



2018 COUNTY COMPREHENSIVE PLAN UPDATE



Lycoming County, Pennsylvania

COUNTY OF LYCOMING

RESOLUTION NO. 2018-18

**A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE
COUNTY OF LYCOMING IN THE COMMONWEALTH OF
PENNSYLVANIA ADOPTING THE 2018 LYCOMING COUNTY
COMPREHENSIVE PLAN UPDATE**

WHEREAS, the Lycoming County Planning Commission serves as the official planning agency for Lycoming County; and

WHEREAS, Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247, as reenacted and amended) empowers counties, boroughs and townships of the first and second class, individually or jointly, to plan for their development and govern the same by zoning, subdivision and land development ordinances; and

WHEREAS, the Lycoming County Board of Commissioners has provided staff support, from the Department of Planning and Community Development, to the Lycoming County Comprehensive Planning effort; and

WHEREAS, three Rural Area Planning Advisory Teams (PATs) were organized to encourage participation and community input from the areas of the County not included in the multi-municipal plans process; and

WHEREAS, the Rural Area PAT's conducted nine (9) meetings to help the County develop an understanding of the most pressing issues relevant to the rural areas of Lycoming County; and

WHEREAS, the Lycoming County Planning Commission served as advisors and helped oversee the preparation of the 2018 County Comprehensive Plan Update, as required by the MPC; and

WHEREAS, the Lycoming County Planning Commission undertook a public involvement process by conducting Focus Group Meetings to gain insights on existing conditions and issues concerning the functional planning areas of Community Development; Community Facilities & Infrastructure; Transportation and Mobility; Economic Development; Natural Resources; Public Safety; Agriculture & Forestry; Heritage, Culture, & the Arts; and Youth Engagement; and

WHEREAS, the Lycoming County Planning Commission conducted in-person and on-line public surveys which have compiled over 1,100 responses in order to confirm that the Comprehensive Plan reflects the needs and opinions of the general public; and

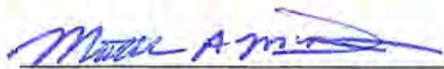
WHEREAS, the 2018 County Comprehensive Plan Update addresses many critical issues facing the County, including infrastructure, economic development, the fragmentation of local government, flooding, land use, volunteerism, water quality and drugs.

NOW, THEREFORE, BE IT RESOLVED THAT:

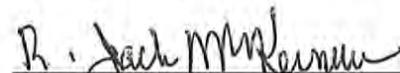
1. The Lycoming Board of Commissioners recognizes the Planning Commission of Lycoming County as the official planning agency for Lycoming County.
2. The 2018 Comprehensive Plan Update submitted by the County Planning Commission is hereby approved.

Adopted this 28th day of June, 2018.

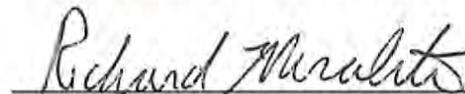
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Foreward

This plan, **Lycoming 2030: Plan the Possible**, sets a bold vision, yet realistic plan to guide Lycoming County over the next decade. The planning process ran simultaneous with the update of six multi-municipal comprehensive plans that were also facilitated by our staff. Those six plans were all adopted and published by December 2017. This plan takes into account knowledge gained from those 26 urbanized municipalities as well as the remaining rural areas of the County.

This plan is an update to the 2006 County Comprehensive Plan which remains in force. The 2018 Lycoming County Comprehensive Plan Update; **Lycoming 2030: Plan the Possible**, focuses on validating the issues and concerns from the previous plan, identifying the root of the problems identified and finding solutions. The process did not spend a lot of time on visioning or developing goals and objectives since that was a significant effort undertaken during the 2006 process. However, the utilization of the 2006 and 2018 plans in concert with each other will provide a tremendous benefit and advantage to the County and its communities.

Extraordinary community outreach was a principle mission of creating this plan. A full range of community outreach types and techniques were embodied during this plan process from public meetings and events around the County to meetings with stakeholder groups and visits to all the school districts and colleges in the County, to interviews, surveys, focus groups and municipal summits. We took as many steps as possible to engage the public in order to learn what is happening in our County rather than primarily relying on updating data.

We used this input to help set priorities and validate the greatest concerns and opportunities facing Lycoming County at this time. The plan emphasizes what implications may occur if the issues are not addressed and it identifies a manageable number of strategic implementable projects, programs, and initiatives that can address those issues in the next ten years and beyond. To that end, the 2018 Comprehensive Plan Update was developed under the following principles, defined by PA DCED's "Creating an Implementable Comprehensive Plan" guidance:

1. Focus the plan on real and relevant issues
2. Organize the plan the way local officials and citizens think
3. Devise practical and workable recommendations
4. Recruit partners and create capacity to implement the plan
5. Get local ownership of the plan and commitment to implement

This plan is intended to be used as a roadmap for future County investments and a tool to attract outside investment throughout the County. The ideas and recommendations identified herein cannot be carried out single-handedly; the County will undoubtedly need the partnership, support, buy-in, and expertise of many far and wide to accomplish these great things and make long-lasting impacts on our economy and quality of life.

This is exciting stuff – Let's get to it!

Kim Wheeler, AICP

Deputy Director

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Chapter 1: Introduction

Plan Organization

The plan is designed to be easy to read, focused and emphasize implementable actions that can be accomplished over the next twelve years.

This document incorporates a review of the 2006 Comprehensive Plan for Lycoming County, PA – Phase II with emphasis placed on developing a strategic list of priorities and projects for the County to focus on over the next ten to twelve years. This review is organized into five sections.

The Introduction presents an executive summary highlighting the notable concerns, opportunities and discussion points covered in this plan. It includes both rural and urbanized area highlights.

The Topical Area Updates capture the significant or notable changes that have occurred in Lycoming County in four categorical areas: *Community and Economic Development, Community Facilities and Infrastructure, Land Use and Resource Management, and Transportation and Mobility*. This section looks at the status of each topical area, what has changed since 2006, and what relevant trends are worthy of being reported.

The County Priorities section identifies eight countywide priority issues. These eight were determined to be the most important, throughout the County, out of the top 20 thematic issues commonly identified across all multi-municipal and rural planning areas during the 2015-2018 comprehensive planning process.¹ Following each priority issue are the “Projects of Countywide Significance” with a brief description of the project’s intention and partners who should be involved. It is intended that specific Project Delivery Teams (PDT) will be created to begin implementation of each project, program, or initiative.

The Growth Area and Future Land Use Maps section provides a detailed look at any areas of the County for which there has been changes in the designated growth area boundaries, future growth area boundaries, and/or future land uses.

The Appendices are the final section of this document and include the following items:

- A. Plan Process
- B. Meeting Summaries and Reports
- C. Research and Analysis
- D. Reference Maps
- E. Plan Consistency and Plan References
- F. Acronyms

¹ See Thematic Issues List at the end of Appendix A

Executive Summary

The Lycoming County Planning Commission and the Department of Planning and Community Development jointly present the 2018 Lycoming County Comprehensive Plan Update; **Lycoming 2030: Plan the Possible**. It is an implementable project and program oriented plan that charts the development future of the County for the next 10 years and beyond. The update is easy to read and understand, with clear cut projects and programs enumerated. The update should prove to be a working document that does not just sit on the shelf.

Game Changers and Economic Drivers over the past ten years

In 2007 the natural gas industry began drilling in Lycoming County and activity was heavy until 2014. During that time it is estimated by the Chamber of Commerce, based on information from the gas companies operating in the County and the expansion of local businesses, that the industry created in excess of 3,500 new jobs in Lycoming County. Due to Act 13 of 2012, Lycoming County received a total of \$13.1 million of natural gas (Act 13) Impact Fees between 2012 and 2017 which leveraged over \$100 million other dollars for infrastructure and economic development projects around the County.

According to the Economic Benefit report from the Hospital & Health System Association of Pennsylvania University of Pittsburgh Medical Center (UPMC) Susquehanna is a major economic driver in Lycoming County, providing over \$750 million annually in economic benefit to Lycoming County and the region. Including offices in Clinton, Tioga, and Northumberland counties, it provides one billion dollars annually. UPMC Susquehanna has made a \$500 million dollar commitment to build services in this region over the next 5-7 years. In the upcoming year UPMC Susquehanna will seek designation as a level II trauma center. An important project for the Department of Planning and Community Development and the City of Williamsport has been the Pathway to Health. The Planning Department has worked with UPMC Susquehanna for over 10 years to complete the project. The Pathway to Health is in its final stages of completion. It creates an efficient route from the interstate through the city to the medical center.

The Pennsylvania College of Technology is also a large economic driver in the County with over \$234 million generated each year. Over 2,000 students live in private rental housing in the County. Since 1998 the college has embarked on over \$250 million worth of construction projects on the campus. Workforce enrollments exceeded 7,500 in 2017. The Plastics Innovation & Resource Center (PIRC) provides training and technology resources to facilitate the growth of the plastics industry in the United States and throughout the world.

Lycoming College is also a major economic contributor to Lycoming County. Since 2008 Lycoming College has invested over \$25 million in its physical plant. The college employs 350+ full and part-time individuals. The college's operational budget of \$44 million and institutional endowment of \$220 million provide significant economic impact and local/regional investment on an annual basis. The college is very involved in the East End Gateway project and is planning to build to new entrance to the campus on Basin Street.

International Little League is a major economic driver in Lycoming County and the region. Little League pumps \$32 million into the economy per year. There are 70,000 unique visitors to Little League each year.

Plan Summary

The Update identified 8 major issues affecting the County. They are:

1. Infrastructure does not meet the needs of all areas of the County;
2. The Economy is changing and our communities and workforce are not optimally positioned to realize our untapped potential and become more resilient;
3. Fragmentation of Local Government & the sense of being disenfranchised are challenges facing Pennsylvania municipalities;
4. Flooding is a threat to life, properties, and communities throughout Lycoming County;
5. Current Land Use regulations and enforcement do not consistently and adequately meet community visions and respond to changing conditions;
6. Volunteerism and civic engagement, particularly among young people, are insufficient to sustain community institutions and services;
7. Water Quality is vital but vulnerable to a multitude of threats; and
8. Drugs, particularly heroin and opioids, are creating significant social, economic, public health, and safety problems across the County.

Issue 1 – Infrastructure

Infrastructure includes “the basic physical and organizational structures and facilities needed for the operation of a society or enterprise.” It creates the physical and digital backbone that links communities together, sets the foundation for economic and community development, and allows residents to enjoy a quality of life. The 2018 Update identified six types of infrastructure: Transportation, Water and Sewer, Telecommunications, Natural Gas, Housing, and Outdoor Recreation. Since the early 2000s, Lycoming County has secured hundreds of millions in Federal and State funds to help advance over 230 community infrastructure projects.

Transportation

The Williamsport Area Transportation Study (WATS) serves as the designated Metropolitan Planning Organization (MPO) for Lycoming County transportation planning and programming. There are nearly 2,000 miles of publicly owned highways and over 700 bridges throughout Lycoming County. Local municipalities own 65% of this road mileage while PennDOT owns the remaining 35%. There are 717 publicly-owned bridges in Lycoming County. PennDOT owns 512 bridges and local municipalities own the remaining 205 bridges. A total of 62 bridges are classified as structurally deficient. In terms of the overall condition of state-owned bridges, most are in a good state of repair with only 12 bridges classified as structurally deficient.

The Williamsport Regional Airport is the only scheduled commercial air carrier service airport in Lycoming County. The airport is owned and operated by the Williamsport Municipal Airport Authority. The current service is limited to Philadelphia International Airport with three round trip daily flights provided by American Airlines.

The key infrastructure project involves the replacement of the aging and space limited airport terminal building with a larger state-of-the-art terminal facility that can accommodate future growth in commercial air traffic.

Lycoming County is also served by two freight railroads, Norfolk Southern and the Lycoming Valley Railroad. Norfolk Southern is a Class 1 railroad that owns and operates 37 miles of the Harrisburg-Buffalo Mainline that traverses Lycoming County. The Lycoming Valley Railroad is one of numerous Class III short-line railroads in PA and is the only short-line railroad operating in Lycoming County. This 38 mile rail line spans from Avis, PA (Clinton County) to Muncy, PA and is part of the North Shore Railroad System with headquarters in Northumberland, PA.

Safe bicycle and pedestrian routes were of high concern in several of the Planning Area Teams (PAT). They are very important to residents of the City as well as rural areas of the County. Residents increasingly want to bike and walk to work. Walkable and bikeable communities are much desired.

A safe reliable multi-modal transportation system is the economic lifeblood of our communities. Transportation facilities provide access to jobs, health care, shopping, recreation, and social activities. Without a reliable transportation system all aspects of the economy suffer. Transportation is essential to a viable economy. Business and industry consider the transportation system when deciding where to locate. Lycoming County has an excellent transportation system.

Water and Sewer

As essential elements of public infrastructure, the design/construction/operation & management (O&M) of water and sanitary sewer systems represent a technically complex, big business. Unlike transportation infrastructure which is funded primarily by taxes collected at various levels of government, water and sanitary sewer costs are covered by the system's rate payers; i.e. users of those services. Today, the water and sanitary sewer needs of the urbanized areas of Lycoming County are being fulfilled by a number of public entities. There are thirteen major providers in the County with billions of dollars in capital assets under their astute management, these infrastructure providers are constantly challenged to meet an increasingly strict set of environmental compliance requirements while maintaining an affordable rate structure for the residents and businesses being served.

Despite all the headway made over the past 15 years, there are still several issues that may be road blocks to the water and sanitary sewer providers to ensure that the past and future investments in water/sewer will be sustainable for County residents. These issues can generally be categorized as economic, operational, and workforce issues. The following represent a snapshot of these issues: lack of growth in designated growth area, tighter regulations, age of plant operators, and the lack of certified operators.

Regarding sewer, a particularly major challenge involved the biological nutrient removal criteria imposed by the Chesapeake Bay Tributary Strategy. This US EPA mandate required the removal of increased amounts of nitrogen, phosphorus, and sediment from incoming flows. This required costly upgrades at sewage treatment plants throughout the County.

Telecommunications

Lycoming County's large geographic expanse, together with its mountainous terrain in the north, creates a vexing challenge to the telecommunication infrastructure providers serving the County. This challenge is particularly acute for cell phone users and broadband internet service. In these areas, communication is generally limited to landline telephone service. Cellular and broadband infrastructure in the private arena varies rather markedly. Within urban and suburban communities, broadband service is robust with generous amounts of public Wi-Fi connectivity, 4G cellular capability, fiber optic connectivity, and T1 internet service. Unfortunately, companies that provide service for home computers, land lines, and cable television, such as Comcast Xfinity, are reluctant to extend their service territory into the rural countryside given the area's sparse population density. This issue is partially addressed by those companies that specialize in satellite connectivity such as Direct TV and Dish. Connectivity for home internet service remains a nagging issue in many rural sectors of Lycoming County. Cellular connectivity is equally problematic. Generally speaking, cell phone service is fairly robust along major highway corridors and throughout the urban and suburban core of the County. Many rural areas have either very weak service or no cellular connection at all.

Natural Gas

Although Lycoming County lies either in or adjacent to the Marcellus Shale Natural Gas drilling fields, this proximity factor does not translate into an easy, rapid, or automatic decision to extend natural gas service to the surrounding communities. While this is particularly true for homes located in rural country-sides throughout the County, it's equally daunting for many suburban communities as well. Thus, the public infrastructure investment to serve residential and commercial potential clients beyond the core communities will require gas utilities to make expansion decisions using more flexible terms. Also of importance to note are possible environmental impacts of the industry. There is concern about the fragmentation of our forests and possible water pollution, both surface and ground water. Land use regulations are necessary to mitigate any land use conflicts. Zoning is the best method of land use control.

Housing

According to 2015 US Census Bureau estimates, there are over 52,000 housing units in Lycoming County. Most dwellings (about 60%) are owner-occupied. However, 75% of the County's occupied housing stock was built prior to 1979. In fact, only approximately 2,200 residential structures have been built in the County since 2000. This is a deterrent to attracting young professionals and professionals in general to the County. Professionals desire a certain type of housing with modern amenities. They do not want to purchase homes that are over 50 years old and in need of renovations. The perpetual challenge is how to encourage a supply of homes in multiple cost ranges and locations to meet the needs of the community. Specifically, there is a need to optimize the style of dwellings to meet a changing demographic composition. The seniors who make up an increasing proportion of our population have different housing expectations than the millennial professionals that we want to retain and attract. Both groups are likely to seek rental housing. However, according to 2015 US Census Bureau estimates, the supply of rental units in Lycoming County has remained flat for the last 5 years. The total

real estate value In Lycoming County is approaching \$5.9 billion. The estimated 2015 median home value was \$138,500 while the median monthly rent for a 2-bedroom unit was \$737.

Outdoor Recreation

During the 2018 Update, over 1,120 citizens were surveyed regarding why they decided to become residents of Lycoming County and why they choose to remain. The natural beauty of the area and outdoor recreation were the most frequently cited reasons given. Lycoming County parks occupy an area of 4,142 acres or approximately 6.5 square miles. There are about 60 parks in the County. There are at least 30 named trails in the County, most notably the Pine Creek Rail Trail and the Susquehanna River Walk. Yet, many of the County's outdoor recreation resources are not fully developed, protected or promoted. This concern is not new, it was cited in both the 2006 County Comprehensive Plan and again in the 2008 County Recreation Plan.

Lycoming County is well known as a hunter's haven. Private hunting camps can be found in many rural areas. Beyond hunting, forest tourism may include: lumber heritage exploring, cross-country skiing, birding, hiking, and equestrian activities. Lycoming County is also graced with miles of exceptional value (EV) and high quality cold water fisheries (HQ-CWF) streams and watersheds. Beyond the West Branch Susquehanna River, the County includes six major streams: Muncy Creek, Loyalsock Creek, Lycoming Creek, Larry's Creek, Pine Creek, and White Deer Hole Creek. Over 2,200 miles of waterways traverse Lycoming County, reportedly more than any other county in Pennsylvania. Thus, water recreational activities are a defining feature of the County's culture.

Outdoor recreation also helps to protect the natural beauty of this County. The survey conducted in summer of 2016 by PCD indicated that natural beauty was by far the most frequently commented on topic of all the comment categories with 418 of the 1132 survey respondents indicating that natural beauty was one of things they care most about in the County.

The research indicates that outdoor recreation infrastructure has the ability to assist the County in addressing some of our most important issues including those identified under Issue #6 (volunteerism and civic engagement) and Issue #8 (Drugs). In addition to the benefits which outdoor recreation can provide to our citizens, outdoor recreation infrastructure projects can also be combined with other initiatives such as stormwater management, floodplain mitigation, resource protection, sourcewater protection, and transportation to provide additional leverage to complete those projects and to more efficiently invest our financial resources.

Issue 2 – Economy

The economy of Lycoming County has adapted many times throughout its history to take advantage of burgeoning industries and market trends. Historically, the County has been known for its lumber production, steel fabrication, manufacturing, plastics-related industry, and most recently—natural gas exploration and development. Adapting to changing economic forces has been the County's hallmark.

Over the last ten years, Lycoming County's economy has seen an increase in employment in Healthcare and Social Assistance; Mining, Quarrying, and Oil/Gas Extraction; and Accommodation and Food Services while seeing a decrease primarily in the Manufacturing sector. Although the number of manufacturing businesses has declined in the last decade, it remains the second largest industry in the County.

Lycoming County is also the northcentral PA hub for government, services, retail, finance, and entertainment. It is also home to eleven industrial parks, two colleges, and one large health care system, which have been stable and growing anchors in the economy. In fact, the healthcare and education industries represent two of the largest economic sectors in the County.

Lycoming County has many assets to take advantage of including its long-standing strongholds in the economy. The plentiful natural and cultural resources, its low cost of living, well-respected colleges and healthcare system, and the significant presence of the sports industry are all major economic components that can further advance the County's economic potential. Natural and Cultural Resources and their associated tourism potential have some of the greatest untapped opportunities to grow the economy while attracting new people and investments.

However, in order to truly achieve a resilient economy, there needs to be a diligent strengthening of both the traditional and non-traditional market sectors. All of the traditional and non-traditional economic sectors are components of an economic resilient community. None of them alone will be able to fix or drive the economic situation. Yet, their reinforcement along with continued additional diversification will help lead to economic resilience. To improve its economic strength, Lycoming County must concurrently reinvest in its historically strong economic sectors while also adapting to the changing opportunities and leveraging its local assets. The 2018 Comprehensive Plan Update focuses on articulating the County's asset-based development opportunities.

The following segments of the economy represent opportunities for asset-based economic growth within the County over the next 15 years:

Agriculture

Agriculture has been an important part of Lycoming County's heritage and rural character ever since 1795 and it continues to remain a viable economic sector in Lycoming County today.

As of 2012 Lycoming County had 1,207 farms with a total area of 158,462 acres. This represents 20% of the total land area of the County. The major commodities produced in 2012 in Lycoming County by value were grains, greenhouse/ floriculture, dairy products, and hogs/pigs.

Some of the challenges facing agriculture include a lack of local processing facilities, profitability, regulations, and public misconceptions. These challenges are not unique to Lycoming County. Many of these issues were identified in the Lycoming County 2006 Comprehensive Plan.

Strategies and opportunities were identified to address these issues; such as permanently preserve appropriate farmland, reform regulations, and support the diversification of farm operations.

Manufacturing

The manufacturing industry became a stronghold in Lycoming County in the 20th century, with manufacturing sites built along river corridors and factories built in neighborhoods near the workforce. Main industries included timber, steel, textiles, and furniture making. Today's manufacturing operations are primarily located in one of the County's eleven industrial parks, specifically planned, zoned, and prepared with infrastructure for this type of land use. Many manufacturing businesses are specifically located in Lycoming County because of its rich natural resources and easy access to clean, abundant land and water resources.

Although manufacturing is in a period of decline in both the number of businesses and the number of paid employees, manufacturing businesses are still a top employer in Lycoming County. However, any further loss of manufacturing would erode a core component of the local economy. Therefore, preservation of the manufacturing sector and preparing for changes in the industry is an important goal.

Today's manufacturing is increasingly automated and driven by high technology. In place of traditional trade skills, the manufacturing industry is in need of skills that align with changing manufacturing processes that increasingly rely on new technologies such as robotics. Finding an adequate local workforce trained with these skills has been challenging. Consequently, many businesses are resorting to on the job training which increases costs, training time, and reliability for employers. If the Lycoming County workforce cannot provide the skills needed to support current and future manufacturing businesses, this trend may threaten one of the historical economic strengths of Lycoming County's economy.

Lycoming County is well positioned to take advantage of the emerging manufacturing industries. One example of a growing component within the manufacturing sector is the plastics and petrochemical industry because there is a plastics cluster in Central Pennsylvania. This is supported by the report commissioned by the State of Pennsylvania and the Team Pennsylvania Foundation, the prospects to Enhance Pennsylvania's Opportunities in Petrochemical Manufacturing in order to study the opportunities and benefits in Pennsylvania. Pennsylvania College of Technology, through its Plastics Innovation & Resource Center (PIRC), provides the technology resources to facilitate the growth and success of the plastics industry in Lycoming County. The Center focuses on education, training, and research. Retraining the workforce to respond to the changes in the manufacturing sector will allow Lycoming County to remain competitive in the manufacturing economy moving into the future.

In addition, Lycoming County is located in close proximity to the new ethane cracker facility to be built in Beaver County, Pennsylvania. There is an opportunity for new growth because of the close proximity to the feedstock used by these industries and the potential supply of this feedstock. The County has an opportunity to leverage this linkage to expand new job growth, build off its manufacturing base and diversify its economy.

Transportation, Warehousing, Logistics, and Fulfillment

The transportation, warehousing, logistics, and fulfillment sector represents another opportunity for economic growth in the County. US Census County Business Patterns data for Lycoming County depicts a steady increase in both the number of business establishments and paid employees in this sector of the economy. Lycoming County is extremely well situated to serve as a shipment, fulfillment, and logistics center for much of the

Northeast and Great Lakes regions of the United States. The road and rail infrastructure in the County is in a very good condition. I-80 and I-180 carry 25 percent of the truck traffic in the region already and the new Central Susquehanna Valley Transportation (CSVT) project will add a new limited access freeway through the central part of this region providing north-south connections. The Williamsport Regional Airport is also currently experiencing upgrades that will allow it to accommodate additional air service to meet growing commercial and passenger demands. Additionally, the proximity to major metropolitan areas, as stated earlier is of great advantage. These factors combined will allow Lycoming County to capture a growing market in this industry sector in Pennsylvania.

Small Business Development

Small businesses are an integral aspect of not only the economy but also communities and families across the country. They represent the creativity, ingenuity, and hard work that fuel the country's economy.

Similar to the rest of Pennsylvania, small businesses in Lycoming County represent one of the strongest underpinnings of the local economy. Approximately 50-56% of the County's employment is in the small business sector. The Pennsylvania Small Business Development Center (SBDC) reports that there were 9,051 small businesses (1-499 workers) in Lycoming County in 2013 which provided jobs for 46,696 people.

According to Pennsylvania SBDC, small businesses have accounted for a significant share of the Commonwealth's economic production and hiring. Some of the most significant challenges of the small business sector lie in the ability of businesses to fully realize their potential, sustain, and earn a profit. Businesses often found in the makers movement particularly have a hard time becoming more than a hobby non-profit business enterprise. Finding the resources to overcome the challenges are key. Lycoming County's greatest potential for further developing any business or industry clusters would lie in the ability to grow its asset-based economy. Over fifty percent of the County's workforce is employed by small businesses, most of those with less than twenty employees. Ensuring that these businesses are supported and provided incentives to grow and sustain is critical to the County's economic resilience.

Understanding the needs and the growth opportunities of the small business sector in Lycoming County is essential in order to provide a sustainable path for economic resilience and the ability to develop additional strongholds in the economy.

Tourism

Tourism is a significant driver of economic and social development. In fact, it is over a \$400 million industry just in Lycoming County alone (based on visitor spending). It stimulates economic growth by generating income, employment, and investment. It can also generate valuable spin-off benefits including preservation of cultural heritage, improved infrastructure, and local community facilities. Tourism built on the County's strengths and assets has the potential to stimulate economic growth and development in Lycoming County and have spillover effects throughout the region. This type of investment is more likely to produce multiple benefits across economic sectors and be sustainable over time.

Lycoming County’s tourism-related competitive advantages lie in its quality of life attributes and the things that people value most, such as its natural beauty, small town communities, its parks and trails, the local history and culture, the arts, outdoor recreation, and its well respected institutions and events.

Natural Resources

One of Lycoming County’s greatest assets is its abundant natural resources and the outdoor recreation opportunities associated with it. These assets have long offered residents and visitors opportunities for enjoyment and a diversity of experiences in this County. With world-class trails and exceptional value fishing streams, Lycoming County draws an increasing number of County residents and regional visitors. As such, it has become an important component of the economic wellbeing of Lycoming County.

Lycoming County serves as the eastern gateway to the PA Wilds region, a PA DCNR Conservation Landscape Initiative and tourism promotion region in northcentral Pennsylvania that includes twelve counties west to Warren and Clarion counties. It is known for its two million acres of public land, its two National & Scenic Rivers, the largest elk herd in the Northeast and some of the darkest skies in the country. Its natural resources are what drive the economy. As one of the major gateways, Lycoming County is well-positioned to capitalize on both the rural and urban aspects of the visitor demand to this region.

There exists opportunity for increasing business opportunity in a broad range of ecotourism or nature-based tourism services such as: guided trips, outfitters, camp grounds, and cabin rentals, in addition to dining and food services, equipment rentals for hikers, bikers, and kayakers including shuttle services.

With careful planning and management, natural resources and outdoor recreational assets have the ability to add another dimension to the marketability of Lycoming County, both from a business and investment standpoint as well as from a tourism promotion perspective. Capitalizing on these assets will also further diversify the economy. This includes recognizing and promoting local parks, lands, and facilities as well as regionally significant initiatives such as the PA Wilds and Lumber Heritage Region.

Cultural Resources

Lycoming County has a rich history and strong set of cultural assets that contribute to the high quality of life and attract visitors to the region. Williamsport in particular is home base for most countywide arts, culture, and history organizations. Leveraged together, these historic, cultural, and arts based assets provide an opportunity to grow the economy by positioning the County to have a competitive edge in the region.

Arts and cultural experiences help enhance the social capital of the community and increase the sense of collective identity of a place. Cultural amenities are important to not only to help maintain the quality of life for exiting Lycoming residents but also to help attract and retain a workforce to support a strong local economy.

Issue 3 – Fragmentation and Disenfranchisement of Local Government

The majority of Pennsylvania’s 67 counties are “fragmented” into a large number of small municipalities. In fact, there are 2,561 local governments in Pennsylvania--Lycoming County has 52 of them. In Pennsylvania, many

government rules, regulations, and policies are delegated to the most local level of government to administer. Likewise, many services are provided separately by each municipality. This type of government construct provides a number of distinct benefits; but it also creates a very challenging environment. In short, that environment is characterized by two principal issues: fragmentation that inevitably hampers the efficient execution of the municipal mission by locally elected and/or appointed officials and disenfranchisement that perpetuates the sense of isolation and powerlessness by local municipalities.

From a benefits standpoint, the Township, Borough, and City level is the most local form of government in Pennsylvania which allows citizens easy accessibility to elected and appointed officials. This enables the maximum degree of local citizen dialogue related to policymaking, service delivery, and taxation. In general, this form of government is viewed as being accessible, accountable, and effective.

However, since local municipalities must operate within the bureaucratic construct of an overarching Federal, State, and County Government, they have become increasingly vulnerable to fragmentation. Quite often, the unavoidable outcome of this fragmentation is a lost opportunity for improved cost efficiency and enhanced service delivery. Moreover, many municipalities find it increasingly difficult to recruit adequate numbers of citizens and trained professionals, to serve on their legislative bodies, boards, and commissions. Another challenge involves capital-intensive services, such as public water, sanitary and storm sewer, emergency services, as well as managing administrative functions that local governments are required to provide. In communities with small populations or tax bases, these requirements could be considered redundant overhead. The demands placed on local leaders can overwhelm their resources. This is perhaps most acutely experienced in the area of essential emergency services for Police, Fire, and Emergency Medical Service (EMS) due to three vexing issues: decrease in volunteer capacity, intensive certification requirements, and the lack of sustainable financial resources.

The most ubiquitous and dominant concern identified by municipalities across the County involves their respective Fire and EMS Agencies' ability to provide adequate levels of emergency medical services and fire services to the residents they serve. As in other rural communities around the state, the local emergency medical service providers are also experiencing declining numbers of volunteers.

There are a number of excellent examples where local governments have crafted partnerships or structures to mitigate the challenge of fragmentation, more efficiently perform their duties, and tackle the growing sense of disenfranchisement. Some of these Best Management Practices have proven to be quite effective, but there's much more to do. Some of these organizations or partnerships are the Lycoming County Water and Sewer Authority, The West Branch COG, The Pine Creek COG, the MS4 Coalition, and the WATS MPO.

Issue 4 – Flooding

Floods are the most common and costly natural catastrophe in the United States. Nationwide, hundreds of floods occur each year, making it one of the most ubiquitous hazards in all 50 states and U.S. territories. In Pennsylvania, flooding is the number one natural disaster and can occur during any season of the year from a variety of sources. Every two to three years, serious flooding occurs along one or more of Pennsylvania's major rivers or streams, and it is not unusual for a flood disaster to occur several years in succession. Most injuries and

deaths from flooding happen when people are swept away by flood currents and most property damage results from inundation by sediment-filled water.

Lycoming County has in excess of 2,200 miles of river, streams, and creeks; this figure establishes Lycoming as having one of the highest amounts of waterways for a County in Pennsylvania. Major flood-prone areas include communities located in low-lying valleys of creeks, streams, and tributaries. Unless protected by a levee, most population concentrations along the West Branch Susquehanna River have a high possibility of flooding. Unfortunately, this vulnerability is ever-present throughout the year.

As documented in the County's 2015 Hazard Mitigation Plan, Lycoming County had over 5,500 structures located in the Special Flood Hazard Areas (aka regulatory floodplain areas or SFHA) with varying degrees of vulnerability for each structure. As a result of the County's recent efforts to delineate the floodplain boundaries more accurately, the County has reduced the number of addressed structures to 4,188 (over 9% of all addressed structures in the County). Salladasburg Borough has the highest proportion of structures in the floodplain at over 75% of all structures vulnerable to flooding. Jersey Shore and Muncy Borough also have high percentage of structures in the SFHA. All critical facilities in Shrewsbury Township are located in the SFHA. When looking at vulnerable structures by property type, the vast majority those structures are residential in nature. Over 3,045 of these 4,188 structures (or 73%) are residential dwellings.

Lycoming County's flood management response to this reoccurring hazard hinges upon five interrelated measures including; levee protection, property acquisition, home remediation, regulatory tools, and flood insurance reform. Lycoming County has implemented a holistic approach to flood management.

Issue 5 – Land Use

All 52 municipalities within Lycoming County have either adopted their own zoning ordinance or have opted to join the County Zoning Partnership. Collectively, these designated land uses are intertwined with every aspect of our residents' daily lives and the community's lifestyle. Land use influences where we live, work, play, and recreate. Because of the significance of sound land use planning, it is equally evident that a failure to plan for and mitigate potential negative impacts of incompatible land uses will likely degrade a neighborhood or an entire municipality.

Over the past 10 years, land use regulations have been well-implemented throughout Lycoming County. However, elected as well as appointed officials need to stay abreast of changing trends which may affect land use such as new industry practices, new markets, and new infrastructure projects which change the development potential of previously undeveloped land.

From a development perspective, land use ordinances set the stage for economic development and community development opportunities. Community leaders must ensure that public infrastructure planning and land use planning are aligned. Moreover, community leaders must carefully evaluate the impact of land use decisions on the area's scenic beauty and natural resources—a factor deemed very important by all County residents.

Failure to implement and enforce land use regulations will result in uncoordinated development and land use conflicts. Land use conflicts could cause decreases in property values which hurts the economic prosperity of the municipality. Additionally, uncoordinated development could result in public safety hazards and unintended municipal fiscal burdens. Land use regulations also protect local resources such as our community character and help to coordinate new development with existing/planned infrastructure and utilities.

Issue 6 – Volunteerism

Many public and non-profit institutions in Lycoming County rely heavily on volunteers to provide amenities and services to the citizens of this County. Volunteers fulfill a variety of essential community functions such as serving as local fire firefighters and EMTs and assisting municipalities on boards such as municipal planning commissions, zoning hearing boards, and municipal authorities. Many local non-profit groups also rely on volunteers to achieve their missions. However, volunteerism and civic engagement, particularly among young people, has been an issue of concern since at least the 1980s. As an example, since 1985 the number of fire and EMS volunteers statewide has declined from 152,000 to 70,000. Municipal officials and community leaders at the local level recognize that the declining trend in volunteer involvement is consistent with what they have seen in their municipalities.

Local appointed boards are filled mostly with older citizens (many of which are in their late 50s and older). While this may not have been a major problem in the past, the issue is becoming more apparent as technology is dividing the population. The issue involves attracting, communicating with, engaging, and retaining young men and women to serve as volunteers on boards with aging members.

While the structure of local government in Pennsylvania presents some challenges for providing services, it also provides the key benefit of allowing citizens to directly participate in local government decision-making by serving on boards and voicing their concerns directly to government representatives. However, if local governments are not effectively communicating with their citizens and civic engagement continues to decline, then these benefits will rapidly diminish. Local government officials need to find solutions to solve this problem so that this local government structure remains relevant in the 21st Century and beyond.

Issue 7 – Water Quality

Access to clean drinking water is essential for a community to survive and prosper. Not only is water necessary to support public health, but reliable water service is also needed to foster development and economic growth.

Looking at water as a natural resource, in Lycoming County, there are nine major watersheds at USGS's HUC 10 level. Lycoming County contains 1161 miles of streams that are designated high quality (HQ) and exceptional value (EV) waters, qualifying by their good chemistry and biological makeup. Two of Lycoming County's EV/ HQ streams are known throughout the State for their exceptional quality: Pine Creek and the Loyalsock Creek. Outdoor lovers flock to Pine Creek to experience its scenic vistas and quality nature experience. The Loyalsock was recognized as the "2018 PA River of the Year" by the PA Department of Conservation and Natural Resources (PA DCNR) and the Pennsylvania Organization for Waterways and Rivers (POWR).

There are approximately 2,200 miles of streams and 92 water bodies in the County. Roughly 8 percent of the streams located in the County are listed as impaired. Atmospheric Deposition, followed by Agriculturally Related Activities, Small Residential Runoff, and Acid Mine Drainage are the known causes of impairment. There are also 32.58 miles of impairment with unknown sources. While 8% does not appear to be a major issue it illustrates the fact that there is improvement needed.

As is the case with any watershed or aquifer, groundwater, and surface water sources are vulnerable to a variety of potential contaminants, such as improper disposal of hazardous chemicals or infiltration of man-made products including gasoline, oil, road salt, pesticides, or fertilizer runoff. Each year, PA DEP releases a water quality status report in accordance with the Clean Water Act. The most recent report is titled “2016 Final Pennsylvania Integrated Water Quality Monitoring and Assessment Report.” The narrative report contains summaries of various water quality management programs including water quality standards, point and nonpoint source controls, as well as descriptions of programs to protect lakes, wetlands, and groundwater quality. PA DEP categorizes surface and groundwater impairments as having a “source” and a “cause”. See the PA DEP website for the report that shows details of sources and causes of impairment for groundwater, lakes, and streams in PA.

Issue 8 – Drugs

In 2014, nearly 2,500 Pennsylvanians died from drug-related causes, a 20 percent increase from the previous year, according to the PA State Coroners Association. This currently puts PA as seventh in the nation for drug-related overdose deaths. In 2015, 3,505 Pennsylvanians died from overdoses and in 2016, 4,884 Pennsylvanians died of drug overdoses. These are a very significant increases in overdose deaths, almost twice as much as 2014. The 2017 numbers are not in yet.

According to the National Survey on Drug Use and Health (NSDUH), in 2012 an estimated 2.1 million Americans were addicted to opioid pain relievers and 467,000 were addicted to heroin. These estimates do not include an additional 2.5 million or more pain patients who may be suffering from an opioid use disorder because the NSDUH excludes individuals receiving legitimate opioid prescriptions.

Other important national statistics from a September 2014 Report for the Center for Rural PA:

- 4.2 million Americans age 12 and older have used heroin at least once
- 80% of heroin addicts reported abusing prescription opioids before starting heroin
- Health care providers wrote 259 million prescriptions for painkillers in 2012
- Heroin abuse affects one out of every four families

Across Pennsylvania, heroin and opioid abuse is becoming a serious epidemic. According to the Center for Rural Pennsylvania December 2015 Report - Heroin: Combating this Epidemic in Pennsylvania:

- From 2007-2012 over 3,000 Pennsylvanians died from overdoses
- Overdose deaths increased by an astounding 470% over the last two decades
- More people are dying from overdoses than from car accidents (ages 20-44 in PA)

- 52,150 Pennsylvanians are receiving addiction treatment services
- Approximately 760,703 Pennsylvanians remain untreated
- In 2016 4,884 Pennsylvanians died from drug overdoses

The Lycoming County Coroner reports that there are 50-60 overdoses in Lycoming County per month. During one 24 hour period in the summer of 2017 there were 50 overdoses. The Lycoming County Criminal Justice Advisory Board (CJAB) is preparing a strategic plan for Lycoming County to deal with the opioid epidemic. The plan will include all areas of the criminal justice system and the treatment alternatives in the County.

Current Priority Issues

Issue		Comprehensive Plan Topical Areas								
		Agriculture	Community Development	Community Facilities & Infrastructure	Economic Development	Heritage, Culture, & the Arts	Land Use	Natural Resources	Public Safety	Transportation & Mobility
										
1	Infrastructure	X	X	X	X	X	X	X	X	X
2	Economy	X	X	X	X	X	X	X		X
3	Fragmentation & Disenfranchisement		X	X	X	X			X	
4	Flooding	X	X	X	X	X	X	X	X	X
5	Land Use	X	X	X	X	X	X	X	X	X
6	Volunteerism and Civic Engagement		X			X		X	X	
7	Water Quality	X	X	X	X		X	X	X	
8	Drugs		X		X				X	

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Acronyms

Act 13: Oil and Gas Act of 2012

Act 37: 2009 Pennsylvania Emergency Medical System ACT

Act 167: Pennsylvania Stormwater Management Act of 1978

Act 537: Pennsylvania Sewage Facilities Act of 1966

ACRE: Agriculture, Communities, and Rural Environment Act of 2005

ACS: American Community Survey

ARC: Appalachian Regional Commission

ASA: Agricultural Security Area

BFE: Base Flood Elevation

BMP: Best Management Practices

CDBG: Community Development Block Grant

CDC: Center for Disease Control

CJAB: Criminal Justice Advisory Board

CNG: Compressed Natural Gas

COG: Council of Governments

CREP: Conservation Reserve Enhancement Program

CSVT: Central Susquehanna Valley Throughway

DA: District Attorney

DCED: Pennsylvania Department of Community and Economic Development

DCNR: Pennsylvania Department of Conservation and Natural Resources

DEP/PADEP: Pennsylvania Department of Environmental Protection

DFIRM: Digital Flood Insurance Rate Maps

DOH: Pennsylvania Department of Health

DPS: Lycoming County Department of Public Safety

DUI: Driving Under the Influence

EMS: Emergency Medical Services

EMT: Emergency Medical Technician

EPA: United States Environmental Protection Agency

ER: Emergency Room

EV: Exceptional Value

FAST Act: Fixing America’s Surface Transportation Act

FCC: Federal Communications Commission

FEMA: Federal Emergency Management Agency

FFY: Federal Fiscal Year

FIRM: Flood Insurance Rate Maps

FIS: Flood Insurance Study

GIS: Geographic Information System

GSG: Genesee-Susquehanna Greenway

GWA: Greater Williamsport Alliance

HH: Household

HIC: Health Innovation Center at Williamsport Regional Medical Center

HIN: Homes In Need

HMGP: Hazard Mitigation Grant Program

HQ: High Quality

HQ-CWF: High Quality Cold Water Fisheries

HUC: Hydrologic Unit Code

HUD: US Department of Housing and Urban Development

IRI: International Roughness Index

JRA: Joint Rail Authority

JSASD: Jersey Shore Area School District

KOZ: Keystone Opportunity Zone

LCPC: Lycoming County Planning Commission

LCWSA: Lycoming County Water & Sewer Authority

LEED: Leadership in Energy and Environmental Design

LQ: Location Quotient

LTS: Lycoming Tioga Sullivan

LVERR: Lycoming Valley Railroad

MAP-21: Moving Ahead for Progress in the 21st Century Act

Mbps: Megabits Per Second

MPC: Pennsylvania Municipalities Planning Code

MPO: Metropolitan Planning Organization

MS4: Municipal Separate Storm Sewer System

NCSWPA: North Central Source Water Protection Alliance

NFIP: National Flood Insurance Program

NFPA: National Fire Protection Association

NGL: Natural Gas Liquids

NHS: National Highway System

NOAA: National Oceanic and Atmospheric Administration

NSDUH: National Survey on Drug Use and Health

OLT: Old Lycoming Township

PAT: Planning Advisory Team

PCD: Lycoming County Department of Planning and Community Development

PDT: Project Delivery Team

PennDOT: Pennsylvania Department of Transportation

PHARE: Pennsylvania Housing Affordability and Rehabilitation Enhancement Fund

RiskMAP: Risk Mapping, Assessment, and Planning

RPO: Regional Planning Organizations

RVT: River Valley Transit

SALDO/SLDO: Subdivision and Land Development Ordinance

SBDC: Pennsylvania Small Business Development Center

SCA: Single County Authority

SEDA-COG: Susquehanna Economic Development Association – Council of Government

SFHA: Special Flood Hazard Area

SSO: Sanitary Sewer Overflows

SWOT: Strengths Weaknesses Opportunities Threats

SWP: Source Water Protection

TEA-21: Transportation Equity Act for the 21st Century

TIP: Transportation Improvement Program

TVMA: Tiadaghton Valley Municipal Authority

UPMC Susquehanna: University of Pittsburgh Medical Center Susquehanna

USACE/ACE: U.S. Army Corps of Engineers

USDA: U.S. Department of Agriculture

USDA-NRCS: USDA-Natural Resources Conservation Service

USGS: United States Geological Survey

VFC: Volunteer Fire Company

WATS: Williamsport Area Transportation Study

WBRA: West Branch Regional Authority

WLCC: Williamsport/Lycoming Chamber of Commerce

WMWA: Williamsport Municipal Water Authority

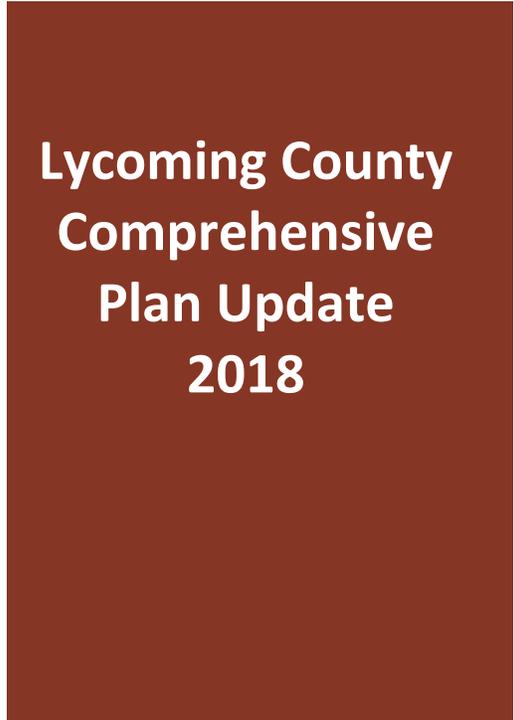
WSA: Williamsport Sanitary Authority

WWTP: Waste Water Treatment Plant

ZO: Zoning Ordinance

Chapter 2: Topical Area Updates

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Community and Economic Development

AT A GLANCE

Over the last ten years, Lycoming County has experienced a decline in population, net migration, and new construction while generally seeing median income levels rise approximately at the same pace as the state and nation. Aside from the onset of the natural gas industry and the sudden spike of employment in this sector (470% from 2006-2015), the other most notable occurrence in the last ten years is the very steady increase of owner-occupied home values. Lycoming County never experienced a housing bubble or the correction in the market that triggered the economic recession during the 2007-2009 years. In addition, local taxes, particularly in the City of Williamsport, have been on the rise and have been the cause of much out-migration from the City to surrounding townships where the tax millage rates are much lower. This has created a challenging fiscal environment where the costs of services and operations have become increasingly shouldered by the remaining population.

