

2

The Bloomsburg Community

Location and Development History

Bloomsburg was established in the fertile valleys of the Appalachian Mountains along the North Branch of Susquehanna River. To the south of the Town lie Catawissa Mountain and the Appalachian Ridge and Valley Province. To the north is Nob Mountain at the foothills of the Allegheny Plateau. The topography of the surrounding area, the mountains and river valleys, created the original resources that early people found valuable.



The area's earliest development was closely associated with the Indian period of American history. The Susquehannock Indians were the first occupants of the Susquehanna River Valley which served as a major route into Central New York State. The only reminder of the original inhabitants is the legacy of colorful Indian names such as Susquehanna, Catawissa, Nescopeck, and Shickshinny.

Peaceful settlement brought about an influx of early squatters and land speculators. The bottom lands along the river were occupied first, followed by higher lands. Settlers were largely self-sufficient at first, but gradually developed a need to find markets for surplus products. The construction of the North Branch of the Pennsylvania Canal ushered in a new era in the history of Bloomsburg. It linked Bloomsburg to larger established communities in the east and brought the Industrial Revolution to the Susquehanna Valley. Begun in 1826 and completed five years later, the canal generated a host of small manufacturing operations. Expanding opportunities in business and farming led to an increase in population, which in turn required the services of barbers, weavers, carpenters, blacksmiths, doctors, and lawyers. The first newspaper, the Bloomsburg Register, and the growing number of travelers fostered the transmission and exchange of ideas and popular tastes.

Chapter 2

Blueprint for Bloomsburg

Mineral wealth from the discovery of nearby iron ore and the Town’s designation as the county seat in 1846 presaged the advent of the railroad in the 1850s. Between 1850 and 1890, six railroads served Bloomsburg, no small testament to the volume of traffic generated by the Town’s booming manufacturing and commercial activity. In the midst of this growth, this portion of Bloom Township along with portions of surrounding townships was organized as the Town of Bloomsburg in 1870.



The turn of the century brought about a substantial change in Bloomsburg's economy. The iron ore was exhausted, and the agricultural base was depleted. New types of businesses were introduced. Textile mills began to locate here, such as Magee Carpet. These were supplemented by numerous small manufacturing enterprises. Owners and managers served as a quasi public board of directors for the Town as they served on the boards and committees

of civic and cultural organizations and invested in the Town’s growth through the development of worker housing.

Since 1926, US Route 11 has been the primary highway connecting the Town to other communities along the Susquehanna River and southward along the Appalachian front. By 1970, Interstate 80 was completed, creating a second highway connecting Pennsylvania’s eastern and western borders and providing nearby interstate access to and from Bloomsburg via exits 232 (PA 42 Buckhorn), 236 (PA 487 Bloomsburg), and 241 (US 11 Berwick). Travel distances and times to major metropolitan areas are:

Harrisburg, PA	73 miles	1 hour 37 minutes
New York, NY	148 miles	2 hours 44 minutes
Philadelphia, PA	137 miles	2 hours 21 minutes
Scranton/Wilkes-Barre, PA	61 miles	1 hour 8 minutes
State College, PA	91 miles	1 hour 36 minutes
Williamsport, PA	42 miles	51 minutes

The Bloomsburg Community

Blueprint for Bloomsburg

Milestones in Bloomsburg's Development

- 1772 - James McClure arrived from Lancaster County
- 1781 - Fort McClure protected from Native American attacks by stockade
- 1797 - Bloom Township established
- 1802 - Town laid out by Ludwig Eyer
- 1813 - Columbia County established
- 1822 - Iron ore discovered on Montour Ridge; spurred manufacturing
- 1826 - US 11 signed
- 1831 - North Branch Canal opened, giving access to Philadelphia by water
- 1839 - Bloomsburg University founded as the Bloomsburg Literary Institute
- 1842 - Public school system established
- 1846 - Bloomsburg designated the county seat of Columbia County
- 1858 - Lackawanna and Bloomsburg rail-road opened
- 1870 - Bloomsburg established as an incorporated town;
Dr. L. A. Shattuck's Rest-Cure Sanitarium opened
- 1874 - Bloomsburg Gas Company and Bloomsburg Water Company incorporated
- 1882 - Bloomsburg woolen mills established
- 1884 - Public sewer established
- 1889 - Magee Carpet founded
- 1890 - Town Hall constructed
- 1899 - Bloomsburg Library (Company) established
- 1905 - Bloomsburg Hospital established
- 1933 - Town Park established
- 1936 - Bloomsburg Post Office constructed
- 1979 - Historic Resource survey completed
- 1982 - Historic District designated
- 1985 - Children's Museum began service with traveling exhibits
- 1997 - Magee Automotive acquired by Reiter Automotive
- 2006 - Downtown Bloomsburg, Inc. established

Chapter 2

Blueprint for Bloomsburg

Today, Bloomsburg is one of 33 municipalities in Columbia County. As the county seat and seat of the 26th Judicial District of Pennsylvania, it hosts many county, judicial and associated service offices—both public and private. This concentration of government and related services creates a hub of activity, an influx of daily visitors and regular demand for visitor parking.



