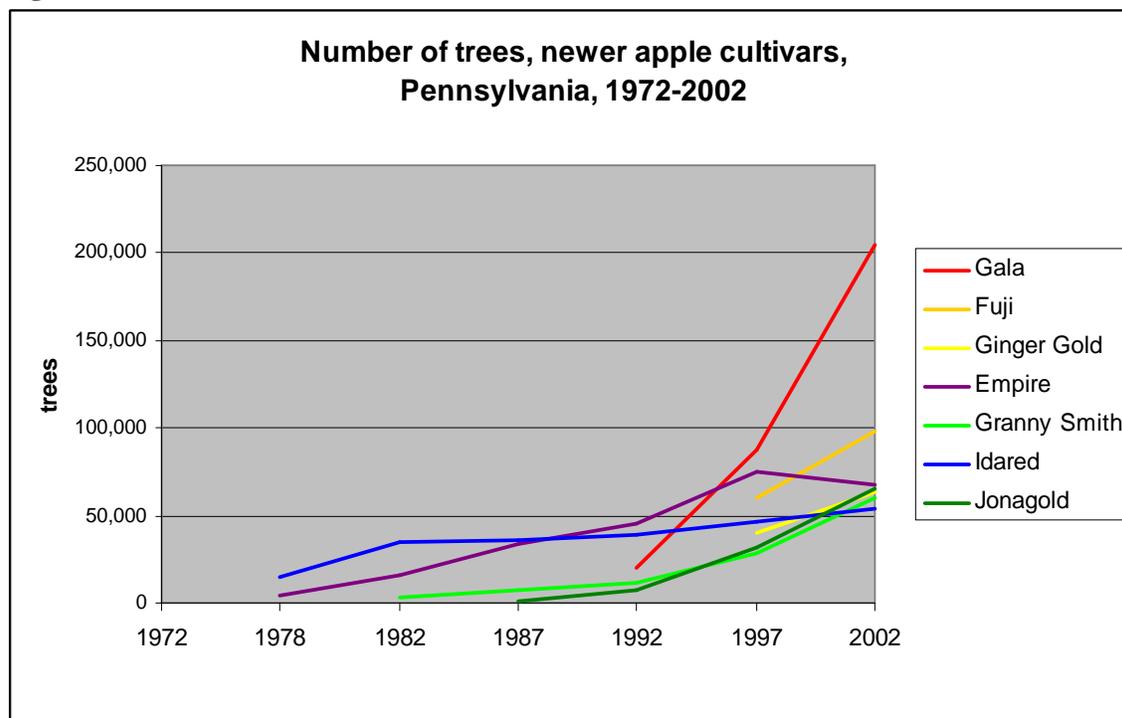
Figure 4.



New cultivars introduced on a large scale since 1972 include varieties primarily destined for the fresh-market including Gala, Fuji, Ginger Gold, Empire, Granny Smith, Idared, and Jonagold (Figure 5). Gala has seen the most dramatic increase in number of trees, and Fuji and Ginger Gold are on track to also see major increases in numbers. Empire and Idared numbers appear to have plateaued, while Granny Smith and Jonagold have seen gradual increases in number of trees. The marketing success of new cultivars

(including Honeycrisp, Cameo, and Pink Lady) points towards a continued swing from traditional cultivars and processing towards fresh-market production.

Figure 5.



Fruit Cost of Production

There are several issues driving up the cost of producing fruit in Adams County, including the cost of labor, pesticides, fuel, and land. The move to high density production systems is one way to get more production without additional land investment. This often means the purchase of 2-3 times more trees than were previously used for low or medium density free standing production systems and the installation of a tree support system which involves either a trellis or individual tree stakes along with supporting posts and wire.

According to data from Penn State, the cost of production has increased significantly for many of the fruits produced in Pennsylvania since 1996 (Table 2). Processing apples have been less impacted by increasing insecticide and fungicide costs than fresh-market apples or peaches. The decline in tart cherry acreage is easy to explain because they have seen the highest increase in cost of production, combined with their highly variable and generally declining prices. The trend in apple planting costs represents a medium density system with freestanding trees. The newer systems employing dwarfing tree supported by stakes, stakes and wire, or a trellis, along with drip irrigation cost at least 2-3 times more.

Table 2. Apple and Peach Cost of Production Estimates (in \$/acre), Pennsylvania, 1996-2007.

<u>Years</u>	<u>Apple planting</u>	<u>Processing Apples</u>	<u>Fresh-market Apples</u>	<u>Fresh-market Peaches</u>	<u>Tart Cherries</u>	<u>Sweet Cherries</u>
1996-97	\$2,197	\$1,930	\$2,130	\$1,428	\$829	\$1,672
1998-99	\$2,384	\$2,101	\$2,340	\$1,493	\$930	\$1,830
2000-01	\$2,749	\$2,172	\$2,537	\$1,582	\$1,220	\$2,017
2002-03	\$2,686	\$2,106	\$2,660	\$1,678	\$1,242	\$2,037
2004-05	\$2,705	\$2,115	\$2,586	\$1,706	\$1,219	\$2,004
2006-07	\$3,029	\$2,136	\$2,762	\$1,913	\$1,290	\$2,063
% change 1996-2007	38%	11%	30%	34%	56%	23%

Cost figures from *Tree Fruit Production Guide*, Penn State Cooperative Extension (1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, and 2006-2007).

Changing production systems. Because fruit is a perennial crop, transition to newer growing techniques is a slow process. Fruit trees are normally in production for at least twenty years and it takes at least three years for trees to come into economic production. Orchard establishment costs run from \$1,500 per acre for low density plantings to over \$8,000 per acre for the newer higher density plantings. The increased costs are primarily due to the greater number of trees required when moving from low densities of 100 or 200 trees per acre (the average density of apple trees in Adams County is currently only 139 trees per acre) to 300-500 trees per acre or more plus the need for a support system. Growers in other parts of the world are now commonly pushing tree densities into the 800-1,000 trees per acre range and many are looking at super high densities of 2,000 trees per acre or more. Often growers install a drip irrigation system with their high density orchards which represents additional cost. Because of longevity of the useful life of an orchard and these higher establishment costs, transition to possibly more profitable production techniques has generally been slow.