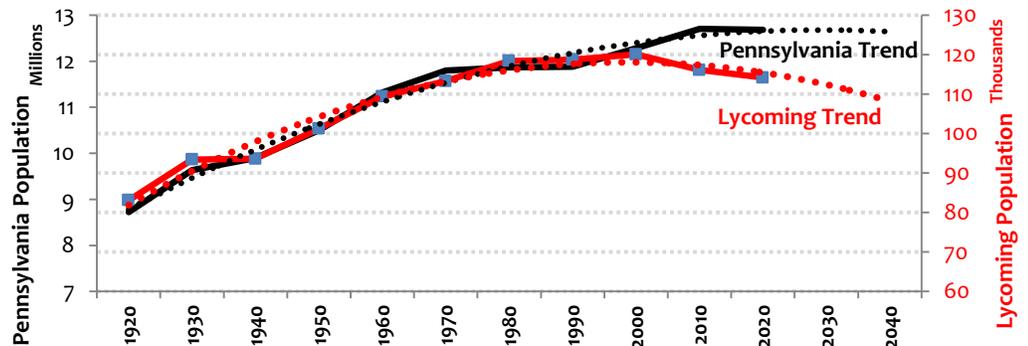
Lycoming County residents currently have slightly lower educational attainment rates than the state or nation with the largest gain in graduate and professional degrees earned in the last ten years. Although this has some relation to the healthy rise in median household income, there is still a sizable difference between County resident's earnings and the statewide median and per capita income levels.

POPULATION TRENDS

According to the 2010 United States Census, there were a total of 116,111 persons residing in Lycoming County. The 2015 population estimates from the American Community Survey calculated approximately 115,300 at

that time, therefore indicating a slight population decline over the five year period. It appears that the steady population increase that the County experienced between 1920 and 2000, peaked in the late 1990's and has now begun to decline, based on projections of current trends and recent American Community Survey (ACS) estimates. Population projections are now showing a steady decline out to 2040 while Pennsylvania's population is projected to remain relatively stagnant in that time frame.

Lycoming County residents remain overwhelmingly white (92%) with approximately 4.8% African American and the remaining percent is a mixture of other races. 98% of residents are of non-Hispanic descent.

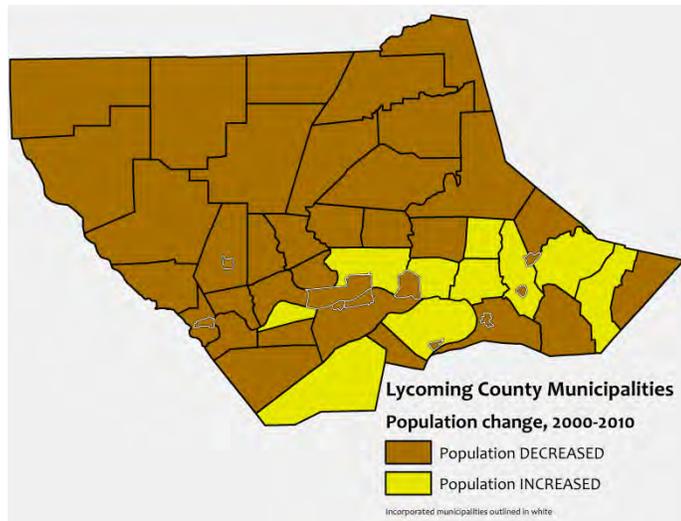
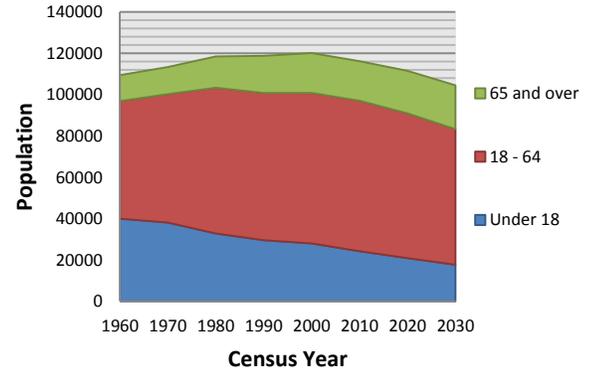


AGE COMPOSITION

The greatest population cohort in Lycoming County is those who are 35-54 years old (24.8%). Five to nineteen year olds equated to 17.9% of the population which has declined from 26.6% in 2000 and 28% in 1990. After that, those 20-34 years old hold 19.7% of the population share and those 65-84 and 55-64 are nearly equal with 15.1% and 14.1% respectively.

The population of Lycoming County is also becoming older, on average. This is mostly due to a 50 year trend of a linear decline in the proportion of the population under the age of 18. In 1960, youths numbered 40,000 and comprised 37% of the population. By 2010, they had decreased to 24,000 and made up just 21% of the County's population. The single outlier to this trend is the City of Williamsport which experienced an increase in the proportion of young adults (age 20-24) from the 2000 to the 2010 census. The proportion, which reached near 15% of the population, was higher than the County and the state. Overall, death rates have outpaced birth rates for six of the last seven years. Without an increase in population from outside of the County or a drastic increase in birth rates, Lycoming County is likely to see a significant decline in population in the coming years.

Lycoming County Age Composition of Population



Similar to statewide trends, Lycoming County population has been shifting outward from the City and boroughs (core communities) into the suburban and rural townships. One rationale for this is that housing stock is mostly newer and tax rates are generally lower in the townships, which is attractive to many. More discussion can be found on this topic in Chapter 2 under the Housing sub-topic.

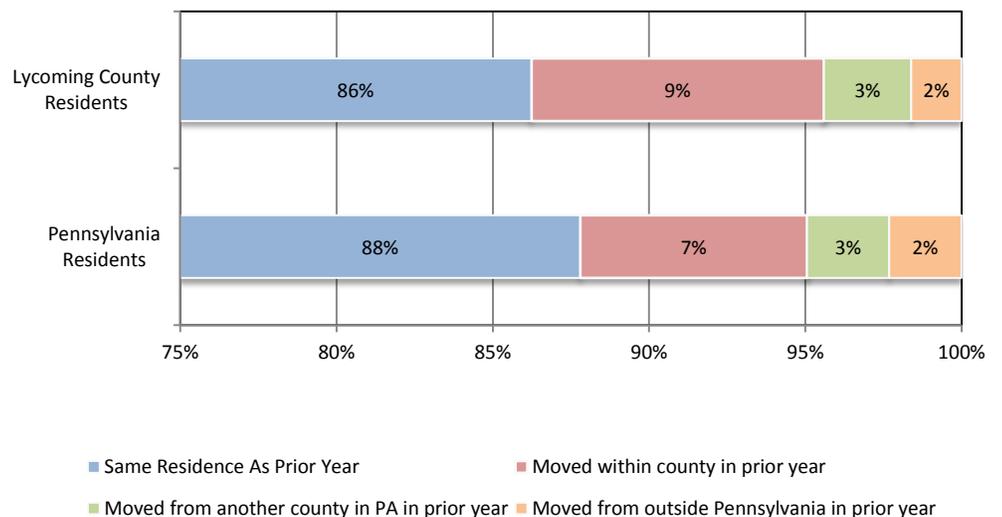
The City and all boroughs have all experienced population decreases in the last decade. The Borough of Muncy experienced a 7% decline while the City and other boroughs ranged between a 2-4.5% population decline. The central, western, and northern parts of the County saw the largest population decreases, some by over a 10% decline, including: Old Lycoming, Pine, Plunketts Creek, Gamble, Lewis, Brown, McNett, and Cummings. Municipalities that experienced population growth are mostly rural townships located generally along the I-180 corridor between Williamsport and the Borough of Muncy.

GEOGRAPHIC MOBILITY

According to the 2012-2016 American Community Survey Estimates, the County's migration rates and profile mimic those of the State overall. The majority of Lycoming County residents (86%) remain in their current residence from year to year. Less than ten percent have moved within the County and far fewer have moved from another county in Pennsylvania or another state. The large majority of those moving to the County from another state or county are between the ages of 18 and 29. This is a direct correlation with the ages of students who attend college and are coming to Lycoming County for an education at Lycoming College or Penn College of Technology. Migration numbers for people over the age of 30, moving into Lycoming County, drops off significantly.

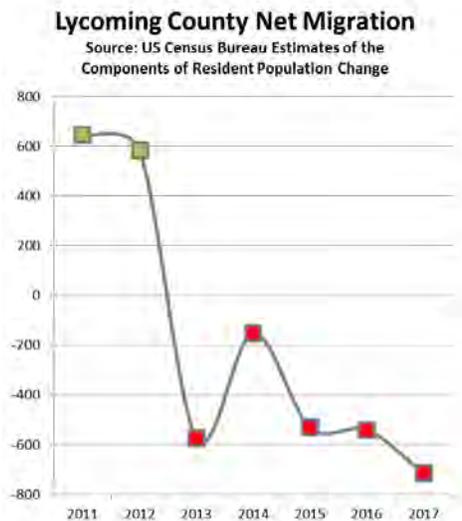
Geographic Mobility

Source: 2012-2016 American Community Survey 5-Year Estimates



GEOGRAPHIC MOBILITY (CONT'D)

Furthermore, Census Bureau estimates show five consecutive years of negative net migration after a period a positive net migration into the County. The most likely explanation of this would be an inflow and subsequent outflow of workers related to the natural gas boom between 2009-2012.



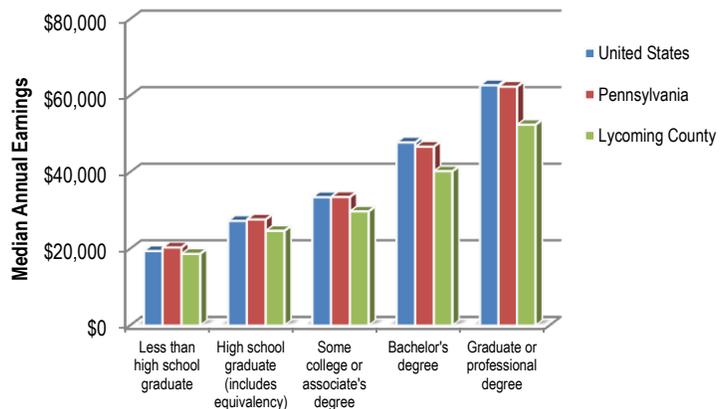
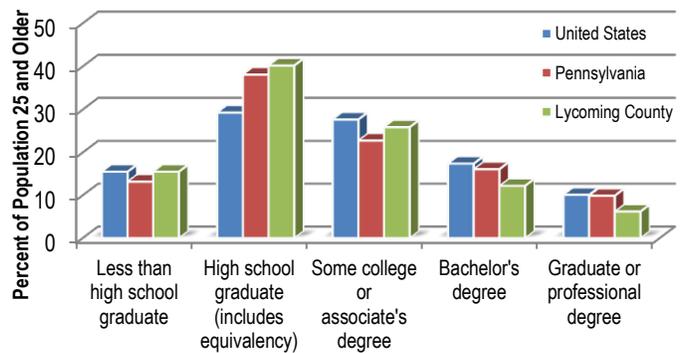
WORKFORCE PROFILE

By 2015, there were 54,200 workers from Lycoming County employed in the workforce. This is 57% of the population ages sixteen and above. Over half (52.9%) of the workforce is between the ages of 30 and 54 years with workers ages 29 and younger comprising 22.2% of the workforce and those 55 or older at 25%. The most notable and documented change in the workforce is the decline of high school graduates entering the workforce. Total college-bound graduate numbers have declined by nearly 200 since 2006. Overall, there are just fewer younger adults in Lycoming County.

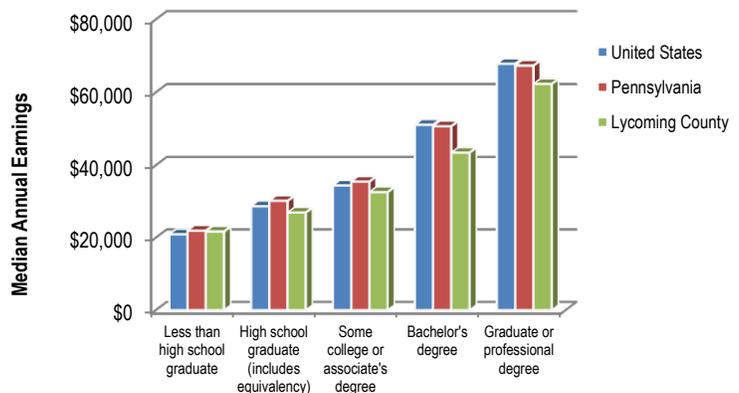
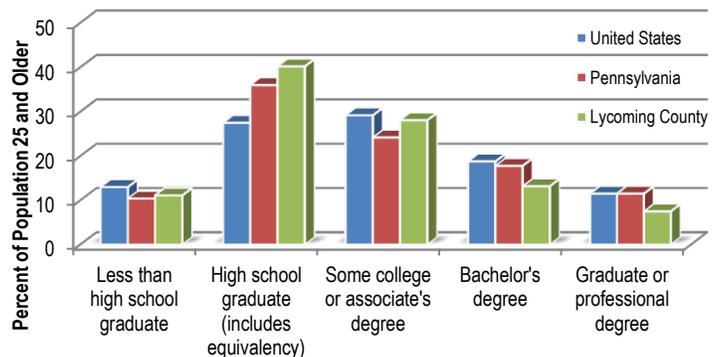
EDUCATIONAL ATTAINMENT

Nearly 40% of the Lycoming County population, age 25 and older, has earned a high school diploma or equivalent as their highest educational attainment. This is greater in Lycoming County than both the state and nation. Between 2005 and 2016 the percent of residents earning less than a high school education dropped from 15.5% to 11.1%. When comparing median annual income based on educational attainment, Lycoming County residents saw the most income growth in those who have earned graduate or professional degrees over any other educational attainment category. This growth equated to a nearly \$10,000 increase.

2005 - 2009, US Census Bureau, American Community Survey

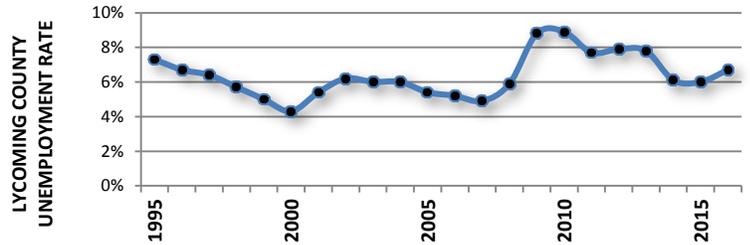


2012 - 2016, US Census Bureau, American Community Survey



UNEMPLOYMENT

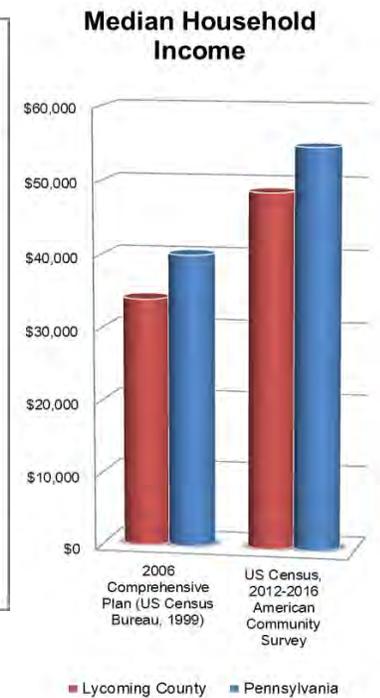
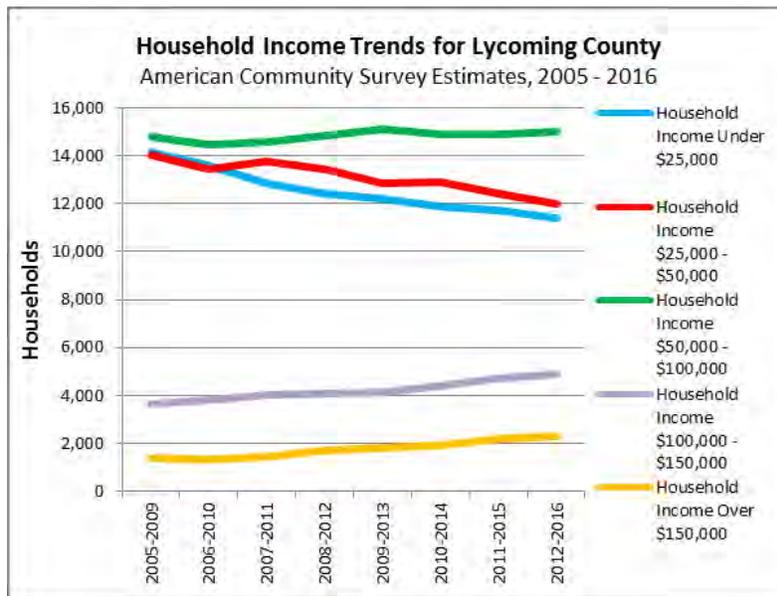
As of the last quarter of 2018, the unemployment rate was 5.4% according to the Quarterly Census of Employment and Wages. The County’s unemployment rate was 4.7% in 2006 when the last plan was completed. This does not represent a steady increase over that twelve year period, but rather periods of fluctuating rises and falls over the last twenty years. Lycoming County’s unemployment rate peaked in 2009 and 2010 at 8.8 and 8.9% in concert with the national recession at the time.



Source: PA Dept of Labor and Industry, 2018

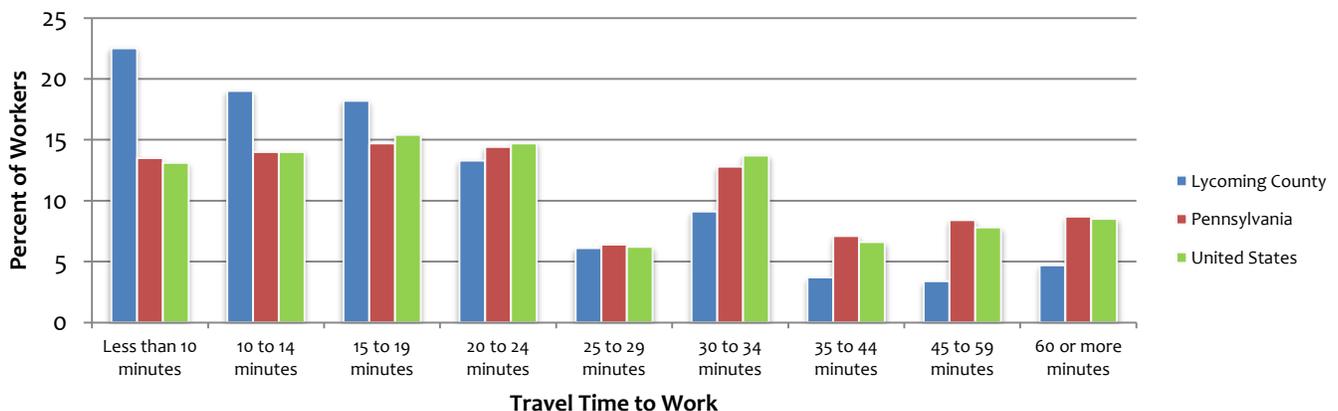
HOUSEHOLD INCOME

The median household income according to the 2016 ACS estimates is \$48,731. This is 43% higher than it was in 1999 when data was collected for the last comprehensive plan. This is a significant increase over that period of time and greater than the statewide average that showed a 36.8% increase over the same period. Despite this income spurt, Lycoming County continues to have over a 10% difference from the state’s median income. Additional data shows that the numbers of households earning less than \$50,000 annually have declined while those that earn greater than that have either stayed the same or increased over that the same time period.



JOURNEY TO WORK OR COMMUTING PATTERNS

Compared to Pennsylvania and the United States as a whole, residents of Lycoming County have much shorter commute times and yet are more reliant on driving alone in motor vehicles. The average travel time to work in Lycoming County is 20.2 minutes compared to 26.3 and 25.9 minutes respectively for Pennsylvania and the United States. (Data from the American Community Survey)



BUSINESS ESTABLISHMENTS AND EMPLOYEES BY SECTOR

According to the 2015 County Business Patterns Census data, the following business sectors had over 200 establishments located in Lycoming County:

- Professional, Scientific, and Technical Services
- Construction
- Health Care and Social Assistance
- Accommodation and Food Services
- Retail Trade
- Other Services (except public administration)

According to the 2013 County Business Patterns Census data, the following business sectors had over 4,000 employees located in Lycoming County:

- Accommodation and Food Service (4,402)
- Retail Trade (7,609)
- Manufacturing (7,801)
- Health Care and Social Assistance (8,912)

INDUSTRY AND ECONOMIC DRIVERS

An often looked-to source of information to help reveal what makes a particular area “unique” in comparison to statewide or national economies is the County industry location quotients (LQ). Location quotients are a means of quantifying how concentrated a particular industry group is in comparison to others. An LQ equal to one means the industry has the same share of its area employment as the state or nation (depending on the comparison base). An LQ greater than one indicates the area has a greater share of employment in that industry. According to the Quarterly Census of Employment and Wages, 2016 Annual Averages, Lycoming County is particularly strong in: Mining, Quarrying, and Oil and Gas (3.69) and Manufacturing (1.57) compared to the rest of the state of Pennsylvania. Other industry groups that are, on average, stronger in Lycoming County than the rest of PA include:

- Retail Trade (1.18)
- Other Services (except public administration) (1.14)
- Real Estate and Rental and Leasing (1.12)
- Utilities (1.11)
- Accommodation and Food Services (1.04)
- Wholesale Trade (1.04)

The industry groups that are the weakest, in comparison, include:

- Management of Companies and Enterprises (0.33)
- Art, Entertainment, and Recreation (0.38)

According to the US Census Bureau County Business Patterns 2006-2015 data sets, the following industry sectors added the greatest number of establishments during that timeframe: 1) Transportation and Warehousing; 2) Professional, Scientific, and Technical Services; 3) Administrative and Support and Waste Management and Remediation Services; and 4) Mining, Quarrying, and Oil and Gas Extraction Services. Industry sectors that lost the greatest number of establishments were: 1) Finance and Insurance; 2) Retail Trade; and 3) Manufacturing.

Top Ten Employers

According to data from the PA Department of Labor and Industry, Center for Workforce Information and Analysis, as of the 3rd Quarter of 2017, the Top 10 Employers in Lycoming County were:

1. Susquehanna Health Systems
2. State Government
3. Pennsylvania College of Technology
4. Williamsport Area School District
5. Weis Markets Inc.
6. County of Lycoming
7. West Pharmaceuticals Services Inc.
8. Aramark Facility Services LLC
9. CS Group Payroll Services LLC
10. Lycoming Division

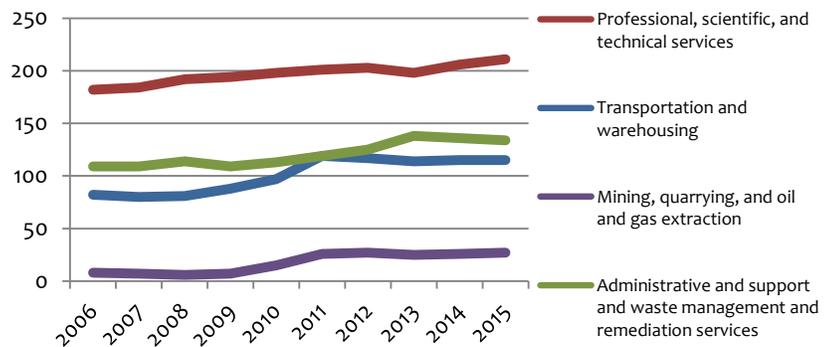
According to historical data from the same source, 7 of these employees were also one of the top ten employers in Lycoming County in the 3rd Quarter of 2006. They are:

- Susquehanna Health Systems
- State Government
- Pennsylvania College of Technology
- Williamsport Area School District
- Weis Markets Inc.
- West Pharmaceuticals Services Inc.
- Avco Corp (Lycoming Division)

This indicates a stronghold in the market for these businesses and institutions and therefore they are characterized as significant drivers of the Lycoming County economy.

The Top 50 Employers in the 3rd Quarter of 2006 and 2017 are listed in Appendix C.

Number of Establishments
US Census Bureau County Business Patterns 2006-2015

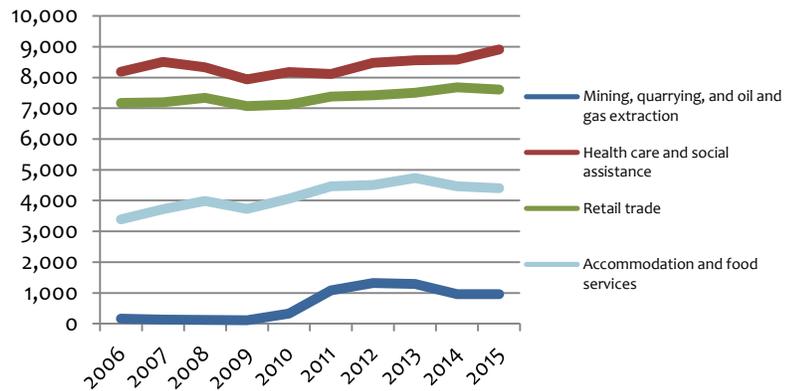


INDUSTRY AND ECONOMIC DRIVERS (CONT'D)

According to the same data source, the industry sectors that had the most significant job growths between 2006 and 2015 were: 1) Accommodation and Food Services; 2) Mining, Quarrying, and Oil and Gas Extraction; 3) Health Care and Social Assistance; and 4) Retail Trade. Industry sectors that lost the greatest numbers of employees were: 1) Manufacturing; 2) Administrative and Support and Waste Management and Remediation Services; 3) Information; and 4) Finance and Insurance.

The industry sectors that are adding establishments and/or employees are also the ones that have had the greatest increases in payroll. The most notable change comes from the Healthcare and Social Assistance sector with over a \$164 million payroll increase in Lycoming County during the same time period. This is more than \$100 million more than the increase found in the second-place industry sector (Mining, Quarrying, and Oil and Gas Extraction).

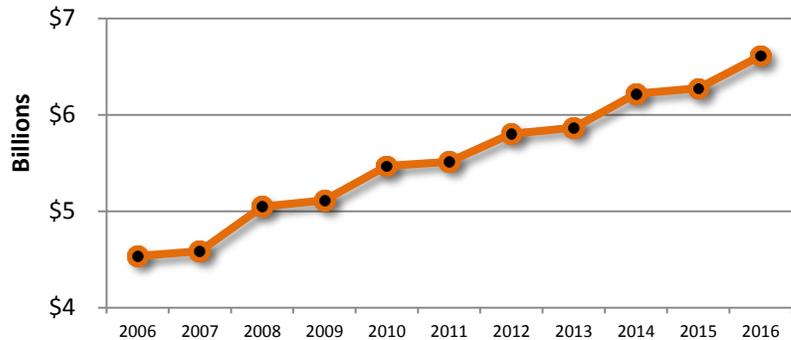
Number of Paid Employees
US Census Bureau County Business Patterns 2006-2015



REAL ESTATE MARKET VALUE

In the ten year period between 2006 and 2016, the total real estate market value of all properties in Lycoming County increased by 45% from \$4.5 billion to \$6.6 billion. The rural municipalities of the County kept pace with these real estate market increases with a total value increase of 40%. The following townships experienced the highest market value increases with over a 50% increase: Cummings, Jordan, Mill Creek, Penn, and Washington (see the Data Profile in Appendix C for full details).

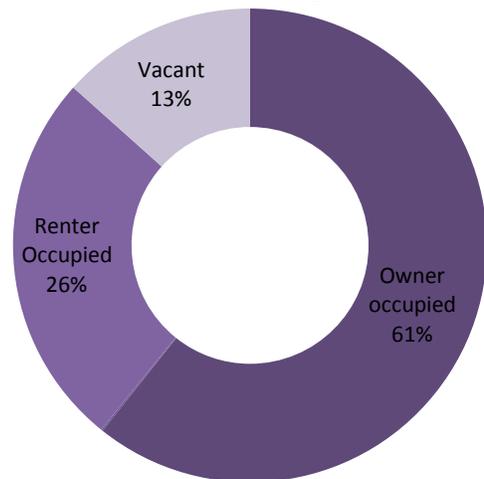
Lycoming County Total Real Estate Market Value
Source: State Tax Equalization Board



HOUSING OCCUPANCY

According to the US Census American Community Survey 5-year averages, there are 52,705 housing units in Lycoming County. This number represents a slight decline in total housing units since 2006 by approximately 737 units. The composition of our housing occupancy has not changed much in the last ten years. However, since 2006, the County has lost approximately 550 owner-occupied units and 1,100 rental units while increasing its vacant units by over 900 units.

Lycoming County Housing Unit Occupancy
Source: US Census American Community Survey, 2012-2016 5 Year Averages



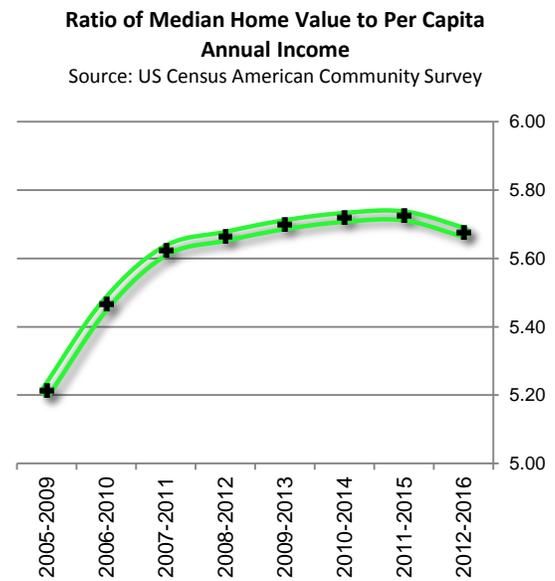
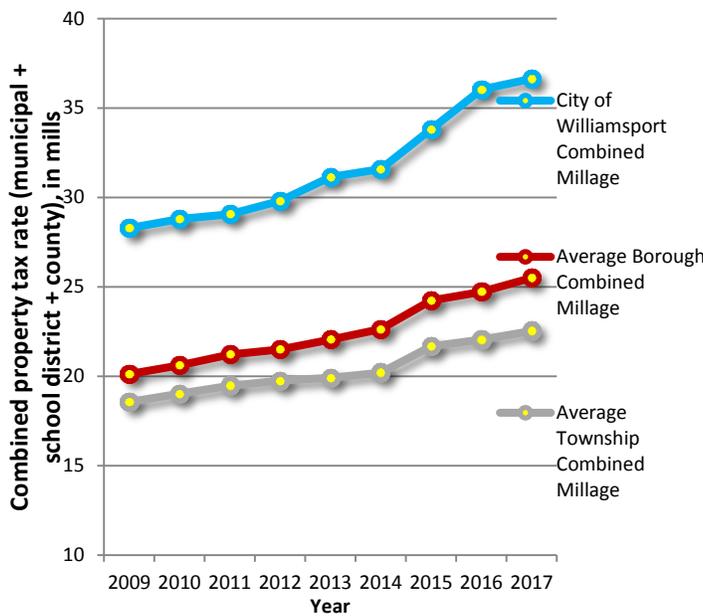
Note: "Vacant" housing units include the following: For rent, Rented but not yet occupied, For sale, Sold but not yet occupied, Seasonal, recreational or occasional use.

HOUSING AFFORDABILITY

According to the same data source, the Median Annual Housing Costs as a Percentage of Median Annual Household Income (for both owners and renters combined) has hovered around 20% for the last ten years. Taking a closer look, it is found that homeowners with mortgages have carried a 29-34% burden of housing costs to household income while renters have averaged just over an 18% burden. Homeowners without mortgages carry the lowest cost burden at approximately 11-13% of their annual household income. Thirty-percent of Household (HH) income for housing costs is the HUD-defined affordability threshold. The following municipalities have the greatest housing affordability challenges in the County:

- City of Williamsport: 39.4%
- Cummings Township: 38.8%
- Piatt Township: 38%
- McHenry Township: 35.5%
- Loyalsock Township: 35.4%
- Brown Township: 34.4%
- Muncy Township: 34.3%
- Cascade Township: 34.1%

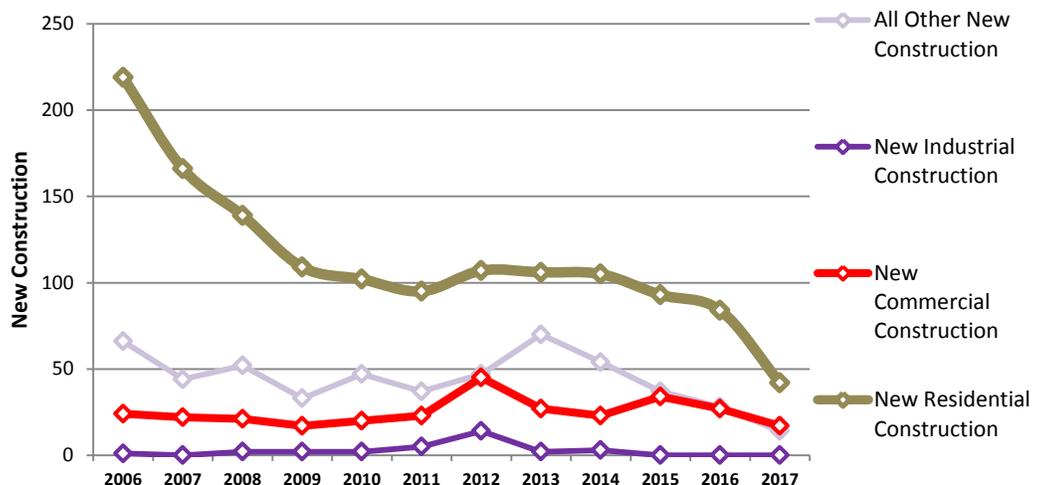
Looking at the Median Value of Owner Occupied Housing Units compared to the County's Per Capita income earned between 2005 and 2016, it appears that incomes are not keeping pace with housing cost increases. Home values were 5.2 times higher than Per Capital Annual income in 2005 and by 2015 that ratio peaked to 5.72.



NEW CONSTRUCTION

Recent trends have shown a simultaneous decline in both population and new construction rates in the County. Amid some fluctuations, new construction in the County, particularly residential, experienced a significant decline over the last 11 years. New residential construction saw an 80% decline from a peak of 219 in 2006 to a low of 42 in 2017. All other construction remained relatively flat with the exception of the years 2011 to 2013 when natural gas drilling and supply chain business and industry expansion was at its height in the County.

New Construction Trends in Lycoming County
Source: Lycoming County Assessment Office



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Lycoming County Comprehensive Plan Update 2018

Community Facilities and Infrastructure

COMMUNITY FACILITIES

Community facilities include a wide range of structures including those owned by municipalities as well as quasi-governmental entities and non-profits. The overarching goal of all community facilities and public infrastructure is to support and enhance the quality of life of County residents and set the stage for continued economic growth and desired community development. Community Facilities covered in this section include:

- Public Safety Facilities
- Municipal Facilities
- Health Care Facilities
- Community Centers
- Educational Facilities
- Community Parks and Recreational Facilities

PUBLIC SAFETY FACILITIES

In 2014, Lycoming County utilized Act 13 funds to upgrade the County's microwave communication system, operated and maintained by the Department of Public Safety (DPS). The government equipment provides a public safety network for Lycoming and Sullivan Counties. DPS provides an umbrella of

emergency service operations including the 9-1-1 communications center, the emergency management agency, regional emergency medical services, hazardous materials planning, and homeland security. DPS is also responsible for coordinating all emergency calls for fire, countywide police departments, and emergency medical services in both Lycoming and Sullivan Counties.



Microwave Communication Tower
Source: PCD

In 2014, the Montoursville Volunteer Fire Company (VFC) completed an expansion to their firehouse. This expansion included bunk rooms to allow the VFC to start their Live-In Program where they allow students to live in the firehouse in exchange for EMS and Fire coverage in the evening and nighttime hours.

Community Facilities Selected Highlights

Community Parks & Recreation Facilities
Susquehanna River Walk Construction
White Deer Golf Course Renovation
Pine Creek Rail Trail Connector
River Valley Regional YMCA Completed
Liberty Arena & Village Green Constructed
Historic Bowman Field Renovated
Health Care Facilities
UPMC-Susquehanna Health Integration
Williamsport Hospital Expansion/Upgrade
Muncy Valley Hospital Expansion/Upgrade
Community Dental & Health Center
Educational Facilities
Penn College Campus Expansion
Lycoming College Housing Addition
WAHS Return to Glory Facilities
Loyalsock Township SD MS/HS Complex Finished
Community Centers
River Walk Community Center Constructed
Municipal Facilities
Watson Township Municipal Building Finished
Lycoming County Landfill Expanded
Public Safety Facilities
Countywide Microwave Communication System Installed

MUNICIPAL FACILITIES

Municipal facilities have not changed much in the past 10 years. The most notable change was the construction of the Watson Township Municipal Building. Completed in 2014, this building is 4,000 sf with a maintenance garage and a recycling center on the property. A generator was also purchased for the maintenance building to provide power during emergency events. With the generator the Watson Township Municipal Building can function as an Emergency Operations Center.



Watson Township Municipal Building

Source: PCD

HEALTH CARE FACILITIES

There are two major healthcare systems located in Lycoming County, UPMC Susquehanna and Geisinger. UPMC Susquehanna covers the majority of the territory with Geisinger covering the west end. UPMC and Susquehanna Health completed a merger in fall 2016. Prior to the merger Susquehanna Health had made several major changes to their healthcare system within the County. Major renovations were made to Divine Providence Hospital which included the construction of a Healing Garden.

The Muncy Valley Hospital Emergency Room (ER) was originally designed for about 6,000 patients per year, however, usage increased from 6,000 patients per year to over 16,500 patients per year between 2011 and 2016. This increase in demand along with other needs necessitated expansions and renovations at this hospital. In November of 2015 work was started on a project involving a 5,400 sf addition to the Muncy Valley Hospital along with renovating 11,000 sf of existing building. The ER department has been upgraded from five curtained bays to eight private rooms with six additional rooms designed for rapid treatment, triage, decontamination, and behavioral health patients. Also involved in the

project were access and safety improvements to nearby Route 405.

In 2012, Susquehanna Health completed its Patient Tower at the Williamsport Regional Medical Center. This project involved 375,000 sf of new construction (including the 300,000 sf, 6-story Patient Tower), 70,000 sf of renovations, and the construction of a 3-story, 21,000 sf central utility and cogeneration plant. In 2013 the Patient Tower was granted LEED certification. With the expansion and improvements of these facilities city and health system officials recognized a need for a better connection between the hospital and I-180 which resulted in the “Pathway to Health” plan which is a 4 phase project to create improved access to the hospital. Phases 1 & 2 have been completed and Phases 3 & 4 are left to be completed. Completed in 2015 at the Williamsport Regional Medical Center was the Health Innovation Center (HIC). This is an 87,000 sf facility which includes an outpatient pharmacy, heart and vascular testing, general surgery office, and an education and family residency center. These modernizations have allowed UPMC Susquehanna to remain relevant in the region and continue to attract skilled medical professionals.

“The new building enabled a core expansion of space critical to patient care, improved patient safety, and infection control. A new imaging center, a birthplace center, education & conference center, heart and vascular surgical services, and joint center was included. The emergency department was expanded to double its original size, replacing curtained bays with private examination rooms.”

- [STRUCTURE TONE ORGANIZATION WEBSITE](#)
(Project Engineer)



Muncy Valley Hospital Emergency Room addition

Source: Susquehannahealth.org

COMMUNITY CENTERS

STEP Inc. runs the Centers for Healthy Aging where senior citizens are offered a variety of activities to promote healthy lifestyles and to encourage social interaction. The Centers for Healthy Aging provide social/recreational activities such as art classes, holiday parties, picnics, dancing, tai chi, and Zumba. Meals are also provided to senior citizens Monday through Friday. STEP currently operates five Centers for Healthy Aging within Lycoming County (in Williamsport, Muncy, Jersey Shore, South Williamsport, and Montoursville) with three additional centers in Clinton County. In January 2016, a new senior center (River Walk Center) was opened in South Williamsport.



The Health Innovation Center during construction (left) with the completed Patient Tower (right) at Williamsport Regional Medical Center

Source: PCD

EDUCATIONAL FACILITIES

A total of 11 different school districts provide K-12 classes to residents of the County. Among those districts, only a few had any substantial changes over the past 10 years. No school districts had major expansions over the past 10 years and several school districts have actually consolidated schools in order to “right size” their facilities to accommodate shrinking enrollment.

Williamsport Area School District (WASD) closed three primary schools (Sheridan, Round Hills, and Woodward) and moved the district offices into an addition to the renovated Williamsport Area Middle School. Renovations were also made to Jackson Primary to accommodate consolidation. The school district also updated and expanded their Career & Technical Education (CTE) facilities in the Williamsport Area High School. The school district also fully renovated their high school football stadium.

The Jersey Shore Area School District (JSASD) closed the Nippenose Valley Elementary School and finished renovations to the Jersey Shore Elementary School to accommodate consolidation of these two schools.



“Return to Glory” project fully renovated WASD’s old athletic facilities and featured an expansion to the football stadium.

Source: [Williamsport Area School District](#)

The Southern Tioga Area School District (which contains areas in Lycoming County) consolidated its North Penn Junior/Senior High School with the two other Junior/Senior High Schools in their district.

**See Appendix C for the “Impacts of Lycoming County’s Colleges on the Local and Regional Economy”*

COMMUNITY PARKS AND RECREATIONAL FACILITIES

Lycoming County boasts a wide array of community parks and recreation facilities. Survey analysis of 1,120 Lycoming County citizens conducted as part of the development of this plan indicated that County residents highly value nature and outdoor recreation facilities. The Outdoor Recreation Participation Topline Report 2016 published by the Outdoor Foundation summarizes outdoor recreation participation trends over the past 9 years. Participation rates have remained relatively consistent over the years. The report indicates that 48.4% of Americans (142.4 million) participate in at least one outdoor activity and collectively went on 11.7 billion outdoor outings in 2015. The outdoor activities with the most participation are Running/Jogging, Road Bicycling, Fishing, Hiking, and Camping.

Community Parks host many forms of recreational amenities such as tennis courts, soccer fields, swimming pools, baseball & softball fields, golf courses, walking paths, dog parks, community gardens, basketball courts, picnic facilities, comfort stations, and a variety of youth sports. Collectively, Lycoming County parks occupy an area of 4,142 acres or approximately 6.5 square miles. The majority of County parks are clustered in and around the city and the boroughs. In 2014 and 2017, the County Commissioners opened an Act 13 funded Mini-Grant Parks Program to assist community parks in making needed improvements. A total of 33 parks were assisted for a total investment of \$529,620.

There are at least 30 named trails contained within or passing through Lycoming County. The types of trails vary considerably from small interpretative trails to mountainous hiking trails-from biking trails on paved courses to off-road mountain biking adventures. Some trails have engineered paths while others rely solely on the natural footway. Several trail initiatives were completed between 2006 and 2017 including: the Susquehanna River Walk, the Conservation Learning Trail, an extension to the Pine Creek Rail Trail, and a feasibility study for the proposed Bald Eagle Mountain Ridge Trail.

Susquehanna River Walk

The Susquehanna River Walk was completed in Spring 2010 with the intent of connecting the Loyalsock Bikeway with Maynard Street Bridge and Market Street Bridge. The River Walk features an 8 foot wide path with benches and 12 historic/interpretive signs. Since its completion, considerable work has been completed to expand the River Walk network including the completion of a 1.5 mile connection in 2011 to the South Williamsport Recreation Complex near the Little League Headquarters and plans to create extensions to the Lycoming Creek Bikeway and Susquehanna State Park in the coming years. The eventual goal would be to create connections to Muncy Borough and Jersey Shore Borough to connect to the Pine Creek Rail Trail. In addition to the 2011 extension, improvements to



Source: [Terry Moore Photography](#)

the River Walk parking area near Commerce Park Drive were made including line painting and fencing and the creation of a 90-space parking lot at the Hepburn Street Pump Station.

Susquehanna River access points for the general public can be found in the Borough of Jersey Shore, Susquehanna State Park in Williamsport, Loyalsock Township’s Riverfront Park, Montoursville’s Mill Street boat ramp, Muncy Borough’s access at the Pennsylvania Fish and Boat Commission ramp, and at Montgomery Park. Some of these access points have an intermodal dimension such as Jersey Shore’s ramp which connects to the Pine Creek Rail Trail.

SEWER, WATER, AND STORMWATER INFRASTRUCTURE

Today, the water and sanitary sewer needs of the urbanized areas of Lycoming County are being fulfilled by a number of public entities. Twelve of the major providers are listed to the right. With billions of dollars in capital assets under their management, these infrastructure providers are constantly challenged to meet an increasingly strict set of environmental compliance requirements while maintaining an affordable rate structure for the residents and businesses being served.

SANITARY SEWER

Major investments have been made by the public sanitary sewer authorities over the past 10 years in order to address environmental compliance issues with US EPA. Sanitary sewer systems of tributary communities were required to collect, store, and convey 100% of their flow to the servicing Waste Water Treatment Plant (WWTP). Additionally, sanitary sewer authorities were also mandated to remove increased amounts of nitrogen, phosphorus, and sediment from incoming flows. Over \$188 million in upgrades were completed to four major sewer authorities in the County in order to comply with these mandates.

In July 2010, the West Branch Regional Authority (WBRA) was formed to become the owner and operator of sewer and water systems in Muncy Creek and Clinton Townships and Muncy and Montgomery Boroughs. Construction of a new \$33 million regional WWTP was completed in 2014. In 2017, WBRA assumed operation and maintenance responsibilities for the Brady Township Package Plant on a contract basis. Also in 2017, construction began on a \$6 million water and sewer expansion project in the US-15 corridor. The expansion is meant to serve homes and businesses in the area with failing septic systems.

Since 2006, the Williamsport Sanitary Authority (WSA) completed \$125 million in combined upgrades to both the Central Plant on Basin Street and the West Plant on Arch Street. In addition to providing sanitary sewer overflow holding tanks, these upgrades allowed WSA to meet their permitting requirements and to provide better water quality.

In order to meet the US EPA requirements in the Jersey Shore area, the Tiadaghton Valley Municipal Authority (TVMA) was created and a new \$20 million WWTP was built in Nippenose Township to serve Jersey Shore Borough, Porter Township, and Nippenose Township. The new plant went into operation in 2014 and the old plant was demolished later that year.

The Lycoming County Water and Sewer Authority (LCWSA) owns and operates the Montoursville Regional Sewer System (MRSS). In 2004, a major expansion was initiated into Muncy Township and Muncy Creek Township in the areas south of I-180 to provide sewer service for the growth area. LCWSA also completed a \$10 million upgrade in fall 2012 to comply with US EPA requirements. In addition to the main plant, LCWSA has acquired two small package treatment plants since 2006. The Beaver Lake Sewer System in Penn Township was acquired in January 2012. Prior to acquisition, the plant was reconstructed due to poor maintenance. The Mifflin Manor Sanitary System in Mifflin Township was also acquired in January 2017. LCWSA also provides services for a few other smaller systems in the County including: maintenance and

Major Water & Sanitary Sewer Providers
Williamsport Sanitary Authority
Williamsport Municipal Water Authority
Jersey Shore Area Joint Water Authority
Lycoming County Water & Sewer Authority
Hughesville-Wolf Authority
Hughesville Borough Water Authority
Muncy Borough Municipal Authority
Montgomery Water and Sewer Authority
Tiadaghton Valley Municipal Authority
Old Lycoming Area Authority
West Branch Regional Authority
Montoursville Borough Water Works



WSA's Central Wastewater Treatment Plant was a multi-million dollar expansion and technological upgrade to satisfy federal environmental regulations
Source: PCD



Completed in 2014, the West Branch Regional Authority's new sewage treatment plant provides sewage treatment to Montgomery, Muncy, and surrounding communities.
Source: PCD

operation of over one mile of gravity sewer main in Armstrong Township; billing/invoicing for South Williamsport Borough's collection system; operation, maintenance, and management of the Duboistown Borough collection system.