Bloomsburg's architecture, significant because it represents an unusually dense collection of residential, social, religious and commercial buildings that display virtually every style popular between 1830 and the present, is a veritable template for tracing the growth and development of the Town and for appreciating the cultural and aesthetic values that give it its special character. That such a mixture exists is a true indicator of the community vitality that made Bloomsburg an architectural showplace.

Nonetheless, a beautiful, safe, and healthy environment, combined with the benefits of a diverse and progressive community, great location, cultural tradition, quality education and outdoor fun, make Bloomsburg an ideal place to raise a family and operate a profitable business. In addition, there has always been in Bloomsburg a public spirit in which, generally, all persons will "put their shoulders to the wheel" and make the "coach of progress" roll along despite obstacles.¹

Bloomsburg Today



Its Demographics

In 2000, Bloomsburg was a community of 12,375 residents. By 2006, growth was estimated at 12,883. The 20-24 and 45-54 year old cohorts increased by more than 200 residents, while the 65-75 year old cohort declined by more than the same amount. The average household size was 2.30 persons while the average family size was 2.83 persons.

¹ Bloomsburg website, www.bloomsburgpa.org.

The Bloomsburg Community

Blueprint for Bloomsburg

Many of Bloomsburg's demographic figures were, and continue to be, influenced by the presence of Bloomsburg University. The median age was 22.4 years, younger than that of Columbia County or Pennsylvania. Forty-three percent of the resident population was enrolled in college or undergraduate education. A significant number of residents were new to the community each since 1995 due to the regular turnover in the student body, yet the total number of student residents remained relatively stable. Racial and ethnic diversity increased by small numbers yet large percentages. More households are comprised of non-relatives than relatives.

Its Housing Conditions

Bloomsburg's growth in housing stock from 1990 to 2000 was significant in light of its population loss during the same time period. Housing growth was strongly influenced by the construction of rental housing and the establishment of mobile homes. Increased vacancy was part of a wider trend throughout Columbia County and may have been due to recently completed units that were on the market but not yet occupied.

Bloomsburg provided much wider housing choices in terms of housing types, or units per structure, than any of the neighboring, county, or state jurisdictions. However, the census data did not indicate whether structures are owned with the property they occupy or separate from it, or the style of design. Conversations with local realtors suggested that condominiums (housing owned separate from the land) and townhomes (one specific design type) are not adequately available in Bloomsburg.



The distribution of housing values in Bloomsburg was typical of a small, long-established community with many homes valued at less than \$100,000. Still, housing affordability was an issue for more than 17 percent of Bloomsburg households that owned their homes in 1999 and for many senior households that rented their homes in 1999.

Chapter 2

Blueprint for Bloomsburg

Bloomsburg’s housing stock was much older than that of Columbia County and neighboring communities. Specifically, at least 950 homes have come of age, 50 years or more, since the historic survey was conducted between 1986 and 1988. By their age, these homes may have significant historical value to the Town, the county or even the state. Such significance would be determined by a property survey.

Its Local and Regional Economy



Bloomsburg University is the Town’s largest employer, education, and workforce development institution. It influences the Town’s total employment figures, its employment of residents in the armed forces via the ROTC program, and its unemployment and “not in the labor force” figures for residents 16 years and over.

Beyond education, the leading employment industries of Bloomsburg’s resident workers in 2000 were: accommodation and food services; retail trade; manufacturing; and healthcare and social assistance, though the number of jobs in both retail trade and manufacturing declined from 1990-2000.



As home to the University and county government, Bloomsburg is a major employment center for its own residents and more strongly for the county as a whole. Government and manufacturing jobs are particularly important to Columbia County’s economy because over 52 percent of the total amount of compensation paid by businesses to their employees comes from these two sectors, yet they represent only 33 percent of the jobs.

Income for families living in Bloomsburg lagged behind income received by county and state families. The numbers and percentage of residents below poverty was largely, but not exclusively, due to students of Bloomsburg University.

From a national perspective, Columbia County and its surrounding counties specialize in manufacturing, namely foods, metals, and textiles, as well as transit/passenger and truck transportation and their suppliers. Several

The Bloomsburg Community

Blueprint for Bloomsburg

manufacturing enterprises are located in the 100-year floodplain and therefore at risk from flooding from the Susquehanna River and Fishing Creek. Repeated flood damages have discouraged corporate investment. The downtown area lies outside the 100-year floodplain but can become nearly cut-off from transportation routes by surrounding floodwaters.

In a 2006 survey, shoppers reported visiting downtown Bloomsburg solely for retail services. However, they noted that retail stores are not open during convenient hours. They claimed to frequent other locations for work, professional and personal services, and entertainment, though all were available in downtown. Overall, shoppers were satisfied with the shopping environment. The suggestion of addition of street furniture and green spaces was considered desirable, but not necessary. And they offered mixed views on the need for additional parking downtown.



In a concurrent survey, downtown business owners and managers report issues related to expensive utilities, retaining and recruiting qualified employees, and insufficient financing as challenges to operating a success business. Competition from new growth in the surrounding townships has not helped the downtown business district. Big box retailers on Route 11 have drawn consumers away from the downtown in greater numbers than was caused by the opening of the Columbia Mall in the late 1980s.

The majority of parcels zoned for commercial and industrial development in Town have been developed. The fairgrounds parcels are not developed for industrial uses as zoned but are economically productive for the Town in generating amusement tax revenue and drawing visitors who spend some money in the community.