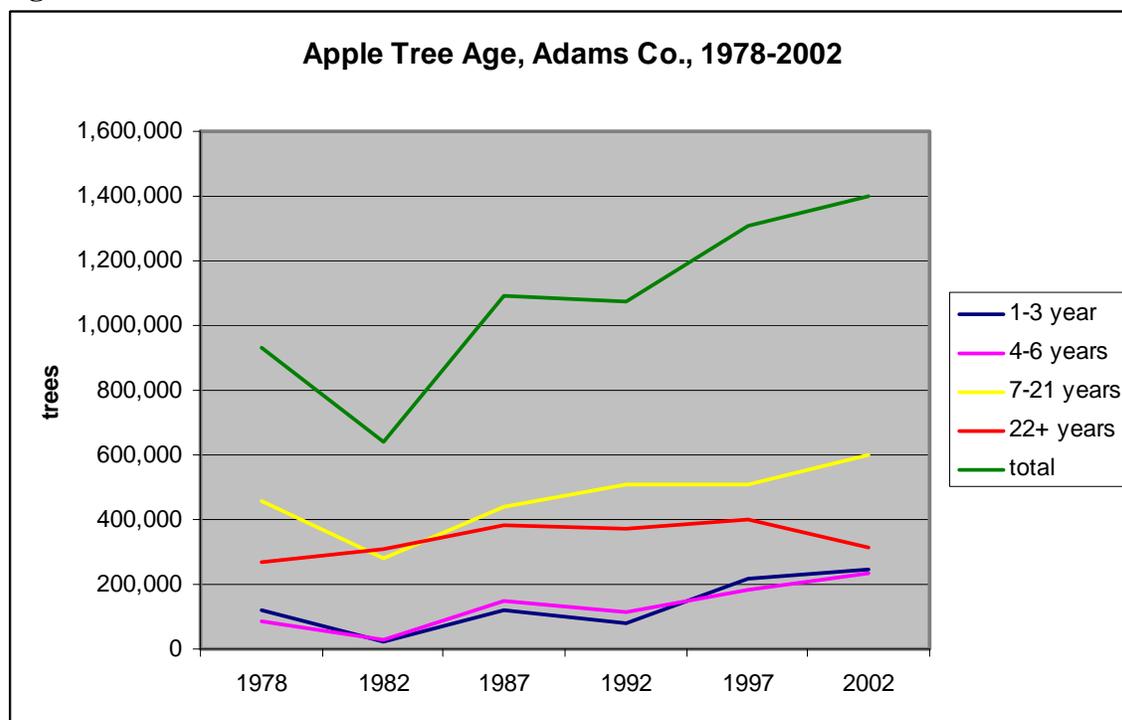
As apple growers move to higher-density production systems, tree support becomes more of a concern because most of the dwarfing rootstocks require support. The cost of tree support systems varies widely and some of these systems are extremely expensive. Systems recommended by Penn State Cooperative Extension include a 6-foot, four-wire trellis system, a 10-foot wooden post without any wires, a 10-foot small diameter conduit (0.706 inch diameter) with a support wire at 6 feet, and a 10-foot large diameter conduit (0.922 diameter) also supported by one wire at 6 feet. These systems are estimated to range in cost from \$455 to \$3,616 per acre depending on row spacing and type of support (with trellises being less expensive than wooden stakes or conduit options) (source: *Pennsylvania Tree Fruit production Guide, 2006-2007*, Penn State Cooperative Extension).

As the Pennsylvania industry moves from conventional low or medium-density, freestanding orchards to high-density, supported orchards, many production modifications will be required including changes in pruning to control tree size and

promote early fruiting. In the commonly used medium-density central leader system, portions of trees are cut back severely for several years to stimulate growth. Emphasis is placed on building a large, strong framework to support future crops. In high-density production systems excessive growth is discouraged and a weak-framed tree is desirable. High-density systems also demand greater precision in spacing trees. Since trees are not meant to be vigorous in this situation, wide spacing of trees is an uneconomical use of the land. Narrower spacing will require growers to invest in smaller equipment that will work better with these smaller trees.

The total number of apple trees has increased dramatically in Adams County since the early 1980's with the adoption of semi-dwarfing and dwarfing rootstocks (Figure 6). Recently there had been a decrease in the number of older trees (greater than 22 year old) and an increase in the number of trees in the 7 to 21 year old bracket, the time when trees are in their prime bearing years. The trend in recent years has seen increases in young trees (1-3 years old and 4-6 years old), but some of this activity represents acreage of peaches, nectarines, and plums lost to plum pox being planted to apples rather than removal and replanting of old apple orchards.

Figure 6.



Pesticide prices. Conventionally produced apples require between 10-12 cover sprays of pesticides to protect them from insects and diseases. Pesticide prices have increased steadily over the past 10-15 years, but are poised for larger increases because of escalating energy prices and high research and development costs for bringing new plant protection chemistries to market. Part of this is due to the loss of older and less expensive pesticides under the 1996 Food Quality Protection Act, the need to rotate

materials to maintain effectiveness, and the higher cost of replacement products. Most of the newer reduced-risk insecticides also require more vigilance on the part of the growers to ensure the best results. At present, of the total apple cost of production, approximately 9% is for fungicides and 11% is for insecticides. Based on research on apples conducted in the Northeastern U.S. from 2002-2005, it is estimated that the cost of insecticide programs using the newer reduced risk pesticides will be \$64/acre higher and the cost of reduced-risk pesticides plus pheromone ties will be about \$176/acre higher than current conventional insect management programs.