In 2006 the Hughesville-Wolf Authority constructed a new digester for their WWTP almost doubling their capacity. This upgrade was completed prior to the US EPA mandate leaving the Hughesville-Wolf Authority to figure out how to meet their phosphorus discharge requirements (their improvements allowed them to meet nitrogen discharge requirements). In order to address this issue the Hughesville-Wolf Authority purchases nutrient credits through the County's Nutrient Credit Trading Program, which is 89% less costly than upgrading the WWTP again.

PUBLIC WATER

The largest water infrastructure project completed in the last 10 years was the construction of the Muncy/Montoursville Regional Water System which is owned and operated by the Lycoming County Water and Sewer Authority (LCWSA). This \$7.8 million project was designated to provide up to 1,500,000 gallons per day to a 900 acre growth area between Montoursville Borough and Muncy Borough. The project was completed in four phases and included the improvements listed to the right. The LCWSA also assumed the responsibilities for ownership, operation, and maintenance of the Limestone Township Municipal Water Authority which operates near Collomsville and Oval in Limestone Township.

The West Branch Regional Authority (WBRA) was established in July 2010 to answer the problems of increasing sewage treatment requirements and fragmented sewer and water systems in the Montgomery/Muncy area. In January 2013 WBRA assumed responsibility of the operation and maintenance of the Muncy Borough Municipal Authority water system and the Montgomery water system. In 2017 the WBRA began work to expand water service into the US-15 corridor in Clinton Township.

Also, the Jersey Shore Area Joint Water Authority completed a \$1,089,000 rehabilitation projects for the Larry’s Creek Filtration Plant.

Montoursville/Muncy Regional Water System Upgrades

- A well house completed in early 2017
- 300,000 gallon storage tank located in Muncy Township
- Grey Fox Plaza elevated 200,000 gallon water storage tank was completed in summer 2011
- 25,000 ft. of 12-inch waterline
- An interconnection with the Muncy Borough Municipal Authority water system including:
 - A booster system
 - 11,300 ft. of waterline



*LCWSA’s new water storage tank in Grey Fox Plaza, Fairfield Township
Source: PCD*

STORMWATER

When the Clean Water Act Phase II went into effect in March 2013, municipalities within the census defined urbanized area surrounding Williamsport partnered with the County to form the Lycoming County MS4 Coalition. The MS4 Program is a federal regulatory requirement that is administered by the PA DEP. MS4 permittees are designated following U.S.

MS4 Minimum Control Measures (MCMs)

- Public outreach and education
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction stormwater management in new development and redevelopment
- Pollution prevention and good housekeeping for municipal operations and maintenance



*Pervious pavement at the Jersey Shore Public Library
Source: PCD*

Census Bureau guidelines for urbanized areas. The MS4 Coalition works together to incorporate 6 requirements (called Minimum Control Measures or MCMs) into their stormwater management programs.

Within Lycoming County, there are currently ten MS4 permittees; however, it is likely the MS4 program will be expanded to involve more municipalities. In order to meet sediment removal requirements it is very likely that MS4 members will be required to fund streambank stabilization/restoration projects and Best Management Practices (BMP) projects to compensate for the sediment loading attributed to their stormwater outfall points. The need to better control and eventually treat stormwater will pose a significant challenge to all MS4 municipalities, however, these challenges are unavoidable and must be addressed thoughtfully, cost-effectively, and with the highest degree of efficiency possible.

Lycoming County Nutrient Credit Trading Program

Implementation of this program began in 2009 with the goals of reducing nutrient and sediment pollution flowing into the West Branch Susquehanna River, enhancing local environmental quality, and promoting home-grown conservation practices. Credit trading allows regulated point sources, including sewer plants, large industrial dischargers, and private developers to purchase credits in lieu of making costly upgrades to their on-site wastewater treatment facilities. In many cases, purchasing credits can dramatically reduce the cost of complying with nutrient reduction mandates, saving ratepayer dollars, and increasing economic competitiveness. Farmers earned credits by going above and beyond the minimum legal requirements to do more than what is considered the farm’s fair share of pollution reduction. Multiple agricultural BMPs were implemented on the participating farms including: riparian buffers, no-till and cover cropping, off-stream watering, rotational grazing, and manure hauling.

FLOOD PROTECTION SYSTEMS

Lycoming County's developed areas are mostly concentrated along the West Branch of the Susquehanna River which flows across the southern section of the County. The Greater Williamsport Area is protected by a levee. The Levee was authorized by the Army Corps of Engineers (USACE) following the 1936 flood and was completed in the mid 1950's. There are four Levee systems: North West Williamsport and South East Williamsport, Non-Federal Sponsor is the City of Williamsport; South Williamsport Levee, Non-Federal Sponsor South Williamsport; and the Bull Run System-Completed after Tropical Storm Agnes in 1972, Non-Federal Sponsor Loysock Township. These protected areas are exempt from the mandatory purchase of Flood Insurance and are not required to follow the municipality's floodplain ordinances.

NATURAL GAS INFRASTRUCTURE

Lycoming County is located in the center of one of the nation's largest shale gas formations. The Marcellus Shale formation spans from South-West West Virginia through West and North Pennsylvania to Southern New York. Traditional vertical wells are not effective for releasing gas from Marcellus Shale because the gas is released through vertical joints in the rock. A horizontal well combined with hydraulic fracturing allows drillers to cost-effectively drill into the vertical joints of this formation to release the gas. In 2003 the first horizontal Marcellus Shale well was drilled in Washington County, Pennsylvania by Range Resources. Improvements in technology have allowed natural gas from Marcellus Shale to be cost-effectively gathered. Lycoming County experienced a boom in Marcellus Gas extraction between 2010 to 2014 with 782 wells being drilled in that time period (851 wells were drilled between 2007 and 2017).

To take advantage of natural gas availability, River Valley Transit (RVT) developed a Compressed Natural Gas (CNG) fueling station. RVT currently has a fleet of 33 buses with 18 being fueled with CNG. By the end of 2022, all of RVT's buses will be CNG fueled. CNG offers a 25% reduction in carbon emissions versus gasoline and also has the possibility to have much lower fuel costs than gasoline.

In 2016 a Compressed Natural Gas facility was constructed in Fairfield Township that provided an opportunity to distribute natural gas to customers without the need for pipeline construction. This virtual pipeline system provides affordable natural gas from the Marcellus region to those without direct access to a local gas line. Natural gas is accessible by truck delivery from the facility to waste hauling fleets, municipal fleets, utility backfill, institutional and commercial facilities, industrial plants, and commercial fleets.



*River Valley Transit Compressed Natural Gas Bus Fueling Facility
Source: PCD*

ELECTRIC

Two electric generation plants were constructed in Lycoming County over the past 10 years. The Panda Patriot Power Project, owned and operated by Panda Power Funds, was constructed in Clinton Township. This 829 megawatt (MW) power plant runs exclusively on natural gas and can generate enough electricity to power one million homes. The Panda Patriot Plant began operation in 2016.

The Laurel Hill Wind Energy facility, which is owned and operated by Duke Energy, is a 69 megawatt (MW) wind powered electric generating, transmitting, and interconnecting facility. There are thirty individual 2.3 MW Siemens Wind Turbines within a seven mile long lease corridor located along the Laurel Hill Ridge, between Jackson and McIntyre Townships in Lycoming County. This facility began operation in October of 2012 and can provide enough electricity to power 20,000 homes. The Laurel Hill Wind Energy facility supplies electricity to the Delaware Municipal Electric Corporation under the terms of a 25-year agreement.



*Panda Patriot Power Plant located in Clinton Township
Source: www.PennEnergy.com*



*Laurel Hill Wind Energy Facility Substation with turbines on the ridge in the background
Source: PCD*



Lycoming County Comprehensive Plan Update 2018

Land Use and Resource Management

AT A GLANCE

The Land Use and Resource Management chapter of the 2006 Lycoming County Comprehensive Plan drew upon twelve categorical topics related to Lycoming County's existing land use patterns, development trends, and resource (both natural & cultural) management. These topics were identified in relation to the County as a whole or at a broader – regional level. All of the topics that were profiled in 2006 are still relevant and have the potential to greatly impact the County in terms of land use policy and community character. The following topics were noted by the Planning Advisory Team as being of particular importance because of significant changes in legislation, progress in project implementation, or because the issue is integral to defining the character of our communities:

- Major Transportation Initiatives
- Open Space Preservation
- Ag Preservation
- Concentrated Animal Feeding Operations
- Floodplain Management
- Oil & Gas (New Topic)
- Telecommunication

Since adoption of the 2006 plan, new regulations (Oil & Gas, Stormwater Management, and Wind Energy) have been implemented or impacted by new legislation, a renewed focus of state agencies enforcing existing legislation, and innovation which has created or expanded use types. Land use regulations must continuously be reviewed and updated in order to permit/regulate these activities to minimize negative impacts on neighboring property owners, steer development towards areas with available or planned infrastructure, and implement the community's ever evolving vision of what it would like to become.

The two newest legislatively driven uses that all jurisdictions should consider for potential additions to their ordinances include the 2016 legalization of medical marijuana (Medical Marijuana Act - SB 3) and the 2017 expansion of Commonwealth's casino gambling law (HB 271) which will now allow for satellite casinos and permit gambling in certain airports and truck stops.

The County/Municipal Land Use Jurisdiction and Administration Tables in Appendix C illustrate

the County's 52 municipalities which have been grouped into the three rural planning areas of the County, as well as the six multi-municipal PAT planning areas. The tables show those which administer their own respective land use ordinances (SLDO, zoning, stormwater management, development in the floodplain, oil & gas uses, and medical marijuana), and those which are administered by the County staff.

2006 Comprehensive Plan

Categorical Topics in Land Use and Resource Management:

- *Ridgetop Development*
- *Steep Slope Development*
- *Land Use/Interchange Impacts from Interstate 99*
- *Agricultural Preservation*
- *Open Space Preservation*
- *Concentrated Animal Feeding Operations*
- *Junk/Salvage Yards*
- *Floodplain Management*
- *Groundwater Quality*
- *Susquehanna River Opportunities*
- *Scenic Resources*
- *Cultural Resources*

MAJOR TRANSPORTATION INITIATIVES

I-99 Update: The 2006 Comprehensive Plan described the future development of Interstate 99 as a project that may provide local municipalities with additional land development opportunities, particularly around both existing and new interchanges. However, such opportunities also pose challenges in terms of mitigating the potential negative impacts on community character and coordinating growth with existing and proposed infrastructure. Current land use regulations will need to be reviewed and updated to specifically deal with the highway interchange development once funding has been secured and design has started for the upgrade on US 220 between Jersey Shore and Williamsport.

The 2013 Long Range Transportation Plan explains that portions of I-99 have already been officially designated along US 220 between I-76 PA Turnpike at Bedford and I-80 in Centre County, however several major corridor improvements and design exceptions still need to be addressed to further extend the route designation.

With Congress abolishing the Appalachian Development Highway Program in the MAP-21 legislation removing a vital federal funding source to complete these Appalachian corridor segments P and U (See Appalachian Development Highway System map for more detail)— it appears unlikely that the I-99 project will see completion in the near term. Nevertheless, the Williamsport Metropolitan Planning Organization (MPO) continues to support completion of I-99 within Pennsylvania.

While waiting for additional funding to continue this multi-phased project and seeking guidance on design criteria for portions of the project, Lycoming County and its municipal partners should still perform the following proactive measures:

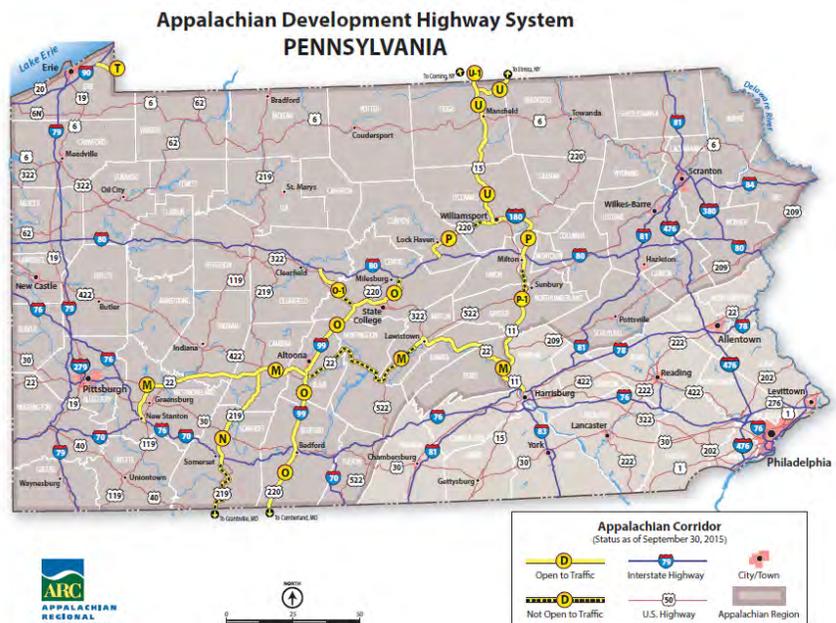
- Guide development to areas of existing or proposed infrastructure
- Encourage new development that would enhance local communities
- Minimize/mitigate environmental impacts from new highway development

Central Susquehanna Valley Thruway: The CSVT project entails phased construction of a new 12 mile long modern four lane limited access highway system. It will connect I-80 near Milton with US 11/15 just south of Selingsgrove with a bypass around congested Northumberland Borough and a major bridge crossing over the Susquehanna River near Winfield. The completion of CSVT has the potential to impact Lycoming County in multiple ways.

While the extent and nature of the impact from this project is hard to accurately define, the potential shift of traffic volumes (and the attendant possibility for commerce) from the US-15 South planning area to those communities located in the Montoursville–Muncy & Muncy Creek Planning Areas could provide additional economic development opportunities in one corridor while reducing those opportunities in others. To better understand the land use impacts of the CSVT project and the actions that should be taken, please refer to Issue #5 in Chapter 3 of this plan and in the following Multi-Municipal Comprehensive Plans: Montoursville – Muncy (Issue #3), Muncy Creek (Issue #6), and US-15 South (Issue #6).



The bridge portion of CSVT near Winfield from as viewed from Route 147
Source: PCD

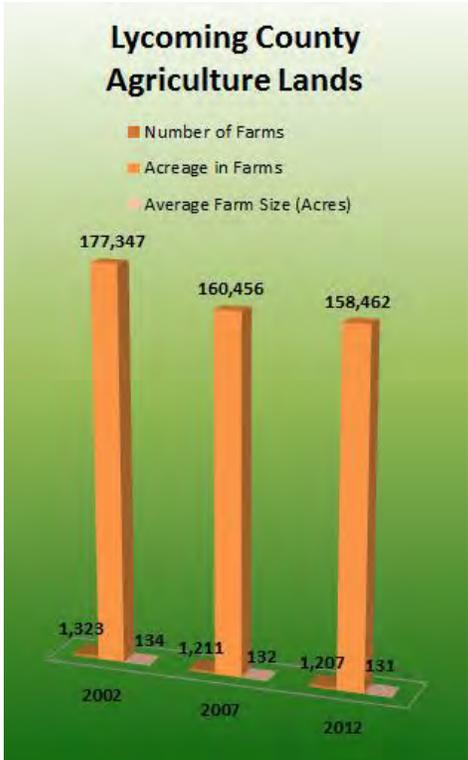


Pennsylvania Portion of the Appalachian Development Highway System
Source: [Status of the Appalachian Development Highway System](#)

OPEN SPACE PRESERVATION

Agriculture Profile: The USDA provides updated agricultural related statistics every five years with the most recent being the 2012 Census of Agriculture reference document.

Although the number of farms and the total amount of farm acres has decreased over time, the total value of agriculture products sold from Lycoming County producers has increased 32% over a ten year period. Some speculate that the Marcellus natural gas boom in the County contributed to a loss of farmed acreage through gas development occupying farmland or longtime farmers selling off lots for purposes other than farming as a source of income. Conversely, the additional income generated through gas well leasing may have enabled some farmers to invest in equipment upgrades and undertake needed capital improvements to modernize their operations. According to the 2016 PA Comprehensive Freight Movement Plan a steadily growing international demand for U.S. food products offers another explanation for the increased product pricing and sales.



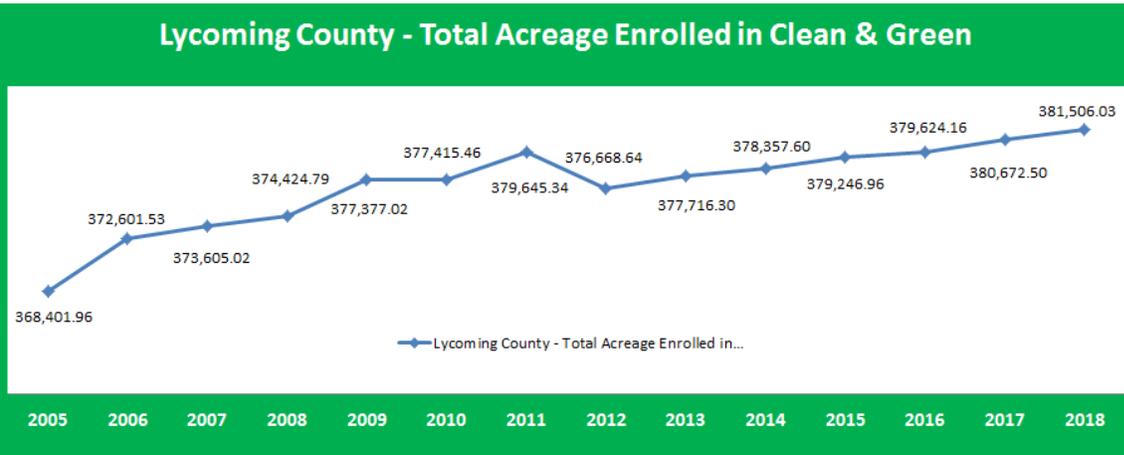
Open Space Conservation: The conservation of forested and agricultural land within Lycoming County is critical to preserve the quality of existing habitats and ecosystems, recreational assets, and our agricultural heritage.

The North Central Pennsylvania Conservancy (NCPC) plays a large role in Lycoming County by preserving lands for conservation purposes. The NCPC encourages open space preservation in two ways. First, by being a pass-through entity for landowners to donate or sell their lands to land holding organizations like the Commonwealth of PA or municipalities. Second, by being an entity that acquires and manages conservation easements through their Conservation Easement Stewardship Program. Throughout Lycoming County, the NCPC holds approximately 1,535 acres (an increase of 382 acres since 2006) in conservation easements which have been acquired through its stewardship program.

Agricultural land preservation is seen as an important facet of Lycoming County’s overall conservation efforts. County landowners continue to show interest in taking advantage of programs such as agricultural conservation easements, Clean and Green enrollment, and by grouping lands together to form Agricultural Security Areas. The Lycoming County Conservation District reports that nearly 10,000 acres have been permanently preserved through 79 agricultural easements.

The Clean and Green program benefits landowners with properties containing 10 acres or more by utilizing a “preferential” or “use value” assessment of the property’s value rather than the typical “fair market value,” resulting in a reduction of tax liability for the land owner. This preferential land valuation

is utilized as an incentive to keep agricultural and forested land contiguous and limits development to those uses which are consistent with characteristics of open space and agricultural operations. Although Clean and Green acres enrolled in the County had seen a slight drop between 2011 and 2012, there has been a steady increase with landowners still taking advantage of the program, with about 381,500 acres protected in 2018.



OPEN SPACE PRESERVATION (CONT'D)

Open Space Conservation (cont'd):

A landowner(s) may also voluntarily propose to designate an Agricultural Security Area (ASA) which defines an area of 250 acres or more of agricultural land. The proposed area can be made up of any number of noncontiguous parcels, as long as each contains at least ten acres and has an anticipated yearly gross income of \$2,000 or more from agricultural production. Enrollment in this program affords farmers a higher level of legal protection against nuisance complaints and enforcements brought by nearby land owners and local laws/ordinances (unless they bear a direct relationship to public health or safety).

Agricultural preservation is not just about preserving farmland and open space; it is also about preserving a way of life and a major component of our community character. In addition, the Commonwealth has also enacted several pieces of legislation to help protect farmers from nuisance suits and overly restrictive local regulations. The PA 1982 Right to Farm Law protects agricultural activities which are considered “normal agricultural operations” from nuisance suits and local ordinances which may impede the typical farming practices. Further protections were afforded with the passage of The Agriculture, Communities, and Rural Environment (ACRE) Act of 2005 which provides a legal tool to help farmers challenge local ordinances that interfere with normal agricultural operations as defined by state law. These laws contribute towards a sense of stability in the farming community, but can also be viewed as preemptive to communities that have very little recourse when they are faced with agriculture related problems and nuisances that may be considered outside the normal agricultural occurrences, such as insect infestations and pervasive environmental complaints.

A Trend in Agriculture:

Sustainable agriculture continues to be an emerging concept that brings together science, technology, and environmental stewardship to ensure that the agriculture community has profitable businesses contributing towards a robust economy. Many Lycoming County farms have started down the sustainability road by implementing agricultural best management practices (BMP) with the help from the Lycoming County Conservation District, USDA-NRCS, and the Farm Service Agency – such as Hilltop Farm in Loyalsock Township which is owned by Harold and Joan London. Implementing agricultural BMPs will aide in:

- Building and maintaining healthy soil
- Managing water wisely
- Minimizing air, water, and land pollution
- Promoting biodiversity

Other keys to sustainable agriculture include diversification in more than one of the agriculture sectors or having non-agricultural supplemental income.

There are also technologies being used by the agricultural community to maximize both the use of land and production that help towards sustainability, such as renewable resource energy production, concentrated animal feeding operations (CAFOs), agroforestry, and agroecology.

Agriculture Sectors

- Crop Production
- Animal Production
- Food & Beverage Processing and Manufacturing
- Forestry Production
- Forestry Processing
- Landscaping



*Drone Photo of the Hilltop Farm in Loyalsock Township
Source: Lycoming County Conservation District*

Case Study: Hilltop Farm

Hilltop Farm, with its 50-head beef cattle operation, was recently honored as the 2017 Cooperator of the Year by the Lycoming County Conservation District for using many agriculture BMPs to improve water quality leaving their property and for being an agriculture advocate. Some of the BMPs used are:

- Comprehensive Nutrient Management Plan
- No-till Planting
- Cover Crops
- Access Road & Animal Trails and Walkways Stabilization and Erosion Control
- CREP Forested Riparian Buffer
- Manure Stacking Facility
- Heavy Use Area Protection
- Spring Development
- Conveyor Belt Diversions
- Rock-lined Waterway

OPEN SPACE PRESERVATION (CONT'D)

Each farm has unique physical characteristics that could be used to its advantage for renewable energy production and reducing operating costs over time. A livestock producer may choose to use a manure digester for heat. A hill top farm could use windmills or solar panels to lessen electric bills or for running pumps to irrigate crops and aerate ponds. Farms that feature streams can use mini-hydroelectric systems. On a varied scale, these technologies can be used in Lycoming County to power individual agriculture related systems or an entire farm operation.

Municipalities should review their land use controls to allow farmers flexibility to have multiple types of uses on their property and to promote the use of sustainable agriculture practices.

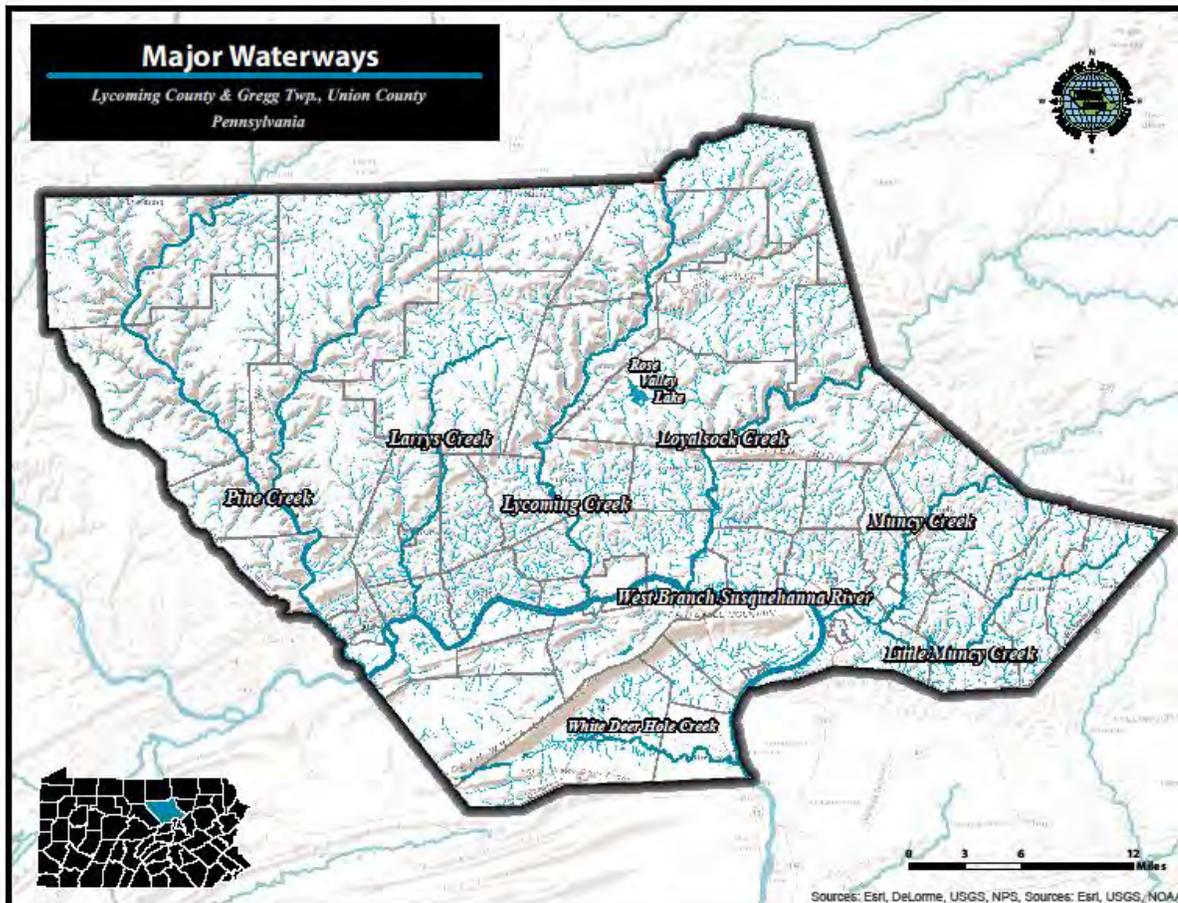


14.4 kW Agricultural Roof Mount, Kintnersville, PA
Source: Paradise Energy Solutions, LLC

FLOODPLAIN DEVELOPMENT AND REGULATIONS

Introduction: The County of Lycoming lies entirely within the Susquehanna River Basin, one of four major drainage basins in Pennsylvania. Over 2,200 miles of streams traverse the County, which was settled long before land use controls and floodplain regulations were in place. The County’s most populated watershed is the West Branch of the Susquehanna River, which flows throughout the County for a distance of 38 miles. The West Branch and its seven major tributaries within Lycoming County can be seen on Major Waterways map below.

Lycoming County Floodplain Regulation Current Status: Floodplain management regulations and zoning ordinances have a profound impact on shaping future development within flood prone areas. Through the administration of these ordinances, municipalities can ensure that all new



construction (or substantial improvements to existing structures) in the regulatory floodplain are designed to minimize the impact of flooding, thereby increasing the resiliency of the entire community. Most of our oldest and densest population centers are located along the West Branch Susquehanna River. Given their locations, these communities have a high vulnerability to the impact of flooding. By following floodplain regulations, citizens and business owners within the floodplain are constructing safer buildings that will also have lower flood insurance premiums due to NFIP-compliant construction practices.

FLOOD DEVELOPMENT AND REGULATIONS (CONT'D)

The National Flood Insurance Program (NFIP) and the Pennsylvania Floodplain Management Act (Act 166 of 1978) established minimum floodplain management criteria. A municipality must adopt and enforce these minimum criteria to be eligible for participation in the NFIP. All 52 municipalities in Lycoming County have enacted floodplain ordinances and have updated their floodplain management ordinances as part of the recent 2016 FEMA RiskMAP project. Communities must, at a minimum, meet the NFIP requirements – but are encouraged to implement higher regulatory standards. When effectively prepared and administered on a consistent basis, the implementation of these regulations will result in the decrease in flood related damages reported after a significant storm event.

The County has made it a priority to steer future development away from the Special Flood Hazard Area (SFHA). The County, through collaboration with municipal officials, will use zoning to concentrate and guide development within the identified growth areas; restore natural floodplains through acquisition and demolition; preserve open space, natural resources, and farmland; and coordinate land use development to provide for mixed use development and brownfields redevelopment.

OIL AND GAS

Overview: Due to technological limitations and market forces, the subject of oil and gas development was not an issue that was profiled in the 2006 Countywide Comprehensive Plan. However, with the innovation of extraction techniques, the relatively accessible Marcellus Shale Formation, oil and gas exploration and extraction activities have since increased exponentially. It should be noted that industry presence within a community can fluctuate significantly in short periods of time. Being that the industry is driven by market forces, the resultant development activities have been quite volatile. Recently the pace of development has slowed as profitability decreased and demand was limited by the lack of existing supply infrastructure and end users. Current trends indicate that companies are presently focused on drilling additional wells on previously established well pads. These trends may change dramatically as companies are able to capitalize on the expanded pipeline distribution network which will dramatically broaden the market of potential customers.



*Natural gas well pad during the drilling stage
Source: PCD*

Going forward, while contemplating this industry’s impact on Lycoming County, emphasis should be put on ensuring that appropriate zoning jurisdictions provide for the use, identify ways of protecting open space and community character, and encourage pipeline collocation where possible. For more information pertaining to which jurisdictions have an oil & gas ordinance, refer to the County/Municipal Land Use Jurisdiction and Administration Tables in Appendix C.

Protection of Open Space: Despite the passage of legislation known as PA Act 13 in 2012 (which preempts many facets of local land use control), Lycoming County has been able to create a legally compliant zoning ordinance amendment that balances the need to protect the health, safety, and welfare of its constituents – while not being overly prohibitive to development. To understand the impact that this industry can have on our County, consider the following statistics provided through research conducted by the Penn State Extension:



*Natural gas pipeline under construction with a natural gas well pad
Source: PCD*

- On average, a standard oil and gas well pad will have an impact of roughly five and a half acres.
- As of 2016, Lycoming County had 865 wells on an estimated 230 well pads and associated water retention ponds for a disturbed area more than 1,100 acres.
- This does not account for the area disturbed by the pipeline infrastructure associated with the well pads.

By encouraging practices such as pipeline collocation, employing steep slope protection standards, and requiring that developments meet certain performance standards – communities have taken steps to preserve community character and lessen the impacts of this new industry within Lycoming County.

TELECOMMUNICATIONS

Legislation Impacting Land Use: There are several major pieces of legislation and rulings at the state and federal levels which mandate restrictions on how local government reviews wireless siting applications. The first of these is the Federal Telecommunication Act of 1996. However, parts of this regulation were unclear which prompted the Federal Communications Commission (FCC) to publish two pieces of guidance: the 2009 FCC Wireless Shot Clock Order and the FCC Report and Order of October 21, 2014. The Federal Middle Class Tax Relief and Job Creation Act of 2012 (Spectrum Act) provided further clarification and regulation in regards to local reviews of wireless siting applications.

While these pieces of legislation hold several provisions which are important to local land use reviews, the most important aspect is the mandated shot clock for application review timeframes. The Commonwealth of Pennsylvania also passed the Pennsylvania Wireless Broadband Collocation Act (Act 191 of 2012) which also mandated a shot clock for application review (which includes a “deemed approval” provision if the application is not acted on within 90 days) as well as broadening the definition of “Wireless Support Structure” to include a myriad of vertical structures.

Changes Since 2006: 4G wireless service was introduced in 2011 and deployed across the Nation and Lycoming County in subsequent years. This technology was developed to accommodate the exponentially growing demand for wireless data. Deploying this technology required the industry to add new antennas to a variety of infrastructure including existing cell towers, tall buildings, water towers, and a variety of other vertical structures. Wireless providers also erected new towers in some areas where vertical infrastructure did not exist or could not support wireless antennas.

Relevant Trends Going Forward: The next trend on the horizon for telecommunications land use is the upcoming deployment of 5G technology and the need to fill existing coverage gaps. 5G communications technology is being developed to answer the need for more data. As our technology improves the amount of data we use increases exponentially. It’s estimated that by 2020 there could be more than 24 billion smart devices on the planet or 4 to every person. These will vary from smart phones and laptops to automated vehicles, sensors fulfilling a variety of functions, and unmanned aerial vehicles.

Worldwide data traffic is projected to increase sevenfold between 2016 and 2021 at a compound annual growth rate of 47%. 5G technology is still in development, but industry projections target 2021 as being the likely start date for deployment, with large cities being the first to receive the technology. Small Cells, cellular transmitters with a smaller range and capacity, will be a critical piece of infrastructure for this technology in order to take the load off of the existing wireless network. As legislation continues to be put forth concerning how this industry can be regulated, local land use officials will need to consider how to lawfully review these development proposals in their respective jurisdictions.



Cellular antennae collocation utilizing existing vertical infrastructure has allowed cellular providers to provide coverage without building new towers in urban environments.
Source: PCD

Increased network efficiency is needed to accommodate the next generation of mobile devices. The term Hetnets refers to Heterogeneous Networks or the ability for networks to accommodate a variety of devices utilizing different operating systems.
Source: www.Strategyr.com

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Lycoming County Comprehensive Plan Update 2018

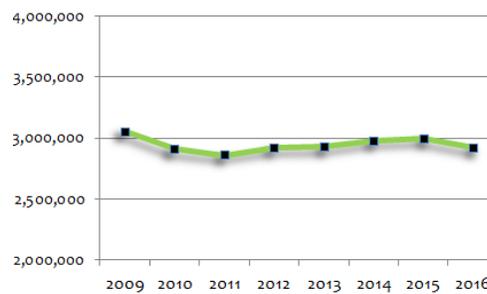
Transportation and Mobility

AT A GLANCE

When the current Lycoming County comprehensive plan was adopted in 2006, the Transportation chapter also served as the Long Range Transportation Plan for Lycoming County as a single county metropolitan planning organization. Since that time, the long range transportation plan has been updated separately. In a way, this makes transportation unique from other thematic sections of the comprehensive plan. Since transportation plans for Lycoming County have been updated since 2006 (with another update due to be adopted in 2018), the picture of the transportation system in Lycoming County is well understood and analyzed.

One of the most striking features of the treatment of transportation planning in the 2006 comprehensive plan is a repeated emphasis on expansion of capacity and growth. At the time the plan was prepared, population projections indicated that Lycoming County would be a growth area in need of extra capacity in the transportation system. In hindsight, we now know that the population of Lycoming County has declined since the 2000 census and traffic volumes have not been increasing. Therefore, a new set of priorities has emerged for the transportation system of Lycoming County.

Lycoming County Traffic Volumes
(Daily Vehicle Miles Traveled)



Through the multi-municipal comprehensive planning process, the transportation-centric issues raised by the Planning Advisory Teams for the 6 multi-municipal planning areas fell broadly into three emphasis areas:

- A need to better accommodate non-motorized modes of transportation
- A need to focus on the maintenance needs of transportation infrastructure, in particular local transportation assets such as bridges, and ensure a resilient and robust transportation system
- A need to forecast how future economic development and future transportation infrastructure will influence and stimulate each other

Walking and Biking

Lycoming County has recognized that all modes of transportation need to be considered in the planning process.



Source: PCD

Maintenance

The transportation system of Lycoming County, especially locally owned roads and bridges, are subject to both routine wear and stresses from natural hazards like flooding.



Source: PCD

CURRENT STATUS OF LYCOMING COUNTY'S TRANSPORTATION SYSTEM

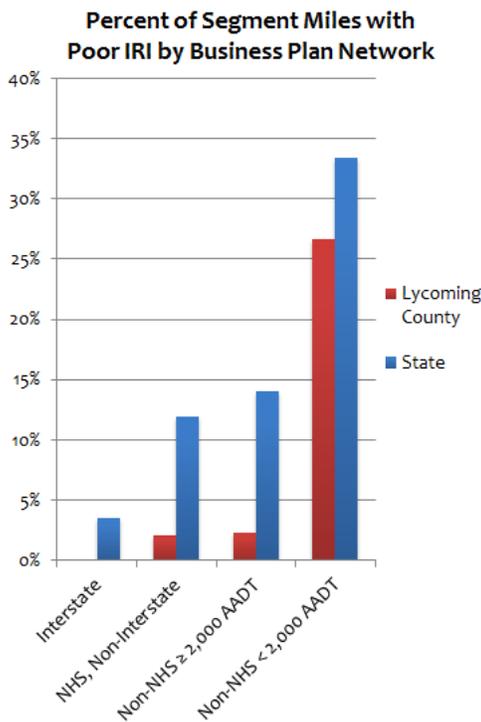
Many economic sectors in Lycoming County, such as freight movement and the mobility of visitors to our arts, culture, and recreation resources, are heavily reliant on the transportation system. Therefore, the multimodal transportation system is maintained to a high state of repair. There are no glaring deficiencies in highways, bridges, transit, rail, or air service that have not already

been addressed or are in the process of being addressed. There are also no obvious needs for additional capacity. However, there is room for improvement in highway safety. Therefore, highway and bridge transportation project priorities are focused on maintaining the current system and improving safety. There is a recognized need for more multiuse trail connections between communities as well as improved access to existing facilities. There is also a need for more and improved bicycle and pedestrian facilities in Williamsport and the

boroughs to better serve populations that will age in place, to appeal to young people, to assist low income populations, to support economically vibrant downtowns, and to promote the retention and attraction of population. As rural populations decrease, there is a need to consider options that decrease the infrastructure maintenance cost burden on rural municipalities while focusing investment on the infrastructure of the parts of the County where delivery of services is most efficient and cost effective.

HIGHWAY PAVEMENT

There are 2,098 linear miles of publicly owned roadways throughout Lycoming County. PennDOT owns 903 linear miles, or 43%, of those public roadways. In addition, there are 1,195, (57%) of locally-owned roadways owned by 52 different local municipalities included on the PennDOT Liquid Fuels System.



PennDOT defines its roadway assets by establishing four Business Plan Networks:

1. Business Plan Network 1 – Interstate
2. Business Plan Network 2 – National Highway System (NHS), Non-Interstate
3. Business Plan Network 3 – Non-NHS with Average Daily Traffic
4. Business Plan Network 4 – Non-NHS with Average Daily Traffic, (ADT) less than 2,000

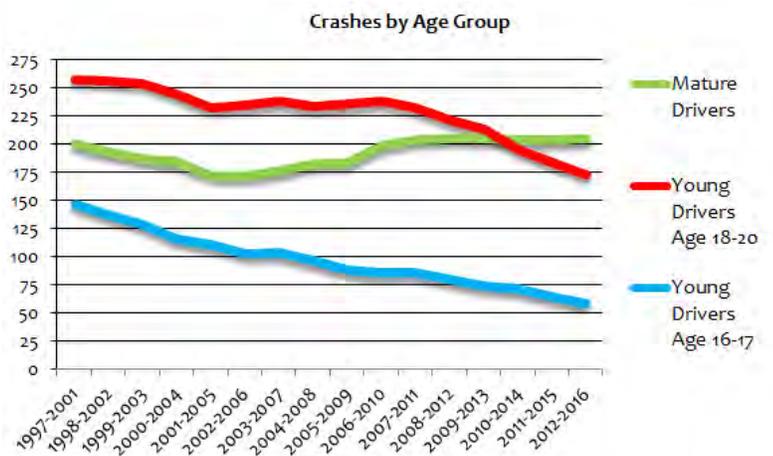
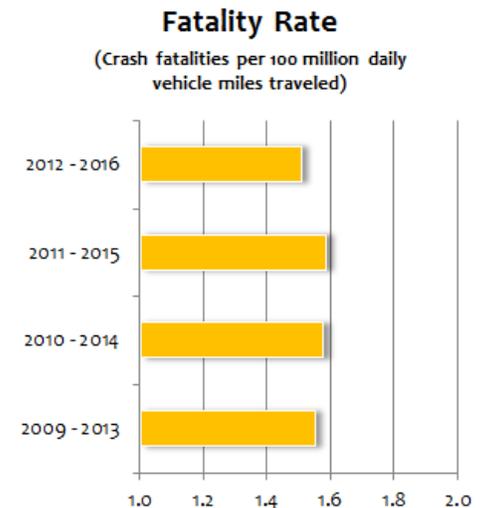
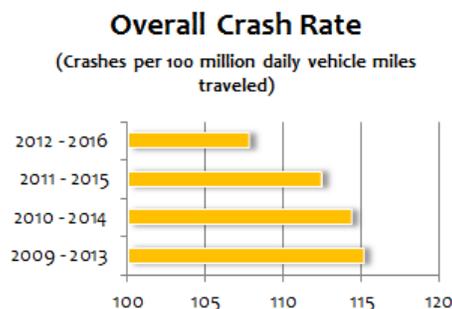
IRI is a worldwide standard for measuring pavement smoothness. IRI by business plan network in Lycoming County is better than statewide. Currently, we have no poor pavement on the interstate system and only 2% of the pavement of the national highway system in Lycoming County is poor (compared to over 10% on the statewide national highway system).

that we are seeing large decreases in the numbers of crashes involving both age classes of young drivers.

From 1997-2016, Lycoming County has seen a 60% drop in crashes involving a driver age 16-17 and a 33% drop in crashes involving a driver age 18-20. However, in the same time period there has been a 2% overall increase in the number of crashes involving a driver age 65 and over.

SAFETY

In terms of the rate of crashes, the recent trend is a decrease in the overall crash rate in Lycoming County but relatively no change in the rate of major injuries and fatalities. The Pennsylvania Strategic Highway Safety Plan includes focus areas of improving safety for both mature drivers (age 65 and over) and two age classes of “young and inexperienced drivers” aged 16-17 and aged 18-20. Crash data for Lycoming County shows



STATE AND FEDERAL GOVERNMENT TRANSPORTATION PLANNING OBJECTIVES

Increasingly, transportation planning is guided by federal government performance-based planning objectives. These objectives are tied to specific quantifiable performance measures used to track whether local transportation spending is being directed to the parts of the transportation system in need of better maintenance. The current federal government transportation planning objectives are:

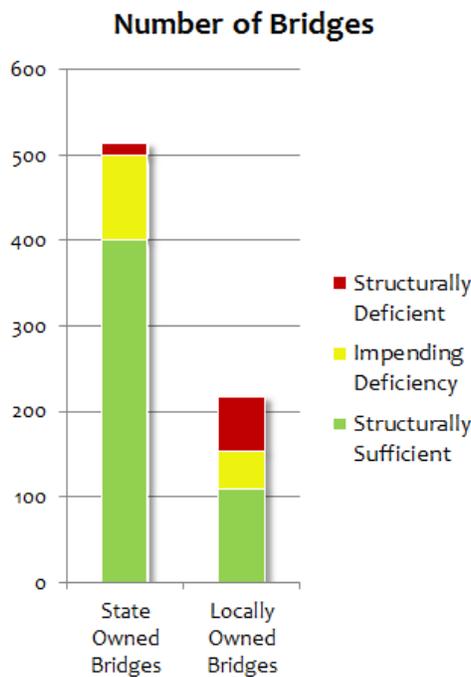
- To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- To maintain the highway infrastructure asset system in a state of good repair.
- To achieve a significant reduction in congestion on the National Highway System.
- To improve the efficiency of the surface transportation system.
- To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The Commonwealth of Pennsylvania, in the statewide Long Range Transportation Plan (PA On Track, 2016) has outlined four planning objectives for the state.

- System preservation by using increasingly good data about the transportation systems in Pennsylvania to develop asset management strategies to maintain the current transportation system at a high level of quality.
- Improvement of safety statewide for all modes and all users.
- To expand and improve personal and freight mobility.
- Emphasize stewardship by increasing efficiency and streamlining processes.

BRIDGES

There are 12 state-owned bridges that are structurally deficient, which represents approximately 2% of all state-owned bridges in Lycoming County. This is a remarkable improvement since the 2013 Long Range Transportation Plan when 8.3% of state-owned bridges in Lycoming County were structurally deficient. Approximately 29% of local bridges are structurally deficient. Another 21% will be structurally deficient with any significant degradation in deck, substructure, or superstructure condition.



Major bridge components such as the deck, superstructure, substructure are evaluated using a 0-9 condition ratings scale where a 9 rating is excellent condition and 0 means deterioration is so severe the bridge must be closed to traffic. A condition rating of 4 or less for a major bridge component will classify the bridge as structurally deficient, (SD) and condition rating of 2 or less for waterway opening also triggers the SD designation according to federal criteria.

AIRPORT

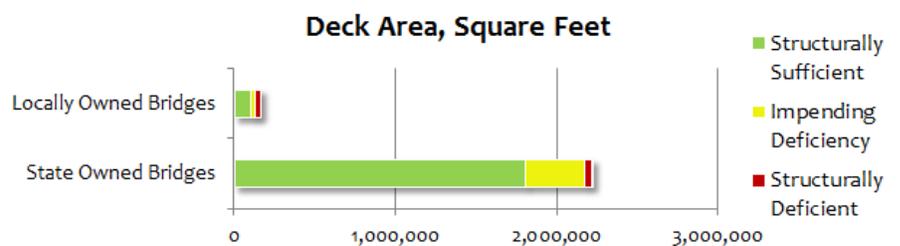
Maintaining and expanding air service was a primary strategy identified in the 2006 Lycoming County Comprehensive Plan to enhance the multimodal transportation system. Upon reviewing how to improve and expand service to the Williamsport Airport, efforts concentrated on replacing the terminal building. Originally built in 1947, the terminal was last substantially renovated in 1971. The terminal no longer meets the security and capacity needs of the 21st century.

Construction has begun on a new terminal building that will expand available space and incorporate major new features and amenities based on extensive input from community leaders, airport customers and tenants. Improvements in the new terminal will include space for up to two additional airlines, a modern baggage claim facility, better vehicular and pedestrian access, larger concession area, and numerous aesthetic enhancements to create a more enjoyable customer experience. The new terminal will be completed in late 2018.

The terminal will be a major component in recruiting additional air service which would promote competitive pricing and provide additional destinations for customers. The Airport Authority has also completed a major runway and approach improvement project first identified in the 2006 comprehensive plan.