Economic development agencies have successfully organized to create new business locations and foster a vibrant downtown business environment. The Keystone Opportunity Zone (KOZ) designation near the airport and Keystone Innovation Zone (KIZ) designation at the Bloomsburg Regional Technology Center have opened doors to funding and technical assistance, and provided tax advantages for businesses locating within these specific areas.

Chapter 2

Blueprint for Bloomsburg

Its Land Use Composition and Patterns

The physical pattern of dense development connected by streets and sidewalks in a gridded fashion is what visually distinguishes Bloomsburg from its municipal neighbors. Maintaining this historic pattern while encouraging redevelopment is essential to the Town's identity. While the historic district regulations are intensive to administer, requiring special expertise, they are the primary tool to sustain the integrity of the highly visible, high quality architectural building stock of the community. The Town has adopted essential zoning provisions its hazard areas, namely the airport and floodplain.



As in many college towns, there is concern about the amount and location of off-campus student housing, particularly since more student housing is anticipated as the University continues to grow. Recent revisions to the zoning ordinance have attempted to provide greater specificity to the permitted locations of off-campus student housing without restricting or concentrating student housing in a single district. As of 2007, student

housing was a permitted use in areas where it fit well with the community dynamics and enhanced the atmosphere, such as in the downtown, and not permitted in select residential districts to preserve these neighborhoods for family living.

Bloomsburg is approaching a built-out condition at ground level. Of the intensively developed portion of Bloomsburg, the largest portion is devoted to high density residential development, as measured in this plan's analysis. Land available and zoned for relatively low density residential development remains north of downtown. The University also has undeveloped land zoned for its use north of downtown. The area's rural character is expressed in the Town through 1200 total acres of forest, farmland, parkland or other open space, including a large portion of the fairgrounds.

The limited availability of single parcels and properties larger than 7,500 square feet and zoned commercial may be a constraint to local and area economic growth and vitality, particularly in the downtown. Assembly of land is permitted,

The Bloomsburg Community

Blueprint for Bloomsburg

but may be an obstacle to “shovel-ready” investors. At the same time, if not appropriately designed, the introduction of these larger uses could erode the existing character of the Town.

Its Natural Resources and Natural Hazards

Bloomsburg’s identity is influenced by its rural setting and natural resources: by the area’s rolling topography, the area’s agriculturally productive soils, the native oak forest, its riverside and creekside location, and the wildlife associated with these habitats. Its proximity to protected forest areas and public waterways allows for recreational and tourism opportunities in the great outdoors. The Town has embraced its agricultural surroundings by hosting the area’s farmer’s market.



Approximately 67% of Bloomsburg’s land contains environmental features such as floodplains, wetlands, steep slopes and natural areas that are sensitive to development and its impacts. While the protection of floodplains is regulated by local ordinance, and wetlands by state and federal law, there are no measures of protection for natural areas of biological significance.

The water of both Fishing Creek and the Susquehanna River contain mercury and the river, PCBs. Sources are not known but are believed to be located upstream as the impaired classification extends upstream beyond the Pennsylvania-New York border. The river carries these pollutants downstream, through many other riverside communities, to the Chesapeake Bay and ultimately to the Atlantic Ocean.

Fishing Creek and the Susquehanna River flood frequently. Much of the Town lies within the 100 year floodplain and is affected. When the Susquehanna River overflows its banks, it hinders normal flow from Fishing Creek to the mainstream of the Susquehanna, resulting in backwater flooding on Fishing Creek. When the Susquehanna River and Fishing Creek simultaneously rise above flood stage, overbank flooding can cover up to 33 percent of the landmass within the Bloomsburg’s boundaries.

Chapter 2

Blueprint for Bloomsburg

The Town has instituted systems for early warning, evacuation, and damage reduction. It recently acquired the Streater property, a property that has been repeatedly damaged by flooding, and intends to retain the property as open space, primarily for athletic fields.

With the assistance of state and federal governments, it intends to construct a flood protection system consisting of floodwalls, levees, and railroad and road closure structures to provide protection from floods similar to those experienced during Hurricane Agnes in 1972 along the river and for the 100-year flood along the creek. The proposed flood protection system will require the removal of an estimated 22 residences, three commercial structures, one County building, and the relocation of a trailer park; the conversion of 11.5 acres of quality to non-agricultural use, as well as physical and visual obstruction to the river and creek.

The Town, in conjunction with its state and federal agency partners, should consider a community approach to living in harmony with the area's dynamic waterways that includes enforcement, relocation, acquisition, in-place elevation of structures, barriers, and both wet and dry floodproofing measures. "No adverse impact" is one model for such an approach; information is available from the Association of State Floodplain Managers, <http://www.floods.org>.

Its Cultural and Historic Resources



The Town of Bloomsburg has a rich heritage, evident in its historic architecture and celebrated through cultural events. Two historic resources, the Bloomsburg Historic District and the Rupert Covered Bridge, are listed on the National Register of Historic Places and therefore afforded some level of protection from federally funded or federally assisted projects that could harm their integrity. More than 650 properties comprise the Bloomsburg Historic

District and as a district, are regulated by special provisions of the Town's code. Six of the eight properties eligible for listing on the National Register are located on the Bloomsburg University campus. The remaining two are former public school sites: the Junior High School and the Laboratory High School.