Peaches require around 10 cover sprays to protect them from diseases and insects. At the current time, fungicides make up about 8% of the cost of growing peaches and insecticides make up about 6%. Based on research on peaches conducted in the Northeastern U.S. from 2002-2005, it is estimated that the cost of insecticide programs using the newer reduced risk pesticides will be \$94/acre higher and the cost of reduced-risk pesticides plus pheromone ties will be about \$123/acre higher than current conventional programs.

Labor cost and availability. Labor is the biggest cost in growing fruit. In the case of fresh market apples, about 63% of the cost of production is for labor and for fresh-market peaches it is about 73%. Without adequate supplies of high-quality labor for picking and pruning, fruit production would not be a viable agricultural enterprise. The availability of labor is a long-term concern for many U.S. agricultural producers because most can not find adequate labor locally. The current debates on immigration reform and guest worker programs are issues of paramount importance for the U.S. fruit industry.

Agriculture traditionally requires a seasonal workforce. This seasonality has both benefits and drawbacks. The drawbacks are that the workforce is not employed by the same person for the entire year. This causes concern for both the employer and employee. The employer may not have the same workers from one year to the next which requires training of new employees each year. The employee is often concerned that they may not have a place to live while they are seasonally employed. The employee is also concerned that other workers may arrive earlier and take the job they had a year earlier.

The benefits of seasonal employment are that the employer does not have to pay a year around labor force. Many employers, however, are trying to keep the same core group of employees on a more consistent basis and hiring additional seasonal workers as needed. This eliminates some of the need for constant training of new employees. The benefits for the employee are that they may return to their home country and families. They choose this lifestyle as an alternative to staying in their home country and making considerably less money and possibly not being able support their families.

Migrant labor has been used in Adams County to harvest the fruit crops for over fifty years. The original migrant laborers were African-Americans who migrated northward during the growing season. While in the south, they would harvest citrus fruit and then watermelons before coming north to harvest fruit. The African-Americans were gradually replaced by workers from Puerto Rico. These workers were first transported here

annually, but they gradually began staying in the continental United States year-round. They also began harvesting in the south, moving northwards as the African-American workers did. Both of these populations gradually began staying in one place and finding full-time employment with benefits and stable housing. With these two populations, immigration was not an issue. Gradually, however, Hispanic migrants from outside the U.S. began to replace these two workforces. These workers usually come into the U.S. in early spring and begin working in the south harvesting vegetables and then follow the ripening of the crops northwards.

Migrant workers support themselves while in the area, injecting a considerable amount of money into the local economy, while at the same time sending large amounts of their income home to support their families. This influx of money to their families is a major benefit to their local economies. The incomes of many of these workers support extended as well as immediate family members. Many of the remote areas these workers come from have extremely low incomes. Without the influx of money from migrant workers, these families and communities would struggle much more.

The availability of this migrant workforce is rapidly becoming the topic of much debate both locally and nationally. Some individuals and groups argue that migrants take jobs that local people want and need. However, the tasks completed by migrant workers are usually not ones that many local people want. Nationally, recent debates in the United States Congress have been heated and politicized. These debates often center on punishment (or its lack) of those employing illegal workers. Migrant workers also listen to the accounts of these debates and are very concerned about their future. Production agriculture is very concerned that national policy will possibly disrupt their workforce.

Agricultural producers realize that some of their workers may be in the country illegally, but they cannot easily police the legality of the workforce. Because of the seasonality, most growers discover that they hired illegal workers only after the workers have gone elsewhere. The employer makes this discovery when the Social Security Administration sends a letter to the employer informing them that the social security number provided by the migrant worker does not match their records. At that time, the employer is supposed to check their records and inform the employee that these records do not match. Often, however, the employee is no longer employed by that producer. This is another reason that many employers strive to maintain a stable year around workforce.

Because of the varied methods used to pay employees, required payroll deductions, and the use of agricultural pesticides, producers are required to keep very detailed records. Their records may be inspected by several State and Federal agencies. Federal Wage and Hour, PA Wage and Hour, and PDA may inspect a producer's records within a year. If there is an injury accident on the farm, the Occupational Safety and Health Administration (OSHA) will also inspect the farm and their records for discrepancies.

All agricultural employers are required to pay at least minimum wage. The minimum wage is determined by both State and Federal governments. The minimum wage in Pennsylvania increases to \$7.15 per hour in July 2007, even though the Federal minimum

wage remains at \$5.15. While many producers pay harvest workers by the piece or by specific harvest units, minimum wage regulations must still be met. For this reason, many producers pay both an hourly wage and a piece rate for workers harvesting fresh fruit.

Employers are required to deduct Federal and State taxes from all employees on the payroll. Local income taxes are the only taxes employers are not required to deduct, but most employers deduct these as well. These taxes are then submitted quarterly, or sooner depending on the amount, to the appropriate agencies.

Farmers are required to adhere to Worker Protection Standards (WPS) enforced by PDA and the Environmental Protection Agency (EPA). The use of agricultural pesticides requires a detailed level of record keeping. Producers must record anytime an employee handles or comes into contact with any pesticide. They must also record the date and time of all applications. Pesticides carry a reentry interval (REI) that must be adhered to. If an employee enters an orchard prior to the REI, they are required to wear protective clothing as dictated on the pesticide label. Producers are also required to maintain copies of all pesticide labels, REIs, and maps and application times at a location accessible to all employees.