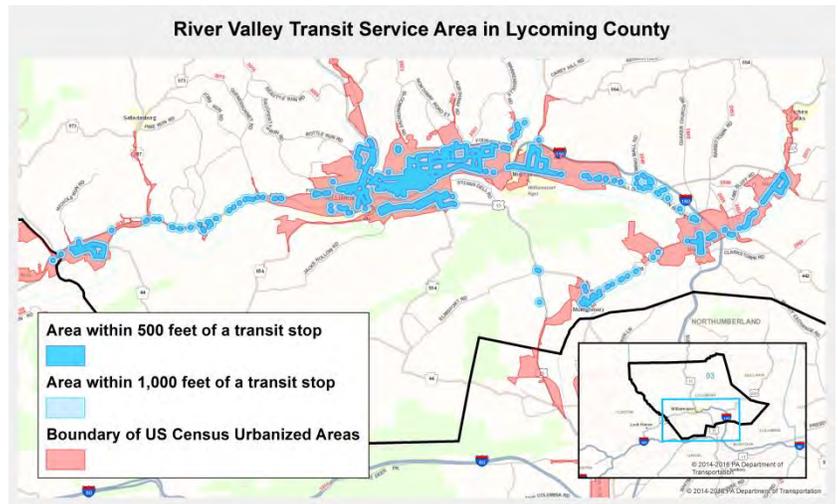


New Airport Terminal Construction, 2017

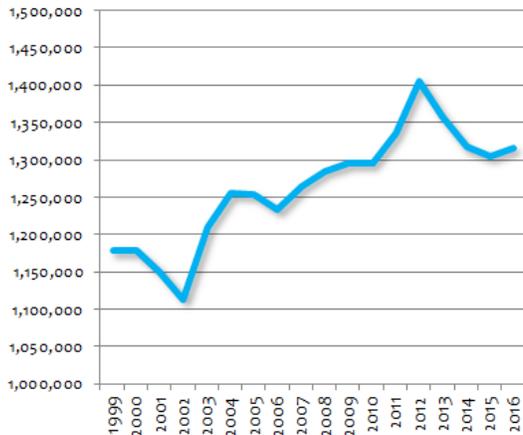


TRANSIT

River Valley Transit (RVT) is the only fixed route bus service provider in Lycoming County. RVT manages a bus network of 19 fixed routes operated in-house by RVT employees. The system is comprised of a fully accessible fleet of 33 buses consisting of standard 35 and 40 foot long transit coaches, including 18 Compressed Natural Gas (CNG) buses.



Total Passengers

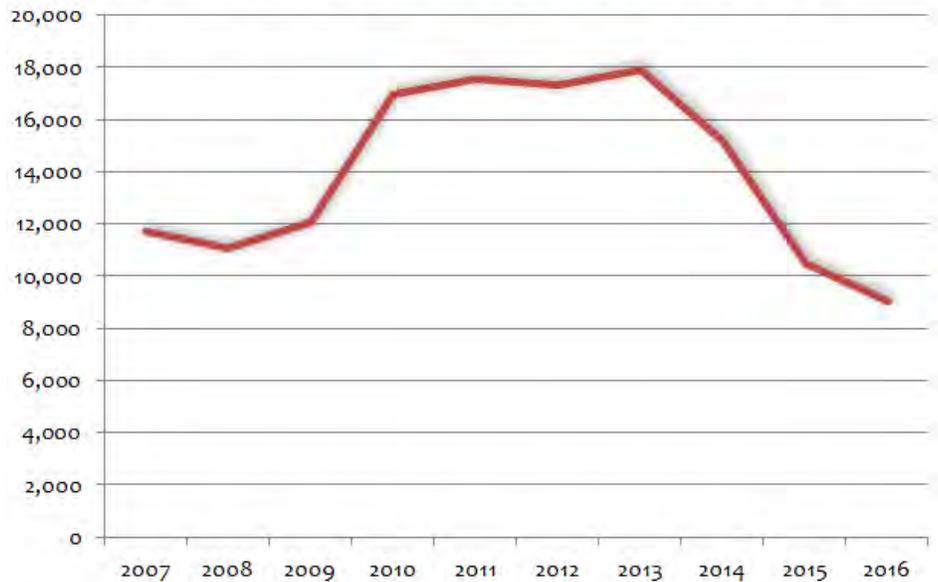


RVT has increased ridership steadily since 1999 with an overall 12% increase in total passengers served and an all-time passenger record in 2012 of 1,406,478 passengers. RVT also provides special transit services to support a wide variety of activities and community events throughout their service area including Lycoming County Fair, Little League World Series, Williamsport Crosscutters minor league baseball games, Penn College Earth Science Center, Lycoming College Homecoming, and other college functions along with charter services using a process that complies with new FTA regulations.

RAIL

A major transportation objective contained within the 2006 Lycoming County Comprehensive Plan was to “maintain and expand, where appropriate, the infrastructure for the County’s rail network.” Fortunately, the SEDA-COG Joint Rail Authority, (JRA) owns the Lycoming Valley trackage as part of an overall regional shortline rail system. The system encompasses six rail lines with nearly 200 miles of track, land, rights-of way, engine houses, and various bridges and other railroad related structures traversing through a nine county area

Lycoming Valley Rail Road, Carloads of Freight



consisting of Lycoming, Union, Northumberland, Montour, Mifflin, Columbia, Clinton, Centre, and Blair Counties.

The entire JRA system provides rail freight service to approximately 85 shippers supporting over 10,000 good paying industrial jobs. The carrier for Lycoming County is the Lycoming Valley Railroad (LVRR). During the peak period of Marcellus Shale gas drilling activity, the carloads of freight moved by LVRR increased by about 80% within a 4 year period and then decreased back to levels before the “boom.” If gas drilling activity increases again, it is expected that freight movement on the rail system will also increase.



Train Engine for Lycoming Valley Rail Road

Source: PCD

CURRENT STATUS OF LYCOMING COUNTY’S TRANSPORTATION SYSTEM

Lycoming County has an outstanding system of multiuse urban and rural trails that are both regionally connected and provide access to key local recreational resources. There are plans underway to further expand upon this network, focused especially on completing “gaps” in the network.

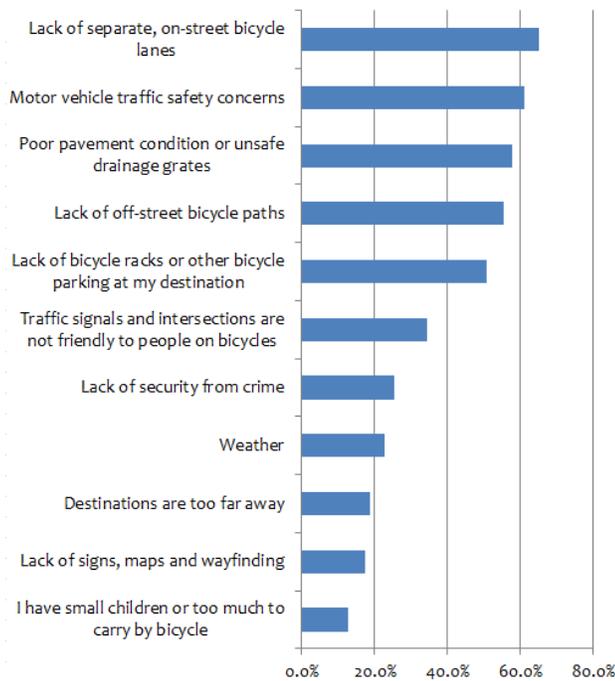
In addition, pedestrian facility enhancements have also been accomplished within many downtown areas throughout the County to improve safety and accessibility, with more initiatives in the planning stages. The primary function of multiuse trails is to provide for safe, comfortable, and convenient non-motorized mobility between communities. Urban multiuse trails are usually paved and rural multiuse trails are usually compacted fine gravel. All multiuse trails also accommodate recreational uses along with transportation use which makes them a vital resource for communities.

Lycoming County has several extensive multiuse trails already in place as well as plans to connect, extend, and improve access to these trails. While multiuse trails primarily provide non-motorized mobility between communities, downtown areas can implement various streetscape improvements to facilitate non-motorized travelers within the community. These improvements are typically grouped together under the umbrella of “Complete Streets.”

The Susquehanna River Walk is a heavily used 6 mile paved bikeway and walkway situated on top of the Williamsport Area Levee System located in the City of Williamsport, Borough of South Williamsport, and Loyalsock Township. Planning is currently underway for a Susquehanna River Walk extension that will be a 2.4-mile, 10-ft wide, paved multi-purpose trail between the existing 6-mile River Walk at Maynard Street and the 20-acre riverfront Susquehanna State Park. The River Walk extension will also link directly to the Lycoming Creek Bikeway and provide for multiple new access points to the existing River Walk.

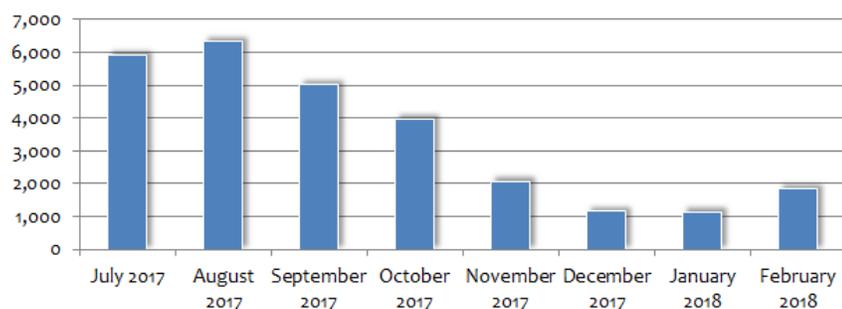


All factors that prevent you from riding a bicycle more often in the City of Williamsport



A survey conducted in 2016 by the Lycoming County Planning Department on behalf of the City of Williamsport Bicycle and Pedestrian Advisory Committee found that respondents would have more bicycle trips for general transportation reasons if riding a bicycle were to be made “easier” in the City of Williamsport. The number of bicycle commuters would increase by 50% and the number of people riding a bicycle to visit local businesses would increase fivefold. Additionally, the number of people who “never” ride a bicycle would be cut in half. Only 49% of respondents thought that riding a bicycle in the City of Williamsport is currently safe, while 96% of respondents think the City of Williamsport should take action to make riding a bicycle “easier and safer.” The City of Williamsport and the Borough of Jersey Shore are both

Total Monthly River Walk Users



very actively pursuing streets enhancements to benefit people walking and people riding bicycles.

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Chapter 3: County Priorities

Priority Issue #1



Infrastructure does not meet the needs of all areas of the County.

Back Story – Infrastructure includes “the basic physical and organizational structures and facilities needed for the operation of a society or enterprise.” It creates the physical and digital backbone that links communities together, sets the foundation for economic and community development, and allows residents to enjoy a good

quality of life. For purposes of the 2018 County Comprehensive Plan Update, six major types of infrastructure are recognized, as outlined to the left. The six are a combination of traditional and non-traditional forms of infrastructure. Together they form the critical framework and system needed for a successful physical and organizational structure by which the government, its authorities, businesses, industries, and residents rely on for a rich quality of life.



The quality of the County’s infrastructure can have a significant impact on its health and overall economy. Its ability to attract and retain people and businesses relies on having and growing a sound infrastructure system that encourages further investment.

Since early 2000s, Lycoming County has helped advance over 200 community infrastructure projects. The County’s role with each initiative varies but it generally involves assembling Federal, State, and local funds needed to enable a Lycoming County municipality, authority, or public-private partnership to complete the project.

The needs of each geographic section of the County vary significantly. Issues facing the eastern municipalities in the County can be quite different from those identified by the County’s Pine Creek western communities. The challenge is to strike the right balance among competing priorities since funding is extremely limited.

Moving forward, there are five overarching infrastructure issues or needs that must be addressed:

- Improve coordination among fragmented infrastructure/service providers
- Maintain, repair, or replace aging multiple forms of infrastructure across the County
- Expand the reach of existing infrastructure in a well-planned, cost effective manner
- Secure the limited Federal & State grant funding that is available to minimize local burden
- Establish priority consensus on future strategic infrastructure investments given limited funds

Priority Issue Overview—Transportation Infrastructure

Lycoming County has an interconnected multi-modal transportation system consisting of highways and bridges, public transit, commercial air, freight rail services, and bikeway/pedestrian facilities that provides safe and efficient access to major regional markets as well as access to the local communities.

The major highway routes in the County that are included on the National Highway System, (NHS) consist of Interstate 180 which is the primary east-west route, along with US 220, and US 15, the primary north-south routes. All are either four lane limited access or controlled access facilities where substantial federal and state investments have been made over the past several decades to upgrade these facilities for public safety and economic development purposes. The other major project that will complete the overall upgrade of US 15 in Pennsylvania is the Central Susquehanna Valley Thruway, (CSVT) project. Once completed, this project is anticipated to result in major shifts in north-south regional traffic patterns that will increase traffic utilizing the Interstate 180 corridor north of Interstate 80 to its connection with US 15 in Williamsport. As a result, there are numerous interchanges along I-180 that may experience significant development pressures. There is also the potential for decreases in traffic volumes using the US 15 corridor between I-80 and Williamsport, which may help alleviate traffic congestion problems occurring on the Market Street Bridge.

PennDOT is also in the process of designing major access management improvements along the US 220 corridor between Williamsport and Jersey Shore to enhance public safety and provide more efficient ingress and egress to developing areas along this corridor. Construction is anticipated to commence in 2019.

There are nearly 2,000 miles of public roadways throughout Lycoming County. PennDOT owns 716 miles of roads with local municipalities owning 1,258 miles and other agencies owning the remainder. Approximately 20% of PennDOT roads are in poor condition, however, most of this road mileage is concentrated on those rural secondary roads with lower traffic volumes. There is no data summarizing the condition of locally owned roads. In terms of safety, there were 5,788 reportable crashes on Lycoming County roadways during the past five years (2012-2016) with 81 fatalities.

In terms of bridge infrastructure, there are a total of 717 bridges throughout Lycoming County. PennDOT owns 512 bridges; local municipalities own 190 bridges and the County owns the remaining 15 bridges. Only 12 PennDOT owned bridges in Lycoming County (2.3%) are deemed structurally deficient in comparison to 15.8% on a statewide basis. However, about 40 bridges (25%) owned by 21 different local municipalities are structurally deficient and should be repaired or replaced based upon the most recent bridge inspection data. A “structurally deficient” designation does not mean the bridge is unsafe, but that the bridge is in need of rehabilitation or replacement. Often times, structurally deficient bridges cannot carry legal loads (40 tons) and weight limit restrictions must be imposed in the interest of public safety. These restrictions can lead to long detours, hamper emergency response and disrupt local communities.



Compressed Natural Gas Fueled Bus
Source: River Valley Transit

Public transit service is operated by River Valley Transit, the sole fixed route provider in Lycoming County. Service is largely provided in the Williamsport Urbanized Area and outlying communities of Hughesville, Muncy, Montgomery, and Jersey Shore. A PennDOT funded demonstration project to expand service to the Lock Haven Area in Clinton County is also underway. RVT is also in the process of converting its entire bus fleet from diesel to compressed natural gas, which will

substantially lower overall transit operating costs. STEP, Inc. operates the shared ride program throughout Lycoming and Clinton Counties. Federal and state subsidies are provided for certain trip types for qualifying individuals eligible. The general public who do not qualify for trip subsidies pay the normal fare.

The Williamsport Regional Airport is the only commercial service airport serving Lycoming County as well as a regional 13 County service area. Direct service is limited to only the Philadelphia International Airport and is provided by American Airlines. Numerous projects to upgrade airport safety and capacity have been recently undertaken, such as expanding the main runway and lowering minimum aircraft landing thresholds, along with replacing the aging terminal building.

The new terminal is now under construction and will be able to accommodate additional airline space and passenger needs. The airport is now serviced by a regional jets instead of turbo-props.

Freight rail service, which is primarily located on the south side of the Susquehanna River, is provided by Norfolk Southern which owns and operates the Harrisburg-Buffalo mainline. SEDA-COG Joint Rail Authority owns the shoreline track system on the north side of the river, and the system is contractually operated by the North Shore Railroad and is known as the Lycoming Valley Railroad. This shortline service is vitally



Freight rail siding with Overhead Crane, Reach Rd. Industrial Park Area, Williamsport
Source: PCD

important to over 30 companies in Lycoming County that rely on quality freight rail services to remain viable and support hundreds of jobs. Much of this rail infrastructure is in excellent physical condition due to strategic capital investment upgrades made by the Joint Rail Authority with the most significant completed project involved the replacement of the Loyalsock Creek Railroad Bridge destroyed by Tropical Storm Lee in 2011. Rail service plays a prominent role in the transport of materials supporting the Marcellus Shale natural gas play, and the Newberry Yard is a major staging area where rail and truck transfer occurs, allowing for distribution of materials to gas wells developed throughout many rural portions of the County. There is no passenger rail service serving Lycoming County.

Lycoming County boasts an extensive network of bikeways and trails, highlighted by the world famous 62 mile long Pine Creek Rail Trail between Jersey Shore and Ansonia in Tioga County. The recently completed Susquehanna River Walk, situated on the levee system in Williamsport, South Williamsport, and Loyalsock Township, is also heavily used. Plans for future extensions to the River Walk will provide connections to Susquehanna State Park, Newberry, and eventually Jersey Shore linking with the Pine Creek Rail Trail are underway. The Outdoor Recreation Section of this chapter provides information from our public survey showing strong support for additional investments in trails and pedestrian facilities to promote walkable communities. The State Transportation Commission survey results shown in Appendix C also underscores this public sentiment both at the County level and state-wide.

Key Implications

A safe and reliable multi-modal transportation system is the economic lifeblood of our communities. Transportation facilities provide access to jobs, health care, shopping, recreation, and social activities. It is vitally important to provide the public with a full range of transportation choices which are efficient and affordable. To ensure a viable and sustainable transportation system now and in the future, a prudent strategy is needed to not only address proper maintenance of existing transportation infrastructure, but also the

examination of additional investments required to make necessary upgrades to correct documented public safety deficiencies, support future economic development activity, and respond to changing demographics that influence transportation demand. Since transportation dollars are always scarce in the sense that needs far

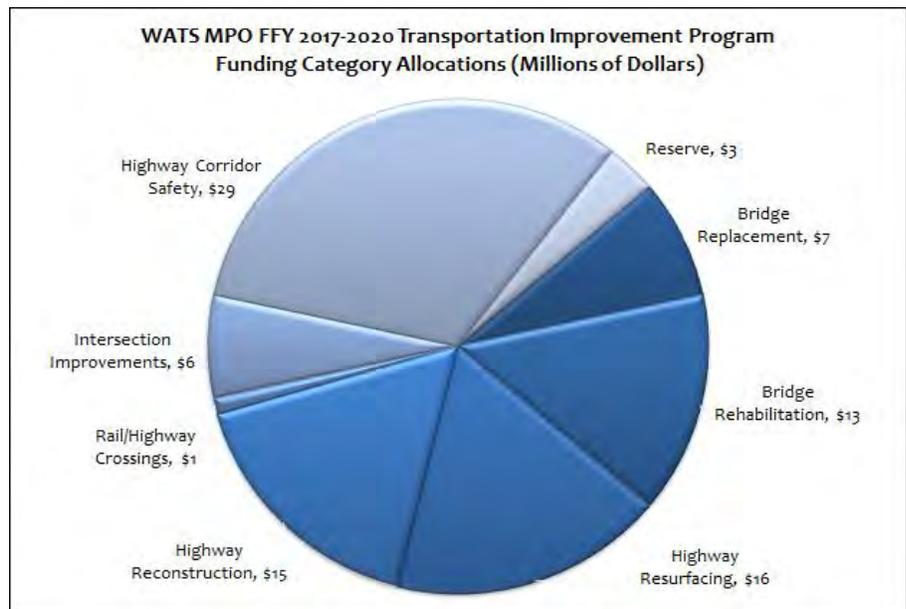


Figure 1: WATS MPO FFY 2017-2020 Transportation Improvement Program Funding Category Allocations
Source: PCD

outweigh available resources, priorities must be established to ensure investments are targeted to respond to the most pressing needs.

The Williamsport Area Transportation Study (WATS) Metropolitan Planning Organization (MPO) is the federally designated body to identify, prioritize, and implement such transportation capital investments in Lycoming County through development of a required Long Range Transportation Plan and adoption of a Transportation Improvement Program (TIP). The WATS Long Range Plan was adopted in December 2013 and is currently being updated for re-adoption in December 2018, in compliance with federal law.

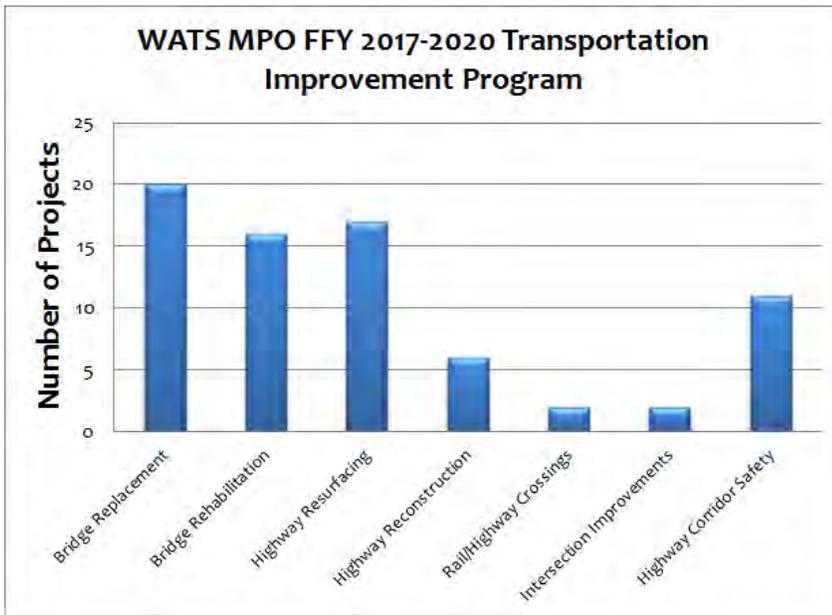


Figure 2: WATS MPO FFY 2017-2020 Transportation Improvement Program
Source: PCD

In July, 2016, the WATS MPO approved an update to the FFY 2017-2020 Transportation Improvement Program (TIP), which details proposed highway and bridge improvement projects throughout Lycoming County that are approved for federal and state transportation dollars during the next four years. The TIP commits over \$90 million in new transportation investments for 74 projects. Of these, 28 are carry-over projects from the prior TIP and 46 are new projects added to the TIP during this update, largely due to the passage of Act 89 by the General Assembly and the FAST Act passed by Congress. However, an additional \$51 million will still be needed to complete

24 of these projects during future TIP updates, so the number of new projects added to the next TIP will be limited, given federal fiscal constraint requirements in budgeting TIP resources.

Projects of Countywide Significance for this Issue

This plan will highlight major projects that are consistent with the WATS Long Range Transportation Plan. The following are of the highest priority for implementation and just a few of the many proposed transportation infrastructure improvement projects in Lycoming County.

LYCOMING COUNTY LOCAL BRIDGE BUNDLING INITIATIVE



Severe spalling, cracking, and exposed, severely rusted rebar—T-506 over Daugherty's Run, Lewis Township
Source: Larson Design Group

The bridge bundling initiative is a new innovative and cost-effective approach to address the growing backlog of 40 locally-owned structurally deficient bridges in Lycoming County. The program bundles larger groups of bridges into single engineering and construction contracts, resulting in an anticipated savings of 10% to 30% in costs for municipal bridge owners, and with faster completion schedules over the more conventional approach of undertaking bridges as separate projects. The initial bundling package will include repairing or replacing 17 bridges with a total estimated cost of \$6.9 million. The County will apply for a Pennsylvania Infrastructure Bank, (PIB) loan through PennDOT to provide the needed upfront capital to immediately design and construct the bridges. The debt service to pay the PIB loan will be

derived from the PA Act 89 - a \$5 vehicle fee registration surcharge, recently enacted by the Lycoming County Commissioners. Additional funding will come from the PA Act 13 restricted bridge account funds and a 5% local share provided by the 17 participating municipalities. Two additional local bridges will be funded from federal matching funds that Lycoming County will be eligible to receive from PennDOT as an Act 89 Fee for Local use. The County will hire the engineers and contractors to undertake the bridge projects, while the local municipal bridge owners will retain bridge ownership and participate on a project delivery team that will periodically meet during the project development process. ***This approach will reduce the backlog of structurally deficient local bridges by 50% within the next three years.***

SUPPORT AIRPORT TERMINAL BUILDING REPLACEMENT PROJECT

The Williamsport Municipal Airport Authority has initiated construction of the new terminal building at the Williamsport Regional Airport. Numerous funding sources have been secured for the \$16 million project, including Redevelopment Capital Assistance Program, PA DCED Multi-Modal Transportation Fund, PA Transportation Capital Budget, PennDOT Aviation Improvement Program, TEA-21



Murray Associates Rendition of New Airport Terminal

earmark, Lycoming County Act 13 funds, and the First Community Foundation of PA. This project will eliminate the many structural problems associated with the current building and provide more space to accommodate additional air service to meet the airport’s growing commercial air passenger demands.

SUPPORT EVENTUAL COMPLETION OF INTERSTATE 99 DESIGNATION



There is significant regional support for permanent designation of the section of US 15 between the I-180/US 220 interchange from Williamsport to the New York Border as Interstate 99. The New York section from the NY/PA Border to Corning at Interstate 86 is already designated as I-99. PennDOT review of certain sections of highway continues to ensure Interstate design standards are met or are granted waivers by the Federal Highway Administration. The remaining sections of proposed Interstate 99 remaining to be upgraded to Interstate standards is the US 220 section in Lycoming County (between the West Fourth Street Interchange and PA 287), the US 220 section (between Salona and I-80 in Clinton County), and the upgrade of the I-80/I-99 Bellefonte Interchange in Centre County. These regional I-99 projects are supported by Lycoming County.

CSV T IMPACTS EVALUATION

The County acknowledges that the Central Susquehanna Valley Thruway, (CSV T) may create additional development pressure along the I-180 corridor. Therefore, the County supports as a high priority initiative to conduct an evaluation of CSV T impacts on traffic and growth patterns along the I-180 corridor. A comprehensive review of land use ordinances adopted by the County and appropriate local



*PennDOT Secretary Leslie Richards Tours CSV T Project Site, 10/2017
Source: PennLive.com*

municipalities will be needed to determine if changes are needed to accommodate development pressure, including the possibility of creating interchange overlay zoning districts. As part of this ordinance review, typical interchange land uses should be examined and the municipalities should decide which uses are desirable to allow near interchanges. Additionally, infrastructure needs should be reviewed at the interchanges and improvement plans developed if needed. The US 15 Corridor from the Union/Lycoming County line to

Williamsport will also be included in the evaluation as traffic changes and additional growth are also expected to occur.

SUPPORT GENESEE-SUSQUEHANNA GREENWAY

The County is working closely with the Susquehanna Greenway Partnership and the Genesee River Wilds organizations to promote and facilitate the completion of an overall 400 mile, three state trail system (referred to as the Genesee-Susquehanna Greenway (GSG)), connecting Lake Ontario at Rochester, NY with the Chesapeake Bay, MD. The Pine Creek Rail Trail and Susquehanna River Walk are key components of this overall system. Also planned as a key connection is the proposed 41 mile Bald Eagle Ridge Trail connecting Muncy and Lock Haven. The County has completed a feasibility study and is seeking funding and resolving design level issues to advance the project. Also, the County has conducted a feasibility study to provide additional trail connections between Montoursville and Muncy-Montgomery as part of this overall GSG system and funding is being explored.



*Pine Creek Rail Trail Extension, Jersey Shore Borough
Source: PCD*

ESTABLISH COMMUNICATION FORUM WITH AMISH COMMUNITY

There are safety conflicts occurring between motorized vehicles and Amish buggies. A recent motor vehicle collision with a horse drawn buggy in Washington Township has illuminated this concern. The County and other appropriate organizations should conduct an outreach with the Amish community to begin conversations to properly address such serious safety issues and develop a cooperative approach and action plan to implement needed improvements.

Priority Issue Overview—Water & Sanitary Sewer Infrastructure

Public water and sanitary sewer infrastructure is essential for communities in Lycoming County to provide good clean water for its residents while protecting the environment from ground water, soils, and surface water contamination.

Lycoming County’s Water Supply Plan, published in 2001, identified 37 community water systems serving a population estimated to be 74,632. These systems utilized a total of 79 wells, four streams and three springs. Each of the 37 systems owned, operated, and maintained its own sources of supply, treatment and distribution facilities. Water supplies were evaluated as having generally good yields and water quality. The Plan also noted that there was inadequate finished storage among about half of the County’s community water systems. Many systems are in need of management improvements, chiefly mobile home parks. Eighteen systems lacked certified primary operators while 31 systems lack certified secondary operators. As many as 23 systems lack approved Operation and Maintenance Plans. Not surprisingly—one of the primary recommendations in the Plan called for regional solutions to achieve economies of scale and achieve increased coordination and cooperation. In fact, the most efficient and effectively managed systems were encouraged to assume responsibility for expanded service and, in some instances, to incorporate weaker systems. Finally, the Plan also identified the need for Wellhead Protection Programs to protect water quality.

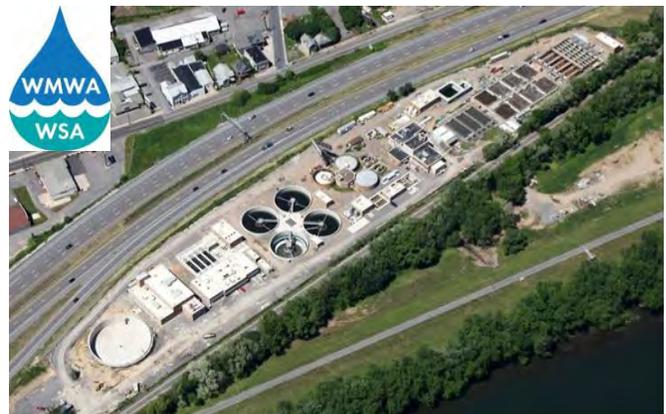
Major Water & Sewer Providers	
Williamsport Sanitary Authority (WSA)	
Williamsport Municipal Water Authority (WMWA)	
Jersey Shore Area Joint Water Authority	
Lycoming County Water & Sewer Authority (LCWSA)	
Hughesville-Wolf Authority	
Hughesville Borough Water Authority	
Muncy Borough Municipal Authority	
Montgomery Water and Sewer Authority	
Tiadaghton Valley Municipal Authority (TVMA)	
Old Lycoming Area Authority	
West Branch Regional Authority (WBRA)	
Montoursville Borough Water Works	

Figure 3: Major Water & Sewer Providers

Over the past 15 years, many of the major recommendations in that 2001 Plan have been advanced and are discussed in the Community Facilities & Infrastructure Profile in Chapter 2. Today, the water and sanitary sewer needs of the urbanized areas of Lycoming County are fulfilled by a number of public entities; the 12 major



TVMA Sanitary Sewer Plant completed 2014
 Source: Larson Design Group



WMWA-WSA Central Plant upgrades completed 2013
 Source: WMWA-WSA

providers are listed in Figure 3. The photos show a few of the major infrastructure projects completed over the past 10 years.

Three key agencies oversee the environmental compliance of these public entities: Susquehanna River Basin Commission (SRBC), US Environmental Protection Agency (US EPA), & PA Department of Environmental Protection (PA DEP).

It is notable that our water and sanitary sewer providers have been able to make the needed improvements and maintenance upgrades over the years while dealing with increasing regulations and still maintaining reasonable rates.



LCWSA's recently constructed water tower

Source: hrg-inc.com

With all the headway made over the past 15 years, there are still several issues that may be road blocks to the water and sanitary sewer providers ensuring that the past and future investments in water/sewer will be sustainable for County residents. These issues can generally be categorized as economic, operational, and workforce issues. The following represent a snapshot of these issues.

Economic

- Investments were made in public water & sewer infrastructure based upon 2006 Comprehensive Plan growth area designations and land use and density changes, but growth in some areas did not occur as anticipated. Higher predictability of demand is needed for providers. These operations cannot afford to build speculatively without confidence in the customer base. Historically, municipalities have not been supportive of mandatory connection ordinances for public water systems. This creates uncertainty because without a mandatory water service connection requirement, people can elect not to connect even after the infrastructure investment is made. A smaller customer base drives up rate structures and tapping fees and can deter in-fill and green field development.
- Tighter regulations from US EPA and PA DEP result in needing more staff for providers to remain in compliance and keep up with asset management at higher maintenance costs.
- Rural developed areas are seeing more on-lot septic failures for both individual lots and sewage systems designed for multiple lots. 95% of Lycoming County's land mass is outside of the growth area making development in these areas difficult to serve with public water and sanitary sewer.



WBRA Sanitary Sewer Plant constructed 2015

Source: PCD

- There is still an ongoing need to integrate infrastructure planning with transportation planning, and specifically sewer extensions with land use planning as pointed out in the 2006 County Plan.
- Wellhead protection of public water sources is an increasing concern that may have financial implications if protection of drinking water supplies cannot be ensured.

Plant Operations

- PA DEP is having difficulty meeting US EPA's requirements for lowering nutrient discharges ending up in the Chesapeake Bay. There is a growing concern that the US EPA, through its Chesapeake Bay initiative, will invoke "back stops" (things that US EPA will step in and overrule the states on and require if states don't meet their obligations). One of these "back stops" is requiring treatment plants to upgrade their process in accordance with the "Limit of Technology". Special filters and processes would have to be added to sanitary sewer plants to reduce nitrogen and phosphorus discharges to minute amounts.
- Investments were made to expand water treatment plants. However, providers have reported challenges with water withdrawal permitting through PA DEP and the Susquehanna River Basin Commission (SRBC) with water withdrawal permitting vs. plant capacity and approval timelines. These challenges may lead to deter economic growth and future investment.
- Plant operators have been notified of potential changing regulations for testing and removal of pharmaceuticals. These micro contaminants such as antibiotics, estrogen, and endocrine disruptors disturb stream/river biology. Scientists believe that endocrine disruptors found in the Susquehanna River are the cause of bass found with both sexes.
- On the sanitary sewer side, these contaminants will be very costly to test for and to remove prior to effluent discharge.
- On the water treatment side, the small permitted water providers such as mobile home parks and some industries and businesses may meet financial limitations due to the high cost of testing for the micro contaminants, let alone being able to afford treatment if there are positive results found.

Workforce

- In 2015, the Pennsylvania Department of Environmental Protection (PA DEP) initiated an external review of Pennsylvania's Operator Certification Program for calendar years 2011 through 2015, using the Certification Program Advisory Committee (CPAC). Among other issues, the CPAC members identified two specific concerns in the sustainability of the workforce for water and sanitary sewer operations:
 - Average age of plant operators is in the age bracket of 50-59 years. There is coming a time where there will be a need to replace a large pool of retirees, but there are very few younger operators with necessary certification training and even smaller number of educational programs within colleges to prepare younger workers.
 - Rural water and sanitary sewer providers may have difficulty hiring and retaining certified operators. About 50% of certified operators in Pennsylvania currently hold a Class A certificate (for systems permitted at flow rates of >5 million gallons per day), about 60% of the facilities in the state only require a Class D certificate (flow rates of <100,000 gallons per day). This may

result in an abundance of operators with high qualifications that may be more inclined to work at facilities in urban areas and larger communities looking for higher wages.¹

Key Implications

Community leaders should continue to work with water and sanitary sewer providers to make sure they have the information needed to make the best decisions possible when it comes to asset management and service area expansions. Lack of growth means the existing customer base has to bear the burden of new and future infrastructure cost; which can deter economic growth and future investment. In order to keep rates as low as possible, municipalities can consider putting proper regulations in place such as mandatory connection and source water protection ordinances. Mandatory connection increases the size of the customer base and lowers individual user rates. A community observing source water protection best practices will contribute to lowering maintenance costs of existing systems for removing contaminants. If our drinking water sources are cleaner to begin with, it costs less to prepare the water for consumption as well.

If public infrastructure improvements and extension planning is not used to guide development, our community will continue to struggle with failing on-lot septic systems and a higher risk of contaminated water sources. Within the next 20-30 years the useful life of on-lot septic systems may come to an end and small package sanitary sewer plants may be the only answer to safely handle sewage disposal, realizing costs will be high to manage those systems with a small customer base. Good planning encourages service improvements within designated growth areas and discourages public funding to extend water and sewer service to areas outside designated growth areas. However, if local health or safety conditions warrant such extensions, improvements should be limited to only what is needed to serve the problem area.

Without regular water and sanitary sewer system maintenance, there is more chance for system breakdowns requiring higher repair costs. Rate structures need to be high enough to provide for asset management as well as repaying debt service. Although the capital investments, like the Combined Sewer Overflow (CSO) tanks made over the past ten years by some sewer companies, have raised rates, residents have benefited from the improvements contributing to cleaner waterways and sources for drinking water.

The US EPA states that the sewer system is a hidden resource that contributes to our quality of life and to a community's long-term success. The system is there for every time we empty the kitchen sink, flush a toilet, take a shower, or wash a load of laundry. The overflow control requirements help protect the sewer system and make sure it is there in the future. A sanitary sewer overflow (SSO) is an unintentional release of sewage from a collection system before it reaches the treatment plant. Discharges of untreated sewage from SSOs often occur due to root, grease, and debris blockages; structural, mechanical, and electrical failures; and extraneous flows that enter separate sanitary sewer systems due, in large part, to inadequate maintenance. An aging sewer infrastructure also increases the occurrence and severity of overflows. The sewage can contaminate groundwater or surface water, causing serious water quality problems and threatening drinking water supplies. It can also back up into basements. Overflows are unhealthy, destructive to public and private property, bad for recreation and tourism, and hard on sanitary sewer and drinking water system equipment. Unfortunately, they are a chronic and growing problem in many parts of the country. Maintaining the wastewater collection

infrastructure – pump stations, force mains, and sewers – is an integral component of the proper management of a treatment system and a critical step in preventing illegal wastewater releases.ⁱⁱ

Healthier communities are a result of sufficiently sized and maintained sewage facilities. Residents with cleaner water benefit from reducing community funds spent on costly clean ups and lawsuits, and with fewer:

- Viruses that can cause stomach flu, upper respiratory infections, ear infections, and other diseases
- Bacteria that cause diarrhea, skin rashes, hepatitis, cholera, salmonella, or other diseases
- Worms and protozoa that can cause cryptosporidiosis or other diseases

With cleaner water there is less exposure to harmful organisms while swimming, drinking tap water, and eating a locally caught fish or shellfish. Also, there would be less danger to children, the elderly, and people with suppressed immune systems who:

- Are more likely to catch sewage-borne diseases than healthy adults.
- Are more likely to develop the most serious forms of disease.
- Are more likely to spread disease to other people, causing secondary outbreaks.ⁱⁱⁱ

It is critical that municipalities across Lycoming County and the state assist the PA DEP in finding lower cost solutions for meeting its obligations to US EPA for lowering the amount of nitrogen, phosphorus, and sediment to the Chesapeake Bay before US EPA's hand is forced to implement its "back stop" solutions.

Projects of Countywide Significance for this Issue

TIMBER RUN INDUSTRIAL PARK WATER & SEWER PROJECT

The Lycoming County Industrial Park offers 361 acres of industrially zoned property that has good access to major highways, US 15/I-80, and nearby airport service. Yet, the lack of adequate public infrastructure (primarily water and sewer service and internal access road connections) places the park at a competitive disadvantage. These projects should be advanced in conjunction with private developer interest, and schedules where feasible, and public-private funding partnerships should be explored and encouraged.

REVIEW THE COUNTY WATER SUPPLY PLAN WITH SANITARY SEWER SERVICE PLAN

The County Water Supply Plan was adopted in 2001. This project will review the existing plan and provide updates as needed and expand the plan's scope to incorporate sanitary sewer. Producing a County Sanitary Sewer Service Plan helps the County maintain relationships with water & sewer authorities. This plan will promote the continued evaluation of water and sanitary sewer expansion and improvement areas, support public water system interconnections and redundancies, and discuss the benefits of municipal mandatory connection ordinances.

COUNTYWIDE SOURCE WATER PROTECTION PLANNING

Four of the six 2017 multi-municipal comprehensive plans call out source water protection planning as a priority project. This covers a significant portion of the growth areas of the County and the County will need to support these efforts. However, much of the County’s source water is located outside of these growth areas and, therefore, it is also important for the County to understand what measures are being taken to protect the vast majority of the County’s rural water supplies and make recommendations where there are no provisions. Under the PA MPC, it is the responsibility of Counties to provide for the reliable supply of water and its protection. A countywide plan that includes the existing source water initiatives and protection plans and develops an appropriate plan for areas where there are gaps will help achieve this.

SUPPORT MANDATORY ON-LOT SEWAGE DISPOSAL SYSTEM MANAGEMENT ORDINANCES

Each municipality within Lycoming County that contains properties with on-lot septic systems has the authority and obligation through the Pennsylvania Sewage Facilities Act (Act 537) to provide for adequate sewage treatment facilities and for the protection of public health by preventing the discharge of untreated or inadequately treated sewage. One way this is accomplished is through a municipality requiring minimum septic system maintenance requirements by adopting an on-lot sewage disposal system management ordinance. These ordinances contain provisions to help extend the operating life of an on-lot sewage system which include: inspection of a sewage system by the municipality’s sewage enforcement officer (SEO); a frequency for pumping of sewage system storage tanks generally every 3-4 years; and based upon inspection, provisions for the municipality to require the landowner to perform maintenance or rehabilitation on the sewage system components, including providing a back-up sewage system test site if determined needed by the SEO.

ENCOURAGE MUNICIPALITIES TO REVIEW ACT 537 SEWAGE FACILITY PLANS

Sewage facilities plans must be reviewed during or following the adoption of the Comprehensive Plan to ensure that these plans are guiding the development of the municipality in the same direction as the comprehensive plan.

Priority Issue Overview—Telecommunications Infrastructure

Over the past two decades, the internet has become an integral aspect of American life. As shown in Figure 4, the percentage of American adults who use the internet has grown from just 14% in 1995 to 87% in 2014. A large portion of that growth occurred prior to the adoption of the 2006 Lycoming County Comprehensive Plan; however, the quality of that internet has also rapidly improved since the adoption of that plan, and with home broadband access taking off just prior to 2006.

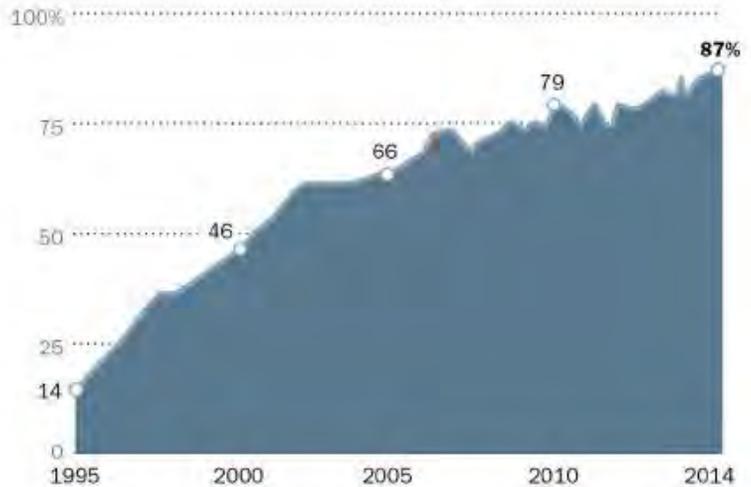
However, the most notable trend regarding communications was the boom of mobile data usage and the development of the smartphone. At the time of the adoption of the 2006 Lycoming County Comprehensive Plan, only about 3% of Americans over age 13 owned a smartphone. On January 9, 2007, Apple announced the first iPhone, kicking off a boom in smartphone usage and mobile data demand. By December 2016, 81% of Americans over age 13 owned a smartphone.

With this growth of internet and mobile data access and the rapidly improving technology it was based on, businesses and institutions started moving substantial aspects of their business management and customer service to internet-based systems for ease of access and to lower costs. This has made broadband and wireless communication infrastructure a critical component of community infrastructure. Currently, cellular and broadband infrastructure in the private arena varies rather markedly. Within urban and

suburban communities, broadband service is robust with generous amounts of public Wi-Fi connectivity, 4G cellular capability, fiber optic connectivity, and T1 internet service. However, Lycoming County’s large geographic expanse, mountainous terrain, and low population densities make it unprofitable for private companies to provide total coverage in the rural areas of the County for these services whether it’s broadband

Internet use, 1995-2014

% of American adults who use the internet, over time



Source: Pew Research Center surveys, 1995-2014.

PEW RESEARCH CENTER

Figure 4: Internet use among American adults 1995-2014

Source: [Pew Research Center](#)

Smartphone Penetration of Mobile Phone Market

Source: comScore MobiLens, U.S., Age 13+, 3 Mo. Avg. Ending Dec 2005 - 3 Mo. Avg. Ending Dec 2016

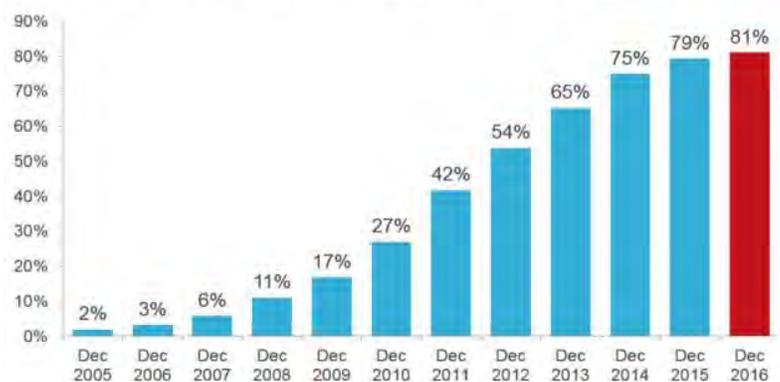


Figure 5: Smartphone Penetration of Mobile Phone Market

Source: [comScore.com](#)

service or cellular service. As a result, the rural areas of the County either have very poor coverage or no coverage at all. Figure 6 shows known cell tower locations in the County. The map shows that the majority of towers are located around the urban areas and along US-15 and I-180. More towers are located in the eastern portion of the County where the terrain is not as cumbersome and populations are denser. Broadband service is similarly sparse as the local internet providers do not provide the infrastructure to sparsely populated areas or require homeowners seeking the service to pay for costly extensions which could cost \$10,000 or more.

The issue of broadband/cellular service coverage was raised several times throughout the research phases of the development of this plan. The Community Facilities & Infrastructure Focus Group held on April 14, 2016

identified the issue of inadequate coverage, stating that poor coverage decreases economic competitiveness and could be a deterrent to relocation of businesses to the County and also asserting that poor coverage causes or exacerbates social, educational, and public safety issues. The Public Safety Focus Group held on April 22, 2016 also identified inadequate coverage as a challenge and noted that areas with insufficient service include:

- a. Route 15 lacks service (Clinton and Armstrong Townships)
- b. Route 44 to County line – Watson/Porter Township line north bound to Potter County and the Elimsport area in Washington Township
- c. Route 414
- d. PA 87 – Barbours area/Plunketts Creek Township area
- e. Route 118 east of Lairdsville
- f. Mifflin, Lycoming, and Anthony Townships

In addition to the Focus Groups, the issue of inadequate communications coverage was raised by three of the nine Planning Area Teams (PATs) including: Greater Williamsport Alliance, Rural West, and Rural East/Central. Both Rural PATs stated that inadequate coverage was a weakness in the area and both Rural PATs viewed internet and cellular coverage as a priority issue. The Greater Williamsport Alliance PAT also identified inadequate communications infrastructure as an issue in adjacent rural areas but did not identify it as a priority issue in that Planning Area. While only a few people who participated in the Summer 2016 survey identified inadequate coverage as an issue; it was an issue which was brought up from numerous geographic areas.