The Bloomsburg Community

Blueprint for Bloomsburg

Additional historic sites acknowledged by area residents include 14 businesses, 18 churches, two theatres, three government buildings, and two monuments. Since the last update to the historic survey of properties was completed between 1986 and 1988, additional properties have come of historic age and could be evaluated for their significance and integrity as part of the current district, a new district, or as individual historic resources.



As shown by the dates of designation, the state marker program was popular in the Bloomsburg area when it was introduced and funded by the state, but has not resulted in the placement of any additional state markers in the ensuing 60 years.

The Columbia County Historic Genealogical Society, housed in the Bloomsburg Public Library, collects and preserves local records and artifacts, but does not pursue property preservation initiatives.

Cultural events sponsored by local organizations and held throughout the year enable citizens to connect as one community. The Bloomsburg Theatre Ensemble produces classic and contemporary plays as well as original works from folklore, found text, history, interviews, and literature of many cultures. It also offers educational programs for area residents. The Chamber organizes food, entertainment and art events to draw people into downtown. The University's celebrity artists series brings national talent to Mitriani Hall. In addition, Bloomsburg University has many student organizations that bring entertainment and cultural events to the residents of Bloomsburg and the surrounding area.

The annual Bloomsburg Fair is the largest annual community event in Columbia County. Dating to a one day event in 1855, the fair has grown to an eight day community, agricultural and entertainment exhibition. Today, the fair fills 227 acres, attracts over 600,000 fair-goers, and brings in approximately \$10 million dollars to the local economy annually in late September.

Chapter 2

Blueprint for Bloomsburg

The Bloomsburg Community Garden, located along Ferry Road across from the airport, is a collaborative green space providing its participants, who may not have suitable yards of their own, a place to grow fresh produce, flowers, and other plants. This group of local gardeners tends individually assigned plots and shares in the maintenance of the site.

Its Transportation Systems

Bloomsburg's transportation system is a multi-modal system for pedestrian, bicycle, freight, aviation, and vehicular travel. Sidewalks line at least one side of most streets throughout the Town. Some areas at the perimeter of Town lack sidewalks—more so than central areas. Some gaps are due to steep slopes or to complex municipal boundaries that require multi-municipal planning and coordination to close them.



Most streets provide suitable conditions for serious cyclists but many are too narrow for occasional and recreational riders who are not comfortable riding with motorized vehicle traffic. Off-road trails would supplement both recreational and commuter travel, such as the one SEDA-COG is planning along the former route of the North Branch Canal. This pedestrian and bicycle trail will connect the communities of Danville, Catawissa and Bloomsburg and provide trail recreation for residents and visitors.

Public transportation is limited to Susquehanna Trailways service between Lock Haven and New York and the Bloomsburg University campus shuttle, available to students for travel between the campus and downtown.

The municipal airport, a facility for recreational flying, plans to complete a runway extension to 3200 feet. Further extension to accommodate larger aircraft would require cooperation with Scott Township.

The Bloomsburg Community

Blueprint for Bloomsburg

Should passenger rail service return to the central Pennsylvania region in the future, Bloomsburg would be well suited for a station due to its current land use pattern and density.

According to 2008 PennDOT data, Route 11/Main Street, Route 487/Lightstreet Road/Ferry Road, and Market Street are the busiest roads in Town, followed by Millville Road, Old Berwick Road and Fifth Street. High traffic volumes have made pedestrian circulation in downtown difficult. In 2008, PennDOT installed new signals and crosswalks to aid pedestrians in street crossings.

Its Community Facilities and Services

A total of 39 police officers enforce public safety in the Town and on the University campuses. The Town's consolidated fire department provides fire protection for the community, including the University campus. The department faces the typical issues of a volunteer fire company: soliciting and retaining volunteers for fire protection and fundraising efforts as well as maintaining adequate operating funds.

The Bloomsburg Area Joint Flood Control Authority has undertaken the final design and construction of a flood control project, as described in the April 2005 Integrated Feasibility Report & Final Environmental Impact Statement prepared by the United States Army Corps of Engineers—Baltimore District, and associated improvements such as parks, recreation grounds and facilities of project lands. In Spring 2008, the Town of Bloomsburg installed a siren/audio system to provide residents with warning of potential floods and other hazards.

Enrollments in the Bloomsburg Area School District are projected to remain steady at approximately 1750 students. There are no plans for new construction, expansion, or consolidation of existing schools. Bloomsburg University's student population reached more than 8500 in 2007.



Chapter 2

Blueprint for Bloomsburg

Public water is supplied to Bloomsburg residents and businesses by United Water Pennsylvania from Fishing Creek. A 2003 Assessment indicated that the most serious potential sources of contamination are related to the accidental release of materials along the transportation corridors and to materials leaching from landfills.

The Bloomsburg Wastewater Treatment Plant (WWTP) is owned and operated by the Municipal Authority of the Town of Bloomsburg and provides collection service to all the developed portions of the Town of Bloomsburg, the Bloomsburg University, and the majority of Scott Township.

In 2006, the Municipal Authority undertook the design of additions and alternations to the wastewater treatment plan to achieve two goals: reduce damage from floods and reduce nutrients in its effluent. Design was completed in 2007 and the modifications are currently underway. Construction is expected to be complete by the end of 2010, in compliance with Pennsylvania's Chesapeake Bay Strategy.