If the producer provides housing for migrant workers under their employ, the housing must be inspected prior to and during the time the workers are housed. These inspections are conducted by PDA. Employers may charge a minimal fee to offset the utility expenses, but may not charge a rental fee. These fees may be deducted from the worker's pay. Field sanitation is also required to be provided the employer. Workers must be within one quarter of a mile from a field sanitation station at all times. Sanitation stations are required to be clean and have hand washing facilities. Producers either rent or purchase their sanitation stations.

Potential for mechanization. Adoption of newer technologies for harvesting fruit, including mechanical platforms and robotic pickers, is in its infancy in Adams County. Penn State Cooperative Extension, under the Agricultural Innovations initiative, has begun an effort to demonstrate to producers these technologies and help them evaluate the availability and suitability of such technologies for their operations. Adoption of these newer technologies will require a more standardized planting system than is currently followed. Orchards will need to be planted to fit these platforms or other harvest aids before maximum efficiencies may be obtained.

Mechanical platforms have been used as harvest aids in other production regions (for example, Washington State) for about three years. The elimination of ladders and picking bags or tubs is the goal of the platform. Currently, harvest workers must move ladders to pick fruit and harvest into picking bags or picking tubs that weigh over thirty pounds when full. The combination of this weight and moving and working on a ladder requires strength and endurance. The promise of platform technology is that it will help expand the available workforce because the platforms will allow less skilled or weaker people to harvest fruit and perform other orchard tasks.

Mechanical platforms are much more easily adapted in regions where the topography allows narrower and higher equipment to be operated safely. Since the topography in Northwestern Adams County consists of rolling hills and has some of the greatest slopes in the fruit growing region, platform adoption is less likely using current technology. Work is underway to adapt the platform concept to higher slopes within the near future.

For many years scientists have experimented with robotics for harvesting fruit. The research has been slow because of the complexity of the production system. The main issues involved are color recognition and picker repositioning. This is because when an apple is picked from a limb, the weight reduction allows the limb to move. This movement requires the robot to refocus on the next apple to be picked. Color and shape recognition have also been drawbacks to robotic harvesting, especially for the harvest of fresh market apples.

Cost of insurance. Obtaining necessary, but affordable, workers compensation insurance coverage has been problematic for fruit growers in the past. Unless a producer can prove that they can self-insure, they are required to purchase workers compensation insurance. Some organizations will not provide group coverage for fruit growers because of the use of ladders and picking bags or picking tubs during harvest. Because of the potential for a major loss claim, tree fruit production is often viewed as higher risk than other types of agriculture. Producers may obtain coverage through the State Workmen's Insurance Fund, but the rates are much higher than those offered by private insurance companies. It is only after several years of experience and a favorable claim history that fruit growers can obtain insurance through private companies.

Producers should also purchase at least \$1million in liability insurance because of their use of pesticides and the potential for chemical spills. Insurance coverage is based on the value of the assets of the business and many growers own over 100 acres of land plus buildings and equipment. The greater the value of the assets, the more the insurance will cost the producer.

Crop insurance coverage is available to fruit growers. Covered crops through crop insurance companies include apples, peaches, and pears. The cost of insuring apples, for example, varies from \$50 per acre to over \$100 per acre depending on the level of coverage. Coverage is also available under a Catastrophic Loss Policy (CAT) which costs \$100 per crop per county. Compared to higher levels of protection, CAT coverage only protects against yield losses greater than 50% and only pays 55% of the price election for that crop.

Tart cherries, sweet cherries, apricots, and plums may be insured through a USDA, Farm Service Agency (FSA) program called the Non-Insured Assistance Program (NAP). The program covers any crop that is not insurable under traditional crop insurance policies. Fees for this protection are \$100 per crop per county with a maximum charge of \$300 per county. Similar to the CAT policy, the NAP program only pays for crop losses greater than 50% and pays 55% of the FSA designated price.

Production Alternatives

Diversification is a way to help growers manage production risk by spreading risk across more enterprises. There are alternatives to growing tree fruit within this region, but some options are more suitable than others. Wine grapes may be an acceptable option because it requires much of the same types of equipment and production expertise as tree fruit. Vegetables are a suitable alternative only in areas with very slight slopes because the land is tilled each year and this increases the possibility of erosion. Livestock is possible because the land is suitable for pasture.

There may be many types of agriculture that are adapted to Northwestern Adams County, but compared to fruit production, many have a much lower profit potential. At a minimum, growers would need to investigate new markets and reinvest in new equipment. Penn State's Small-scale and Part-time Farming Project produces a publication series titled *Agricultural Alternatives* to assist farmers and landowners in making decisions about adoption of new enterprises. These publications target small-scale or part-time farmers, but they may be adapted to larger operations. The leaflets offer an introduction to each enterprise and cover important issues including marketing, production, regulations, risk management, and enterprise budgeting. A set of publications covering agricultural business management topics including planning, financing, fruit and vegetable marketing, cooperatives, diversification, insurance, enterprise budgeting, and managing a roadside stand have also been developed to support the enterprise oriented publications. There are also two publications on irrigation and another on organic vegetable production. Table 4 contains a list of business management publications that would be helpful to those considering a change in enterprises. Table 5 contains a list of publications on alternative enterprises that would be suitable to a wide range of production situations in Northwest Adams County. A complete listing of the titles in the *Agricultural Alternatives* series is available on-line at: <http://agalternatives.aers.psu.edu>.