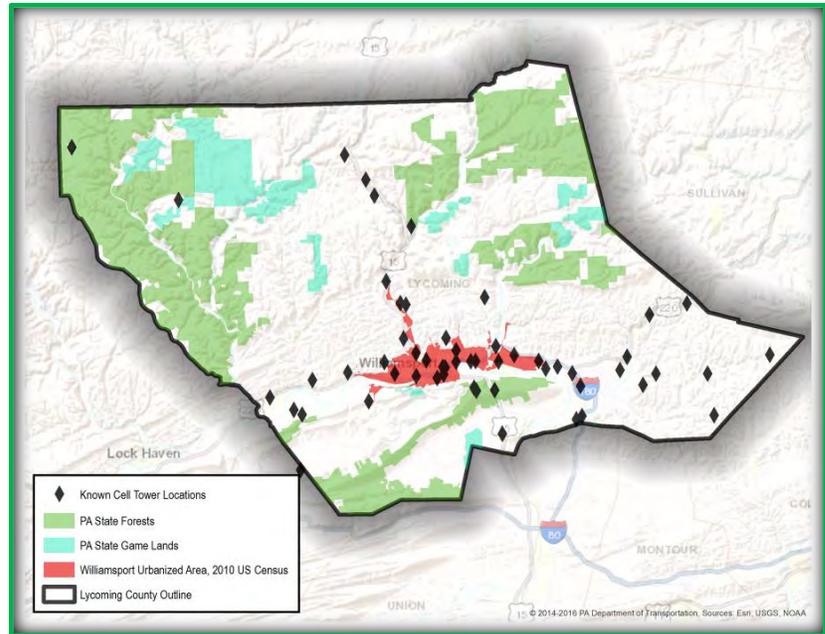


Figure 6: Known Cell Tower Locations
Source: PCD

Within the densely populated areas of the County, wireless infrastructure is sufficient to sustain local demand, however, as technology improves, demand for data capacity will increase and begin to strain our existing wireless infrastructure. According to a Cisco report published in 2017, worldwide data traffic grew 63% in 2016 (44% in North America) from 4.4 exabytes per month to 7.2 exabytes per month (one exabyte is equivalent to one billion gigabytes) and in the last 5 years mobile data traffic has grown 18-fold worldwide.^{iv} Meanwhile, average smartphone data traffic grew 38% worldwide in 2016 from 1,169MB per month to 1,614MB per month. Worldwide mobile data traffic is projected to increase sevenfold between 2016 and 2021 at a compound annual growth rate of 47% reaching 49.0 exabytes per month by 2021. This growth in data traffic demand will eventually require wireless network providers to upgrade their infrastructure. This will especially become apparent at large scale community events.

One solution which cellular providers are utilizing to accommodate demand is the concept of “small cell towers” which are cellular transmitters with smaller range and capacity. These small cells will be clustered in areas with existing coverage but high demand to bolster the network. Most of these will be located in downtowns, retail, office, and industrial districts and other areas with concentrated mobile traffic. Small cells are designed to be surreptitious and are most frequently attached to street lights, traffic lights, utility poles, or buildings.

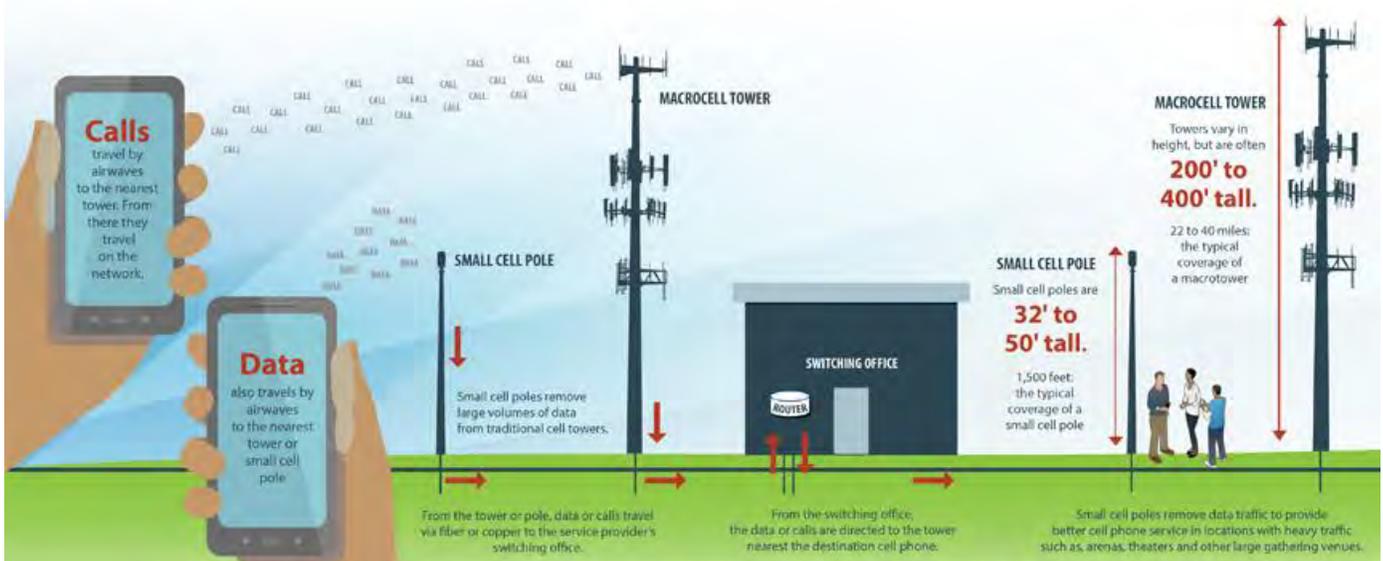


Figure 7: Cellular network diagram

Source: sdncommunications.com

Key Implications

Inadequate communications infrastructure creates inequality between rural and urban areas leaving rural areas without the benefits of a strong communications infrastructure network. A strong communications network helps to improve emergency response times in rural areas. Rural areas are already seeing response times of 45 minutes or more which can be fatal to those in need of immediate care, however, communications gaps could leave help even further away if cellular service is unavailable. This is especially worrisome given the amount of people who travel to the most remote areas of our County for recreation. If an accident happens and emergency assistance is needed, these people could be waiting hours for emergency responders as others have

to find a phone or an area where they can receive a cellular connection. In addition to exacerbating current public safety issues, inadequate communications infrastructure also impacts rural areas in other ways.

School Districts in the County have also identified inadequate internet service coverage as an issue which impacts their operations. Most notably impacted is the Jersey Shore Area School District (JSASD) whose geographic extent is by far the largest in Lycoming County and the 9th largest in Pennsylvania. JSASD includes Jersey Shore and Salladasburg Boroughs (Lycoming County) and Avis Borough (Clinton County) as well as townships including Brown, McHenry, Cummings, Mifflin, Anthony, Watson, Piatt, Nippenose, Bastress, and Limestone in Lycoming County, and Crawford Township and part of Pine Creek Township in Clinton County. In spite of the large geographic extent of this school district, the district only contains a population of 17,850 people, most of which is concentrated around Jersey Shore. The more sparsely populated portions of this school district receive little to no cellular service with just passable broadband service. Cellular service through the Pine Creek Valley (a significant rural portion of the school district) is lost around the Watson Township/Porter Township border and service in Limestone and Bastress Townships is very spotty. JSASD has two primary concerns related to the poor cellular and broadband coverage in their district. First, they are concerned for public safety reasons, since the district buses children to and from school and many of these children live in rural parts of the school district. If there is an accident in these areas or if the bus has mechanical problems this could leave the driver unable to contact the school for help. This is especially a problem considering some of the rugged terrain which the buses must travel in. Their second concern is related to how important internet is to 21st century learning. The JSASD has expanded its technology infrastructure for K-12. All students are assigned an iPad which has become their multiple source textbook and a vital part of their education. JSASD has concerns that inadequate internet coverage is causing inequality within the school district. The school district is also looking to provide multiple education options to their students depending how they want to learn, whether it is traditional brick and mortar school buildings, completely virtual (online) education, or a mix of the two. However, inadequate internet service could prevent some students from being able to take advantage of these new services.

A strong communications network is essential to the economy of Lycoming County. The internet has allowed small businesses across the country to make their products and services available to a much wider audience than they ever could before. Other small businesses benefit by having information about their establishments available online, resulting in improved sales without substantial investment. Meanwhile, almost 10% of the America's workforce works from home at least one day a week.^v Many of the PATs expressed concerns about aging populations in the County stating that "[There are] fewer younger workers who [must comprise] a greater proportion of the tax base [in order] to support necessary community services ... [and] can create the potential for budget deficits and adversely impact the provision of community services to all individuals." As explained above and further in Priority Issue #6, younger people rely on a strong communications network as part of their everyday lives and it can be assumed that younger people would not have a desire to live in areas without a strong communications network. Therefore, inadequate communications infrastructure exacerbates the existing issue of the exodus of the younger generation.

While the Pennsylvania Utility Commission (PUC) requires companies to make broadband/internet service available within 10 business days of a request, at speeds of 1.544 megabits per second (mbps) downstream and 128 kilobits per second (kbps) upstream, this is very far from current industry standards.^{vi} In 2015 the FCC changed its definition of high speed internet to make the minimum download speed 25 mbps and the minimum upload speed to be 3 mbps. A 4 minute YouTube video streamed at 480P (about 25.2 MB) would require 2:16 to load at the PUC minimum standard. At the FCC minimum standard that same video would take 8 seconds to load. With poor DSL service the same video could take 3 to 15 minutes to load. These low speeds can make loading today's content rich webpages a very long process.

In relation to wireless communications infrastructure, it is important to keep abreast of changing legislation related to wireless communications infrastructure as it is a constantly evolving field. It is important to find a balance between providing the necessary infrastructure to citizens of the County while also preserving the character of our community. Unfortunately, our ridgetops will continue to be marred by tall communications towers as the price we must pay for a strong communications network; however, when it comes to small cell technology, municipalities still have the ability to protect local character by requiring small cell towers to blend into their community to the best of their abilities.

Projects of Countywide Significance for this Issue

SUPPORT RURAL BROADBAND COVERAGE AND FEASIBILITY STUDY

In July 2017, SEDA-COG submitted a grant application to the Appalachian Regional Commission requesting funding support to study of broadband coverage across five counties (Juniata, Lycoming, Mifflin, Northumberland, and Union Counties). This project will commission an analysis of regional broadband needs with a focus on business needs, including small businesses, institutional needs (K12 schools, larger businesses, healthcare institutions, etc.), an evaluation of current infrastructure and services, and development of a master plan to facilitate the expansion of broadband into the rural and underserved areas. Lycoming County will support this study and will seek to implement the master plan upon completion of the study.

Another potentially useful resource for this project could be the National Telecommunications and Information Administration's BroadbandUSA program which promotes innovation and economic growth by supporting efforts to expand broadband access. The program serves communities, industry, and non-profits that want to expand broadband infrastructure and promote digital inclusion. BroadbandUSA has several useful resources which could better support the findings of this master plan including: guide to public private partnerships, guide to federal funding, guide to stakeholder engagement, and much more.

While other initiatives focus on rural economic development, USDA's Community Connect Grants are designed specifically to assist with rural community development. The grant helps fund broadband deployment into rural communities where it is not yet economically viable for private sector providers to deliver service. Eligible areas include any rural areas that lack any existing broadband speed of 4 Mbps downstream and 1 Mbps upstream. These funds can be used for construction, acquisition, or leasing of facilities, spectrum, land, or buildings used to

deploy broadband service. Other funds and resources available include the PA DCED Broadband Initiative and the FCC's Connect America Fund.

RURAL CELLULAR COVERAGE AND FEASIBILITY STUDY

The above mentioned study is currently proposed for broadband coverage only, however, inadequate communications infrastructure existing in the realm of cellular infrastructure as well. This study will analyze rural cellular infrastructure demand with a focus on economic needs, institutional needs, and public safety needs. Existing communications infrastructure will be inventoried and evaluated for coverage gaps and quality of service. Once this is complete, a master plan will be developed to facilitate the expansion of broadband into the rural and underserved areas. The study should include representation from PCD and DPS staff, local school districts, municipal leaders, and representatives of the major cellular networks including AT&T, Verizon, T-Mobile, and Sprint.

DEVELOP MODEL WIRELESS COMMUNICATIONS FACILITIES ORDINANCE

PCD will work with wireless communications providers, PA DCED, and other relevant stakeholders to develop a model ordinance designed to comply with the most recent state and federal regulations and designed to protect the community character from unwanted side effects caused by the deployment of new communications technology. Important regulations include: the federal Telecommunication Act of 1996, the federal Middle Class Tax Relief and Job Creation Act of 2012 (Spectrum Act), and FCC regulations promulgated by the FCC including the FCC's Report and Order of October 21, 2014, and the Pennsylvania Wireless Broadband Collocation Act (Act 191 of 2012). A model ordinance was adopted in Cumberland County, Pennsylvania which was designed to meet the regulations. This could be a starting point for the development of a Lycoming County model wireless communications facilities ordinance.

Priority Issue Overview—Natural Gas Infrastructure

The recent discovery of Marcellus Shale natural gas in Lycoming County has presented numerous opportunities to the local community, including new development, job creation, educational opportunities, and increased revenue for local businesses, among others. However, due to a lack of natural gas infrastructure and facilities, including access lines and fueling stations, residents and businesses have not been able to fully attain direct access to this inexpensive energy source.

Lycoming County saw natural gas-related activities begin to noticeably increase in late 2007. This trend would continue to occur through 2012 and 2013. Economic factors stemming from state and national levels began to negatively affect the natural gas development across the County in subsequent years. As natural gas technologies advance and economic conditions improve, natural gas-related activities have begun to see an uptick. While a production boom comparable to the 2012-2013 peak period is unlikely, 2017 and onwards project to see a steady increase in activity over the next few years. This second wave of development can be utilized to further improve natural gas infrastructure for more diverse users.

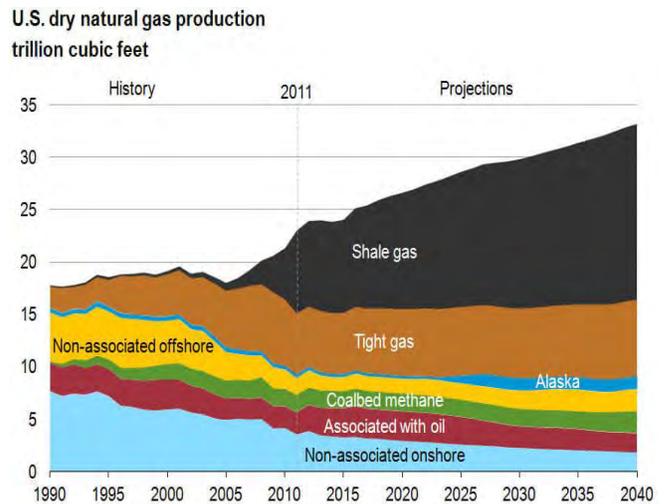


Figure 8: U.S. Dry Natural Gas Production
Source: U.S. Energy Information Administration, Annual Energy Outlook 2013 Early Release

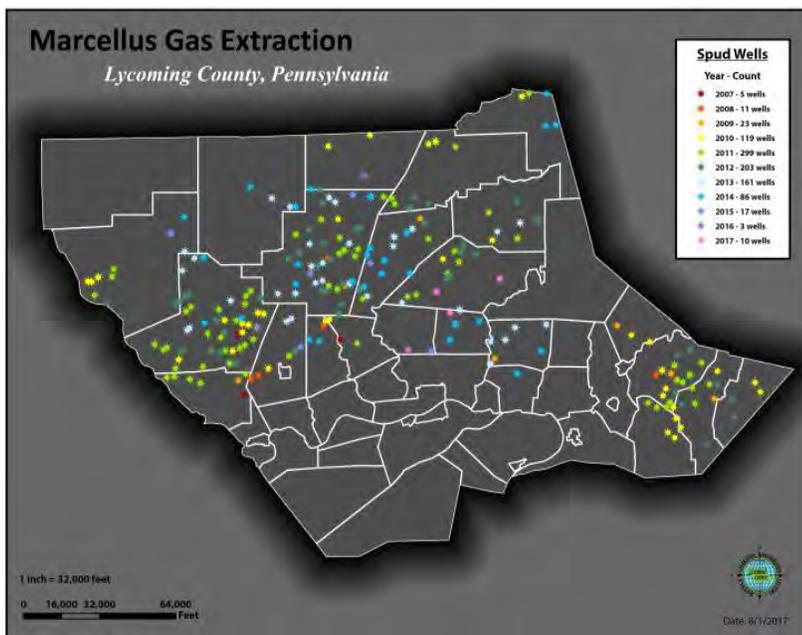


Figure 9: Marcellus Gas Extraction in Lycoming County
Source: PCD

Despite the fact that natural gas is being extracted within the County, many residents and business owners are unable to utilize this resource to its full potential. This can be largely attributed to the prohibitively high costs of extending natural gas distribution lines to residents and businesses outside of the urbanized area, despite these areas being the closest in proximity to the natural gas developments themselves. Higher costs coupled with lower concentrations of homes and businesses renders the extension of supply lines not feasible, barring an influx of development in the area to offset upfront costs.

In addition to using natural gas for homes and businesses, the use of compressed natural gas for automobiles, primarily buses and medium and heavy duty

trucks has become much more common in recent years both domestically and internationally. The total number of vehicles using compressed natural gas as their fuel source sold since 2012 has increased by roughly 10% each year resulting in a projected doubling time of 7 years. However there are a number of limiting factors that can prevent compressed natural gas vehicles from being widely viable.

Converting existing vehicles can be costly and the cost-benefit is hinged on the vehicle being in service for a decade or more. According to the American Oil and Gas Reporter, the initial conversion of a heavy duty truck costs an estimated \$32,000 in upfront costs. This money is made back in the long run as CNG vehicles save

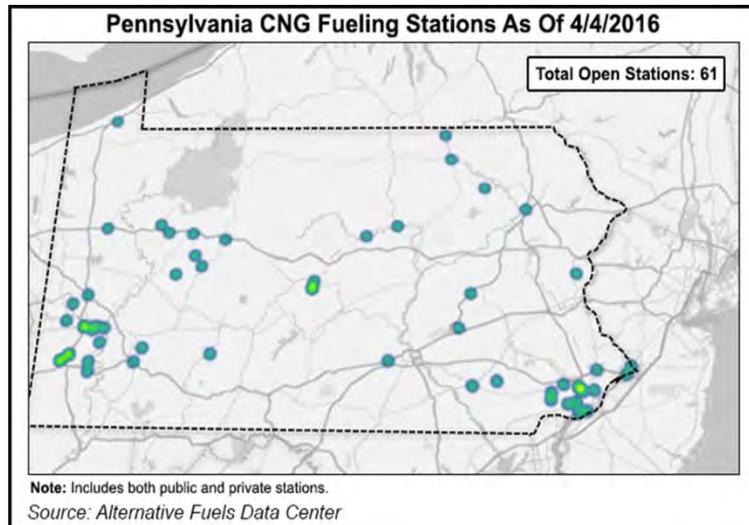


Figure 10: Pennsylvania CNG Fueling Stations as of 4/4/2016

roughly 54 cents per mile travelled when compared to a similar diesel heavy duty truck. Furthermore, while CNG vehicles generally require less maintenance than conventional vehicles, those performing the maintenance may need to modify their facilities to meet National Fire Protection Association (NFPA) codes and other applicable building codes. Another deterrent of seeing more widespread CNG-fueled vehicles is the dependence on having a well-established network of fueling stations. CNG-fueled vehicles have an estimated range of travel of 150-300 miles before needing to refuel. While most of the state has coverage, there are routes that would leave drivers in a bind and would require a detour to ensure they are able to reach their destination without the risk of running out of fuel. There are major traffic corridors across the state that are heavily utilized by medium and heavy duty vehicles, yet the CNG fueling stations along these throughways are few and far between. There are long stretches of US-15, I-476, I-76, and US-6 that do not

have a CNG fueling station.

Additionally, there are large areas of the state that are severely underserved.

CNG Fueling Project Locations



Figure 11: CNG Fueling Project Locations

Source: PennDOT.gov

Lycoming County has been fortunate to have a compressed natural gas facility opened up in the County. This facility is operated in Williamsport and is open to the public, however the primary user thus far has been River Valley Transit, who recently began the multi-year process of converting their bus fleet from diesel to compressed natural gas in hopes of reducing operating costs.

While trends for the fueling station in Williamsport have been positive, Lycoming County and North-central Pennsylvania were not included in the recently approved 29 CNG fueling stations across the state that are being funded through PennDOT’s P3 agreement with Trilium CNG (see Figure 11).

Key Implications

Failure to keep pace with the natural gas infrastructure could prove to be a detriment to Lycoming County. The County adapted well during the initial natural gas rush by adopting an oil and gas amendment to the Lycoming County Zoning ordinance. Prior to this amendment, there were no regulations in place in the County’s ordinance. Planning staff and local officials worked together to create fair and balanced regulations to ensure that the County was able to protect its valuable assets while also allowing the now burgeoning industry to thrive. This amendment was seen as an exemplary model by both the industry as well as the legislators in Harrisburg and has since been used as a model across the state. Another method of adaptation was the formation of the Community Natural Gas Task Force. Formed in 2008, the group consisted of the Chamber of Commerce and public officials of the local, County, and state levels; County planning officials; educators; and those with more specialized knowledge, specifically in environment, finance, and transportation. This group met frequently in the initial natural gas boom; however it has been inactive as of late.

The Developers Focus Group held on March 14, 2016 found that a need for compressed natural gas infrastructure was identified. The issue, however, is that the costs of installing these lines and stations to help promote growth can be a difficult task. Unlike other public utilities, it is much more cost effective to extend the lines out to existing businesses or clusters of homes where they will see more immediate returns. Finding innovative and cost-effective solutions to this issue can help in encouraging new businesses to locate their facilities within the County due to the decreased costs of

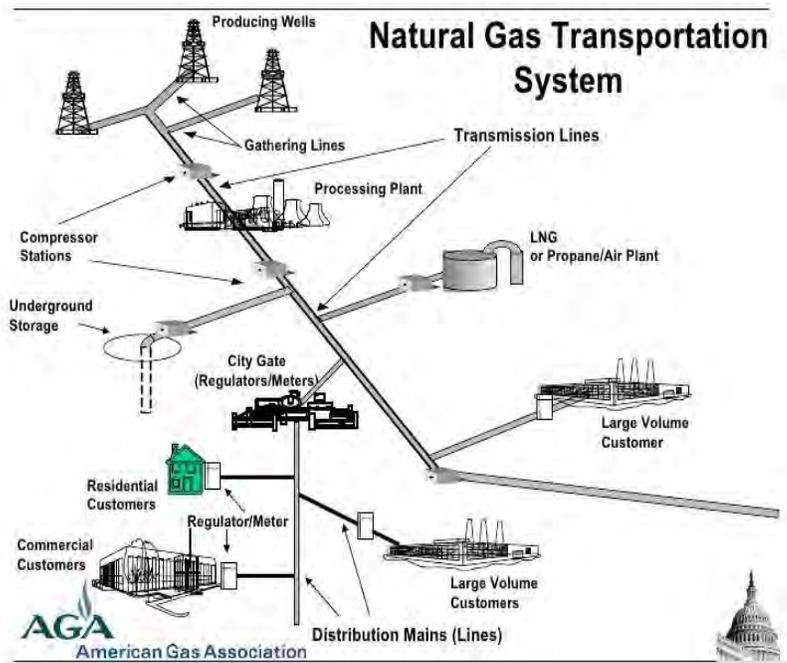


Figure 12: Natural Gas Transportation System
Source: [American Gas Association](#)



Pipeline Right-of-Way
Source: Penn State Extension

fuel. These solutions will also aid in the potential of extending natural gas transmission lines into more rural residential areas to help in reducing costs for current and prospective homeowners.

The Natural Resource, Agriculture, and Forestry Focus Group held on April 22, 2016 raised concerns for the environmental impacts that are associated with natural gas infrastructure. The primary concerns were:

- Loss of environmental services of the forest
- Forest fragmentation
- Loss of contiguous habitats
- More runoff and more flooding

These potential issues can be prevented or managed with proactive efforts much more easily than trying to mitigate after the fact. Because the effects can be very impactful, the results of poor stewardship or planning can result in a reparation process that spans multiple decades. By simply planning in advance, it can reduce legacy costs exponentially. This is easier said than done however. As new information is discovered, whether on the local, state, or federal level, changes should be made where applicable to the regulations that are enforceable by different agencies in Lycoming County. Furthermore, promoting smart development when new natural gas infrastructure is proposed will play a key role in preventing future mitigation efforts. Using preventative measures to contain development to sustainable and environmentally friendly levels will be important as well.

Projects of Countywide Significance for this Issue

REEVALUATE THE NEED FOR A GAS TASK FORCE

The Community Natural Gas Task Force was created in 2008 to identify key issues, research facts and information, and review and propose public policy regarding the impacts of natural gas developments occurring in Lycoming County. Part of the approach was to suspend the task force upon the determination of the required

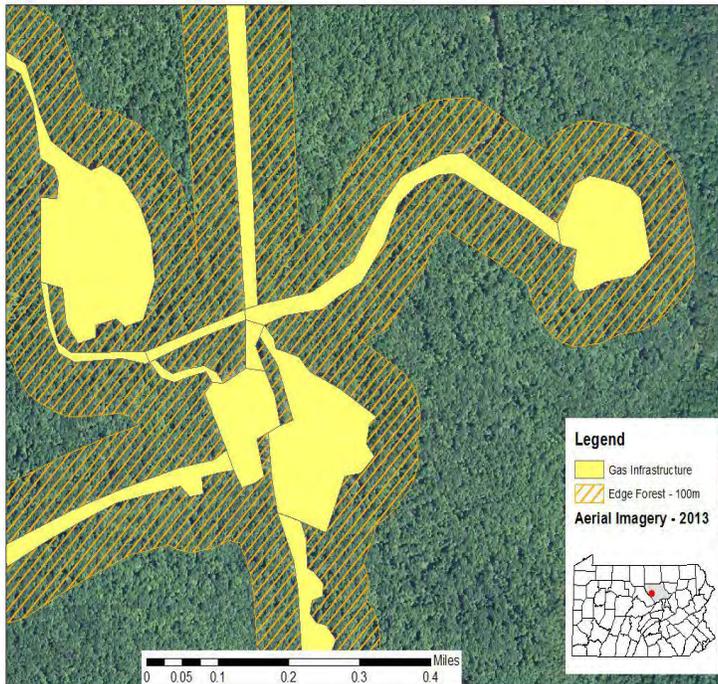


Figure 13: Natural Gas Disturbance Areas
Source: Penn State Extension

actions and responsible individuals or agencies. The Natural Gas Task force has been inactive for the past few years due to the downturn in the natural gas activity. While the original goals of obtaining research and information to disseminate to the public so that a consensus could be made to help craft new policies and regulations was completed, much has changed over the past 4 years. With the new developments and increasing frequency of natural gas related infrastructure projections occurring, a study or poll gauging the interest of past and potential members of restarting this program to ensure that as the industry changes, there will be a designated group of individuals who could support a careful monitoring of natural gas developments while also ensuring that the community can adapt as well.

UTILIZE EXISTING STUDIES AND DATA AS A GUIDELINE FOR FUTURE DEVELOPMENT

Recent studies conducted by organizations within the state such as the Penn State Extension and PA Wilds have found valuable information in regards to the natural gas fields. Penn State Extension has over 120 items (webinars, articles, videos, and news) all relating directly to natural gas developments. Ranging from preventing deforestation and soil compaction to negotiating pipeline easements to land owner leasing rights, these information sources can be valuable resources for our communities and citizens.

Studies discussing ways to encourage pipeline placement can be implemented by County or municipal planning staff. The Penn State Extension has conducted research that has found ways to mitigate the oftentimes destructive nature of pipelines. The report found that a pipeline right-of-way alters the width of the pipeline area, plus the immediate 100 meters on each side of the pipeline itself. This disrupts forest services and causes a loss of habitat and exacerbates the “edge effect”, the separation of otherwise contiguous habitats.

Colocation of pipelines within existing road, electrical, or other utility right-of-ways is another way that forest loss can be reduced. The average affected area of a well pad site in Lycoming County is 5.4 acres with a total well pad infrastructure (pad, water retention, etc.) of ~1114 acres. Pipeline and road infrastructure related to

natural gas activity accounts for 613 linear miles of new disturbed area. As of 2016, Lycoming County has lost 4% of its core forests, all within a 6 year period, according to a study conducted by the Penn State Extension. Core forest loss was also twice as much on private lands than public lands. Landowner and leasing rights information can be used as a public outreach and education tool to ensure that residents of the County are well informed regarding the usage of their private property. Another source of information to foster sustainable development is the PA Wilds which offers design guides for infrastructure and land developments relating to the natural gas field.

COMPRESSED NATURAL GAS FUELING FACILITY EXPANSION NEEDS FEASIBILITY STUDY

PCD will work with outside agencies to conduct a study to determine whether there is a need to either expand the existing River Valley Transit Compressed Natural Gas Fueling Station or to explore other possible locations in Lycoming County or neighboring counties for a second location. As it stands now, the only location within a 50 mile radius of the RVT Fueling Station is in Wayne Township, Clinton County, PA.

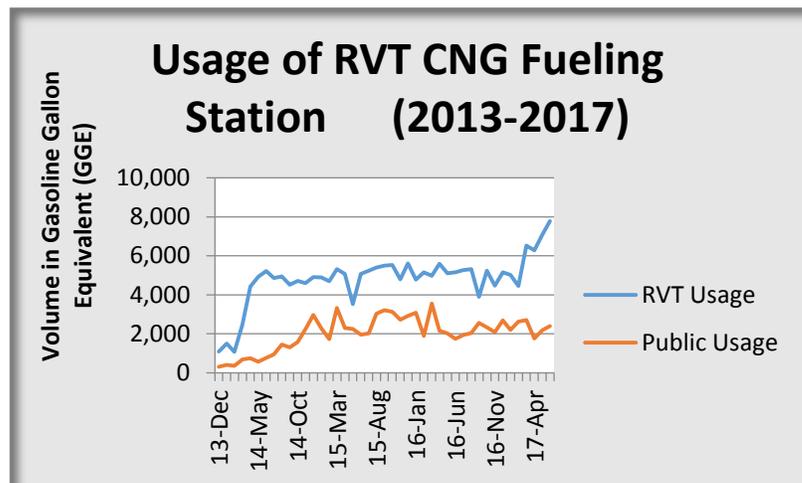


Figure 14: Usage of RVT CNG Fueling Station (2013-2017)
Source: River Valley Transit

Based on current trends at the Williamsport location, it is plausible that a second facility could be justified. It would be important to factor in the future transportation infrastructure projects occurring both locally and regionally, namely the Central Susquehanna Valley Transportation project. This project could significantly impact traffic through Lycoming County due to the detouring of traffic off of US-15 and onto State Route 147. Because much of that traffic will then be diverted on to I-180, Lycoming County could feasibly see an increase in Medium Duty and Heavy Duty Truck traffic that would justify either a second station at an interchange within Lycoming County or an expansion of the existing facilities.

Lycoming County PCD should consider partnering with PennDOT and RVT to conduct the feasibility study, and if the results show that a second facility would be able to be supported without adversely affecting the existing RVT CNG facility, pursuing avenues of implementation could be explored. If the results are positive, reaching out to Tioga, Union, and Northumberland counties would make the most sense. Each of these three counties all border Lycoming County, but more specifically are the counties in which major traffic routes enter and exit Lycoming County. It does not appear that these counties are in the current CNG fueling station expansion list that was approved by PennDOT, nor do they have any existing facilities that would be subject to losses from a new facility. These neighboring counties also have ideal locations for the prospective CNG fueling stations to be situated off of these heavily trafficked routes, while still allowing the existing facilities in Lycoming or Clinton counties to remain viable.

Priority Issue Overview—Housing

According to 2015 US Census Bureau estimates, there are 52,641 housing units in Lycoming County. Approximately sixty percent are owner-occupied; however, seventy-five percent of the County’s occupied housing stock was built prior to 1979. In fact, only approximately 2,200 residential structures have been built in the County since 2000. There is a significant difference in the age of housing within the core communities (City and Boroughs) and the outlying Townships. In the Townships, housing supply tends to be newer and have larger lots associated with it. The Boroughs and the City of Williamsport, however, host the oldest housing stock in the County since they were the original settlements and incorporated communities. Eighty-percent of the Borough’s and City’s housing stock is built before 1970 as compared to forty-six percent in the Townships.

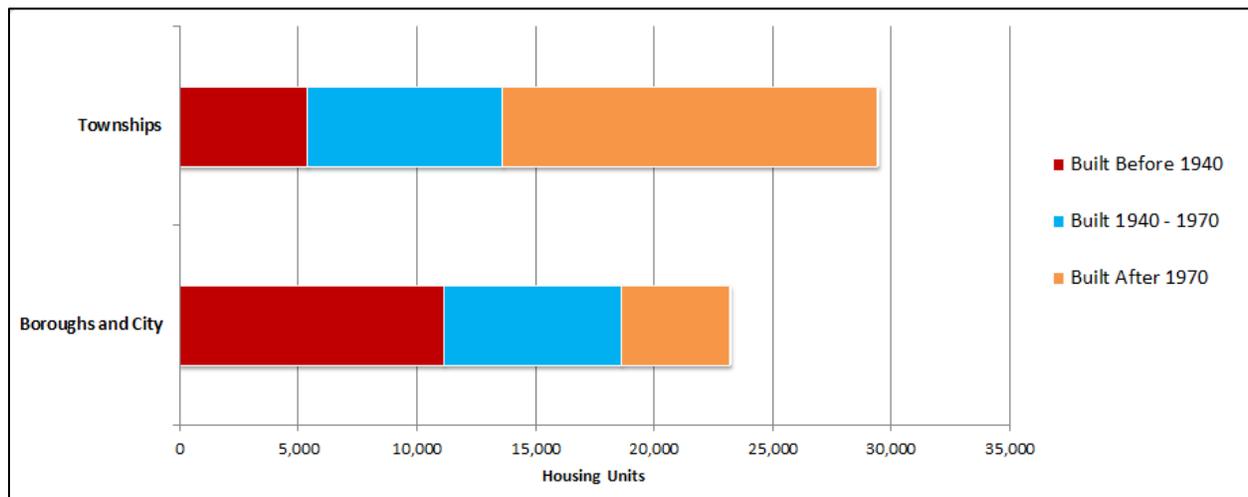


Figure 15: Age of Housing Stock
Source: 2015 US Census, 5-year estimates

Housing Supply

There are several challenges associated with the supply of housing in Lycoming County. Although the housing stock in the core communities is older, their location in a dense and walkable community is what is appealing to many. Young professionals, families with children and seniors alike often favor a residential atmosphere that is more dense and in close proximity to the amenities that they seek, such as shopping, entertainment, and recreation. Additionally, these properties are, on average, smaller and a greater percentage of residential properties here are outdated and/or located in the floodplains. These factors put our most dense clusters of residential housing at a disadvantage as opposed to an advantage like in other parts of the country where core communities are resurging as choice places to live. In fact, according to Zillow and other housing economists, urban real estate is now more valuable nationwide than suburban real estate. Due to the disadvantages noted above, Lycoming County’s urban real estate has not yet followed this trend, although there are aspects of the City of Williamsport’s downtown residential rental market that are resurging as property owners are renovating upper story mixed-use units into contemporary and attractive spaces.

The U.S. Census Bureau estimates that only 39% of Lycoming County’s housing stock in 2015 was less than 45 years old.
 61% of homes in the County were built before 1970
 31% of homes in the county were built prior to 1939
 Overall, housing stock in Lycoming County is 46% percent older than homes across the nation.

Having a significant proportion of the County’s housing stock built prior to 1970 has many disadvantages to our ability to attract new residents from outside the County. Older homes require a greater percentage of a family’s income to maintain and heat. This situation is more oppressive on families at poverty level – a population that Lycoming County has in higher percentage than either the US or the State.

Homes with higher maintenance costs, antiquated infrastructure systems, and layouts not relevant to the market demand are less marketable, which makes our communities less able to compete with other areas of the Northeast US. This was particularly evident when there was an influx of out-of-the-area workers seeking residence in Lycoming County during the height of the Natural Gas Industry activity between 2007–2012. Many looking to buy homes in the County were not able to find the types and newer homes they were used to finding in other areas of the country.

The challenge is how to ensure a diverse supply of homes in multiple cost ranges and locations to meet the needs of the existing and future residents of Lycoming County. Specifically, there is a need to provide dwelling types that meet a changing demographic composition. The seniors who make up an increasing proportion of our population have different housing expectations than the millennial professionals that we want to retain and attract. Both groups are likely to seek rental housing and both groups tend to be attracted to denser, more walkable community environments, yet the housing stock currently available does not well accommodate either of these populations.

	Number of Units, 2015	Percentage of Units, 2015
1 unit detached	36,685	70%
1 unit attached	3,309	6%
2 units	2,669	5%
3 to 9 units	3,643	7%
10 or more units	2,636	5%

Table 1: Housing Units by Structure Type
Source: US Census ACS 2015 5 Year Estimates

Housing Affordability

In general, Lycoming County is considered an affordable place to live. This includes the ability to afford market rate housing, whether for sale or rent. Using the Housing Affordability Index which measures household income

relative to the income needed to purchase a median-priced house, it is generally accepted that a household that spends up to thirty-percent of its income on housing costs is considered to be affordable.

In 2015, the estimated median home value in Lycoming County was \$138,500 – this was up 60% from \$86,200 in year 2000, however, PA only saw a 41% increase in the same time period. The median monthly gross rent was \$449 in 2000 and \$755 in 2015 – this is a 68% increase. These increases appear to be dramatic, but based on the calculations to follow, Lycoming County meets all established affordability tests.

According to the US Census:

2015 Median HH income: **\$47,313**

2015 Median Annual Housing Costs for Homeowner with Mortgage: **\$14,328**

- Therefore, the Annual Housing Costs for Homeowner with Mortgage as % of Median HH Income: **30.3%**

2015 Median Annual Housing Rental Costs: **\$8,676**

- Therefore, the Annual Housing Rental Costs as % of Median HH Income: **18%**

According to the County’s median household income for the same year(s) and the affordability index ratio, Lycoming County’s homeowner-occupied and rental housing stock continues to be considered “affordable.”

There are areas of the County where the housing costs for homeowners and renters as a percentage of the median family income rise above thirty-percent (30%), such as the City of Williamsport, Loyalsock Township, and Susquehanna Township. This information can be found in greater detail in the respective multi-municipal comprehensive plans and also viewed on the map below.

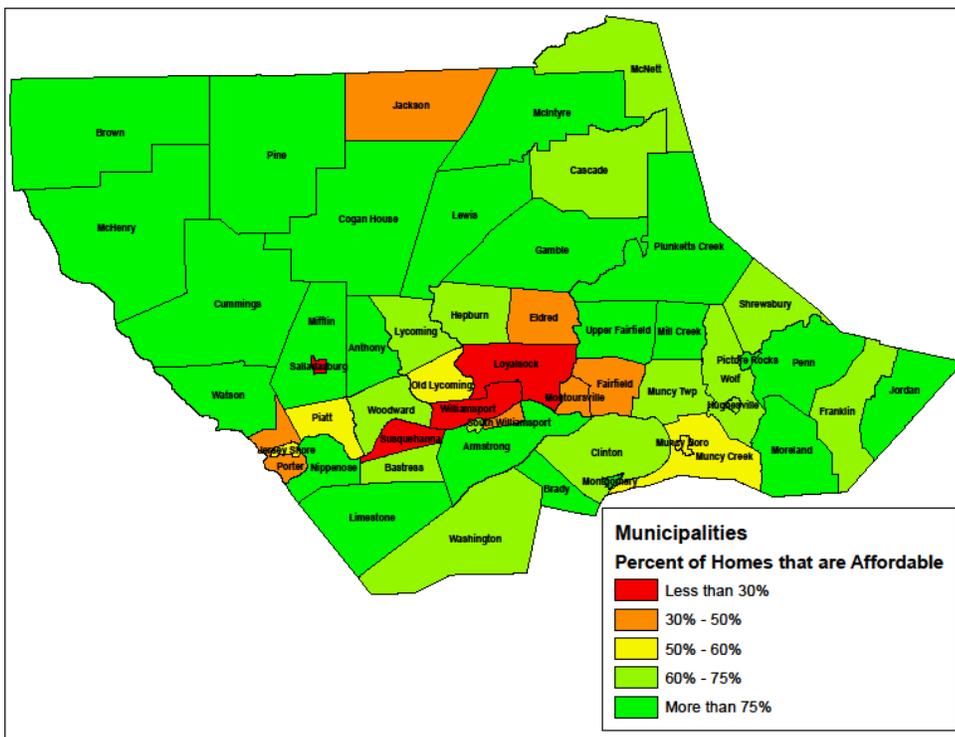


Figure 16: Percent of Homes that are Affordable

Source: PCD

In recent years, there has been a greater focus on developing additional affordable housing units to meet the needs of Lycoming County residents. These housing developments have traditionally been subsidized with tax credits in order to keep them affordable for at least the next thirty years. Affordable family housing developments as well as those accommodating senior citizens are continuing to be built to provide housing to the populations whose income cannot afford the current market rates.

New residential development for single family homes is also becoming less and less affordable. According to local realtors, it is difficult to build a new home today much under \$250,000. This includes land costs,

sewer/water hookups or well and septic development, as well as other utility hook-up costs, addressing stormwater, permitting, and approval fees. A mortgage on a new home with this value equates to 42% of the Median Household Income in the County at current interest rates. This does not include other associated housing costs such as utilities, fuels, insurances, or taxes.

Impacts of the Marcellus Shale Industry on Housing

As documented in the 2012 publication: *The Impacts of the Marcellus Shale Industry on Housing in Lycoming County*, the housing needs in Lycoming County are multifaceted, intertwined, and systemic. The housing market in Lycoming County was significantly affected by the influx of this industry, primarily during the years between 2007 and 2012. Some of the greatest changes in the County's housing market were not solely due to the infusion of the shale gas activity. However, the presence of this industry in the County had exacerbated already existing critical problems.

The report quantified four primary housing issues in Lycoming County. It further recommended that the County consider utilizing Marcellus Shale Local Impact Fee revenues received to address these issues (see p. 55):

- 1. The supply of housing options in Lycoming County has not been sufficient to meet the demand of the Marcellus Shale industry.** Furthermore, the rural nature of the County inherently means that there are fewer existing housing units to absorb the increased demand for housing created by the Marcellus Shale industry compared to counties with more extensive urban and suburban amenities.
- 2. The age and condition of the current housing stock is not attractive to new residents moving into the area with the Marcellus Shale industry. These potential new residents are looking for newer housing that is move-in ready and does not require any upgrades or repairs.** Lycoming County homes are in growing need of energy upgrades, weatherization improvements, kitchen modernization, etc. Thus, the annual maintenance burden attendant with these aging properties can be daunting. Furthermore, with the shrinking of the housing options within the area, homeowners are unable to move up the housing strata and thus are stuck in substandard housing – particularly seniors and those on fixed incomes. With the lack of options, homeowners are realizing that the option of moving is not possible and thus repairs need to be completed.
- 3. The limited supply of housing and the increased demand due to the growth in the Marcellus Shale industry had resulted in rental rates that made housing unaffordable for over 58% of the County's households, especially households with low to moderate incomes. The market segment feeling the most acute pressure is the rental market.** Between 2009 and 2011, rental rates increased by 31.2% for a three-bedroom unit and 145.6% for a four-bedroom unit.
- 4. The increase in rental rates has meant a decrease in the number of housing units available for subsidized renters, which has significantly increased the number of applicants on waiting lists for subsidized units, and has unfortunately forced housing agencies to return or forego much-needed funding from HUD.** The

County Housing Authority's waiting list increased significantly from 2009 to 2010, from 744 to 1,413 - more than triple the increase in any of the previous years, dating back to 2006. Another 245 was added to the list in 2010. The lack of affordable rental units has resulted in the expiration of a significant number of available Section 8 vouchers in Lycoming County. In 2010, 20% of the County's Section 8 vouchers expired and 33% expired during 2011 – compared to 4% in 2008. Now, most voucher holders are able to locate housing within 60 days therefore decreasing those that expire to near 7% in 2017.

These kinds of impacts are disruptive to the economy and can inhibit retention and future growth of residents in Lycoming County. It was because of the intense demand on the market by the natural gas industry workers, that these housing challenges were realized; however, in the future the stressor can be any number of other things. This further points to the need for ensuring that the County has a diverse and resilient housing stock available.

Impacts of Flooding on Housing

As discussed in Countywide Issue #2, several communities in Lycoming County are vulnerable to significant flood events. The County as a whole has approximately 7% of its residential structures located in the high hazard flood areas. This equates to 8.4% of the County's total population living in this high hazard area. However, core communities located along the Susquehanna River and its tributaries have the highest concentrations of residential properties in the floodplains. Communities such as Muncy and Jersey Shore have 39% and 46% of their residences, respectfully, situated in the 100 year floodplain.

This is an economic issue, but it is also an infrastructure issue. Residential structures located in the floodplains are generally assessed at lesser values than those outside of the floodplain. The market rate value of these homes is also decreased, therefore providing both the homeowner and the local municipality with less than full ability to capture a return on the investments made on these sites. From an infrastructure standpoint, these core communities are generally built out to municipal boundaries and served by all the necessary utilities and infrastructure. When homes have been damaged or destroyed by flood events, the properties can either receive a buy-out from federal programs, they can be repaired and/or mitigated, or they can be demolished and rebuilt in place. All of these are costly endeavors; therefore historically these flood-damaged homes have remained in place at often sub-standard conditions.

Maintaining quality housing in the floodplains is yet another challenge of maintaining a sustainable housing supply in Lycoming County.

Key Implications

Housing is often viewed as an indicator for the state of the economy and therefore, it is a critical component of the County's infrastructure system. The type and quality of the housing supply can have a significant impact on the health and wealth of a community. The ability to attract and retain people relies on good housing and attractive neighborhoods. Without a quality supply of housing that is diverse and marketable, Lycoming County runs the risk of being left behind and overlooked as a choice place to live.