Recycling is mandatory for Town of Bloomsburg residents, businesses, schools, offices, multi-family housing units and organizers of special events. Every household receives bi-weekly curbside collection of steel cans, aluminum cans, clear, brown, and green glass bottles, newspaper and #1 and #2 plastic bottles. The Town of Bloomsburg was the first community in Pennsylvania to provide curbside collection of recycling starting in August of 1977.

The Town's composting site provides a drop-off site for compostable materials, such as grass clippings, leaves and small tree limbs and branches. The Town processes these materials into compost and wood chips and makes them available to the residents of the Town of Bloomsburg and Scott Township.

The Bloomsburg Community

Blueprint for Bloomsburg

Still the Only Incorporated Town in Pennsylvania

The Bloomsburg Town Council is made up of six members and the presiding officer, the Mayor. Council members are elected at large for four year terms. The Mayor, who is President of the Council, presides at all meetings, participates in all discussions and has a vote on all questions, but does not have veto power. All of these provisions differ from the Borough Code of Pennsylvania.²

Five administrative departments provide the day-to-day municipal services in Bloomsburg. Numerous appointed and volunteer boards, commissioners and committee assist in community decision-making, priorities and investments as show on the following figure.

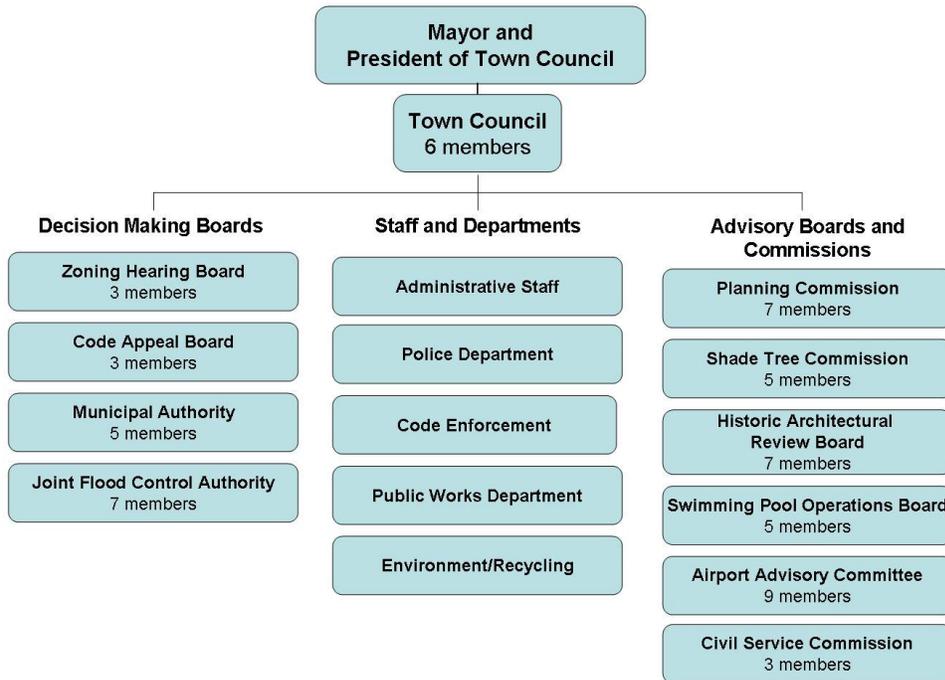


Figure 2-1. Town of Bloomsburg Governmental and Administrative Structure

² Bloomsburg website, www.bloomsburgpa.org.

Chapter 2

Blueprint for Bloomsburg

Developments of Regional Impact

The following developments and designations have brought both impacts and opportunities to the Town of Bloomsburg. They have shaped and will continue to shape the Town's identity as a place to live, work, learn, and visit.

Bloomsburg Fairgrounds



The 248-acre Bloomsburg Fairgrounds includes a 8,000 seat grandstand, 78,000 square feet of exhibit buildings, an indoor arena, a covered band shell, a half-mile race track, and other large outdoor event facilities. The fairgrounds have been the site of the annual Bloomsburg Fair since 1855. The weeklong Fair begins the third Saturday after Labor Day and draws over 650,000 people from all along the eastern seaboard. The Fairgrounds also attracts many trade

shows and conventions throughout the year.

For its duration, the Bloomsburg Fair is temporarily the largest employer in Town. The fair employs around 4,000 people for the week, mostly local residents. Approximately 1,200 vendors attend the event each year, each employing up to 20 local workers. Two school districts suspend classes for this week, making many teachers and school district workers available for these temporary positions. The impacts from the fair, and to a lesser extent from other events held at the fairgrounds, include:

- Increased traffic volumes and congestion. Parking is largely handled onsite but overflows do occur onto local neighborhood side streets.
- Increased demand for traveler services, i.e. food and accommodations, though food is featured at the fair and many exhibitors live in their recreational vehicles.
- Much of the daily retail activity normally focused on downtown is transferred to the fairgrounds for the week. As a result, retail revenue typically falls during the fair.