Table 4. Agricultural Business Management titles in the *Agricultural Alternatives* series

Agricultural Alternatives: Starting or Diversifying an Agricultural Business
 Agricultural Alternatives: Developing a Business Plan
 Agricultural Alternatives: Financing for Small-scale and Part-time Farmers
 Agricultural Alternatives: Enterprise Budget Analysis
 Agricultural Alternatives: Agricultural Business Insurance
 Agricultural Alternatives: Cooperatives
 Agricultural Alternatives: Developing a Roadside Market
 Agricultural Alternatives: Fruit & Vegetable Marketing

Table 5. Agricultural enterprises suitable to wide range of production conditions in northwestern Adams County (from the *Agricultural Alternatives* publication series)

Agricultural Alternatives: Wine Grape Production
 Agricultural Alternatives: Highbush Blueberry Production
 Agricultural Alternatives: Red Raspberry Production
 Agricultural Alternatives: Sweet Corn Production
 Agricultural Alternatives: Feeding Beef Cattle
 Agricultural Alternatives: Beef Backgrounding
 Agricultural Alternatives: Beef Cow-Calf
 Agricultural Alternatives: Meat Goat Production
 Agricultural Alternatives: Spring Lamb production
 Agricultural Alternatives: Accelerated and Holiday Lamb Production
 Agricultural Alternatives: Dairy Heifer Production
 Agricultural Alternatives: Dairy Goat Production

Conclusions

The fruit industry is at a crossroads in Adams County. Development pressures are accelerating some of these trends and changes in consumer demand are dictating others. The move towards more fresh-market production is likely to continue and proximity to large urban markets makes this a logical progression. The processing industry will remain the dominant player in fruit industry for the foreseeable future, but the move of one processor from the area and increasing foreign competition from places like China represent formidable challenges for growers in the long-term. Diversification into the fresh-market and possibly other enterprises may help ease the stress of this uncertainty. Replanting of peaches and nectarines should be a priority for many growers once the plum pox virus quarantine is no longer a factor. Investment in newer production systems to maximize land efficiency will be necessary to maintain production as land prices increase due to development pressure. Labor costs (including insurance) will continue to increase and uncertainty concerning labor supply will be an on-going problem. High density production offers the promise of early production, higher quality, and adaptability to mechanization. High quality, locally-grown fruits will continue to have strong consumer demand and will ensure the continuance of the fruit industry in northwest Adams County.

APPENDIX B
Integrated Resource Planning

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INTEGRATED RESOURCE PLANNING

Integrated Resource Planning (IRP) as a tool to:

1. Evaluate and develop management objectives and strategies on a subbasin basis to ensure that ground and surface water withdrawals are managed in a manner that protects both instream and withdrawal uses in the subbasin.
2. Evaluate the adequacy of existing ground and surface water resources to meet all existing and future needs in the subbasin, and assess options for meeting those needs.
 - Assess water resources and existing uses of water, including availability, quality, quantity, and limitations.
 - Estimate future water demands and resource requirements.
 - Assess the capacity of the subbasin to meet present and future demands for withdrawal and nonwithdrawal uses such as instream flows. Determine if new sources of supply are needed, and if so, how to evaluate and select such sources, with consideration of implications for the size, quality and quantity of natural resources.
 - Consider stormwater and floodplain management.

The IRP process is designed to evaluate demands on water resources for supply purposes and for maintaining the instream flows necessary for the protection of aquatic resources, recreational use and other uses. Sufficient flows are required to protect and maintain existing and designated uses. There is the potential for conflict among these demands, and the IRP needs to identify the points of conflict, and propose methods to avoid or resolve conflicting demands. The first step in this process is to assess the ability of the water resources of the subbasin to meet the demand. After the assessment of water resources and water use, available water resources should be compared to current and future water needs (both for water supply and instream uses) to determine if potential resource shortfalls and limitations may occur.

Factors to consider in the IRP include protecting surface and ground water from over-withdrawal, and balancing withdrawals with instream uses. Developing approaches to protect resources and resolve issues must consider that water quantity and water quality are interrelated. Because of this close relationship, sufficient stream flow must be maintained to protect the physical, chemical, and biological characteristics of the stream.

Important flow levels to consider include flood/floodplain maintenance flows, flushing (of fine sediment) flows, channel maintenance flows, and the occasional drought.

Urbanization of watersheds can rapidly alter flow regimes with effects on aquatic communities. Urbanization increases impervious surface area within a watershed, which increases surface runoff rates. The first effect of this change is to decrease surface infiltration of water, which decreases ground water recharge. The second effect is to more rapidly transport precipitation to the stream network.

After urbanization, streams receive more water at a faster rate from a set precipitation level. This change in the hydrology of storm events causes peak flows to be higher (increasing the chance of a flood event per given precipitation event), increases the rate of the rising and falling water levels (i.e., they change faster), decreases the duration of the peak flows, and decreases base flow to the stream.

Base flow is reduced because ground water runs across the surface and out the stream network, instead of infiltrating into the ground and seeping out to the streams over time through ground water discharge. Urbanization has the potential to cause numerous other impacts, including the delivery of fine sediments into streams during the “build-out” of the watershed, fragmenting quality stream habitat with stream crossings and/or dams, reduction in riparian habitats (direct elimination of habitat with instream consequences for water quality and nutrient sources), and the altering of ecological pathways (e.g., attempts to eliminate natural flooding).

3. Engage stakeholders as active participants in developing effective, long-term water resource management objectives and strategies.
4. Consider the inter-relationship of water quality and water availability for current and future water uses in a subbasin.
5. Assist planners to better integrate water resources protection in land use planning. Almost all land use decisions affect water resources. Integrated Resource Plans can assist in better managing how growth occurs. By evaluating all water resources options, existing and future needs may be met while simultaneously protecting the resources and supporting other uses including instream flow needs.

Critical elements in Integrated Resource Planning include:

- Initiating multi-municipal effort involving all municipalities that share the resources of common subbasins for water supply and/or wastewater disposal,
- Involving the water supply and wastewater utilities operating within or planning to operate within those municipalities,
- Including the geographic area of the subbasins whose resources are shared by the municipalities and be based upon maintaining the quantity (e.g., ground water balances and dry weather stream base flows, etc.) and quality (e.g., protection of sources of water supplies from pollutant runoff, etc.) of the water resources of those subbasins;
- Addressing the municipalities’ growth and land use management objectives and the utility’s (ies’) objectives,
- Considering all reasonable options for meeting new needs, including expanded conservation management practices, available capacity in existing systems, and development of new sources,

- Guiding the placement of infrastructure to concentrate growth in designated growth areas and restrict growth in rural areas.