If Lycoming County does not maintain and grow a healthy housing stock that can overcome the challenges of the issues described above, it will perpetually have difficulty with attracting and retaining all segments of the population. The County will continue to be at a disadvantage from a broad market standpoint which may be a deciding factor when large businesses and industries are considering expansion and relocation. Paying attention to the preferences of growing demographic sectors, such as the millennials, will help shape the types of investments that are needed in both urban and non-urban areas. The County needs to maintain sufficient affordable housing for all segments of the population so that people are able to adequately move up the housing strata. Land use regulations and transportation infrastructure are not void from this conversation – understanding the needs and desires of the population and how links between various infrastructure components will be key to building a sustainable array of housing options.

Projects of Countywide Significance for this Issue

HOUSING REINVESTMENT FUND

A Housing Reinvestment Fund could be established to support a variety of programs intended to aid in the improvement of the County’s existing housing stock, where warranted. Funding awards, low interest loans, or tax incentives could be given to qualifying residents to purchase and renovate existing housing stock. The County could also use PHARE funds or partner with local banks to offer rehab loans.

There are several programs that could be supported by this fund, including the County’s Homes-in-Need Program. Other targeted programs can be developed over time to meet the growing needs of the County’s communities, such as a first-time homebuyer program, rental rehabilitation assistance and/or historic home buyer or rehab programs. Examples include:

Homeowner-Occupied Rehabilitation Program

The County’s existing Homes-in-Need Program assists homeowners with interior and exterior health and safety upgrades as well as weatherization and accessibility improvements. It has been in operation since 2005 and has served more than 3,500 households. Yet, there are still over 900 households on the unmet needs list. The program is intended to enhance the quality of life for all County residents, improve the communities where they reside, stabilize their neighborhoods, and improve the tax base for those municipalities and the County as well.

Targeted Home-Buyers Program

This program could be set up for the purchase of existing homes in the City of Williamsport or any of the County’s eight Boroughs as a way to make the core communities more attractive to a variety of populations again. It would help upgrade the housing stock, maintain and grow the tax base, and help people gain equity. Assistance through this program could include grants, loans, and/or down payment assistance.

COUNTYWIDE HOUSING PLAN

Due to the age and condition of large segments of the housing infrastructure in Lycoming County, an assessment of the suitability and sustainability of the housing stock is needed. This can be done one community at a time, starting in the core communities of the City and the eight Boroughs. It would include an evaluation of the housing types available, conditions (including code deficiencies, condemned, and vacant), values, rental versus homeownership mix, availability, and marketability to help identify the missing gaps and opportunities to meet the current and future demands. The plan should evaluate the potential for revitalization, demolition and rebuild, and density changes including a zoning compatibility analysis.

Priority Issue Overview—Outdoor Recreation Infrastructure

Outdoor recreation is important to the economic wellbeing of Lycoming County. Outdoor recreation is essential to attract and retain a strong workforce and can also function as a strong economic driver in the form of Eco-Tourism. According to a report published in 2017 by the Outdoor Industry Association, 142.4 million Americans participated in at least one outdoor activity, going on a collective 11.7 billion outdoor outings in 2016.^{vii} That equates to 48.4% of Americans participating in some form of outdoor recreation, averaging 82 outdoor outings per participant while 56% of Pennsylvanian’s participate in some form of outdoor recreation each year. Outdoor recreation generates \$887 billion in consumer spending annually (ranking 4th behind Hospital Care, Outpatient Health Care, and Financial Services and Insurance) supporting 7.6 million outdoor recreation jobs nationwide. In fact, more Americans are employed by hunting and fishing (483,000) than oil and gas extraction (180,000) and outdoor recreation sustains more than three times as many jobs in Pennsylvania (251,000) as the natural gas industry (72,000).



¹⁷ The Digital Entertainment Group.
¹⁸ Motion Picture Association of America.
¹⁹ SuperData LLC Games & Interactive Media Intelligence.
²⁰ Combined attendance at National Football League, Major League Baseball, National Basketball Association and National Hockey League games.
²¹ Bureau of Labor Statistics.
²² Apple Job Creation Report. Microsoft Workforce Demographics Report.

Figure 17: Nationwide Economic Impact of Outdoor Recreation
Source: [Outdoor Industry Association](#)

Throughout the development of this comprehensive plan, Lycoming County citizens, local stakeholders, and municipal officials consistently viewed Lycoming County’s outdoor recreation infrastructure as one of its most important resources. PCD conducted a public survey to determine the issues most important to Lycoming County citizens. Survey respondents comments were separated into 22 separate categories, two of which were “parks & trails,” which was the 3rd most positively commented on issue, and “outdoor recreation,” which was the 5th most positively commented on issue. Combined, these two categories are the 4th most commented on issue and the 3rd most positively commented on issue just two votes behind “Community Pride and Promotion.” Combined with the most positively commented topic, “Natural Beauty,” these comments indicate that outdoor recreation and our natural resources are extremely important to Lycoming County citizens. This sentiment was echoed in the youth focus group event “Youth Plan the Future.” High school students from Lycoming County School Districts indicated that “they would like to live and settle down in the region in the future because of the amount of open space and in order to enjoy the rural character and the outdoor recreation that the area affords.” In the SWOT analysis which the students participated in, they identified “recreation amenities and diversity of amenities countywide” as the 2nd most important Strength and the “river and River Walk needs an amphitheater” was ranked 3rd for opportunities. The Williamsport Lycoming Young Professionals Focus Group

also indicated that outdoor recreation was very important to them stating that our natural resources and outdoor recreation infrastructure is one of the top reasons they like living here and choose to remain here. During the SWOT analysis exercises conducted at the first Planning Advisory Team (PAT) meetings for the multi-municipal planning areas, almost every PAT identified outdoor recreation as both a Strength and Opportunity for the planning area with four PATs identifying it as either a top strength or a top opportunity. Planning Areas with strong existing outdoor recreation infrastructure frequently ranked it higher than those without, indicating that they have seen the value which outdoor recreation has brought to their communities.

The feedback given by Lycoming County citizens indicates that the County's outdoor recreation infrastructure is necessary to maintain and develop a strong workforce. Without this important piece of infrastructure, many local citizens may look to relocate elsewhere, with the youth and young professionals likely being the first to leave. Given our national outdoor recreation trends and Lycoming County's position near major metropolitan areas, outdoor recreation and scenic resources also present a tremendous economic opportunity in the form of Eco-Tourism. Lycoming County has the opportunity to set the stage for local businesses to benefit from Eco-Tourism by capitalizing on and promoting these assets.

In order to maximize the economic benefits of Outdoor Recreation, the private sector requires public sector investment in developing this part of our infrastructure system. The majority of economic activity related to outdoor recreation occurs in businesses surrounding the asset, instead of with the asset itself. This means that privately funding outdoor recreation infrastructure will never be able to yield the same return as publicly funded outdoor recreation infrastructure.



Brandon Park Bandshell
Source: Pinterest

Outdoor recreation activities take many forms from jogging to hiking to kayaking to disc golf. Community Parks make up some of the most important elements of our outdoor recreation infrastructure. These parks include public parks, playgrounds, sports fields, public pools, tennis/basketball courts, and other similar recreation infrastructure. Community parks are built and maintained by municipal governments, non-profits, and other entities and usually operate with very limited funding. While these parks tend to fulfill the needs of local citizens more than act as a tourist destination, they are still essential to the economy of the County in that they provide accessible outdoor recreation infrastructure to the County's workforce and their families. There

are at least 30 named trails contained within or passing through Lycoming County offering over 200 miles of trails varying from rugged mountain trails to paved bikeways. According to a report published by the Outdoor Foundation in 2016; Running/Jogging, Day Hiking, Backpacking, and Trail Running are all trail sports which saw significant participation increases with each category experiencing growth of 25% or more over the past 9 years.² While trails are an important component of our recreation infrastructure, they also provide mobility to the citizens of Lycoming County. For this reason, trail projects are further discussed in the transportation

² See Table in Outdoor Recreation portion of the Community Facilities and Infrastructure Background Data in Appendix C

infrastructure portion of this issue. Lycoming County contains 2,200 miles of waterways, more than any other county in Pennsylvania, including large sections of Exceptional Value (EV) and High Quality-Cold Water Fisheries (HQ-CWF) fostering a strong fish population. These water resources provide tremendous recreation potential for many different forms of recreation including: fishing, kayaking, and canoeing. Fishing is America's 3rd favorite recreation activity even after a 12.57% decline in participation over the past 9 years. Kayaking has had the most notable growth of all recreation types surveyed by the Outdoor Foundation with an increase in participation of 129.78% over the last 9 years. Of Lycoming County's 796,160 acres of total land area, 612,000 acres are identified as forests and about 249,000 acres of land is designated as State Forest or Game Lands. The forests of Lycoming County support a variety of recreation activities from hunting to camping to wildlife viewing. These recreation activities are some of the most popular in America with many ranking fifth through ninth in participation. All of these segments must be provided for across the County in order to provide the social and economic benefits which a strong outdoor recreation infrastructure network can yield.



Canoeers on Pine Creek
Source: www.PineCreekValley.com

Based on feedback from Lycoming County citizens, local stakeholders, subject area experts, and PAT leaders, the following outdoor recreation needs have been identified to improve our outdoor recreation infrastructure. Trail needs will be further discussed in the Transportation Infrastructure portion of the Infrastructure issue.

- Expand and improve our existing facilities and build new facilities where recreation resources are scarce
 - Additional river and creek accesses are needed in some areas, while some existing access points could use updating, including stabilization and improvement
 - Need additional indoor recreation facilities (pools, indoor basketball courts, etc.)
 - Muncy area needs improved bicycle/pedestrian facilities
 - Need regional continuity between trails
 - Need to improve accessibility to recreation infrastructure
 - Need more activities for youth
- Promote recreational assets for tourism as well as to attract well-paying employers
 - Need to list and map recreational assets for public use including information such as: trail and river access/parking areas, community park locations, public hunting areas and access points, trail types, etc.
 - Need to better market Lycoming County's recreation assets.
- Countywide recreation coordination
 - Need to coordinate recreation initiatives with resource protection, stormwater management, and transportation projects along with neighboring recreation projects
 - Need Bicycle/Pedestrian coordination with PennDOT

Key Implications

In addition to the economic benefits, outdoor recreation also provides a number of social benefits. The Center for Disease Control (CDC) has identified the importance of outdoor recreation infrastructure in developing healthy communities.^{viii} According to the CDC, only around 35% of students in grades 9-12 met the recommended levels of physical activity and in 2008 only 44% of adults met the recommended levels. The CDC then states that, “Having access to places for physical activity, such as parks and trails, encourages community residents to participate in physical activity and do so more often. The closer you live to a park, the more likely you are to walk or bike to those places, and use the park for exercise.” The California Department of Parks and Recreation also identified the health benefits of outdoor recreation in their 2005 report titled “The Health and Social Benefits of Recreation.” In this report they identified both physical health benefits of outdoor recreation (reduces obesity, diminishes risk of chronic disease, boosts immune system, and increases life expectancy) and the mental health benefits of outdoor recreation (reduces depression, relieves stress, improved self-esteem, improved personal and spiritual growth, and increased life satisfaction).

The California Department of Parks and Recreation also identified social benefits of recreation including: strengthening communities (reducing crime, encouraging volunteerism, and promoting stewardship); promoting social bonds (uniting families, building diversity, and supports individuals with disabilities and seniors); and supporting the youth (enhancing education and deterring negative behaviors such as drug and alcohol abuse, early sexual activity, and criminal activity).

Outdoor recreation also helps to protect the natural beauty of this County. The survey conducted in the summer of 2016 by PCD indicated that natural beauty was by far the most frequently commented on topic of all the comment categories, with 418 of the 1132 survey respondents indicating that natural beauty was one of things they care most about in the County.

The research indicates that outdoor recreation infrastructure has the ability to assist the County in addressing some of our most important issues including those identified under Issue #6 (volunteerism and civic engagement) and Issue #8 (Drugs). In addition to the benefits which outdoor recreation can provide to our citizens, outdoor recreation infrastructure projects can also be combined with other initiatives such as stormwater management, floodplain mitigation, resource protection, source water protection, and transportation to provide additional leverage to complete those projects and to more efficiently invest our funding.

Projects of Countywide Significance for this Issue

UPDATE THE LYCOMING COUNTY COMPREHENSIVE RECREATION, PARKS, & OPEN SPACE/GREENWAY PLAN

Adopted in April 2008, the Lycoming County Comprehensive Recreation, Parks, & Open Space/Greenway Plan (the Outdoor Recreation Plan) identifies strategies for enhancing the County’s recreation resources. The plan inventories existing assets, programs, and organizations related to outdoor recreation and identifies strategies to enhance and preserve outdoor recreation infrastructure. The Recreation Plan should be updated following the adoption of this plan to reflect the current needs of the County’s outdoor recreation infrastructure. The Recreation Plan update should identify strategies to address the needs mentioned above. This plan should recognize the infrastructure needed to capitalize on nature-based tourism opportunities. UPMC-Susquehanna could be an important partner in developing the Recreation Plan update.

EXPLORE THE MISSION AND SCOPE OF THE LYCOMING COUNTY RECREATION AUTHORITY

Multiple sources identified the need for better countywide outdoor recreation coordination throughout the development of this comprehensive plan. Currently, the Lycoming County Recreation Authority is responsible for overseeing the operations of the White Deer Golf Complex; however, there is an opportunity for the Lycoming County Recreation Authority to take on an expanded role in countywide recreation. As mentioned above, an entity is needed to coordinate outdoor recreation infrastructure with resource protection, stormwater management, and transportation projects. There is a need to coordinate bicycle and pedestrian improvements with the rest of our outdoor recreation infrastructure. There is also a need for an entity to market and promote our outdoor recreation infrastructure. The needs above should be considered when completing this project.

Priority Issue #2



The economy is changing and our communities and workforce are not optimally positioned to realize our untapped economic potential and become more resilient.

Back Story

Economic Conditions The economy of Lycoming County has adapted many times throughout its history to take advantage of burgeoning industries and market trends. Historically, the County has been known for its lumber production, steel fabrication, manufacturing, plastics-related industry, and most recently—natural gas development. Adapting to changing economic forces has been the County’s hallmark.

From 2006 to 2015, Lycoming County’s economy has followed similar patterns to other Central PA counties and has seen an increase in employment in Healthcare and Social Assistance (9%); Mining, Quarrying, and Oil/Gas Extraction (470%); and Accommodation and Food Services (30%) while seeing a decrease primarily in the Manufacturing sector (-24%).^{ix} Although the number of manufacturing businesses has declined by 15% in the last decade, it remains the second largest industry in the County.

Although agriculture is not a top industry in the County by the numbers of employees, business establishments, or acres cultivated, since Lycoming County was established in 1795, it has been and remains an important industry. This industry has had to employ technological changes over the last 200 years to remain competitive, profitable, and to keep up with the demand of a growing population nationwide. Over the last decade, Lycoming County farms have successfully increased the market value of the products they sold by more than one-third.^x

The Mining, Quarrying, and Oil and Gas Extraction industry experienced unprecedented growth in Lycoming County from 2010-2015 due to the discovery of the Marcellus Shale formation. By 2015 the U.S. Census Bureau reported that countywide jobs in the industry increased from 334 to 958, with a peak of 1,318 in 2012. From 2011-2012, Pennsylvania was the fastest-growing natural gas-producing state (72%)^{xi} and it continues to be the largest “shale” gas-producing state in the country. This short-lived but intensive activity spurred a new menu of related manufacturing, service, and retail businesses to support the new industry. Many of those businesses remain today to support the regional economy, although the intensity of gas production in Lycoming County has significantly declined. This type of rapid industrial expansion is rare but indicative of industries that tend to boom and then taper off dramatically. Lycoming County, however, remains one of the top six natural-gas producing counties in Pennsylvania, all from shale.

Lycoming County is also the northcentral PA hub for government, services, retail, finance, and entertainment. It is also home to eleven industrial parks, two colleges and one large health care system, which have been stable

and growing anchors in the economy. In fact, the healthcare and education industries represent two of the largest economic sectors in the County.

Workforce As of January 2018, there were a total of 53,500 people in the workforce in Lycoming County.^{xii} This does not represent a constant decline over the time period, but more of a fluctuating pattern from year to year. Part of this can be attributed to a decline in the overall population but also to the decline of working age residents, partially due to the local and national trend of decreasing family sizes.

As of January 2018, the County's unemployment rate was 5.4% which was higher than the statewide average of 4.6% and the County's 2006 rate of 4.7%.^{xiii} According to the 2012-2016 American Community Survey estimates, Lycoming County has 14.5% of its population living below the poverty line with the largest demographic being females and males between the ages of 18 and 24. This is a significant portion of the workforce. Median Household Income was \$48,731 and Median Family Income was \$61,432.

What is most important about any workforce is that it is positioned to adapt to opportunities in growing industries and economic sectors when the economy changes. This type of positioning only happens with a diligent and comprehensive strategy to address any workforce and local economy disconnect. Education and training opportunities need to be continually evaluated to ensure they align with the changing industry practices and business opportunities in the local market.

Between 2009 and 2016 Lycoming County residents who earned less than a high school diploma declined by 39%, while those earning Associate's and Master's degrees increased 6% and 8% respectively.^{xiv} There was also an increase in occupations requiring an Associate's, Master's, and Doctoral or professional degree as an entry level education requirement. According to the Spring 2016 Economic Development Focus Group, there has been a lack of employment opportunities for under-educated and under-trained workers. However, the Central Pennsylvania Workforce Development Corporation (CPWDC) projects that between now and 2025 there will be a nearly 42% increase in occupations in the County that require less than a high school education. Many of these jobs will likely require specialized skills and trades, which are needed by the myriad of manufacturing industries. Those skills are offered by tech schools and high school trade programs. However, in general, studies show that as education levels increase, unemployment rates decrease and earnings increase.

Although the definition of what constitutes a "good paying job" can be debated, the County needs to stay attentive to the factors that can best ensure that a community grows and remains resilient, such as the following factors:

- Availability of a quality workforce
- Family-sustaining jobs
- Suitable locations for employment centers supported by infrastructure
- Economic diversification among job sectors
- Flexible business regulations

In spring of 2016, PCD facilitated an Economic Development Focus Group with experts and professionals who work in the fields that are invested in the County's local and regional economies (see Appendix B). Those in attendance recognized that Lycoming County needs to capitalize on its current industry and economic drivers, such as manufacturing, higher education, and healthcare, as well as tourism and the arts and entertainment industries, in order to continue to grow the economy. Key findings from the group included the need to strengthen partnerships and improve access to and leverage existing assets and amenities. That same group also recognized that additional strides need to be made to connect the key industries with the current and future workforce, particularly in light of changing workforce expectations, the loss of jobs in some industries, and use of drugs in the workforce. In a similar Focus Group specifically including participants from the manufacturing industries, participants reiterated that finding qualified candidates and getting the next generation youth interested in and staying committed to the manufacturing industry has been challenging. They also collectively recognized that Lycoming County is not always attractive for drawing top talent. They cited an unattractive image, the lack of a welcoming nature towards outsiders, and the need for more activities to attract young professionals to the County as examples of barriers to recruitment and retention. Continued quality of life improvements were seen as being a top priority for the County moving forward by nearly all focus group participants as well as significant numbers of public survey respondents.

Quality of life is perhaps the greatest intangible strength of Lycoming County. It includes arts, culture, nature, recreational amenities, shopping, dining, and public safety among an array of other elements. In 2006, quality of life was identified as the top reason why citizens decided to locate and stay in Lycoming County. A public survey of 1,000 people, conducted as part of the 2016 Comprehensive Plan update process reaffirmed this point. Quality of life is just another way of characterizing a place as "livable." A place where people are attracted to the general atmosphere and style of living. When people vote for quality of life, they are essentially endorsing the most apparent and character-defining attributes of a community. These can be defined as place-based assets.

Priority Issue Overview

Lycoming County is very fortunate to have abundant natural resources. Because of this, its earliest economies were based on the exploitation of these resources for profit as described above. The economy has grown from an extraction-based economy of oil, coal, and lumber to one where manufacturing has been a stronghold since the mid-1900's, along with growing construction, professional, and healthcare sectors among others. Most recently the opportunity to drill the natural gas reserves has once again shifted a large focus to the extraction industry in this County.

However, in order to truly achieve a resilient economy, there needs to be a diligent strengthening of both the traditional and non-traditional market sectors. Communities are often focused only on the big indicators of workforce: employment/unemployment, education attainment, business and industrial park activity, infrastructure investment, and land availability.

Today's economy is certainly more nuanced than that. Focusing on nurturing a diversified economy will help create sustainable cycles of economic activity. A diversity of goods and services along with an expansion of

small and medium-sized businesses and people looking to invest their time and money into a sense of community is driving a new and slightly different economy. The modern economy has evolved towards high-tech and automated systems but it also led to the development of “triple bottom line” companies and social enterprises committed to the environment and social outcomes as well as profits. Furthermore, cooperatives are also becoming increasingly popular. Cooperatives are a series of local businesses that link together to provide an attractive purchasing power for large institutions such as hospitals, colleges and universities, and other anchor institutions. This helps to support the local economy in a diversity of ways, including by creating an economy that is greater than the sum of its parts because businesses continually feed off one another and grow larger as the economy grows.

Lycoming County recognizes that there is no one-size-fits all economy and that the County must strive to maintain a competitive edge when retaining and attracting employees and workers to the County. The County understands that it needs to change with the times, that there are little recognized indicators that need to be paid attention to, and that there are great opportunities to realize the untapped potential and become more resilient. All of the traditional and non-traditional economic sectors are components of an economic resilient community. None of them alone will be able to fix or drive the economic situation. Yet, their reinforcement along with continued additional diversification will help lead to economic resilience. To improve its economic strength, Lycoming County must concurrently reinvest in its historically strong economic sectors while also adapting to the changing opportunities. This will help leverage key assets and diversify the regional economy.

Asset-Based Community Development

Over the last decade, “Asset-Based Community Development” has taken hold across much of the United States. Asset-based development is a methodology for the sustainable development of communities based on their strengths and potentials. It involves assessing the resources, skills, and experience available in a community, organizing the community around issues that move its members into action, and determining and taking appropriate action. The Appalachian Regional Commission (ARC), of which Lycoming County is a member thereof, has embraced this concept and set guidelines for *Investing in Appalachia’s Future* and asset-based development projects. ARC’s goal is to help the region achieve socioeconomic parity with the nation. Their initiative focuses on supporting the leveraging of Natural and Cultural assets, Structural assets such as abandoned or underutilized buildings, and Leadership or Community Assets such as colleges and other large institutions.

Asset-based development highlights the glass half full rather than empty. Rather than focus on community deficits like crime, vandalism, unemployment, or drugs, the goal of Asset-Based Community Development is to identify and capitalize on the positive attributes in a community. It also ensures that a community is not focusing on just one big thing and that it responds to a diversity of economic opportunities. To focus on the leveraging of Lycoming County’s local assets that draw on its intrinsic advantages is what will help this County overcome its weaknesses and gain a competitive advantage across the Central PA region and beyond. Providing incentives for the local economy to thrive and encouraging an Asset-Based Development model has the ability to provide a sustainable opportunity for economic resilience. The 2018 Comprehensive Plan Update on this Issue will focus on articulating the County’s asset-based development opportunities.

Lycoming County has many assets to take advantage of including its long-standing strongholds in the economy such as agriculture and manufacturing. The plentiful natural and cultural resources, its low cost of living, well-respected colleges and healthcare system, and the significant presence of the sports industry are all major economic components that can further advance the County's economic potential. Natural and cultural resources and their associated tourism potential have some of the greatest untapped opportunities to grow the economy while attracting new people and investments.

According to the County's 2016 public survey that received over 1,000 respondents, the following categories received the most positive comments, in order, indicating what the public views as some of the County's greatest assets.

- Natural Beauty
- Community Pride and Promotion
- Parks and Trails
- Local History and the Arts
- Outdoor Recreation
- Downtowns
- Education and Jobs
- Little League
- Other

Proximity to major metropolitan areas is also an important asset for Lycoming County. The County is a short drive from some of the largest cities on the East Coast. In fact, there are 19 metro areas with populations greater than 500,000 within 250 miles of Williamsport. This allows business connections to occur more easily and facilitates commerce with nearby large markets. This also means that the Williamsport area is a day trip away from over 50 million people. That is approximately one in every seven individuals in the United States.

The following segments of the economy represent strategic opportunities for asset-based economic growth within the County over the next 15 years:

Agriculture

The fertile soil and water resources across many of the valleys and floodplains in Lycoming County offered a rich opportunity for agriculture to take a foothold over 200 years ago. It has been an important part of Lycoming County's heritage and rural character ever since and it continues to remain a viable economic sector in Lycoming County today.

According to the 2012 Census of Agriculture, Lycoming County had 1,207 farms with a total area of 158,462 acres. This represents 20% of the total land area of the County. The agricultural region of Lycoming County includes Bastress, Franklin, Jordan, Penn, Limestone, Moreland, Nippenose, and Susquehanna Townships, as well as portions of Armstrong, Brady, Clinton, Gregg (Union County), and Washington Townships. From 2007 to 2012, farms in Lycoming County saw a 35% increase in the market value of the products sold. The total value of

agricultural products produced in Lycoming County in 2012 was \$72,202,000. The major commodities produced in 2012 in Lycoming County by value were grains, greenhouse/floriculture, dairy products, and hogs/pigs.

The challenges facing the agriculture community in Lycoming County include:

- Lack of local agricultural processing facilities (especially for corn) - currently many agricultural products are shipped outside of Lycoming County for processing and finishing
- Farm business profitability and farm succession/transition to the next generation
- Uneven regulatory and uncertain environment (at the municipal, state, and federal levels) related to:
 - Land use and development inconsistencies
 - Cost and time of permitting – high cost of permitting and long permitting process associated with agricultural building and farm operations
- Public misconceptions of the agricultural industry, including the increased challenges as residents move into long-standing agricultural communities

These challenges are not unique to Lycoming County and are not new issues facing the local agriculture community. Many of these issues were also identified in the Lycoming County 2006 Comprehensive Plan.

The following strategies and opportunities were identified to address these issues:

- Identify farmland that should be permanently preserved for continued agricultural use
- Support farmland protection programs, including Agriculture Security Areas (ASAs) and conservation easements
- Ensure land is available for agricultural use
- Make regulations conducive to the changing needs of agricultural practices and businesses, including modifying zoning text amendments to allow for flexible practices
- Keep and expand existing farm operations
- Support the diversification of farm operations – including use of ancillary business
- Promote value added agricultural products and processing

Lycoming County's agricultural industry is affected by larger regional trends that may in turn provide for local opportunities. There is a growing international demand for U.S. food products, and in turn Pennsylvania agriculture products, that may result in an opportunity of Lycoming County producers to meet this demand and capture a share of the growing food product market.^{xv} Additionally, opportunities exist to support local processing plants to produce finished agricultural products so that agricultural products do not have to leave the local market for value-added processing.

Manufacturing

Although very rural in nature, Lycoming County is strategically located and well connected by transportation routes and therefore has evolved as the hub of commerce and employment in the north central region. The manufacturing industry became a stronghold in Lycoming County in the 20th century, with manufacturing sites

built along the river corridors and factories built in neighborhoods near the workforce. Main industries included timber, steel, textiles, and furniture making. Today's manufacturing operations are primarily located in one of the county's eleven industrial parks, specifically planned, zoned, and prepared with infrastructure for this type of land use. Many manufacturing businesses are specifically located in Lycoming County because of its rich natural resources and easy access to clean, abundant land and water resources. One such example is Bimbo Bakeries, which needs the particular mineral content found in Lycoming's water supply to produce the baked goods product demanded by customers. The water used at this facility results in a unique and much desired taste in their baked goods.

The manufacturing sector continues to be a large component of the economy despite an overall decline in the industry. According to the US Census on County Business Patterns, from 2006-2015 Lycoming County lost 2,412 manufacturing jobs (24%) and 27 (15%) manufacturing business establishments. Despite this decline, manufacturing is still a large and critical component of the local economy, representing 7,801 employees in 2015 and 13% of the workforce, while only 9.1% of the state workforce is employed in this sector. Any further loss of manufacturing would erode a core component of the local economy. Therefore preservation of the manufacturing sector and preparing for changes in the industry are important goals.

Today's manufacturing is increasingly automated and driven by high technology. In place of traditional trade skills, the manufacturing industry is in need of skills that align with changing manufacturing processes that increasingly rely on new technologies such as robotics. Finding an adequate local workforce trained with these skills has been challenging. Consequently, many businesses are resorting to on the job training which increases costs, training time, and reliability for employers. If the Lycoming County workforce cannot provide the skills needed to support current and future manufacturing businesses, this trend may threaten one of the historical economic strengths of Lycoming County's economy.

One of the main concerns expressed by local manufacturing and economic development leaders in the County is that it has been difficult to attract and retain the next generation of youth in the manufacturing sector. Although, it has increasingly become technology-driven and highly innovative, there is still a stigma of primarily blue-collar work associated with the industry.

In 2018, through the Williamsport/Lycoming Chamber of Commerce, area school districts will have the opportunity to participate in a video contest that will engage school-age students in the exploration and creation of a homegrown video showcasing manufacturing careers and "What's So Cool About Manufacturing?" In addition, Penn College of Technology has partnered with the Commonwealth of PA to offer apprenticeship and training programs that will link the workforce with the business and industry opportunities and help address the manufacturing skills gap. This will give job seekers the opportunity to earn a nationally-recognized credential and employers will benefit from more productive workers.

Lycoming County is well positioned to take advantage of the emerging manufacturing industries. One example of a growing component within the manufacturing sector is the plastics and petrochemical industry. According to Focus Central PA, a regional economic development organization, there is a Plastics Industry Cluster in Central

Pennsylvania comprised of 11 businesses with an estimated revenue of \$163,262,000 and 889 employees.^{xvi} This is encouraging in light of the March 2017 report commissioned by the State of Pennsylvania and The Team Pennsylvania Foundation, the *Prospects to Enhance Pennsylvania’s Opportunities in Petrochemical Manufacturing* in order to study the opportunities and benefits in Pennsylvania. According to the report: “The Marcellus Shale resource alone represents the second largest natural gas field in the world and underlays two-thirds of Pennsylvania, extending into the neighboring states of New York, Ohio, and West Virginia. In 2015, the natural gas from the Marcellus and Utica Shale plays accounted for a quarter of all natural gas produced in the United States and is expected to account for more than 40% of the nation’s natural gas production by 2030.”^{xvii} The report also draws the link between the shale gas and these burgeoning industries. The Marcellus and Utica Shale gas is: “rich in natural gas liquids, or NGLs, more than 70 percent of which is ethane and propane. Ethane and propane are two important and high-value NGLs used in basic petrochemical production and plastics manufacturing.”

Lycoming County is well positioned to take advantage of the burgeoning market of plastics and petrochemical manufacturing. Pennsylvania College of Technology, through its Plastics Innovation & Resource Center (PIRC), provides the technology resources to facilitate the growth and success of the plastics industry in Lycoming County. The Center focuses on the education, training, and research needs of plastic processors, resin suppliers, mold builders, and equipment manufacturers, offering access to extensive material testing laboratories, and industrial scale. Retraining the workforce to respond to the changes in the manufacturing sector will allow Lycoming County to remain competitive in the manufacturing economy moving into the future.

In addition, Lycoming County is located in close proximity to the new ethane cracker facility to be built in Beaver County, Pennsylvania. While there are existing petrochemical production and plastic manufacturers in the State that will benefit from this, there is an opportunity for new growth because of the close proximity to the feedstock used by these industries and the potential supply of this feedstock. These facilities utilize the by-products of natural gas extraction to produce the materials needed for plastics production. The County has an opportunity to leverage this linkage to expand new job growth, build off its manufacturing base, and diversify its economy.



Penn College of Technology Students at a Plastics Innovation & Resource Center workshop
Source: Pennsylvania College of Technology

Transportation, Warehousing, Logistics, and Fulfillment

The transportation, warehousing, logistics, and fulfillment sector represents another opportunity for economic growth in the County. US Census County Business Patterns data for Lycoming County depict a steady increase in both the number of business establishments and paid employees in this sector of the economy. This sector was also specifically identified as a strong and growing freight generator in the 2016 Pennsylvania Comprehensive Freight Movement Plan. Warehousing and distribution center goods were the largest freight commodity by value in the central Pennsylvania region of the state and projected to remain as such until at least the year 2040.

According to this plan, the region also has a high value of commodities related to prepared food, including bread or other bakery products and canned supplies, leaving the region. In 2011, plastics products were among the top commodities by value originating in the region. This is projected to sustain for the next few decades and has the potential to increase as discussed earlier if the manufacturing sector further capitalizes on this opportunity.

Lycoming County is extremely well situated to serve as a shipment, fulfillment, and logistics center for much of the Northeast and Great Lakes regions of the United States. The road and rail infrastructure in the County is in a very good state of repair. I-80 and I-180 carry 25 percent of the truck traffic in the region already and the new Central Susquehanna Valley Transportation (CSVT) project will add a new limited access freeway through the central part of this region, providing north-south connections. The Williamsport Regional Airport is also currently experiencing upgrades that will allow it to accommodate additional air service to meet growing commercial and passenger demands. Additionally, the proximity to major metropolitan areas, as stated earlier, is of great advantage. These factors combined will allow Lycoming County to capture a growing market in this industry sector in Pennsylvania.

According to the above-mentioned study, Lycoming County is already home to one of the top 100 freight generating areas in the state of Pennsylvania, specifically the Reach Road Industrial Park in the City of Williamsport.^{xviii} However, there are many more areas of the County that have potential to be considered for build-out for this industry sector's needs. Lycoming County municipal zoning boundary maps indicate that there are approximately 6,190 total acres of land explicitly zoned for industrial use within the growth areas of the County. 2,383 of these acres are undevelopable because of floodplains, wetlands, or steep slopes. Another 1,460 acres are already developed in some way, leaving approximately 2,347 developable acres currently in the County.³

Undoubtedly, this sector represents an opportunity for economic growth within the County. The key will be to find a balance between the development of this industry and mitigating impacts such as traffic congestion and noise while ensuring community character and small town living can be maintained.

Small Business Development

Small businesses are an integral aspect of not only the economy but also communities and families across the country. They represent the creativity, ingenuity, and hard work that fuel the country's economy.^{xix}

According to Pennsylvania Small Business Development Center (SBDC), small businesses have accounted for a significant share of the Commonwealth's economic production and hiring. At last recording, Pennsylvania's small business growth rate of 2.8% was up from the 2014 rate of 1.8%.^{xx} Overall, Pennsylvania small businesses employed 46.8% of the private workforce, in 2014.^{xxi} Small businesses are defined as firms employing fewer than 500 employees. In 2014, firms employing 250 to 499 employees experienced the largest gains in Pennsylvania, while the largest losses were in firms employing 1 to 4 employees.^{xxii} Agriculture and Forestry is the industry with greatest percentage of its workforce employed by the small business sector (99%). Other Services and Construction also have the majority of their industry employed by small businesses.

³ This number does not include the approximate 500 acres of road and rail right-of-ways on those acres

Similar to the rest of Pennsylvania, small businesses in Lycoming County represent one of the strongest underpinnings of the local economy. Approximately 50-56% of the County’s employment is in the small business sector. The SBDC reports that there were 9,051 small businesses (1-499 workers) in Lycoming County in 2013 which provided jobs for 46,696 people. The largest segment of small businesses in Lycoming County employs less than 20 employees with nearly 70% of them having no paid employees.^{xxiii}

Over the last several years, the local Lock Haven SBDC has noticed an increase in independent inventors, designers, and tinkerers, also known as the “maker movement.” The maker culture began as a technology-based extension of the do-it-yourself (DIY) culture in everything from arts and crafts and woodworking to robotics and 3-D printing. Lycoming County has visibly seen this movement take foot particularly in the small restaurant and craft brewery industry and the myriad of makers taking up space in the Pajama Factory in the City of Williamsport.

In the last decade, there has also been a nation-wide trend of businesses being established as “B Corporations” which allows them to subordinate profits to social and environmental goals. According to the Small Business Development Center (SBDC) In Lock Haven, PA, B-Corporations have been on the increase in the Lycoming County region. The Millennial generation, in particular, is very interested in this type of social entrepreneurship. A national study conducted by America’s Small Business Development Centers (SBDC) and the Center for Generational Kinetics in 2017 found that the Millennial generation (born 1977-1995) are more likely than other generations to currently work in a small business. The study found that sixty-one percent of Millennials believe that there is more job security in owning your own business than in working for someone else. In fact, 38% of workers from this generation have been part of a new start-up company when it first began. This generation is extremely entrepreneurial-minded and is helping the entrepreneurial attitude thrive in America.

Overall, small business development is seen as a wealth creator in America. The national study found that 47% of Americans list the potential to make money as what would motivate them to start their own business. The Millennial generation, more than any other, has dream businesses they would love to start, and have the intention of starting a small business in the near future. The main obstacles or barriers cited to a new start-up are access to capital and the know-how of running a business.

Lycoming County is fortunate to have one of eighteen Pennsylvania’s SBDC’s at nearby Lock Haven University and a satellite office in downtown Williamsport. This Center provides start-up business support and assistance with business financial planning. The SBDC also works with local banks and SEDA-COG to help start-up companies gain access to capital. Lycoming County is also fortunate to be a member county in the PA Wilds initiative. As such, County businesses (and start-ups) have access to the PA Wilds Center for Entrepreneurship business assistance program through The Wilds Cooperative of Pennsylvania (WCO), which is a core business development program focused on the connection to tourism and outdoor products or services. However, small businesses and non-profits from artisans to breweries to B&B’s to outfitters, retailers, and restaurants all have the opportunity to work with this resource center. The PA Wilds Center also connects place-based businesses to each other for mentoring and business-to-business marketing opportunities. These are exactly the types of resources needed by new and expanding entrepreneurs.

Some of the most significant challenges of the small business sector lie in the ability of businesses to fully realize their potential, sustain, and earn a profit. Particularly those often found in the makers movement have a hard time becoming more than a hobby/non-profit business enterprise. Finding the resources to overcome the challenges are key.

Small businesses that work together, particularly in a cooperative type atmosphere, have tremendous potential to grow in a way that builds local pride, puts people to work, and keeps more dollars in the local and regional economy. However, more importantly from an economic standpoint, interconnected businesses, or business clusters, can increase productivity of the companies in the cluster by driving innovation in the field and by stimulating new businesses in the field.^{xxiv} Business clusters can grow to have significant competitive advantages if enough resources and competencies assemble and reach a critical threshold. Lycoming County's greatest potential for further developing any business or industry clusters would lie in the ability to grow its asset-based economy. As mentioned earlier, over fifty percent of the County's workforce is employed by small businesses, most of those with less than twenty employees. Ensuring that these businesses are supported and provided incentives to grow and sustain is critical to the County's economic resilience.

Understanding the needs and the growth opportunities of the small business sector in Lycoming County is essential in order to provide a sustainable path for economic resilience and the ability to develop additional strongholds in the economy.

Tourism

Tourism is a significant driver of economic and social development. It stimulates economic growth by generating income, employment, and investment. It can also generate valuable spin-off benefits, including preservation of cultural heritage and improved infrastructure and local community facilities. However, tourism can have positive or negative impacts depending on planning, development, and management of the resources. Therefore, it is essential to base tourism investments on places and things that are authentic, specialized, unique, and home grown. This type of investment is more likely to produce multiple benefits across economic sectors and be sustainable over time. Sustainable tourism built on the County's strengths and assets has the potential to stimulate economic growth and development in Lycoming County and have spillover effects throughout the region.

Various examples exist of ways that communities can engage in sustainable tourism development. Many of these are known as place-based models that focus on either the cultural, natural, or built environment - people, land, and town. The overarching mission of these models is to foster a healthier quality of life. Civic tourism, for instance, focuses on making investments that would benefit both the current residents of a community as well as visitors. It sees itself as an enabler of healthy place-making, not just as an income-producing model. These quality of life improvements have multiplier effects within the local economic and social fabric of a community.

Lycoming County's tourism-related competitive advantages lie in its quality of life attributes and the things that people value most, such as its natural beauty, small town communities, its parks and trails, the local history and culture, the arts, outdoor recreation, and its well respected institutions and events.

Natural Resources

One of Lycoming County’s greatest assets is its abundant natural resources and the outdoor recreation opportunities associated with it. These assets have long offered residents and visitors opportunities for enjoyment and a diversity of experiences in this County. With world-class trails and exceptional value fishing streams, Lycoming County draws an increasing number of County residents and regional visitors. As such, it has become an important component of the economic wellbeing of Lycoming County. As noted in the previous Infrastructure Issue (#1) section, quality outdoor recreation is essential to attract and retain a strong workforce and can also function as a strong economic driver.

According to Pennsylvania Department of Conservation and Natural Resources (PA DCNR) data, Lycoming County has 295 miles of hiking trails, 202 miles of biking trails and routes, about 250,000 acres of public lands, and over 2,000 miles of waterways as noted in Issue #1. There are 16 public boat launches according to Pennsylvania Fish & Boat Commission information. These assets alone provide a tremendous infrastructure to build on, however, taken on a broader perspective and combined with Lycoming County’s natural assets with that of the larger region, the potential economic impact is even greater.

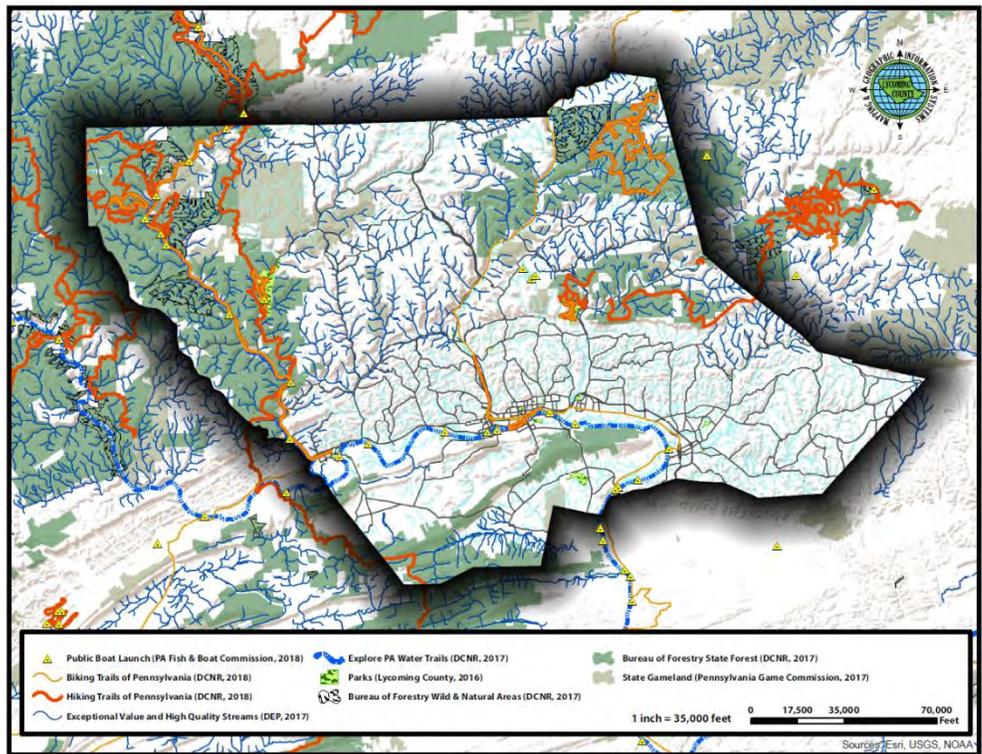


Figure 18: Lycoming County Outdoor Recreation Resources
Source: PCD

Lycoming County serves as the eastern gateway to the PA Wilds region, a PA DCNR Conservation Landscape Initiative and tourism promotion region in northcentral Pennsylvania that includes twelve counties and extends to Warren and Clarion counties in the west. It is known for its two million acres of public land, its two National/State-designated Scenic Rivers, the largest elk herd in the Northeast, and some of the darkest skies in the country. Its natural resources are what drive the economy. In fact, the PA Wilds Center reports \$1.7 Billion of annual visitor spending in the region. As one of the major gateways, Lycoming County is well-positioned to capitalize on both the rural and urban aspects of the visitor demand to this region. The City of Williamsport is

the largest city and urban hub in the region. It provides the support system and infrastructure to the outdoor recreation industry.

According to the 2017 Outdoor Industry Association report The Outdoor Recreation Economy, outdoor recreation creates \$887 billion in consumer spending annually and contributes to the creation of 7.6 million jobs in the United States. Ten percent of the spending was reported to have occurred in the Middle Atlantic States, including Pennsylvania. These huge spending numbers indicate a national appetite for the recreational resources offered in Lycoming County. It is likely that this sector of the economy will continue to grow and the County's proximity to the dense population centers in the east coast metropolises is a significant advantage for this County.

With careful planning and management, natural resources and outdoor recreational assets have the ability to add another dimension to the marketability of Lycoming County, both from a business and investment standpoint as well as from a tourism promotion perspective. Capitalizing on these assets will also further diversify the economy. This includes recognizing and promoting local parks, lands and facilities as well as regionally significant initiatives such as the PA Wilds, Lumber Heritage Region, and the Susquehanna Greenway Partnership's Rivertown Revitalization Strategic Initiative.

The Lumber Heritage Region (LHR) is one of twelve PA State-designated Heritage Areas. LHR focuses on conserving and enhancing the lumber resources of the area while promoting its heritage for tourism development. It also serves as a resource to the PA hardwoods industry and keeps the economic impact of the region in the forefront. Lycoming County is one of fifteen partnering counties in northcentral Pennsylvania.

Nature Tourism or Nature-Based Tourism is tourism based on the natural attractions of an area. Examples include hiking, camping, kayaking, canoeing, photography, birdwatching, stargazing, hunting, fishing, and visiting parks. These kinds of experiential tourists want to experience what is real and authentic and they want to be immersed in a rich natural, cultural, or historical experience.

Nature-based tourism provides incentives for local communities and landowners to conserve wildlife habitats upon which the industry depends – it promotes conservation by placing an increased value on remaining natural

Economic Impacts of Trails

Numerous studies have demonstrated that trails improve the local economy by increasing nearby property values and resulting tax revenues, increasing expenditures by residents on recreation, providing business opportunities, and attracting tourists who spend money on lodging, food, and recreation-related goods and services. Studies conducted for two Pennsylvania trails demonstrate the positive economic impacts. The Pine Creek Rail Trail here in Lycoming County was found to generate \$1 to \$1.5 million in annual spending on "hard goods" (e.g., supplies), \$2.5 million to \$3.6 million annually on "soft goods" (e.g., meals), and \$1.3 million to \$1.85 million annually on overnight stays. The Heritage Rail Trail County Park (which extends from the Maryland state line to downtown York) was found to generate \$1.6 to \$2.1 million in spending on hard goods, \$3.05 to \$4.1 million in spending on soft goods, and an average of \$51.15 per overnight stay (including those who stayed "for free" with a friend or relative) in 2007.

Source: Pine Creek Rail Trail 2006 User Survey and Economic Impact Analysis, Rails-to-Trails Conservancy, Northeast Regional Office, December 2006; Heritage Rail Trail County Park 2007 User Survey and Economic Impact Analysis, Carl R. Knoch, Chairman, York County Rail Trail Authority, November 2007.

areas. As nature tourism becomes more important to the local economy, communities have additional incentive to conserve their remaining natural areas for wildlife and wildlife enthusiasts. The economic impact of nature tourism is real and apparent in Lycoming County with the best example in the Pine Creek Valley surrounding the Pine Creek Rail Trail.