The Bloomsburg Community

Blueprint for Bloomsburg

Bloomsburg University

The 280-acre Bloomsburg University of Pennsylvania is one of 14 member schools in Pennsylvania's State System of Higher Education. With a student population of more than 8,500 in a Town of 4,300 residents in the mid 2000s, the University makes Bloomsburg a college town. The impacts from the University include:



- An economic powerhouse as a major purchaser of goods and services, employer (and resident recruiter), real estate developer, incubator of new business ideas, advisor/network builder, and workforce developer.
- Significant increases in traffic volumes at the beginning and end of semesters as well as for campus events, e.g. alumni, parent, and cultural events.
- Significant demand for rental properties as off campus student housing, since the University's policy is to house approximately half of its students on-campus. This presence of large numbers of students in residential neighborhoods can create conflicts between student and non-student lifestyles.

Interstate 80

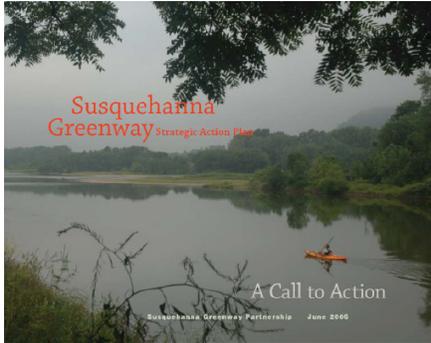
Interstate 80 opened in the 1960s. Interstate travel reduced travel times to metropolitan areas across and beyond Pennsylvania. At the same time, the Bloomsburg area was also made more accessible to long-haul travelers. The impacts from the I-80 include the relocation of lodging uses to the I-80 corridor. Subsequently, the Columbia Mall was constructed at Exit 232, which drew retail activity away from downtown during the 1970s and 1980s.



Chapter 2

Blueprint for Bloomsburg

Susquehanna Greenway



The Susquehanna Greenway Partnership is working to expand recreation opportunities along the entire 500 miles of river from New York to Maryland that would feature river towns, such as Bloomsburg, as destinations. Impacts from this 2003 designation to the river corridor include:

- The potential for increased tourism along the Susquehanna Greenway.
- Increased competitiveness for grant funding for natural, cultural, historic, and recreational resource related projects located in the greenway.

Proposed Flood Mitigation Project

Due to its location at the confluence of Fishing Creek with the Susquehanna River, flooding is a significant natural hazard to the Town of Bloomsburg. Past flood events have resulted in extensive damages to structures and their contents and have threatened public safety. In addition, floods have disrupted major transportation systems, requiring closure of roads, railroads, and the municipal airport. When the Susquehanna River and Fishing Creek simultaneously rise above flood stage, overbank flooding can cover up to 33 percent of the landmass within the Town of Bloomsburg's boundaries.

The Town has implemented efforts to reduce damage from flooding, including:

- Floodplain management
- Participation in the National Flood Insurance Program
- Inspection and cleaning of the streets, channels and drainageways
- Acquisition of properties that are repeatedly flooded
- Maintenance of a flood warning and response program
- Implementation of a Hazard Mitigation Plan (2005).

The Final Integrated Feasibility Report and Environmental Impact Statement (2005) analyzed the potential environmental consequences of implementing a flood damage reduction project in Bloomsburg, Pennsylvania. It investigated the feasibility of alternative plans to address problems and opportunities associated

The Bloomsburg Community

Blueprint for Bloomsburg

with flood damage reduction along the Susquehanna River and Fishing Creek in the Town of Bloomsburg. The recommended flood damage reduction plan is intended to provide an Agnes (440-year) level of protection from Susquehanna River flooding, and 100-year level of protection from Fishing Creek flooding. The proposed action, Alternative 4, would provide approximately 17,000 linear feet of earthen levee, and mechanically stabilized earth flood walls (14 feet above the existing ground surface), concrete floodwalls, railroad and road closure structures and roadway relocation to provide ramps over the line of protection, was identified as the preferred alternative.