MUNICIPAL RESOLUTIONS OF ADOPTION

RESOLUTION NO. 1-2010
A RESOLUTION OF THE BOROUGH COUNCIL OF ARENDTSVILLE
BOROUGH,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Arendtsville Borough Planning Commission (the Planning Commission) serves as the official planning agency for Arendtsville Borough (Borough); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Borough Council and the Planning Commission joined with Biglerville Borough, Bendersville Borough, Butler Township, Franklin Township, and Menallen Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams and Gettysburg Area School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Borough Council of Arendtsville Borough, a borough, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

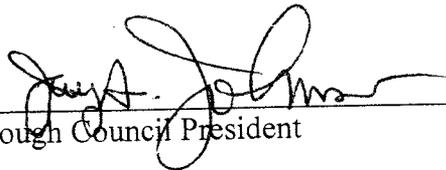
1. That the Borough Council of Arendtsville Borough recognizes the Arendtsville Borough Planning Commission as the official planning commission for the Borough and that such agency promote public interest in, and understanding of, the Joint Comprehensive Plan and the planning; profession; and

2. That the Joint Comprehensive Plan submitted by the Planning Commission is hereby adopted by the Borough Council of Arendtsville Borough as the official Comprehensive Plan of Arendtsville Borough.

3. The Borough shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Borough whose further action is necessary to achieve the purpose of this Resolution.

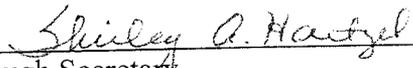
ADOPTED THIS 10th DAY OF March 2010.

BOROUGH COUNCIL OF ARENDSVILLE BOROUGH



Borough Council President

ATTEST:



Borough Secretary

RESOLUTION NO. 1-2010
A RESOLUTION OF THE BOROUGH COUNCIL OF BIGLERVILLE
BOROUGH,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Biglerville Borough Planning Committee (the Planning Committee) serves as the official planning agency for Biglerville Borough (Borough); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Borough Council and the Planning Commission joined with Arendtsville Borough, Bendersville Borough, Butler Township, Franklin Township, and Menallen Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams and Gettysburg Area School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Borough Council of Biglerville Borough, a borough, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

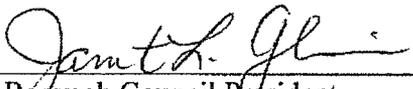
1. That the Borough Council of Biglerville Borough recognizes the Biglerville Borough Planning Committee as the official planning commission for the Borough and that such agency promote public interest in, and understanding of, the Joint Comprehensive Plan and the planning; profession; and

2. That the Joint Comprehensive Plan submitted by the Planning Committee is hereby adopted by the Borough Council of Biglerville Borough as the official Comprehensive Plan of Biglerville Borough, rescinding the Joint Comprehensive Plan adopted in 1988.

3. The Borough shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Borough whose further action is necessary to achieve the purpose of this Resolution.

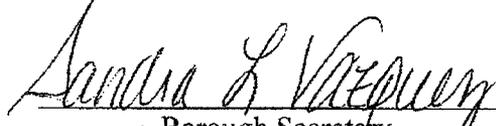
ADOPTED THIS 2nd DAY OF February 2010.

BOROUGH COUNCIL OF BIGLERVILLE BOROUGH



Borough Council President

ATTEST:



Borough Secretary

RESOLUTION NO. / -2010
A RESOLUTION OF THE BOROUGH COUNCIL OF BENDERSVILLE
BOROUGH,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Bendersville Borough Planning Commission (the Planning Commission) serves as the official planning agency for Bendersville Borough (Borough); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Borough Council and the Planning Commission joined with Arendtsville Borough, Biglerville Borough, Butler Township, Franklin Township, and Menallen Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Borough Council has conducted a public hearing pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams and Gettysburg Area School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Borough Council of Bendersville Borough, a borough, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

1. That the Borough Council of Bendersville Borough recognize the Bendersville Borough Planning Commission as the official planning commission for the Borough and that such agency promotes public interest in, and understanding of, the Joint Comprehensive Plan and the planning profession; and
2. That the Joint Comprehensive Plan shall include the chapters entitled Introduction, Natural and Historic Resources, Population, Demographics, and Housing, Community Facilities, Transportation – Existing Conditions, Water, Sewer, & Stormwater, Economic Development, Existing Land Use, NW Adams County Goals and Objectives, Future Land Use Plan, Housing Plan, Natural and Historic Resources Plan, Transportation Plan – Recommendations, Community Facilities and Utilities Plan, Relationship of Plan Components, Regional Compatibility Statement and Implementation Strategy, as well as Appendix A Adams County Agricultural Analysis and Recommendations Report and Adams County Fruit Industry Assessment, and Appendix B Integrated Resource Planning, and all charts, tables, diagrams, and textual matter contained therein.
3. That the Joint Comprehensive Plan shall include the maps entitled The Physiographic Provinces of Pennsylvania, Geology, General Soil Associations, Prime Agricultural Soils, Forest Productivity, Limitations for Dwellings, Limitations for On-Lot Septic, Watersheds, Surface Water Quality, Water Features, Forest Lands, Sensitive Flora and Fauna, Protected Lands, Landscape and Scenic Resources, Cultural and Historic Resources, Community Facilities, Utility Lines, Functional Classification of Roadways, Traffic Volumes, Intersections and Corridors of Concern, Intersections and Corridors of Concern, Water and Sewer Systems, Potentially Stressed and Water Challenged Areas, Employment Locations, Composite Zoning, Agri-Tourism, Existing Land Use, Growth Alternative: Alternative I – Low Growth, Growth Alternative: Alternative II – Medium Growth, Growth Alternative: Alternative III – High Growth, Composite Growth Alternatives, and Future Land Use Map.
4. That the Joint Comprehensive Plan submitted by the Planning Commission is hereby adopted by the Borough Council of Bendersville Borough as the official Comprehensive Plan of Bendersville Borough.
5. The Borough shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Borough whose further action is necessary to achieve the purpose of this Resolution.