There exists opportunity for increasing business opportunity in a broad range of ecotourism or nature-based tourism services such as: guided trips; outfitters; camp grounds and cabin rentals; dining and food services; equipment rentals for hikers, bikers, and kayakers/canoers; and shuttle services.

Furthermore, Nature-Based Placemaking is an evolving, integrated theory that utilizes a community’s natural, outdoor recreational resources (its assets), the recreational activities associated with those resources, and the potential economic impacts of those activities on the communities involved.^{xxv} The Nature-Based Placemaking concept links PA DCNR’s Conservation Landscape Initiatives with a complementary concept that supports communities and regions that are actively engaged in projects that include: sustainability, conservation, community

revitalization, and recreational projects. When all of these components work in cooperation and conjunction with one another, a Total Quality Experience (TQE) is created (Figure 19). In 2017, the Pennsylvania Downtown Center created a handbook for “utilizing a community’s natural outdoor recreational resources to create a total quality experience and support local community and economic development.”

Cultural Resources

Lycoming County has a rich history and strong set of cultural assets that contribute to the high quality of life and attract visitors to the region. Williamsport in particular is home base for most countywide arts, culture, and history organizations. Leveraged together, these historic, cultural, and arts based assets provide an opportunity to grow the economy by positioning the County to have a competitive edge in the region.

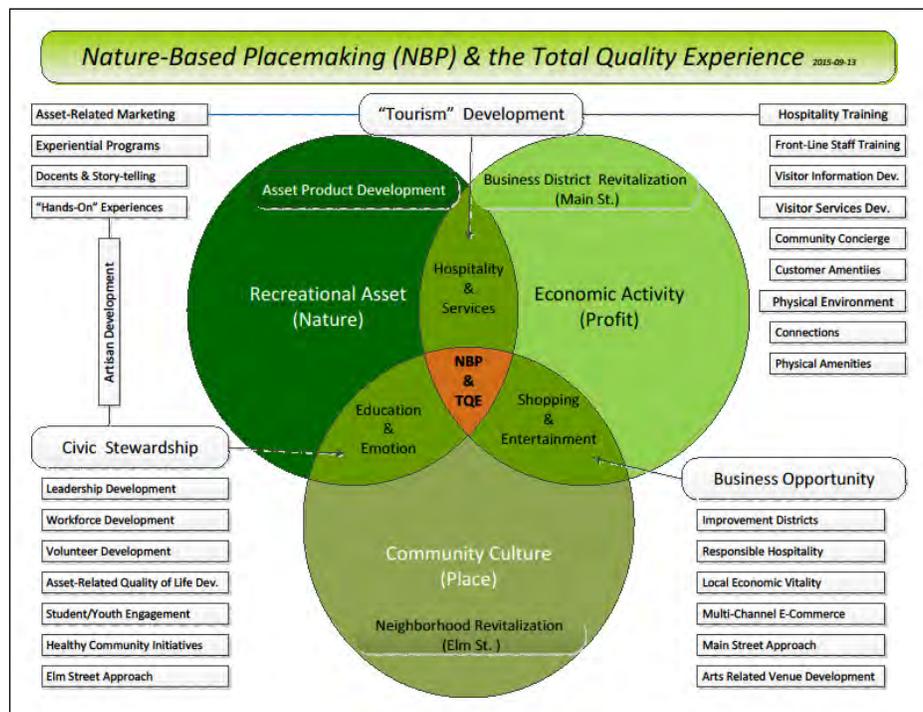


Figure 19: Nature Based Placemaking Diagram
Source: [The Nature-Based Placemaking Handbook, Pennsylvania Downtown Center](#)

Historic Resources Historic resources often help bring a sense of place to our communities and give communities character. Historic structures are unique properties and contribute to the sense of place and identity of a community. Notable historic resources include:

- National Historic Districts in Jersey Shore, Muncy Borough, and Williamsport (Millionaires' Row)
- Original Little League Field - Williamsport
- BB&T Ballpark at Historic Bowman Field – Williamsport
- Pajama Factory – Williamsport
- Little League International Headquarters & Little League World Series – South Williamsport
- Eagle Grange No. 1 – Clinton Township
- Rural character/ natural features

Historic preservation has long been a theme in prior County plans. In 1971 Lycoming County Planning Commission first completed a countywide historical site survey that identified 273 historic resources within the County. The 1971 report, the "Historic Sites and Landmarks of Lycoming County," served as the foundation for the County's 1974 Historic Preservation Plan. Recommendations of this Historical Preservation Plan are still relevant today, as is the inventory of historic buildings in the County. This paper inventory has since been digitized, and inventory work has continued.

Additionally, in 2015, Lycoming County undertook a survey of historic structures to identify significant properties in the City Williamsport, Jersey Shore Borough, Muncy Borough, and Montgomery Borough. Interest has been expressed in enhancing these historic sites and preserving access to structures to preserve the heritage of the area. Also in 2015, the Lycoming County Department of Planning and Community Development created a Heritage Plan Map as part of its LycoMap series. This interactive map includes sites listed on the County's 1971 historic resource inventory, 1974 historic preservation plan, and the 2015 draft Williamsport Historic Structures Survey. The map also includes sites listed on the National Register of Historic Places and historic districts in Jersey Shore, Muncy, and Williamsport.

Additional historic sites of varying types exist throughout the municipalities; however, there is a lack of formal identification or recognition of their importance or current conditions. Without formal identification and assessment, these structures are at risk of deferred maintenance, deterioration, or demolition. Identifying risks and preserving these structures and their settings is critical to the protection of the character of the County. Therefore, continued efforts are needed to identify, protect, and preserve local historic and cultural assets and promote cultural activities. To ensure protection of local character and history throughout the County it is important to inventory additional historic assets, assess their conditions, and pursue opportunities for preservation.

Arts & Culture The County has a rich cultural history and hosts many historic structures and sites. The City of Williamsport in particular is home base for most countywide arts, culture, and history organizations, such as Lycoming Arts, Lycoming County Historical Society, Williamsport Symphony Orchestra, Williamsport Community Concert Association, Williamsport Civic Ballet, and many others. Within the local arts community,

much work has been done over the last decade to promote Williamsport as a cultural hub in northcentral Pennsylvania. Notable arts and cultural resources include:

- Community Theatre League - Williamsport
- Community Arts Center - Williamsport
- First Friday celebrations in Williamsport and Fourth Friday events in Muncy Borough
- Pajama Factory - Williamsport
- Downtown Williamsport art galleries

Arts and cultural experiences help enhance the social capital of the community and increase the sense of collective identity of a place. Cultural amenities are important not only to help maintain the quality of life for exiting Lycoming residents but also to help attract and retain a workforce to support a strong local economy. Furthermore, the presence of arts organizations and prevalence of arts events may play a role in attracting residents and businesses to (re)locate to a community by improving its image and increasing its appeal. In particular, Lycoming County is fortunate to serve as the eastern gateway to the Pennsylvania Wilds which touts the value of the outdoor experience in north central/northwestern PA and recognizes the value of growing and connecting unique small businesses in the PA Wilds region. Many of these small businesses are focused on the arts and the interpretation of the great outdoors as an art form. Lycoming Arts, a countywide non-profit arts promotion agency, believes a stronger connection to the PA Wilds organization will allow them to position themselves to promote “where the arts have gone wild.”

Based on feedback from Lycoming County citizens, local stakeholders, subject area experts, and local leaders, the following cultural, historic, and arts opportunities have been identified:

- Increase public awareness of cultural and historical resources in the County
- Identify and preserve historical resources in the County
- Recognize the arts and cultural assets as an economic driver
- Evaluate existing zoning, building codes, and subdivision and land development regulations, to ensure these are conducive to promotion of a vibrant and livable community
- Support culture, arts, and heritage trail initiatives and related destinations in any areas designated by municipalities as culturally and historically significant (such as the Lumber Heritage Region or PA Wilds)
- Promote implementation of the Pine Creek and Lower West Branch Susquehanna River Conservation Plans and Loyalsock Creek River Conservation Plan (under development)

Key Implications

Without a coordinated strategy for identifying the economic potential of both the traditional and non-traditional economic growth sectors, the County runs the risk of not realizing the true economic potential of its assets and competitive advantages. While it is important to work to reverse negative trends in the County’s traditional economic base, it is equally important to acknowledge change and to work towards leveraging key assets and diversifying the regional economy. Failing to address these nuances will result in a loss of market share to other areas, a continued disconnect within the workforce between the needs of the businesses and industries and its

workforce, and the eventual departure of significant businesses from the local economy. Unless a balance between local workforce talent/skill and the changing economy is achieved, the County will continue to compromise its ability to attract and retain businesses that rely on an adaptable workforce.

Without acknowledging and preparing to pursue a continued diverse economy and one steeped in capitalizing on its assets will only erode the overall economic potential of the County and the communities within. It could also jeopardize the County's ability to maintain that its quality of life is its number one asset.

Projects of Countywide Significance for this Issue

COMMUNITY DEVELOPMENT FUND

Lycoming County and the Williamsport/Lycoming Chamber of Commerce have historically been quite successful in securing state and federal funds to advance economic and community development projects. These external funding sources have been in the form of direct cash assistance or tax credits. In addition, the County has been able to allocate a limited amount of local funds, such as Community Development Block Grant funds (CDBG) and Act 13-derived funds, to some of these projects. Yet, for several economic-related initiatives there is a funding gap that either delays or shortstops the project altogether.

While both the County and Chamber should continue to aggressively pursue state and federal funds, there is a need for both entities to explore establishing a joint funding revenue program to implement selected economic resiliency projects. This may be manifested in a County-initiated and managed long-term funding source, such as a bond funding, to help advance high priority economic resiliency projects in a timelier manner. Together, the Chamber and County could encourage local financial institutions to reinvest in the community by promoting economic resiliency initiatives.

ECONOMIC DEVELOPMENT TEAM

As was discussed in the 2006 County Comprehensive Plan, establishing a County economic development partnership team would be a beneficial tool to meet various economic development needs and address opportunities that arise throughout the County. This partnership would meet on a regular basis to coordinate processes and resources, including financial, human and technical resources, in order to accomplish desired projects. Partners include the County Planning Department, Williamsport/Lycoming Chamber of Commerce, Penn College of Technology, Lycoming College, municipalities as needed, water and sewer authorities, and other authorities or organizations as needed.

REVIEW AND AMEND ZONING ORDINANCES TO ALLOW FOR CHANGING AGRICULTURAL PRACTICES

As Agricultural practices shift and change over time, it is important to ensure that respective zoning ordinances remain up-to-date and relevant to accommodate the industry's needs, within reason and appropriate to the district. Land use regulation inconsistencies between municipalities and the County ordinance should be monitored and adjusted to allow for flexible practices. This should include the allowance for the use of ancillary businesses, as appropriate.

SUPPORT ECONOMIC DIVERSIFICATION EFFORTS

- Identify the market potential for the healthcare sector, manufacturing, plastics and petrochemical industries, other commercial business enterprises, and the site characteristics needed
- Inventory industrial and commercial sites in the County together with recommended site improvements that may require infrastructure investments
- Identify efforts to expand the arts and cultural business sector
- Identify efforts to improve small business development and provide start-up business financing that promotes small start-up businesses

ASSIST WITH THE REVIEW OF MUNICIPAL ORDINANCES TO ENSURE SUSTAINABILITY OF MIXED-USE DISTRICTS

Many zoning ordinances have been amended and re-written over the years to mimic suburban-style development even in the densest commercial districts in core communities. Redevelopment of these districts does not support the core community's traditional development pattern nor does it provide the greatest opportunity for tax revenue generation. Finding solutions to reduce the vacancy rate of street level stores and promote the adaptive reuse of second floor space in commercial office buildings through ordinance provisions is also an objective.

DEVELOP A STRATEGY TO HELP CAPTURE OPPORTUNITIES RELATED TO THE PLASTICS AND PETROCHEMICAL INDUSTRY

Leverage the existing efforts of Penn College of Technology's Plastics Innovation & Resource Center (PIRC) to educate the future workforce and promote the plastics manufacturing sector. Municipal officials and the Chamber can study the market potential in the County and inventory the vacant and underutilized sites in the industrial zones and identify the necessary improvements needed for the future development of these businesses. Municipal and County officials can work to continue to improve the development approval process for new and redevelopment proposals. They can also work together to review current ordinances and development regulations to determine if they are relevant for these types of businesses.

UPDATE THE COUNTY HISTORIC PRESERVATION PLAN

The last Historic Preservation Plan was completed in 1974. This plan identified all known structures that were over 50 years of age at the time. Since then, a limited historic structures update was completed in 2015 for the communities of the City of Williamsport, Jersey Shore, Montgomery, and Muncy. Without formal identification and assessment, the County's most historically and culturally significant structures are at risk of deferred maintenance, deterioration, or demolition. Identifying risks and preserving these structures and their settings is critical to the protection of the character of the County.

If historic and cultural resources are not protected, they are at risk of obsolescence. The loss of these resources may have cascading impacts for the area including diminishing the character and heritage of the County and its municipalities. This plan will help document, promote, and protect significant cultural and historical resources particularly in the rural areas of the County. It will create partnerships and implement tools that will improve the preservation of historically and culturally significant assets throughout Lycoming County.

Through a partnership of local planning commissions, PCD, and historical and cultural organizations, this project will explore opportunities for increased preservation through a variety of potential methods including updating the County Planning Department’s inventory of cultural and historical assets, delineating historic districts, providing public education, improving access to historic assets, as well as offering incentives and revising zoning and code ordinances to foster the adaptive reuse of historic structures.

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Priority Issue #3



Fragmentation of local government & the sense of being disenfranchised are challenges facing Pennsylvania municipalities

Back Story The majority of Pennsylvania’s 67 counties are “fragmented” into a large number of small municipalities. In fact, there are 2,562 local governments in Pennsylvania--Lycoming County has 52 of them. In Pennsylvania, many government rules, regulations, and policies are delegated to the most local level of government to administer. Likewise, many services are provided separately by each municipality. This type of government construct provides a number of distinct benefits; but, it also creates a very challenging environment. In short, that environment is characterized by two principal issues: fragmentation that inevitably hampers the efficient execution of the municipal mission by locally elected and/or appointed officials and disenfranchisement that perpetuates the sense of isolation and powerlessness by local municipalities.

The Benefits The Township, Borough, and City level is the most local form of government in Pennsylvania. As such, it allows citizens easy accessibility to elected and appointed officials. This enables the maximum degree of local citizen dialogue related to policymaking, service delivery, and taxation. In general, this form of government is viewed as being accessible, accountable and effective.

Twin Challenges -- #1 Fragmentation Since local municipalities must operate within the bureaucratic construct of an overarching Federal, State, and County Government, they have become increasingly vulnerable to fragmentation. Quite often, the unavoidable outcome of this fragmentation is a lost opportunity for improved cost efficiency and enhanced service delivery. Moreover, many municipalities find it increasingly difficult to recruit adequate numbers of citizens and trained professionals, to serve on their legislative bodies, boards, and commissions. Another challenge involves capital-intensive services such as water, sanitary and storm sewer, emergency services, as well as managing administrative functions that local governments are required to provide. In communities with small populations or tax bases, these requirements could be considered redundant overhead.

As depicted above, the demands placed on local leaders can overwhelm their resources. This is perhaps most acutely experienced in the area of essential emergency services for Police, Fire, and



Figure 20: Challenges and Obligations of Local Governments

Emergency Medical Service (EMS) due to three vexing issues: decrease in volunteer capacity, intensive certification requirements and the lack of sustainable financial resources.

Twin Challenges -- #2 Disenfranchisement Over time, expectations placed on local governments by the State as well as from citizens' perspectives have changed. Local leaders themselves, are feeling more disenfranchised from all levels of government above them—county, state, and federal. Their increasing sense of isolation is compounded by a trend that suggests local governments have been assuming an increasing number of responsibilities over the past 10-15 years. The net effect of this dynamic is that it has become more and more difficult for the traditional structure(s) of local government to function effectively and efficiently.

As well-documented in Samuel Long's 2012 publication, *The Handbook of Political Behavior (Volume 4)*, disenfranchisement—also called political alienation—is “associated generally with a lack of institutionalized power.” Individual citizens, as well as individual municipalities, lack the force and magnitude of the larger population. Frustration is attributed to the feeling of being powerless and unheard, which all-to-often devolves into apathy. Rural community municipal leaders may be more susceptible to this dilemma given their relatively small size and geographic distance from higher levels of government.

Priority Issue Overview

Solutions Proposed & Explored There have been a number of creative solutions that PA municipalities have pursued to address their needs. Local governments have developed or joined regionally-scaled entities, including: regional council of governments (COGs), metropolitan and rural planning organizations (MPOs and RPOs), and various other regional planning-type councils, commissions, and organizations. In addition, there have been a growing number of multi-municipal cooperatives, joint efforts, and mergers related to the provision of police, fire, EMS, zoning, codes, sewer, water, storm water, and other infrastructure and public work programs. These entities have helped local governments begin to address fragmentation; but, there is much more to do. These same entities have also helped small municipalities leverage each other to form a stronger, more united voice and confront the feeling of isolation and powerlessness.

Local Success Stories There are a number of excellent examples where local governments have crafted partnerships or structures to mitigate the challenge of fragmentation, more efficiently perform their duties and tackle the growing sense of disenfranchisement. Some of these Best Management Practices have proven to be quite effective, but there's much more to do.

- **Lycoming County Comprehensive Planning.** Required by Pennsylvania's Municipalities Planning Code, the comprehensive plan update process is arduous, lengthy, vision-oriented, and can be costly. In collaboration with 26 of the County's 52 municipalities, the County Planning Department has developed six multi-municipal comprehensive plans. Each plan was developed in partnership with local citizens and elected officials from the respective planning areas. The remaining 26 municipalities participated in the Rural Planning Advisory Team (PAT) meetings conducted over a 17-month period. The visions, needs, and issues of the rural municipalities are documented in the Countywide Comprehensive Plan.
- **Lycoming County MS4 Coalition.** Because Lycoming County lies within Chesapeake Bay watershed, the County is impacted by the Federal & State mandates regarding water pollution that flows from the Susquehanna River south

to the Chesapeake Bay. This unfunded US EPA-mandated challenge is particularly daunting for the small number of local municipalities that have storm water infrastructure and have been designated as MS4 (Municipal Separate Storm Sewer System) communities. MS4 communities are required to prepare Chesapeake Bay Pollution Reduction Plans (CBPRP's) that define how they will reduce sediment and nutrient levels, including nitrogen and phosphorous. The MS4 program is permitted and enforced at the state level through the PA DEP. To lessen the municipal cost burden of the MS4 program, in 2011, nine municipalities and one college came together to form the Lycoming County MS4 Coalition and funded a County staff position (MS4 Planner) to manage all of their permits and complete the required six minimum control measures. The Coalition allows them to share costs in permit fees, training, implementation of best management practices and consultant fees. The Coalition keeps the participants in regulatory compliance, while maintaining effective economies of scale.

- Lycoming County Planning Commission. Created over 40 years ago, the LCPC is tasked with a review and approval role for subdivisions, lot additions, and land developments for 26 of the County's 52 municipalities. Appointed by the County Commissioners, this all-volunteer group is assisted by the County Planning Department. On a larger scale, the LCPC is charged with the responsibility for developing and updating the Comprehensive Plan.
- Lycoming County Water and Sewer Authority (LCWSA). In 1988-89 the LCWSA was established to provide much needed public water and sewer service to areas of the County that were underserved yet had significant opportunity to be developed. Once the water and sewer service was established, other utility services, such as natural gas, were enticed to expand their service delivery. Together, these critical infrastructure investments paved the path for expanded business and industry growth, particular in the east end of the County. Additionally, rail-served sites within the SEDA-COG Joint Rail Authority region became more attractive.
- Lycoming County Zoning Partnership. Over the past 25 plus years the County has provided zoning services for 21 municipalities by which the County administers zoning using the unified County Zoning Ordinance. These services may be expanded to additional municipalities, as desired, as a cost-share service.
- Williamsport Area Transportation Study MPO. Chaired by PennDOT District 3-0 and administered by County Planning, the WATS MPO provides a comprehensive decision-making forum for reviewing, prioritizing, and funding infrastructure projects related to transportation throughout Lycoming County, including those nominated by local municipal leaders.
- North Central Pennsylvania Source Water Protection Alliance. Protect the region's drinking water sources from potential contamination by encouraging local planning and inter-municipal coordination efforts among other steps.
- Recreation—examples of joint initiatives. Today the Susquehanna River Walk forms a connection between Williamsport and South Williamsport. It continues through Loyalsock Township into Montoursville Borough forming a seamless 12+ mile recreational asset. The East Lycoming Recreation Authority has assembled an ~150-acre park facility for the enjoyment of area residents. The 62-mile Pine Creek Rail Trail travels north from Jersey Shore Borough through 6 Lycoming municipalities into Tioga County.

The Most Urgent Issue The most ubiquitous and dominant concern identified by municipalities across the County involves their respective Fire and EMS Agencies’ ability to provide adequate levels of emergency medical services and fire services to the residents they serve. As in other rural communities around the state, the local emergency medical service providers are also experiencing declining numbers of volunteers. In short, Fire and EMS Agencies’ ability to provide these essential and required services has become more difficult due to a number of interrelated factors:

- Increasing service and certification requirements—greater time commitment for training
- Decreasing staff capacity—fewer volunteers
- Increasing cost to provide certification training and essential equipment
- Funding limitations to support the above

Fire & EMS Challenge #1 -- The Increasing Requirement

Adequate levels of EMS are dictated by the 2009 Pennsylvania EMS System Act 37 (EMS Act) which further established requirements for service coverage and certification standards.

Provisions of the EMS Act actually took effect in 2014 and now require that all EMS agencies (including those located throughout Lycoming County) provide 24 hours a day, seven days a week coverage in order to respond to a request for EMS assistance that is dispatched. The EMS Act does permit the EMS Agencies to provide less than 24/7 services, if they participate in a County-level (or broader) EMS Response Plan approved by the Pennsylvania Department of Health.

According to the EMS Act, all EMS certification examinations recognized by the Commonwealth are required to align with the National EMS Education Standards. To comply with these standards, Emergency Medical Technician (EMT) certification requires a minimum of 150 hours of training plus co-requisites including two on-line courses and a 2.5 hour Haz-Mat Awareness class. The Cost of training is over \$900. Currently, a Basic Life Support Ambulance must be staffed by one person trained to EMT standard or higher and one Emergency Medical Responder (EMR). The EMR may be the driver if they are credentialed as the driver as well. This requires an additional 16 hour driving course.

The extensive training hours and costs required to become a volunteer fireman or EMS personnel are making it difficult for new recruits to commit the time required to become certified while meeting the demands of a career and family.

In addition to the responsibilities levied by the EMS Act, municipal codes also regulate the provision of emergency services at the local level. The Second Class Township Code that governs Lycoming County’s 42 townships requires each of these municipalities to “be responsible for ensuring that fire and emergency medical services are provided within the township by the means and to the extent determined by the township, including appropriate financial and administrative assistance for these services.”^{xxvi}

Borough code that governs Lycoming County’s nine Boroughs, states that each of these municipalities will “...be responsible for ensuring that fire and emergency medical services are provided within the borough by the

means and to the extent determined by the borough, including appropriate financial and administrative assistance for these services.”^{xxvii} The City of Williamsport is governed by the Third Class City Code. Each of these three overarching codes requires a municipality to consult with emergency service providers to discuss the needs within their respective communities.

Because townships, boroughs, and cities are required to ensure that adequate fire and EMS services are provided in their municipalities, strong and consistent communication between volunteer and paid fire and EMS departments and the respective governing municipal bodies is absolutely indispensable. Most importantly, both parties should have a mutual understanding and agreement upon such things as: annual budget, funding needs, service delivery parameters and requirements, operational management, and problems being encountered. A healthy working relationship, built upon a shared concern for public safety and welfare, must be cultivated.

The funding and time demands associated with this increased training and needed equipment are exacerbated by the shrinking number of volunteer recruitments with the net effect being a decreased capacity to provide required services. This dilemma is not unique to Lycoming County—it’s a statewide issue.



Figure 21: Requirements and Resources Trend

Fire & EMS Challenge #2 -- The Decreasing Resources

Since 1985 the number of volunteers in PA has declined 54%: from 152,000 to 70,000. There are 2,146 fire companies and 1270 EMS Agencies in Pennsylvania and majority of them are all-volunteer. Across the state, volunteer agencies are being challenged to maintain services while suffering from a declining pool of volunteers. The lack of volunteers has hit the volunteer fire departments and emergency service agencies especially hard.

EMS is provided to over 1,200 square miles in Lycoming County through a combination of multiple service delivery methods including: hospital based (basic and advanced) life support services, paid and volunteer fire department based units, paid duty crews, and all-volunteer crews. The Fire and EMS membership for agencies serving Lycoming County is in excess of 860 (2017 DPS survey). Nineteen percent of these individuals are female—76% are males with the largest age group being males of ages 41 to 59.

The Providers - Currently the following emergency medical service agencies provide services to the municipalities of Lycoming County:

- ✓ Williamsport Bureau of Fire (only career department) serving Williamsport
- ✓ South Williamsport Fire Department (SWFD) serving South Williamsport
- ✓ Duboistown Fire Department serving Duboistown & Armstrong Twp
- ✓ OLT Volunteer Fire Company serving Old Lycoming Township
- ✓ Loyalsock Volunteer Fire Co. serving Loyalsock Township
- ✓ UPMC/Susquehanna Regional EMS – Ambulance and paramedic services provided to 38 municipalities and 5 counties
- ✓ Montgomery Fire Department—serving Montgomery Borough

- ✓ Clinton Township Fire Department serving Clinton and Brady Townships
- ✓ Willing Hand Fire Department serving Montoursville Borough & Fairfield Township
- ✓ Citizens Fire House serving Jersey Shore
- ✓ Independent Hose Company serving Jersey Shore Borough & Porter Township
- ✓ Woodward Fire Department serving Woodward Township & Anthony Township
- ✓ Plunketts Creek Volunteer Fire Company
- ✓ Lairdsville Community Fire Company
- ✓ Muncy Area Volunteer Fire Company
- ✓ Muncy Township Volunteer Fire Company
- ✓ Hughesville Volunteer Fire & Rescue
- ✓ Hepburn Township Volunteer Fire Company
- ✓ Eldred Township Volunteer Fire Company
- ✓ Pine Creek Fire Company
- ✓ Waterville Volunteer Fire Department
- ✓ Ralston Volunteer Fire Company
- ✓ Trout Run Volunteer Fire Company
- ✓ Nisbet Volunteer Fire Company
- ✓ Unityville Volunteer Fire Company & Jordan Township
- ✓ Antes Fort Fire Company & Nippenose Township
- ✓ Nippenose Valley Volunteer Fire Company & Limestone and Bastress Townships

The firefighting capacity and capabilities of local fire departments are critical to the future growth and development potential in Lycoming County and its municipalities. If adequate capacity is not sustained, let alone increased, due to limiting capabilities, funding, and/or other reasons, businesses and industries seeking new or expanded locations may look elsewhere. Firefighting capacity and advanced safety training and equipment related to service of hazardous material operations is equally critical. It is important that Fire and EMS services be considered an essential infrastructure factor during the planning and feasibility phases of all new developments.

Countywide Trends - For the six-year period between 2012 and 2017, the total volume of calls from the two counties served by the Lycoming/Sullivan 911 Center has actually declined. Yet, the workload has been increasing since the type of 911 calls has changed. In recent years, there has been a significant increase in personal care and assistance requests as opposed to traditional emergency situations. Moreover, there has been an increase in the number of Fire/EMS and Police Incidents during this same period. The majority of Fire/EMS incidents are medical emergencies; however, it is difficult to separate the data since many of the calls are handled by the Fire Company personnel and units. Of particular note, in the last three years, the EMS calls that are tagged as MED Priority 1 calls (chest pain, unresponsive, cardiac arrest gunshot/stabbing patient) have increased from 2,182 in 2015 to 2,348 in 2017. The chart below displays these statistics with the overwhelming majority of activity coming from Lycoming County.

Lycoming/Sullivan County 911 Center Activity 2012-2017						
	2012	2013	2014	2015	2016	2017
Fire/EMS Incidents	17,378	16,915	17,314	18,856	18,601	21,631
Police Incidents	43,068	40,403	41,397	42,532	43,773	48,347
Total 911 Calls	61,598	59,836	60,628	58,223	56,295	58,111
Working Fires	126	97	125	113	137	166
2nd Alarm Fires	19	18	27	11	12	17
3rd Alarm Fires	1	2	3	2	2	4
MVA w/entrapment	74	46	80	75	64	43
Water Rescues	19	11	17	11	20	12

Table 2: Lycoming/Sullivan County 911 Center Activity 2012-2017

Source: Lycoming County Department of Public Safety

While each municipality in the County may be committed to 1) protecting the health, safety, and welfare of their residents; 2) meeting the requirements of their respective municipal codes for providing EMS services; and 3) fulfilling the requirements of Pennsylvania’s EMS Systems Act 37, more must be done.

A more integrated, holistic, and comprehensive approach must be developed, adopted, and implemented. It is becoming increasingly difficult for the traditional structure of EMS service delivery to remain effective in the 21st century due to a number of factors:

- Mix of geography and terrain: dense urbanized area as well as low density population areas, some very rural and remote
- Mixture of paid and volunteer service providers
- Changing demographics and family responsibilities

At a minimum, discussions should begin in order to find ways for Fire and EMS units to share the costs of Finance/Planning/Bookkeeping/Auditing and consider a paid position to act as a resource for multiple entities.

Key Implications

There are a number of potential problems that local government fragmentation and disenfranchisement create. Poorly planned programs, solutions, and approaches to these twin issues can often cause more harm than good. However, the do nothing approach—or simply conducting business as usual—sustains a toxic environment that may result in long-term, harmful consequences:

- Increased sense of being disenfranchised—marginalized—powerless—frustrated
- Risk of Financial Insolvency
- Inability to attract citizen volunteers, hire quality staff, or both
- Inefficient use of manpower resources
- Duplication of resources
- Mission execution degraded or compromised
- Operational effectiveness jeopardized
- Limited time (if any) to develop long range planning

If the fragmentation and disenfranchisement focus is placed on the Fire and EMS arena, the potential problems are even more foreboding. If municipalities and the Fire and EMS Agencies do not find ways to work together more effectively and if higher levels of government and/or professional associations remain aloof to local communities, the following five impacts are likely:

- Further increases to program administrative costs for municipalities.
- Residents of these municipalities will not be provided the required level of EMS service needed.
- The municipalities may not meet the requirements of Pennsylvania EMS System Act 37 of 2009 and their respective Municipal Codes.
- The municipalities may be required to hire emergency service and fire personnel, which would create a substantial cost burden and other related fiscal challenges.
- Municipalities may be forced to cut existing programs and services that local residents rely on.

Projects of Countywide Significance for Fragmentation

PREPARE, COORDINATE, REVIEW, APPROVE, AND IMPLEMENT A LYCOMING COUNTYWIDE EMS RESPONSE PLAN

Lycoming County Department of Public Safety (DPS) has begun to work with the EMS Response and Staffing Task Force to address the requirements and challenges of providing sufficient service to municipalities in the County. The municipalities of Lycoming County and their respective Fire and EMS agencies will work together with County DPS and the Regional EMS Council to evaluate their abilities to provide a readily accessible and efficient level of EMS services to all residents and meet the service requirements of the EMS Act. The agencies will examine and assess their individual and collective resources, services, capacity, management structures, training requirements, costs, and funding potentials in support of the development of a *Countywide EMS Response Plan*. Conversations and planning are already being facilitated by Susquehanna Regional EMS to develop a membership-based approach to regional EMS service provision.

If progress continues to be made with partnership agreements through a membership-based EMS approach, it is possible that a third-party consultant will not be necessary to develop an overall countywide plan. If this proposal does not progress, then a third-party consultant should be hired to support the development of the Countywide EMS Response Plan and assist with its implementation. The Fire and EMS Agencies will need to work with their municipal governments to identify specific shortcomings and needs within their respective territories to help provide the necessary data and information for decision-making. The “Municipal Fire/EMS Service Delivery Chart” (included in Appendix C) will be used to assist in this preparation.

The following is a sample of the types of data and information that will be needed in order to adequately complete the assessment and make viable recommendations to the County’s EMS Response and Staffing Task Force. It is recommended that municipalities and EMS agencies begin collecting this information prior to the hiring of the consultant and the development of the plan.

Volunteer Fire Departments and EMS Providers— data needed:

- Service area (EMS services need to verify their response area, is it consistent with their PA DOH license?)
- Service call volumes and call volume trends/changes over last 5 years
- Where are the gaps of providing 24/7 service?
- Annual costs for equipment and technology/Annual facility costs (includes rent, mortgage, lease, utilities)/Annual insurance costs (liability, workers comp, vehicle)
- EMS services should review their response times based upon the following “time blocks” – 0600 hours – 1800 hours and then from 1800 hours – 0600 (overnight). This can help evaluate impacts of volunteers working their primary “day job” and perhaps help identify a gap/need for alternative response/compensated staffing.
- EMS services should inventory their personnel rosters annually with special attention to recertification dates/milestones and CPR certification. A review of age and gender demographic information would prove helpful for local/regional recruitment efforts.

- Average compensation (salary) of employee(s): EMS services should verify current number of volunteer and compensated staff for the service. Additionally, what is the hourly rate paid to EMT's and does that include a shift or weekend differential? Is there a budgetary shortfall to attain part-time career staffing?
- EMS services should identify shortfalls in training and recertification. Is there a need for additional training consortiums/resources in the County to provide both career and volunteer EMS staffing?
- Annual budgets: EMS services should provide an annual operating budget and 3 – 5 year capital asset replacement plan to its board of directors/local government. This could serve as the catalyst for municipal funding allocations/tax support.
- The EMS Council should provide a current listing, by statute, of training required by PA DOH for EMS unit licensure (both transport and non-transport services).
- EMS services should identify other internal training requirements in place to meet insurance, HIPPA, or infection control policies as examples.

It is expected that this plan will provide a framework for how EMS Agencies will collectively manage, administer, and provide services to all 52 municipalities in Lycoming County, when they are unable to provide 24/7 staffing coverage. The Plan will include recommended formal agreements among the participating Agencies and municipalities and additional strategies for how they will provide readily accessible service coverage throughout Lycoming County.

The development of an **EMS Response Plan** in Lycoming County will meet the requirements of Act 37 as well as provide a blueprint for how each EMS Agency will assist in the provision required and critically important EMS services.

PROJECT LEADERSHIP

Lead Agency – Lycoming County DPS, LTS EMS Council, and Lycoming County EMS Council

Other Partners – UPMC/Susquehanna Regional EMS, Jersey Shore EMS, Fire Chief's Advisory Board, Lycoming County Commissioners, and Department of Planning and Community Development (PCD) along with the PA Department of Health Bureau of EMS will participate and support this effort.

Projects of Countywide Significance for Disenfranchisement

STRENGTHEN COGS AROUND THE COUNTY

Lycoming County Planning Department (PCD) will communicate and coordinate with Councils of Government (COGs) around the County such as Pine Creek COG, West Branch COG, and others that have an interest in expanding their mission and/or scope. PCD will assist with organizational restructuring, goal-and-mission setting, and meeting facilitation. Examples of additional issues that COG's could address, mentioned during the Comprehensive Planning process, include: community and economic development issues, preservation of natural resources, outdoor recreation opportunities, communications infrastructure, protection of water quality, increasing volunteerism, and dealing with the impacts of the natural gas industry.

CONVENE AN ANNUAL MUNICIPAL SUMMIT

PCD will plan, prepare and facilitate an Annual Municipal Summit with and for all Lycoming County municipalities. Each annual summit will focus on a different subset of topics based on the priority issues identified in the Comprehensive Plans and/or other ubiquitous issues of general concern to municipal leaders. Organizations that provide relevant services and/or technical assistance should be invited to attend and participate in this summit event, such as: SEDA-COG, state agencies, and other non-governmental organizations, as appropriate.

VISIT FEDERAL AND STATE LEGISLATORS

PCD will plan, coordinate and facilitate an annual visit with our US Congressman’s regional office as well as our US Senators’ offices to brief them on issues of highest importance to the County and its municipal leaders. The goal is to ensure those issues and concerns are on the legislators’ radar. Opportunities to seek federal funding will likewise be addressed. Regarding our State Legislators, PCD will arrange semi-annual visits with similar objectives, but tailored to programs and funding opportunities that are State managed.

MUNICIPAL SERVICES ASSISTANCE PROGRAM

The Municipal Services Division of the County Planning Department could provide economies of scale services for County municipalities that do not have the capacity or professional staff to provide important services and respond to the changing needs of their communities in order to stay relevant and competitive for development. PCD would need additional staff capacity to assist with the following types of requests. Most of these things can be offered as fee-for-service assistance.

- Assistance with zoning ordinance amendments that are compatible with land use patterns and densities that define the local character of communities.
- Updates to land use regulations to limit the development of private sewage treatment plants, meet DEPs sewage management requirements (especially for on-lot septic systems), and update ordinances (especially bulk standards: minimum lot size, setbacks, etc.) when public sewer becomes available.
- Ensure that ordinance are adequately designed to provide for all uses either specifically or generally, and have a mechanism to handle uses that haven’t been contemplated.
- Update land use regulations to limit access to high volume roadways.
- Utilize land use regulations to mitigate the impacts of development such as erosion and sedimentation control, flood hazards, and stormwater runoff.
- Ensure that ordinances do not require excessive impervious surface coverage.
- Explore beautification options and gateway opportunities in/around commercial districts and village centers.
- Encourage consistency in administration and enforcement of zoning practices with neighboring municipalities.
- Provide adequate training opportunities for planning commission, zoning hearing board, municipal officials, and land use review officers.

These services can only be provided with additional PCD staff capacity.

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Priority Issue #4



Flooding – the primary threat to life, properties, and communities throughout Lycoming County

Back Story Floods are the most common and costly natural catastrophe in the United States. Nationwide, hundreds of floods occur each year, making it one of the most ubiquitous hazards in all 50 states and U.S. territories. According to Munich Re, a global reinsurance firm, the frequency and severity of flooding has become alarming. During 2016, the U.S. experienced a total of 19 separate floods, the most in one single year since records began in 1980. To understand this phenomena, NOAA offers the following: “This perhaps should be expected, as [heavy rainfall events and their ensuing flood risks are increasing](#) because warmer temperatures are “loading” the atmosphere with more water vapor. Over time, this increases the potential for extreme rainfall events.”^{xxviii}

In Pennsylvania, flooding can occur during any season of the year from a variety of sources. Every two to three years serious flooding occurs along one or more of Pennsylvania's major rivers or streams and it is not unusual for a flood disaster to occur several years in succession. Most injuries and deaths from flooding happen when people are swept away by flood currents and most property damage results from inundation by sediment-filled water.

Since flooding generally occurs in the floodplains adjacent to waterways, there is a correlation between the number of waterway miles and the amount of land that is vulnerable to flooding. It is worth noting that Pennsylvania has more stream miles than any other state, and many of its communities are located in floodplains. For waterfront communities, the level of risk constantly changes in response to unpredictable weather patterns and seasonal influences.

Beyond the changes discussed above, there are at least three additional factors that determine the severity of floods. Each of these three factors can increase the volume of surface runoff and stormwater:

- Rainfall intensity and duration— A large amount of rainfall over a short time span can result in flash flood conditions. A small amount of rain can also result in floods in locations where the soil is frozen or saturated from a previous wet period or if the rain is concentrated in an area of impermeable surfaces.
- Topography— Water runoff is greater in areas with steep slopes

Flooding is the costliest and most common [natural disaster](#) in the US, claiming lives, inflicting financial losses on households and businesses, and straining the government agencies that provide flood response and relief. From 1980 to 2013, flooding cost Americans more than \$260 billion in damage; from 2006 to 2015, federal flood insurance claims averaged [\\$1.9 billion annually](#). The pattern continued in 2016 with the federal government declaring 36 disasters involving floods or hurricanes.

PEW Charitable Trust, 1 Feb 2017

- Ground cover— Water runoff is also greater in areas with little or no vegetative ground cover—this is especially problematic for urban areas where impervious surfaces make up the majority of ground cover

Priority Issue Overview

Lycoming County has in excess of 2,200 miles of river, streams, and creeks; this figure establishes Lycoming as having one of the highest amounts of waterways for a County in Pennsylvania. Major flood-prone areas include communities located in low-lying valleys of creeks, streams, and tributaries. Unless protected by a levee, most population concentrations along the West Branch Susquehanna River have a high possibility of flooding. Unfortunately, this vulnerability is ever-present throughout the year.

In Lycoming County, there are seasonal differences in the causes of flooding. In the winter and early spring (February to April), major flooding has occurred as a result of heavy rainfall on dense snowpack throughout contributing watersheds. Winter floods also have resulted from runoff of intense rainfall on frozen ground and local flooding has been exacerbated by ice jams in rivers, streams, and creeks. The January 1996 flood was particularly devastating for Lycoming County in terms of loss of life, property, and public infrastructure. Damages sustained exceeded \$100 million. Six lives were lost in the Lycoming Creek valley.



Flooding aftermath along Lycoming Creek Road in January 1996
Source: PCD

Summer floods have occurred from intense rainfall on previously saturated soils. Summer thunderstorms that deposited large quantities of rainfall over a short period of time have also produced flash flooding. Hurricane Agnes (June 1972) devastated nearly every floodplain community in the County. In addition, Lycoming County has also experienced intense rainfalls from tropical storms in late summer and early fall. Tropical Storm Ivan (September 2004) and Tropical Storm Lee (September 2011) ravaged central and eastern Lycoming County.

Since 1955, Lycoming County has been a named entity in several Presidential Disaster Declarations. The financial impact from these events is staggering. The cumulative amount of estimated loss within Lycoming County associated with past flood events is in excess of \$100 million.^{xxix} From Tropical Storm Lee alone, 955 housing units sustained actual damage—836 of them (87.5%) are classified as owner occupied.

A summary of flood events that have occurred in Lycoming County since the adoption of the 2006 Comprehensive Plan includes:

Location	Date	Flood Type
Muncy Creek Township	8/29/2006	Flash Flood
Muncy Creek Township	11/16/2006	Flash Flood
Muncy Borough	11/16/2006	Flash Flood
Cedar Run	3/5/2008	Flood
Jersey Shore Borough	7/23/2009	Flash Flood
Clarkstown	7/31/2009	Flash Flood
Countywide	1/25/2010	Flood
Jersey Shore	12/1/2010	Flood
Garden View	3/6/2011	Flood
Quiggleville	3/10/2011	Flood
Muncy Borough	3/11/2011	Flood
Muncy Borough	4/28/2011	Flood
Central/Eastern Areas	9/7/2011	Flood
Montgomery	9/28/2011	Flash Flood
Garden View	7/28/2012	Flash Flood
Central/Watsontown	10/21/2016	Flash Flood



Newspaper article depicting children using a raft from debris following the 1889 flood
 Source: Williamsport Sun Gazette

Table 3: Summary of Flood Events since the Adoption of the 2006 Countywide Comprehensive Plan

Source: [Lycoming County 2015 Hazard Mitigation Plan](#)

Total property and infrastructure damage attributed to these events exceeded \$30 Million.

An analysis of historic trends shows that Lycoming County is expected to experience at least one flooding event per year. However, future development may affect the flood likelihood and intensity. For example, development often induces an increase in impervious surfaces, which can intensify and increase flooding events.

What’s at risk?

As documented in the County’s 2015 Hazard Mitigation Plan, Lycoming County had over 5,500 structures located in the Special Flood Hazard Areas (aka regulatory floodplain areas or SFHA) with varying degrees of vulnerability for each structure. As a result of the County’s recent efforts to delineate the floodplain boundaries more accurately, the County has reduced the number of addressed structures to 4,188 (over 9% of all addressed structures in the County). Salladasburg Borough has the highest proportion of structures in the floodplain at over 75% of all structures vulnerable

# OF ADDRESSED STRUCTURES IN COUNTY'S SFHA	# NFIP POLICIES	% POLICIES COMPARED TO # OF STRUCTURES IN SFHA
4,188	2405	57.4%

Figure 22: Addressed Structures in the SFHA

Source: [Lycoming County 2015 Hazard Mitigation Plan](#)

to flooding. Jersey Shore and Muncy Borough also have high percentage of structures in the SFHA. All critical facilities in Shrewsbury Township are located in the SFHA. When looking at vulnerable structures by property type, the vast majority those structures are residential in nature. Over 3,045 of these 4,188 structures (or 73%)



The flooding in Montoursville along Loyalsock Creek in Sept 2011 damaged businesses and destroyed LVRR's Railroad Bridge
Source: PCD

are residential dwellings.

A particularly vulnerable type of structure in the County's floodplain areas includes mobile homes and commercial trailers, due to their lightweight and unanchored design. Each municipality's Floodplain Management Ordinance requires that manufactured homes be elevated and anchored to withstand flotation, collapse, and/or lateral movement. Nearly 17% of the mobile homes across the County are located in the SFHA.

Lycoming County's Flood Risk Management Approach

As regional floods increase in frequency and intensity, it is important for Lycoming County to undergo a proactive approach rather than remaining reactive in response to large flood disasters. As noted by author Don Watson in his book *Design for Flooding*, "the total average precipitation across the United States has increased on average over 5% over the past century...the amount of precipitation falling in the heaviest 1% of rain events has increased on average over 20%." Flooding in Lycoming County can be observed for a number of reasons: ground water freeze during the winter months limits water filtration and adds to surface runoff, contributing to seasonal flooding. At any given time, the County is prone to flash floods, ice-jam floods, landslides, and mudslides.

The County is also affected by the residual effects of coastal storms. Located near the Mid-Atlantic Coast, the County's tributaries are directly tied to two of the largest U.S. estuaries: Delaware Bay and Chesapeake Bay. As cyclones, hurricanes, and tornadoes emerge off the coast, the County may experience high winds, heavy rain, flooding, high velocity flows, and storm-surges. Any area exhibiting these effects will most likely be in either the 500 or 100-year mapped floodplain. We can consider the floodplain as the flat area adjacent to a stream channel that is subject to inundation and flows in large events. After floodwaters recede, water may remain in floodplains and slowly infiltrate reducing the amount of water sent downstream.^{xxx}

Lycoming County’s flood management response to this reoccurring hazard hinges upon five interrelated measures, as illustrated by Figure 23. In addition to these five mitigation measures, the County also operates a state-of-the-art flood warning system which, together with USGS, provides a vast system of stream/river level gauges that offers the maximum possible degree of warning to citizens and business owners located along the County’s water ways. The objective of this flood warning system is to save lives and enable transportable property to be moved out of harm’s way thus reducing the devastating impact of inevitable floods. Maintenance and operation of this system of gages and the public web site (Flood Ready) is skillfully managed by the County’s Department of Public Safety.