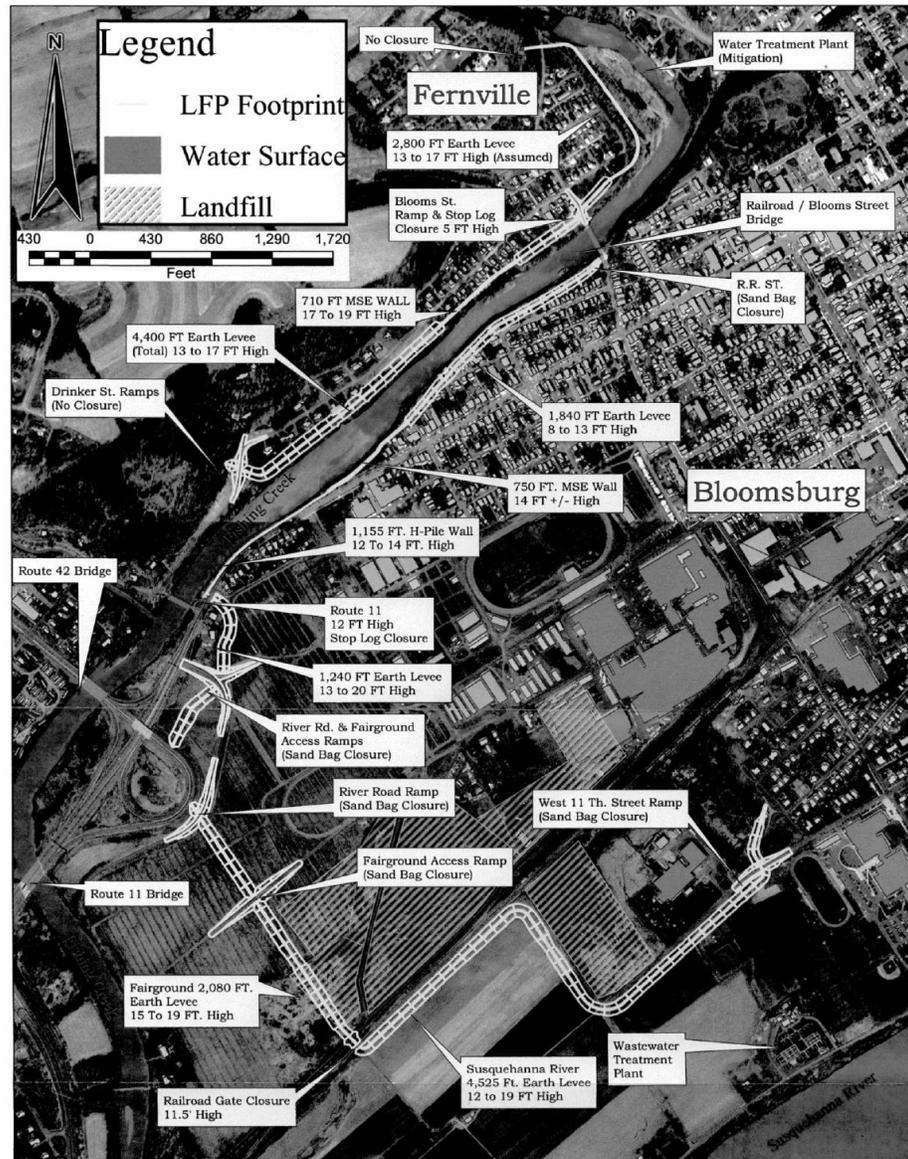
The proposed flood protection project would result in temporary impacts as well as permanent “unavoidable adverse effect[s] on the community”:³

- The alignment of the flood protection under Alternative 4 would require the permanent removal of an estimated 22 residences, three commercial structures, one County building, and the relocating of a trailer park.
- Approximately 11.5 acres of farmland designated as Prime Farmland or Additional Farmland of Statewide Importance would be permanently converted to non-agricultural use.
- Approximately 0.69 acres of existing Fishing Creek stream bottom habitat would be manipulated and altered for placement of riprap. This impact will be offset by a mitigation project consisting of a fish passage project at Boone’s Dam in lower Fishing Creek.
- Permanent, unavoidable adverse effects would occur to the visual resources. Views that currently include Fishing Creek from Bloomsburg or Fernville would be unavoidably obscured by the levee/floodwall system. Views from Fishing Creek (typically from recreational users) would be diminished, as would views from within the Fairgrounds property.
- The costs to operate, maintain, repair, replace, and rehabilitate the completed project, or functional portion of the project, including mitigation features, consistent with federal requirements and estimated at \$185,300 per year, would become the responsibility of the Town.

³ Town of Bloomsburg, Columbia County, Pennsylvania Flood Damage Reduction Project Final Integrated Feasibility Report and Environmental Impact Statement, U.S. Army Corps of Engineers, Baltimore District, April 2005.

Chapter 2

Blueprint for Bloomsburg



6/29/04

The Town of Bloomsburg,
Columbia County, Pennsylvania
FLOOD DAMAGE REDUCTION PROJECT
Line of Protection Project Footprint



Figure 2-2. Line of Protection Project Footprint, *The Final Integrated Feasibility Report and Environmental Impact Statement*, 2005.

Exploration of the Marcellus Shale Formation

Recent innovations deep well drilling, horizontal drilling and hydraulic fracturing have made the Marcellus Shale formation, which underlies much of the Central and Western portions of Pennsylvania, a more practical and economical source of natural gas. These advances in extraction technology in conjunction with rising oil and natural gas prices encouraged many energy producers to increase gas exploration activities in the Commonwealth. Some Pennsylvanians saw this innovation as an opportunity to cash in on a vast, untapped resource, while others recalled the environmental impacts of previous boom-and-bust resource-based industries. As oil prices fell through late 2008, gas exploration activity also declined, providing an opportunity to project and evaluate the short and long term benefits and costs of tapping the Marcellus Shale formation for energy production. Similar evaluation should be given to nuclear and wind energy production as these energy industries also operate in the region.