ADOPTED THIS 23rd DAY OF February 2010.

BOROUGH COUNCIL OF BENDERSVILLE BOROUGH



<Name>, Borough Council President

ATTEST:



<Name>, Borough Secretary

RESOLUTION NO. 2010-B
A RESOLUTION OF THE BOARD OF SUPERVISORS OF BUTLER
TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Butler Township Planning Commission (the Planning Commission) serves as the official planning agency for Butler Township (Township); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Board of Supervisors and the Planning Commission joined with Arendtsville Borough, Biglerville Borough, Bendersville Borough, Franklin Township, and Menallen Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Board of Supervisors has conducted a public hearing pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

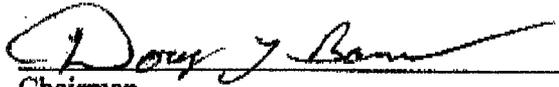
WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams and Gettysburg Area School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of Butler Township, a township, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

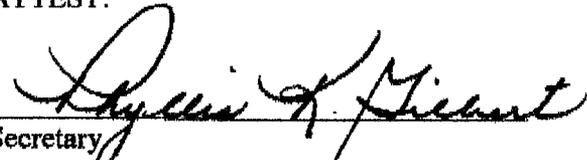
1. That the Board of Supervisors of Butler Township recognize the Butler Township Planning Commission as the official planning commission for the Township and that such agency promotes the public interest in, and understanding of, the Joint Comprehensive Plan and the planning profession; and
2. That the Joint Comprehensive Plan shall include the chapters entitled Introduction, Natural and Historic Resources, Population, Demographics, and Housing, Community Facilities, Transportation – Existing Conditions, Water, Sewer, & Stormwater, Economic Development, Existing Land Use, NW Adams County Goals and Objectives, Future Land Use Plan, Housing Plan, Natural and Historic Resources Plan, Transportation Plan – Recommendations, Community Facilities and Utilities Plan, Relationship of Plan Components, Regional Compatibility Statement and Implementation Strategy, as well as Appendix A Adams County Agricultural Analysis and Recommendations Report and Adams County Fruit Industry Assessment, and Appendix B Integrated Resource Planning, and all charts, tables, diagrams, and textual matter contained therein.
3. That the Joint Comprehensive Plan shall include the maps entitled The Physiographic Provinces of Pennsylvania, Geology, General Soil Associations, Prime Agricultural Soils, Forest Productivity, Limitations for Dwellings, Limitations for On-Lot Septic, Watersheds, Surface Water Quality, Water Features, Forest Lands, Sensitive Flora and Fauna, Protected Lands, Landscape and Scenic Resources, Cultural and Historic Resources, Community Facilities, Utility Lines, Functional Classification of Roadways, Traffic Volumes, Intersections and Corridors of Concern, Intersections and Corridors of Concern, Water and Sewer Systems, Potentially Stressed and Water Challenged Areas, Employment Locations, Composite Zoning, Agri-Tourism, Existing Land Use, Growth Alternative: Alternative I – Low Growth, Growth Alternative: Alternative II – Medium Growth, Growth Alternative: Alternative III – High Growth, Composite Growth Alternatives, and Future Land Use Map.
4. That the Joint Comprehensive Plan submitted by the Planning Commission is hereby adopted by the Board of Supervisors of Butler Township as the official Comprehensive Plan of Butler Township.
5. The Township shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Township whose further action is necessary to achieve the purpose of this Resolution.

ADOPTED THIS 8th DAY OF February 2010.

BOARD OF SUPERVISORS OF BUTLER TOWNSHIP


Chairman

ATTEST:


Secretary

RESOLUTION NO. 2010-03
A RESOLUTION OF THE BOARD OF SUPERVISORS OF FRANKLIN
TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Franklin Township Planning Commission (the Planning Commission) serves as the official planning agency for Franklin Township (Township); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Board of Supervisors and the Planning Commission joined with Arendtsville Borough, Biglerville Borough, Bendersville Borough, Butler Township, and Menallen Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Board of Supervisors has conducted a public hearing pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams and Gettysburg Area School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of Franklin Township, a township, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

1. That the Board of Supervisors of Franklin Township recognize the Franklin Township Planning Commission as the official planning commission for the Township and that such agency promotes the public interest in, and understanding of, the Joint Comprehensive Plan and the planning profession; and

2. That the Joint Comprehensive Plan shall include the chapters entitled Introduction, Natural and Historic Resources, Population, Demographics, and Housing, Community Facilities, Transportation – Existing Conditions, Water, Sewer, & Stormwater, Economic Development, Existing Land Use, NW Adams County Goals and Objectives, Future Land Use Plan, Housing Plan, Natural and Historic Resources Plan, Transportation Plan – Recommendations, Community Facilities and Utilities Plan, Relationship of Plan Components, Regional Compatibility Statement and Implementation Strategy, as well as Appendix A Adams County Agricultural Analysis and Recommendations Report and Adams County Fruit Industry Assessment, and Appendix B Integrated Resource Planning, and all charts, tables, diagrams, and textual matter contained therein.