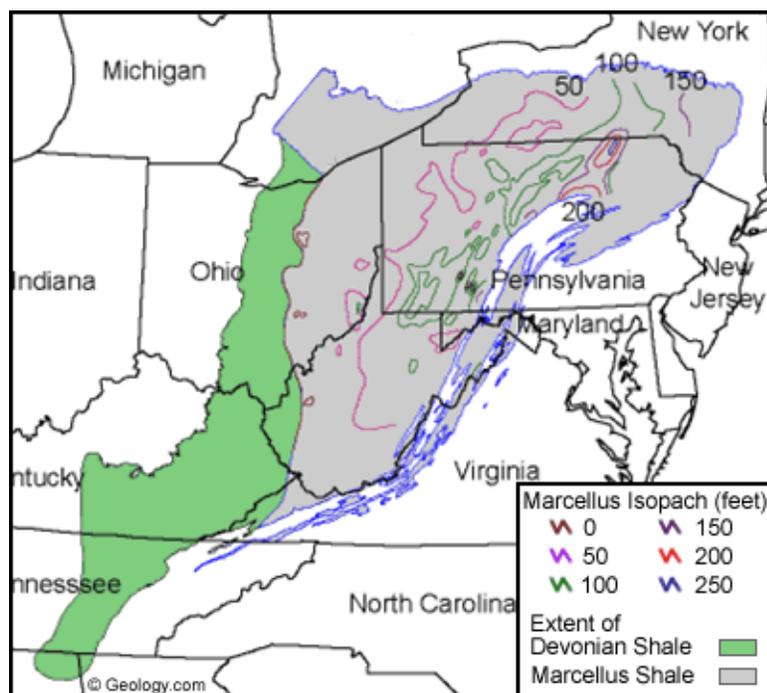


Figure 2-3. Thickness map of the Marcellus Shale. Modified after: United States Geological Survey, Open-File Report 2006-1237. Milici, Robert C.; Swezey, Christopher S. (2006). *Assessment of Appalachian Basin Oil and Gas Resources: Devonian Shale–Middle and Upper Paleozoic Total Petroleum System*. Open-File Report Series 2006-1237. United States Geological Survey.

Chapter 2

Blueprint for Bloomsburg

According to Geology.com, a leading source of public information about natural gas drilling, several companies are actively drilling or leasing Marcellus Shale properties in the Central Pennsylvania region. However, several issues stand in the way getting extraction up and running. 1) Most of the leased properties are not adjacent to an existing natural gas pipeline. 2) The total natural gas pipeline capacity currently available is only a fraction of what will be needed to transport millions of cubic feet of natural gas per day to major markets. 3) In addition, thousands of miles of natural gas gathering systems would need to be built to connect individual wells to the major pipelines. As a result, large investments will be needed to construct new collection and transmission pipelines, requiring new right-of-way, and to increase capacity along major transmission lines.

The construction of pipelines in the region represents economic opportunity (jobs, wages/benefits) for a few years, while the operation and maintenance of wells and the development of a supply chain of product and service providers represent longer term economic gain. Subsequent questions arise: if construction workers are hired from the existing workforce, perhaps for greater compensation than they receive today, which employers are most likely to lose workers? If workers are hired from outside the region, how will the region accommodate the short term growth in population, public services, water/sewer demand, etc. knowing that new residents may not be permanent and population growth may peak then quickly decline. The potential for substantial population growth in the region implies the need for intergovernmental cooperation and regional planning to provide future residents with adequate public infrastructure and services.

While advancing technology has the potential to significantly increase wealth in the region, there are environmental issues that must be considered. There are many sources of information on the potential environmental impacts from the drilling techniques used to extract natural gas from the Marcellus Shale. Since deep well drilling is relatively new to Pennsylvania and the Marcellus Shale region, the true impacts have not yet been measured but may include:

(1) **water withdrawals**,⁴ Well drilling and fracturing consume large quantities of water that will not be replaced since drilling water will remain underground.⁵

⁴ *Draft Scope for Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program* prepared by the New York Department of Environmental Conservation.

The Bloomsburg Community

Blueprint for Bloomsburg

Often companies will use massive quantities of drinking water resources from shallower aquifers in the area to conduct fracturing operations. This industrial draw down can lead to changes in traditional water quality of quantity.⁶

(2) **transportation of water** to the site, including wear and tear on roads.²

(3) **the use of additives in the water**, to enhance the hydraulic fracturing process², i.e. the risk of underground contamination. Hydraulic fracturing can open up pathways for fluids or gases from other geologic layers to flow where they are not intended. This may impact ground water resources that may be considered for drinking water supplies in the future. If fracturing wastewater disposal is conducted through underground injection wells, there is additional opportunity for groundwater contamination.⁴

(4) **space and facilities** required at the well site to ensure proper handling of water and additives,²

(5) **removal of spent fracturing fluid from the well site and its ultimate disposition.**⁵ Fracturing fluid chemicals and wastewater can leak or spill from injection wells, flowlines, trucks, tanks, or pits. And leaks and spills can contaminate soil, air and water resources. If wastewater disposal occurs in streams, the chemical make-up or temperature of the wastewater may affect aquatic organisms, and the sheer volume of water being disposed may damage sensitive aquatic ecosystems.⁴

(6) **air quality** - Operations of diesel generators and trucks can affect local air quality.³

(7) **ecology/biodiversity** - Land clearing for the well site, haul roads, and gas pipelines can disrupt wildlife and can introduce invasive species.³ This environmental disturbance could have the potential to fragment habitat, reduce wildlife populations and reduce the numbers of hunters that come to the region each year.

⁵ Gas Drilling in the Marcellus Shale, Water Issues Committee, Sierra Club Pennsylvania Chapter, June 23, 2008.

⁶ Hydraulic Fracturing Facts, 2/2/2009, The Oil and Gas Accountability Project. Accessed February 10, 2009.

Chapter 2

Blueprint for Bloomsburg

Intentionally blank for two-sided printing