3. That the Joint Comprehensive Plan shall include the maps entitled The Physiographic Provinces of Pennsylvania, Geology, General Soil Associations, Prime Agricultural Soils, Forest Productivity, Limitations for Dwellings, Limitations for On-Lot Septic, Watersheds, Surface Water Quality, Water Features, Forest Lands, Sensitive Flora and Fauna, Protected Lands, Landscape and Scenic Resources, Cultural and Historic Resources, Community Facilities, Utility Lines, Functional Classification of Roadways, Traffic Volumes, Intersections and Corridors of Concern, Intersections and Corridors of Concern, Water and Sewer Systems, Potentially Stressed and Water Challenged Areas, Employment Locations, Composite Zoning, Agri-Tourism, Existing Land Use, Growth Alternative: Alternative I – Low Growth, Growth Alternative: Alternative II – Medium Growth, Growth Alternative: Alternative III – High Growth, Composite Growth Alternatives, and Future Land Use Map.

4. That the Joint Comprehensive Plan submitted by the Planning Commission is hereby adopted by the Board of Supervisors of Franklin Township as the official Comprehensive Plan of Franklin Township, rescinding the Joint Comprehensive Plan adopted in 1969.

5. The Township shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Township whose further action is necessary to achieve the purpose of this Resolution.

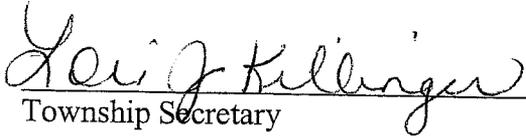
ADOPTED THIS 4th DAY OF February 2010.

BOARD OF SUPERVISORS OF FRANKLIN TOWNSHIP



Chairman, Township Board of Supervisors

ATTEST:



Township Secretary

RESOLUTION NO. 2 -2010
A RESOLUTION OF THE BOARD OF SUPERVISORS OF MENALLEN
TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA
APPROVING THE ADOPTION OF THE NORTHWEST ADAMS COUNTY
JOINT COMPREHENSIVE PLAN.

WHEREAS, The Menallen Township Planning Commission (the Planning Commission) serves as the official planning agency for Menallen Township (Township); and

WHEREAS, Section 301.4 of the Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) requires that municipal plans be generally consistent with the adopted county comprehensive plan; and

WHEREAS, the Board of Supervisors and the Planning Commission joined with Arendtsville Borough, Biglerville Borough, Bendersville Borough, Franklin Township, and Butler Township to organize a planning advisory committee to oversee the preparation of the Joint Comprehensive Plan and conduct public meetings, workshops and interviews to gain insights on existing conditions and issues and to facilitate the development of goals, policies and action strategies to achieve the joint planning area's vision for the future; and

WHEREAS, the socioeconomic and housing data, transportation and land use patterns, cultural and environmental resources, and community facilities and services were analyzed to create the framework for the plan; and

WHEREAS, the Joint Comprehensive Plan is a guide to future growth, development, land use, and community character; and

WHEREAS, the Planning Commission has conducted a public meeting pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Board of Supervisors has conducted a public hearing pursuant to Section 302 of the Pennsylvania Municipalities Planning Code as amended; and

WHEREAS, the Planning Commission distributed copies of the draft Joint Comprehensive Plan to adjacent municipalities, the Upper Adams School District, and to the Adams County Planning Commission for review and comment, and has taken the comments of these entities into consideration in preparing the Joint Comprehensive Plan;

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of Menallen Township, a township of the second class, under the laws of the Commonwealth of Pennsylvania, AND IT IS HEREBY RESOLVED:

1. That the Board of Supervisors of Menallen Township recognize the Menallen Township Planning Commission as the official planning commission for the Township and that such agency promotes the public interest in, and understanding of, the Joint Comprehensive Plan and the planning profession; and
2. That the Joint Comprehensive Plan shall include the chapters entitled Introduction, Natural and Historic Resources, Population, Demographics, and Housing, Community Facilities, Transportation – Existing Conditions, Water, Sewer, & Stormwater, Economic Development, Existing Land Use, NW Adams County Goals and Objectives, Future Land Use Plan, Housing Plan, Natural and Historic Resources Plan, Transportation Plan – Recommendations, Community Facilities and Utilities Plan, Relationship of Plan Components, Regional Compatibility Statement and Implementation Strategy, as well as Appendix A Adams County Agricultural Analysis and Recommendations Report and Adams County Fruit Industry Assessment, and Appendix B Integrated Resource Planning, and all charts, tables, diagrams, and textual matter contained therein.
3. That the Joint Comprehensive Plan shall include the maps entitled The Physiographic Provinces of Pennsylvania, Geology, General Soil Associations, Prime Agricultural Soils, Forest Productivity, Limitations for Dwellings, Limitations for On-Lot Septic, Watersheds, Surface Water Quality, Water Features, Forest Lands, Sensitive Flora and Fauna, Protected Lands, Landscape and Scenic Resources, Cultural and Historic Resources, Community Facilities, Utility Lines, Functional Classification of Roadways, Traffic Volumes, Intersections and Corridors of Concern, Intersections and Corridors of Concern, Water and Sewer Systems, Potentially Stressed and Water Challenged Areas, Employment Locations, Composite Zoning, Agri-Tourism, Existing Land Use, Growth Alternative: Alternative I – Low Growth, Growth Alternative: Alternative II – Medium Growth, Growth Alternative: Alternative III – High Growth, Composite Growth Alternatives, and Future Land Use Map.
4. That the Joint Comprehensive Plan submitted by the Planning Commission is hereby adopted by the Board of Supervisors of Menallen Township as the official Comprehensive Plan of Menallen Township.
5. The Township shall distribute copies of this Resolution to the proper staff, Authorities and Boards in the Township whose further action is necessary to achieve the purpose of this Resolution.

ADOPTED THIS 18th DAY OF February 2010.

BOARD OF SUPERVISORS OF MENALLEN TOWNSHIP

Wm. W. Black
Chairman

ATTEST:

Nancy S. Cline
Secretary