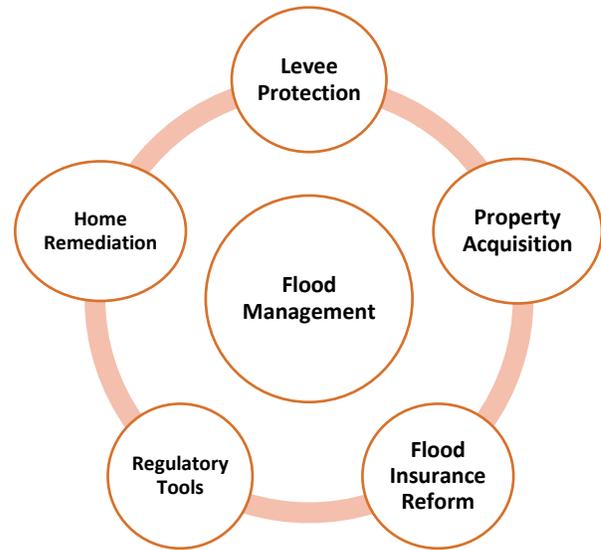


Figure 23: Floodplain Management Strategies
Source: Lycoming County’s Floodplain Housing Remediation Program

Nonstructural and Structural Flood Protection

There are many ways we can seek to curb the effects of severe flooding. Such techniques should be considered in two categories: nonstructural and structural mitigation measures. A nonstructural mitigation activity is one that reduces flood risk but does not obstruct the floodplain within its existing environment. Nonstructural measures can be both physical (buyouts, relocation, elevation, wet-flood proofing) and nonphysical (floodplain mapping, flood warning systems, evacuation and preparedness plans, and land-use regulations). It is important to note that nonstructural methods can be incredibly effective in raising public awareness and advising the public on reducing the consequences of flood disaster events. These risk communications allow planners to develop educational tools and hold workshops to inform municipal leaders and floodplain occupants.⁴

The second form of mitigation that should be considered is structural floodplain mitigation. Structural mitigation is any action that physically changes the velocity of flow and depth of floodwaters in any given floodplain. These more traditional actions have taken shape in the form of reservoirs, dikes, levees, and parks.

Accordingly, flood risk management should consider utilizing a combination of both structural and nonstructural measures. Each of these measures has their benefits and drawbacks. Structural mitigation activities have the added benefit of removing the threat of flooding altogether from the floodplain, but also must meet strict benefit-cost criteria to become eligible for grants. Structural projects such as a levee are generally going to be accompanied with a high price, which makes seeking grants increasingly competitive and difficult to secure for smaller communities.

⁴ For more information please see the ASFPM NonStructural Flood Proofing Pamphlet at flood.org

As FEMA’s flood damage reduction training document points out:

“Flood modification (structural) measures acting alone leave a residual flood loss potential within the remaining floodplain and add the risk of rare but potentially devastating damages from structural failure or from uncontrolled flows of major storms. Unless accompanied by appropriate nonstructural measures, the structural measures could lead to a false sense of security and encourage floodplain landowners to develop inappropriate uses of their lands.”^{xxxii}

In order to prevent and reduce economic losses, threats to public health and safety, and to preserve the natural functions of floodplain, the County has structured its floodplain management approach to be as inclusive as possible. Relying solely on one flood management strategy is inefficient when attempting to reach the whole community.

The following sections provide an in-depth look at the five flood management approaches considered for this plan update:

Structural Levee Protection

The flood protection system in Lycoming County includes a series of levees which protect the City of Williamsport, South Williamsport Borough, as well as sections of Loyalsock Township and Old Lycoming Township. The major portion of the levee lies along the West Branch Susquehanna River and protects Williamsport, South Williamsport and the Faxon area of Loyalsock Township. It was authorized after the 1936 flood and completed in the 1955-1956 time frame by the US Army Corps of Engineers (USACE) in partnership with the local municipalities, the County and the Commonwealth of Pennsylvania. Included in the original levee system were a set of tie-back structures along Lycoming Creek to protect the western side of the City as well as the southern floodplain areas of Old Lycoming Township. The system includes a series of earthen levees, flood walls, pump stations, and discharge facilities. Following Tropical Storm Agnes in 1972, the Bull Run Levee was constructed by the USACE to protect the area of Loyalsock Township, east of Faxon, known as the Golden Strip.

The Bull Run Levee was built in conjunction with the design and construction of Interstate 180 through that area. The current levee system measures approximately 20 miles in length. In today’s dollars, the estimated construction cost for a system of this size would be around \$300 Million. If this system were constructed by the USACE today, the local share would be more than \$50 million.

The levee protects 40% of the \$2.7 billion in real estate in City of Williamsport, Old Lycoming Township, South Williamsport, and Loyalsock Township, as determined by the 2004 County Assessment data. Borough, City, and County governments are located in the protected floodplains as well as commercial and industrial areas. Maintaining the existing economic well-being of the County is dependent on preventing the West Branch Susquehanna River from causing potentially catastrophic damage. To avoid this situation the integrity and functioning of the Levee must be regularly inspected, maintained and periodically recertified.



A view from the Susquehanna River Walk showing the Williamsport Levee protecting downtown infrastructure
Source: PCD

The Non-Federal Sponsors, (the City of Williamsport, South Williamsport, and Loyalsock Township) must also meet certification rules set forth by the Federal Emergency Management Agency (FEMA). With several years of unsatisfactory rating by the USACE, the required levee recertification looms as a significant fiscal burden. The recertification of the levee system is estimated to cost between \$12-15 million. Should the levee become decertified, the implications for the area would be devastating. If the levee is not operating as designed, there can be breaches and subsequent flooding. A levee not accredited through FEMA would impact property owners in two ways: building requirements for future structures and mandatory purchase of flood insurance for existing structures.^{xxxii}

Municipalities that are members of the Greater Williamsport Alliance (or GWA) have identified the recertification of the 20-mile long levee system as their single greatest threat to maintaining and pursuing economic resilience. Several of the County’s top employers are located within the Williamsport metro area including UPMC Susquehanna, Pennsylvania College of Technology, Lycoming College, Williamsport Area School District, Aramark Facility Services, and Lycoming County government. In addition, according to the American Community Survey, the GWA contains approximately 45% of the County’s total workforce as of 2015.

As factually illustrated by the four tables that follow, the impact of not completing the recertification process is staggering:

	City of Williamsport					
	All Properties		Levee Protected Area			
	Total number of properties	Total assessed value	Number of properties protected by levee system	Percent protected by levee system	Total assessed value behind levee system	Percent tax base protected by levee system
Occupant						
Apartments	321	\$78,179,620.00	249	77.6%	\$57,496,720.00	73.5%
Commercial	899	\$239,860,330.00	762	84.8%	\$204,940,150.00	85.4%
Industrial	74	\$68,681,210.00	61	82.4%	\$55,751,310.00	81.2%
Institutional/Other	426	\$403,998,790.00	334	78.4%	\$264,697,650.00	65.5%
Total Residential	7,762	\$577,329,740.00	3,287	42.3%	\$188,655,810.00	32.7%
<i>Owner Occupied Residential</i>	4,412	\$381,464,570.00	1,459	33.1%	\$94,473,720.00	24.8%
<i>Other Residential</i>	3,350	\$195,865,170.00	1,828	54.6%	\$94,182,090.00	48.1%
TOTAL	9,482	\$1,368,049,690.00	4,693	49.5%	\$771,541,640.00	56.4%

Table 4: Total Assets Protected by the Levee in the City of Williamsport
 Source: PCD

	Borough of South Williamsport					
	All Properties		Levee Protected Area			
	Total number of properties	Total assessed value	Number of properties protected by levee system	Percent protected by levee system	Total assessed value behind levee system	Percent tax base protected by levee system
Occupant						
Apartments	27	\$8,830,030.00	14	51.9%	\$4,118,810.00	46.6%
Commercial	129	\$26,920,910.00	92	71.3%	\$14,722,170.00	54.7%
Industrial	18	\$6,690,990.00	14	77.8%	\$5,921,040.00	88.5%
Institutional/Other	64	\$33,354,510.00	36	56.3%	\$5,650,020.00	16.9%
Total Residential	2,361	\$208,127,870.00	543	23.0%	\$41,182,570.00	19.8%
<i>Owner Occupied Residential</i>	1,539	\$144,099,050.00	289	18.8%	\$22,743,070.00	15.8%
<i>Other Residential</i>	822	\$64,028,820.00	254	30.9%	\$18,439,500.00	28.8%
TOTAL	2,599	283,924,310	699	26.9%	\$71,594,610.00	25.2%

Table 5: Total Assets Protected by the Levee in the Borough of South Williamsport
 Source: PCD

	Township of Old Lycoming					
	All Properties		Levee Protected Area			
	Total number of properties	Total assessed value	Number of properties protected by levee system	Percent protected by levee system	Total assessed value behind levee system	Percent tax base protected by levee system
Occupant						
Apartments	18	\$6,691,530.00	5	27.8%	\$1,814,350.00	27.1%
Commercial	100	\$27,201,300.00	54	54.0%	\$18,200,480.00	66.9%
Industrial	15	\$6,439,210.00	2	13.3%	\$1,189,350.00	18.5%
Institutional/Other	148	\$12,585,280.00	18	12.2%	\$3,981,240.00	31.6%
Total Residential	2,077	\$212,920,480.00	113	5.4%	\$7,533,270.00	3.5%
Owner Occupied Residential	1,544	\$174,556,130.00	56	3.6%	\$4,163,760.00	2.4%
Other Residential	533	\$38,364,350.00	57	10.7%	\$3,369,510.00	8.8%
TOTAL	2,358	\$265,837,800.00	192	8.1%	\$32,718,690.00	12.3%

Table 6: Total Assets Protected by the Levee in the Township of Old Lycoming
Source: PCD

	Township of Loyalsock					
	All Properties		Levee Protected Area			
	Total number of properties	Total assessed value	Number of properties protected by levee system	Percent protected by levee system	Total assessed value behind levee system	Percent tax base protected by levee system
Occupant						
Apartments	30	\$32,574,330.00	6	20.0%	\$1,428,630.00	4.4%
Commercial	246	\$146,879,150.00	128	52.0%	\$99,347,860.00	67.6%
Industrial	16	\$9,358,010.00	7	43.8%	\$6,574,670.00	70.3%
Institutional/Other	99	\$68,476,140.00	12	12.1%	\$879,160.00	1.3%
Total Residential	4,181	\$570,337,130.00	488	11.7%	\$55,109,780.00	9.7%
Owner Occupied Residential	3,079	\$462,569,210.00	354	11.5%	\$42,154,690.00	9.1%
Other Residential	1,102	\$107,767,920.00	134	12.2%	\$12,955,090.00	12.0%
TOTAL	4,572	\$827,624,760.00	641	14.0%	\$163,340,100.00	19.7%

Table 7: Total Assets Protected by the Levee in the Township of Loyalsock
Source: PCD

Table 8 shows the indirect economic loss depending on the percent of damage and the years it takes for local businesses to recover after a major disaster. The numbers below are the result of the estimated market values being plugged into a formula by World Bank Finance and Markets Global Practice Group.

Indirect Economic Losses From a Levee Breach					
		Percent of Damage			
		10% Damage	25% Damage	50% Damage	100% Damage
Total indirect (output) economic losses	Damage Amount	\$53,576,683.79	\$133,941,709.49	\$267,883,418.97	\$535,766,837.94
	1 Year Recovery	\$7,031,939.75	\$17,579,849.37	\$35,159,698.74	\$70,319,397.48
	2 Year Recovery	\$14,063,879.50	\$35,159,698.74	\$70,319,397.48	\$140,638,794.96
	3 Year Recovery	\$21,095,819.24	\$52,739,548.11	\$105,479,096.22	\$210,958,192.44
	4 Year Recovery	\$28,127,758.99	\$70,319,397.48	\$140,638,794.96	\$281,277,589.92
	5 Year Recovery	\$35,159,698.74	\$87,899,246.85	\$175,798,493.70	\$351,596,987.40

Table 8: Indirect Economic Losses From a Levee Breach
 Source: PCD

Over the past several decades, the Boroughs of Jersey Shore, Muncy, and Montoursville have each explored the potential of securing a levee to protect the floodplain areas of their respective municipalities. All three of these municipalities have a common challenge—local creek flooding compounded by river flooding when both waterways rise concurrently. For any flood mitigation project, the USACE considers the value of structures flooded, damages sustained, as well as the frequency of those events occurring. Given these three factors, USACE computes a ratio of the economic benefits gained by a levee to the cost of design and construction. The ratio must be greater than 1.0. None of these three municipalities have been able to meet this requirement.

Property Acquisition

Historically, flood mitigation assistance has generally been related to a declared disaster event, which dictates the geographic areas that may be eligible for any mitigation funding. FEMA’s hazard mitigation grant program (HMGP) grants have been exclusively limited to the acquisition of flood damaged residential structures. Over the past twenty years, Lycoming County’s Planning Department has successively secured numerous HMGP grants. Together with matching state and local funds, these FEMA grants—totaling in excess of \$18M—have enabled the County to acquire approximately 300 severe repetitively-flooded homes and removed them from the floodplain. The majority of these acquisitions lie along three major creeks: Lycoming, Loyalsock, and Muncy.



An aerial view of Lycoming Township showing the devastation inflicted by the January 1996 Flood on this community by Lycoming Creek
 Source: PCD

As required by FEMA, the County’s Hazard Mitigation Planner follows the below process:

- Home acquisition is strictly voluntary
- County purchases the property at appraised value for pre-flood condition
- Purchase price is reduced by an amount equal to any previous FEMA assistance given to the owner(s)
- County arranges for removal/demolition of the structure
- Ownership of the land parcel reverts back to the governing municipality
- Land itself must be permanently retained as open space

The following diagram depicts the buyout process:



Figure 24: Buyout Process Diagram

Source: PCD

While this approach does reduce the municipal tax base, this process has successfully removed flood-prone properties which are often of decreased value, distressed, or blighted and have been prone to repeated damage by future flood events. There are two challenges to the acquisition/demolition process: it is extremely lengthy and can require up to two years to complete -- and much of the funding is only available after a disaster has occurred and in relatively small amounts.

Flood Insurance Reform

The need for flood insurance is triggered by the location of a property in proximity to a body of water. If the property is situated within the regulatory floodplain (aka 100-year floodplain), flood insurance is required if the property owner has a federally backed mortgage. There are three inherent challenges to the flood insurance discussion and each should be carefully addressed since millions of dollars in insurance policy premiums are at stake. Until 2012, Pre Flood Insurance Rate Map Properties (PreFIRM) were given a subsidized rate. Biggert-Waters 2012 (BW2012) legislation revised the cost sharing plan for flood insurance in which home owners will be covering a greater share of the true cost of an NFIP policy's premium over the next 15-20 years.

Flood Insurance Reform Challenge #1—Getting the Maps Right.

In 1968, Congress formed the National Flood Insurance Program (NFIP) to address some of the shortcomings of the traditional means of dealing with the growing flood insurance problem facing America. The aim of the NFIP was to transfer the cost of the program to those who benefited, cover those who had damage in smaller



Figure 25: Flooding Depth Grid
Source: PCD

flooding events, discourage development in the hazard areas, and provide a means of requiring new construction to minimize future damage. This would be accomplished by mapping the flood hazard areas and requiring municipalities to enact minimum floodplain ordinances to participate in subsidized insurance.

This initiative did not gain momentum until after Tropical Storm Agnes in 1972. As a result of the extensive damage and cost of recovery, Congress required banks offering federally backed mortgages to require flood insurance. The NFIP objective is to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property

owners and by encouraging communities to adopt and enforce floodplain management regulations.

These regulations would be defined in municipal ordinances and would be based on mapping of the flood hazard areas. FEMA embarked on nationwide flood mapping. Flood Insurance Rate Maps (FIRMS) are the official maps used by NFIP, insurance companies, lending institutions, and municipalities when determining flood risks for property owners.

The maps are based on Flood Insurance Studies (FIS) which determine the flood potential at any location in the mapped area. FIS are conducted for municipalities under the supervision of FEMA. The actual studies are done by the United States Geological Survey (USGS), the Army Corps of Engineers, and engineering firms subcontracting to FEMA. Originally, flood maps were produced on a municipal by municipal basis. This method contributed to errors within a watershed between municipalities if different datum or scale was utilized in the study.

With the advent of digital geographic information systems, FEMA began producing Digital Flood Rate Maps (DFIRM) on a countywide basis. The first phase of this program, called Flood Map Modernization, operated from 2003 to 2008, and a subsequent phase, called Risk Mapping Assessment and Planning (RiskMAP) commenced in 2009.

The central issue for Lycoming County involves the accuracy of the DFIRMs for any given municipality. If local survey data and accurate GIS information conflict with a DFIRM map representation, then the County can retain a registered Surveyor/Engineer to prepare a letter of map amendment (LOMA) request as eligible for approved County grant funding guidelines. If FEMA accepts the proposed adjustment, then revised maps can be issued. This entire process can be time-consuming and expensive, so the County has to carefully consider which challenges to pursue.

Flood Insurance Reform Challenge #2—Base Flood Elevation Matters

Maps that show only floodplain boundaries have the disadvantage of implying that every building in a designated flood zone may flood and that every building outside the zone is safe. Providing floodplain residents with the elevation of structures relative to the expected height of a number of floods offers a better way to define graduated risk (from low risk to high risk). Where the necessary data is available (e.g., structure elevation, base flood elevations, flood protection structure performance), a geographic information system could be used to personalize flood risk to individual addresses. ^{xxxiii}

The base flood elevation (BFE) at a structure, together with the topography of the property, provides a more accurate estimated measurement of water depth, if and when flooding should occur. The height of the lowest enclosed space (basement) must be 18 inches above BFE. If NFIP insurance rates considered both the horizontal location of a property relative to floodplain boundaries and the BFE or water depth relative to the structure, then a more accurate assessment of risk could be determined. Simply stated, the flood insurance premium could consider a graduated level of risk (and graduated cost) based upon the actual BFE at the property site.

Another missing factor in the risk equation is the frequency of flooding experienced by a structure. Structures in a flood fringe area may have actually experienced flooding at greatly different intervals, yet are still classified the same for NFIP insurance premium determination. Again, premium costs could reflect this factor.

Flood Insurance Reform Challenge #3—We're in this together

There is an argument to be made that every structure in the US is, in fact, vulnerable to one form of natural disaster or another—flooding, wind damage, tornado, earthquake, wild fire, blizzard-related damage, etc. If a national “hazard insurance” requirement was instituted that would cover every property in the nation there would be an expanded risk pool and effectively spread the risk.

Regulatory Tools

In order to gain access to the affordable, federally subsidized insurance available through the NFIP, individual municipalities needed to enact ordinances which met the NFIP requirements. Motivated by this entrance requirement, communities began to strengthen floodplain management by reviewing current codes and ordinances and by strongly enforcing their floodplain codes on new development to avoid aggravating further flooding. These preventive activities keep problems from getting worse. These activities have been outlined in the County’s 2010 Hazard Mitigation Plan and its 2015 Update.

The use and development of the floodplain and its contributing watershed are limited through planning, land acquisition, or regulation. These activities are usually administered by building, zoning, planning, and/or code enforcement officials. Since every community is downstream of another, it is imperative to understand the impact of land management decisions on both the local area as well as neighboring lands downstream. In Lycoming County, significant residential growth in the outlying rural townships has the potential to increase the likelihood for flash flooding if floodplain development and stormwater management are not properly regulated.

An important tool to reducing the potential of flooding is the County’s stormwater management plan. Impervious surfaces created by development such as parking lots, roads, and roofs, can substantially increase runoff within a watershed. Lycoming County has developed a Stormwater Management Plan that sets the stage for municipal stormwater ordinances for designated watersheds. The plan evaluates existing drainage problems within the basin, considers potential impacts of flood control projects and land development regulations upon the hydrologic system, and makes recommendations for minimizing accelerated runoff. Each municipality can implement this plan via a stormwater ordinance. Additional initiatives for municipal officials to consider include:

- Assess the capacity of drainage culverts, pump stations, etc. to handle current stormwater needs and to accommodate future growth and development in their municipalities
- Specify limits on development and encroachment within mapped floodplains (land use density, intensity, elevations, location), including areas of shallow flooding and alluvial soils
- Establish policies and standards for dealing with and minimizing land use and floodplain conflicts
- Retain and preserve floodplains for open-space and recreation where undeveloped
- Prohibit incompatible floodway uses and specify low-density allowable uses within floodway fringe area
- Adopt flood hazard zoning including: conservation open space zoning of floodways, reduced densities in floodplain areas, riparian buffers, design standards that limit lot coverage and impervious surfaces and “no basement zones”
- Enact floodplain management standards as part of the subdivision ordinance
- Encourage compatible agricultural uses and practices with habitat conservation

Home Remediation

The County has over 4,000 structures located in the Special Flood Hazard Areas (aka regulatory floodplains) with varying degrees of vulnerability for each structure. Nearly 73% are residential dwellings. Funding to remediate or mitigate floodplain-vulnerable structures has historically been exceptionally limited. The need greatly exceeds potential funding sources, thus targeting and leveraging of multiple revenue streams is critical to moving forward.

In 2016, the County developed a Floodplain Housing Remediation (FHR) Program to address the mitigation of residential structures located in eligible floodplain areas of eastern and central Lycoming County.

Mitigation measures such as utility elevation have the advantage of reducing the impact of future high water damage to a home, and hopefully resulting in a reduction in flood insurance cost. Mitigation also improves the potential resale value of the dwelling and drives an overall improvement to the integrity of the neighborhood.

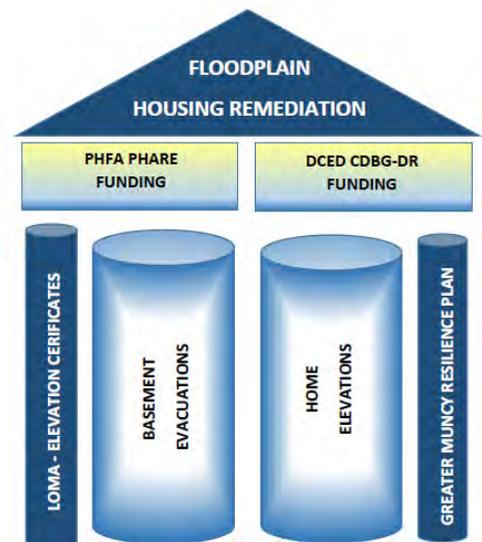


Figure 26: Overall Funding Strategy
Source: Lycoming County’s Floodplain Housing Remediation Program

The effectiveness of flood mitigation measures depends on the location of the property within the floodplain and the BFE at the structure's perimeter. Remediation measures may include, basement evacuation (filling it in), utility elevation, and structural elevation.

While these steps can be undertaken independently by the homeowner, they are generally beyond the financial resources of the majority of citizens. Federal and state programs targeted to home mitigation represent a proactive and intelligent investment of public funds since the outcome yields a number of distinct advantages to both the owner as well the surrounding community:

- Retains the residential structure and associated tax base contribution
- Reduces risk of structural foundation damage from future flooding
- Eliminates risk of utility damage or loss due to future flooding
- Eliminates the first enclosed (basement) floor and raises height of first habitable (living) floor to 18" above BFE
- Results in significant level of NFIP insurance premium reduction
- Helps homeowner avoid or minimize the nuisance of flood-related cleanup of their structure
- Helps stabilize or improve the market value of the house
- Helps improve the quality of life for both the selected neighborhoods and their municipalities



A home being elevated to protect from future floods and to reduce insurance
Source: PCD

The potential of moving or relocating a structure entirely out of the floodplain could be considered in a selected number of cases. While the cost of this option can be fairly steep and the logistics complex, relocation may prove to be the best course of action particularly when the structure is historical, thus making other mitigation measures unacceptable.

Key Implications

In summary, each of the five domains described above has a set of significant implications that must be thoughtfully evaluated and considered. A levee breach or failure, for instance, could happen at any time. Ongoing maintenance of the system is vital to its stability and reliability. As the levee ages, it is important to ensure it operates optimally. If the levee is not recertified, many homes and businesses in the Williamsport Central Business District and beyond would be forced to pay for costly flood insurance. Additionally, in the event of a levee breach or failure, the federal government would have no obligation to assist in financing recovery efforts for thousands of homeowners.

Indirect costs of levee failure would be devastating to GWA. In Williamsport City alone there are over 14,000 people employed. During clean up and repair of the city, many of these people may be unemployed and the city would lose income on taxes as well. The loss of sales to local employers could range from \$7 million to \$70 million each year, depending on the percent of damage, if they have to close due to flood damage. The levee protects local businesses from this loss every time there is a flood and has done so since 1956.

Even if employers are not directly affected they may temporarily lose workers due to damage to their homes. Damage to essential businesses, such as grocery stores, could create issues for people in the area. These indirect costs do not include the potential damage to utilities or infrastructure in the city and these damages could greatly increase the time it takes for the city to recover.

Beyond the urbanized GWA region, there are a significant number of properties extremely vulnerable to either river flooding, flash flooding from one the County's major creeks, or both. The likelihood of USACE designing and constructing a flood protection levee anywhere in Lycoming County is exceedingly remote. Structures situated in the floodway may be better candidates for the acquisition and demolition program while homes located in flood fringe areas may be better served by targeted remediation efforts. Both of these efforts are aimed at providing permanent solutions to the flooding issue. With 4,188 homes around the County on property identified as floodplain, it is now more urgent than ever to tackle the flooding issue in a more proactive and aggressive manner.

The onset of NFIP premium increases, driven by Biggert-Waters 2012 legislation, prompts even more immediate action on this issue. Working in partnership with FEMA, the County needs to continue to ensure the DFIRM maps are accurate, ordinances are enforced, and advocate on behalf of the County residents.

Collectively, the strategies described in the five domains, listed above, could potentially have a direct or indirect impact on approximately 50 percent or more of the residential, commercial and industrial parcels in the County. In a very real sense, the economic well being of Lycoming County and all of its citizens are tied to proper flood mitigation strategies.

Projects of Countywide Significance for this Issue

LEVEE CERTIFICATION

This project is multiphased and is intended to meet the FEMA Certification Requirements and address USACE identified deficiencies in the levee system. Phase One examines the USACE deficiencies in each section of the levee and charts a plan to seek funding to remediate each issue. Phase Two addresses any deficiencies identified in the FEMA Certification process. Phase Three involves a study to consider future management configurations of how the levee can be best maintained going forward. Completion of this project is paramount to ensuring the financial livelihood of Lycoming County.

FLOODPLAIN HOUSING REMEDIATION

Remediate the maximum number of floodplain residential structures in the grant eligible areas of Lycoming County to include utility elevation, basement evacuation, and/or structure elevation. Assist homeowners in securing revised Elevation Certificates that help provide for reductions in flood insurance premiums. Projects require diligent attention to the allowable mix of income levels (medium, low, and very low) of eligible homeowners that each grant source may require.

DFIRM MAPPING

The flood mapping can be challenged when new digital data becomes available and it appears to be in conflict with the existing flood insurance rate map. This project involves the re-delineation of floodplain boundaries to increase the accuracy of the mapped floodplain in all areas of the County. The proposed DFIRM mapping project builds upon the June 2016 Risk Mapping, Assessment, and Planning (RiskMAP) project completed by Lycoming County Planning and seeks to ensure that flood insurance requirements are accurately and fairly applied to those areas of the County that have not been previously updated. Prior to the recent June 2016 update, the County possessed roughly 5,500 addressed structures in the SFHA; however, since the update the County has removed over 1,000 structures from the floodplain through accurate and updated mapping methods conducted by RiskMAP. Future mapping projects should continue to accurately re-delineate the County's floodplain maps.

RiskMAP is a Federal Emergency Management Agency (FEMA) Program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. Through more precise flood mapping products, risk assessment tools, and planning and outreach support, RiskMAP strengthens local ability to make informed decisions about reducing risk. ([FEMA RiskMAP](#))

ACQUISITION & DEMOLITION

Residential structures located in the floodway section of the regulatory floodplain and homes that have experienced severe repetitive flooding may be better candidates for acquisition and demolition than remediation. While the County has successfully “bought-out” approximately 300 homes to date, hundreds more may be eligible and deserving. Since the average per unit cost is approximately \$115,000 to acquire the property and an additional \$15,000 to demolish the structure and cover all ancillary expenses, any HMGP funds secured by the County may be able to address only a few homes at a time. The County should continue to maintain a prioritized list of qualified residential structures and aggressively pursue any federal and state funding associated with declared flooding disaster events. Additionally, the County should examine private or non-FEMA related funding sources to potentially administer buy-out grants to properties where FEMA funding is not awarded or applicable. The County should continue to promote its Hazard Mitigation Opportunity form – available on the County website.

REGULATORY TOOLS

Plan of Action includes:

- Update the 2015 Lycoming County Hazard Mitigation Plan by 2020.
- Ensure that the County floodplain ordinance is updated to remain consistent with the County Comprehensive Plan Update as well as the 2020 Hazard Mitigation Plan. Ensure that municipal floodplain ordinances are similarly updated. Continue to administer the municipal floodplain ordinances, providing assistance to local zoning officers regarding floodplain regulations and land development.
- Assist municipalities in developing and implementing stormwater ordinances that reflect the best management practices documented in the County's stormwater management plan.

FLOOD INSURANCE REFORM

Flood insurance is an important tool for our residents, providing the most immediate relief following a flood, regardless of whether the flood becomes a nationally declared disaster. The County should continue to advocate for the Lycoming County residents by maintaining positions on State and Federal boards and groups that provide input and feedback to the NFIP.

Flood insurance reform will help communities in Lycoming County and throughout the Commonwealth prepare for a more resilient and sustainable future. The County's presence on committees and working groups should be promoted to help tackle effective reform. A focal point of discussion should address the impacts on the local tax base as one of the most important reasons for the County and other local governments to be addressing flood insurance reform. Furthermore, information about flood insurance premiums must be more easily accessed and Lycoming County can continue to play a key role in coordinating mitigation and providing critical information necessary to address increase flood insurance premiums.

HAZARD PLAN UPDATE

Lycoming County Planning updates the countywide All Hazard Mitigation Plan (HMP) once every five years. The implementation actions within this HMP apply to Lycoming County and any municipalities that adopt the HMP as their own. However, only those municipalities that have participated in the plan update process will remain eligible for state and federal hazard mitigation funding through the HMP. This Hazard Mitigation Plan examines a risk assessment of potential hazard profiles across the County and develops comprehensive mitigation strategies as a response.

HAZUS MODELING

In 2016, planning staff worked with Michael Baker, Inc. on a Hazus modeling to enhance the 2015 All Hazard Mitigation Plan. HAZUS-MH can be a valuable tool in estimating damage and loss of functionality from floods, earthquakes, and hurricanes, and the benefits from the implementation of select mitigation measures. The Hazus analysis examined the economic loss due to a potential 100-year flood occurring countywide:

- Hazus estimates that there are 46,093 buildings in the region which have an aggregate total replacement value of \$7,427,019 (2014 dollars).
- For essential facilities, there are 4 hospitals in the region, 51 schools, 39 fire stations, 17 police stations, and 5 emergency operation centers.
- Hazus estimates that about 1,174 buildings will be at least moderately damaged. This is over 61% of the total number of buildings in the scenario. There are an estimated 240 buildings that will be completely destroyed.

The model estimates that a total of 84,260 tons of debris will be generated:

- Of the total amount, Building finishes comprise 27% of the total
- Structures comprise 42% of the total

- If the debris tonnage is converted into an estimated number of truckloads, it will require 3,370 truckloads (@25 tons/truck) to remove the debris generated by the flood

Additionally, Hazus estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. Hazus also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates 3,383 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 5,915 people (out of a total population of 116,111) will seek temporary shelter in public shelters.

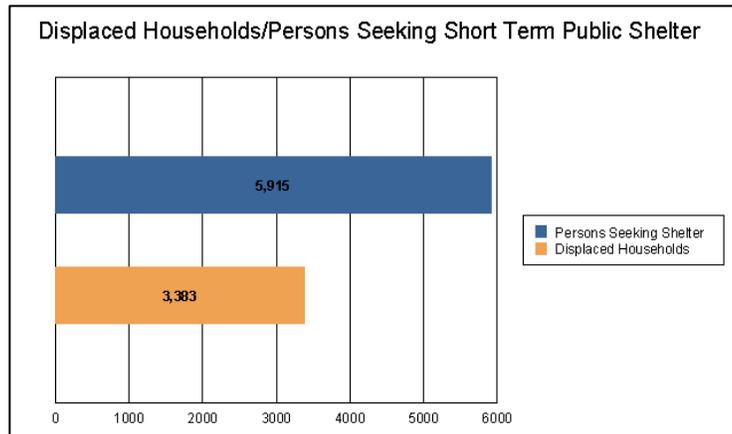


Figure 27: Displaced Households/Persons Seeking Short Term Public Shelter

Source: [Lycoming County 2015 Hazard Mitigation Plan](#)

The total economic loss estimated for the flood is 597.40 million dollars, which represents 27.15 % of the total replacement value of the scenario buildings.

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the flood. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the flood building-related losses were 592.13 million dollars. 1% of the estimated losses were related to the business interruption of the region. The residential occupancies made up 31.90% of the total loss.

The County will continue to utilize these innovative evaluation strategies during the next All Hazard Mitigation Plan Update in 2020.

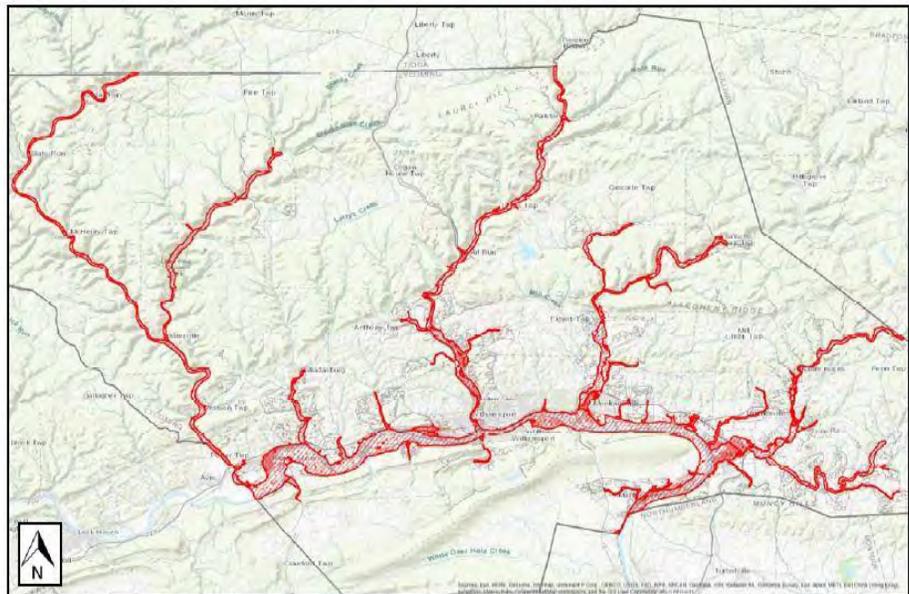


Figure 28: Countywide 100-Year Flood Overview Map

Source: [Lycoming County 2015 Hazard Mitigation Plan](#)

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Priority Issue #5



Current land use regulations and enforcement do not consistently and adequately meet community visions and respond to changing conditions.

Back Story All 52 municipalities within Lycoming County have either adopted their own zoning ordinance or have opted to join the County Zoning Partnership. Collectively, these designated land uses are intertwined with every aspect of our residents’ daily lives and the community’s lifestyle. Land use influences where we live, work, play and recreate. Because of the significance of sound land use planning, it is equally evident that a failure to plan for and mitigate potential negative impacts of incompatible land uses will likely degrade a neighborhood or an entire municipality. In order to have effective land use regulations, local government leaders need to:

- Update their knowledge of land use planning, practices, and regulations on a regular basis through tools that are being provided through membership organizations like the American Planning Association, PA State Association of Township Supervisors, PA State Association of Boroughs, County Commissioners of PA, and other helpful sources of land use information.
- Amend their municipal ordinances, as needed, to ensure consistency with their comprehensive plan.
- Examine and streamline their ordinances and find ways to minimize the cost of development without sacrificing safety, the environment, community character, or the community’s quality of life.
- Encourage desirable development practices.

Over the past 10 years, land use regulations have been well-implemented throughout Lycoming County. However, elected, as well as appointed officials, need to stay abreast of changing trends which may affect land use such as new industry practices, new markets, and new infrastructure projects which change the development potential of previously undeveloped land.

From a development perspective, land use ordinances set the stage for economic development and community development opportunities. Community leaders must ensure that public infrastructure planning and land use planning are aligned. Moreover, community leaders must carefully evaluate the impact of land use decisions on the area’s scenic beauty and natural resources—a factor deemed very important by all County residents. Natural Beauty received the most positive comments of any topic in the 2016 Public Outreach Survey conducted for this plan. Additionally, the Youth Focus Group and Young Professionals Focus Group both identified Scenic Beauty as something which will encourage them to stay in the County.

Lycoming County’s principal land use tools include its *Zoning Ordinance* (ZO) and its *Subdivision & Land Development Ordinance* (SLDO). On behalf of the

Since the adoption of the 2006 County Comprehensive Plan, the County has experienced considerable development pressure primarily due to the arrival of the natural gas development industry. PCD led a 24-month effort to revise and update the County ZO to account for this new industry that has the potential to impact our community’s character. That ordinance amendment has been successfully implemented since its incorporation in 2011.

County Commissioners and County Planning Commission, the Planning and Community Development (PCD) Department has been charged with administering, maintaining, and updating both the County ZO and County SLDO.

Priority Issue Overview There are a number of significant changes on the horizon that may have a profound impact on Lycoming County, such as:

- Central Susquehanna Valley Transportation Project (CSVT)
- Changing landscape of the retail market and its impact on the Lycoming Mall
- Extension of utilities into the US 15 South Corridor and the resulting increase in development potential
- Continuation of Brownfields Redevelopment
- Cyclical nature of the natural gas industry
- Shifting paradigm for land use planning

CSVT South of Lycoming County in neighboring Northumberland and Snyder Counties will be the forthcoming Central Susquehanna Valley Transportation Project (CSVT). In short, the CSVT project will create a bypass for U.S. 15 near Shamokin Dam, Snyder County, and divert traffic across a new bridge over the West Branch Susquehanna River on to State Route 147 in West Chillisquaque Township, Northumberland County, which becomes I-180 north of I-80. Because U.S. 15 is a major north-south route through central Pennsylvania and central New York, the CSVT project may shift traffic patterns and create both development opportunities and pressure in the Montoursville–Muncy & Muncy Creek Planning Areas while potentially reducing traffic in the U.S. 15 South Planning Area.

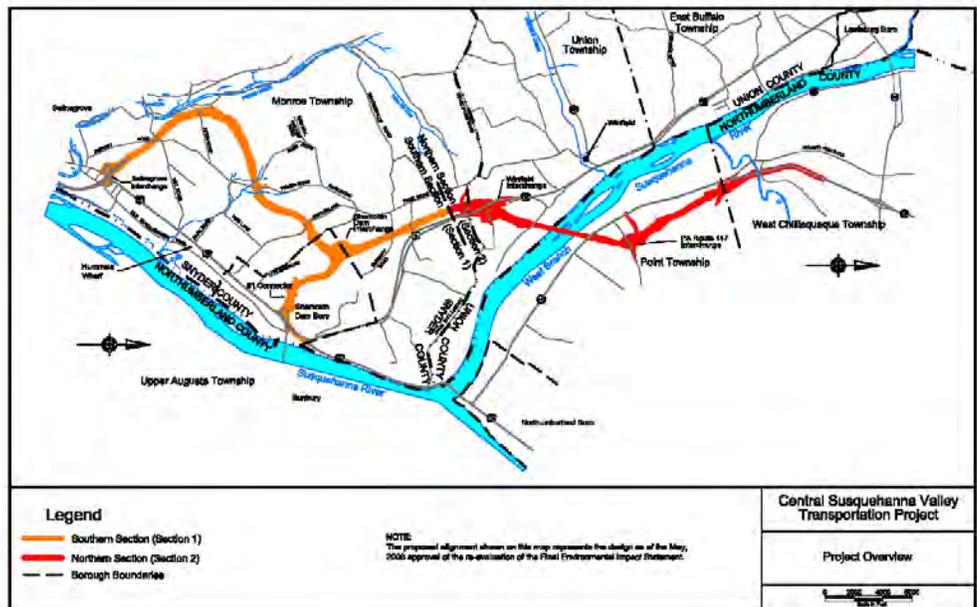


Figure 29: Central Susquehanna Valley Transportation Project
Source: www.CSVT.com

When completed, this project will provide a high-speed access to destinations in central Pennsylvania and central New York. The perceived impact of CSVT on Lycoming County includes:

- Increased traffic along I-180
- New development opportunities in Muncy Creek, Muncy, and Fairfield Townships, and Muncy Borough
- Potential for decreased truck traffic along US 15 South through Brady, Clinton, and Gregg Townships

An Environmental Impact Study, produced for the CSVT project, provides traffic projections for this project south of I-80. Based on these projections, it is possible that I-180 may experience a 100% increase in vehicles per day by 2044. Within Lycoming County I-180 has a total of 12 interchanges, ranging from the Muncy Main Street to the US 15 North in Williamsport. Nine of these exits have issues involving existing development, floodplain, or unsuitable topography. The four interchanges that are most likely to experience development pressure include: Exit 13 Muncy (Route 405), Exit 15 (Pennsdale US 220), Exit 17 (at the Lycoming Mall), and Exit 20 (Fairfield Road). While it is anticipated that the CSVT project will increase development pressure within I-180 Corridor, the extent and nature of that development is hard to accurately define. To better prepare for these anticipated development pressures, it will be increasingly important to evaluate land use regulations in each municipality to ensure that development practices are sustainable, protect local assets, and align with community values. In order to plan for and implement any coordinated proactive measures in response to this potential increase in development pressure, it is important to continue to foster strong regional multi-municipal partnerships with open lines of communication and a shared vision for future development.

Lycoming Mall The changing retail environment throughout the United States is a trend which is impacting local retail locations throughout Lycoming County, most notably the Lycoming Mall. By 1990 big box stores such as Walmart (ranked as America’s number one retailer) began drawing business away from malls and locally owned retail establishments. Around the same time, e-commerce started to emerge as an alternative to brick and mortar stores and, according to the US Census, has steadily grown to 8.5 % of the total retail market share as of the first quarter of 2017 and shows no sign of slowing in the near future. The diversity of options that a consumer now has, combined with the oversaturation of retail establishments (see Table 9 for more information), changing preferences with regard to where and how we socialize, and the stagnation of income nationwide all contribute to the changing landscape of the retail market and the struggles that malls across the United States now face. Real estate experts contend that as much as 15% of the 1,500 U.S. malls currently operating may be closed within the next decade as the market corrects for oversaturation and the structural changes occurring within the industry, specifically among fixed point-of-sale locations.^{xxxiv} The Lycoming Mall is not immune from these market forces. Four anchor stores have announced closures within the 2 years (JC

	Shopping Center GLA (sq ft, MM)	Population (MM)	GLA Per Capita
	2015*		
U.S.	7,567	321	23.5
Canada	589	36	16.4
U.K.	299	65	4.6
France	254	66	3.8
Spain	157	46	3.4
Italy	169	61	2.8
Germany	191	81	2.4

*France & Germany 2014

Table 9: Gross Leasable Area (GLA) Per Capita
 Source: brownfieldlistings.com

Penney, Sears, Bon-Ton, and Macy’s). In addition to the 2015 closing of the showroom and distribution center properties owned by Grizzly Industrial, Inc. – two other major outparcel owners (Gander Mountain and Toys“R”Us) have claimed bankruptcy. While the Gander Mountain has recently been reopened as “Gander Outdoors” by a new managing company, Toys“R”Us has closed their Muncy location. Given this trend, the mall will need to accommodate a more innovative mixed-use approach to sustain itself as a viable enterprise.

US 15 South Corridor This corridor represents one of Lycoming County’s last remaining underdeveloped gateway corridors, which includes a combination of cultivated/open space land; sporadic commercial

development; a KOZ industrial park (the future Timber Run Industrial Park); and Government owned installations such as the Lycoming County Landfill, Allenwood Federal Prison, and White Deer Golf Course. Water and sanitary sewer infrastructure are being designed to support this corridor. Since this corridor is likely to experience an increase in development in the coming years, it is important to plan for suitable types, locations, and densities of development in this area. Careful planning will allow these municipalities to capitalize on economic potential while also preserving quality of life and local character of the surrounding communities.

Brownfields Redevelopment A brownfield is any property underutilized for various reasons such as abandonment, obsolescence, tax delinquency, and/or blight and whose redevelopment is inhibited by real or perceived presence of hazardous substances and environmental contamination. In many cases, these underutilized brownfield properties are impediments to economic growth and reinvestment. In response, community leaders can take a comprehensive look, analyzing and exploring redevelopment options for all underutilized and abandoned commercial, industrial, institutional, and residential properties.

An effective redevelopment tool to date has been the Lycoming County’s Brownfields Program. Initially funded by a US EPA grant, this program promotes the reuse and redevelopment of properties through the identification of potential environmental concerns via environmental assessments. This is typically the first step in determining the reuse potential of brownfield sites. More specifically, during the period between 2013 and 2016 there were over sixty potential brownfield sites identified. Many of these sites are being actively redeveloped. Others will need public/private partnerships in order to realize their full potential. It is acknowledged that there are still more unidentified sites within the County and this offers an opportunity to the community to reconsider the highest and best use for these lands.

At the local level, municipalities can adopt regulations that encourage the reuse and rehabilitation of brownfield sites in their communities. This includes evaluating existing regulations governing downtowns to ensure old structures and underutilized land provides opportunities for retail establishments and other relevant uses. The objective is to identify the optimal use of all available land and remove any unnecessary roadblocks that might prevent the property from realizing its highest and best use.

Return of Natural Gas Development When the 2006 County Comprehensive Plan was adopted, the natural gas industry was long aware of the gas in the Marcellus Shale Formation; however, they viewed the formation to have inconsequential natural gas potential due to the presence of low permeability shale. In 2003 Range Resources unsuccessfully drilled a well into the Oriskany Sandstone Formation but through doing so discovered that Marcellus Shale had some of the same properties of the Barnett Stale Formation in North Texas. In order to salvage their investment, Range Resources successfully completed the well in the Marcellus Formation utilizing hydraulic fracturing



*Natural Gas Well Pad, Cogan House Township
Source: PCD*

techniques similar to those developed for the Barnett Formation. To extract the shale gas at more commercially viable rates, horizontal drilling through the vertical fractures in the formation was combined with hydraulic fracturing and enabled the industry to double gas production with slightly lower overall costs. These innovations made natural gas extraction from the Marcellus Shale Formation profitable enough for a drilling boom to occur from 2007 to 2013. Drilling activity began to subside in 2014 due to a glut of natural gas in the market, limited end users due to lack of supply infrastructure, and lower natural gas trading prices which made drilling less profitable. However, these factors are changing and the forecast for 2017 and beyond suggests that a resurgence in gas drilling activity in the County is likely, but perhaps not as robust as the 2012-2013 peak periods. Each zoning jurisdiction within Lycoming County should be prepared for this uptick in activity by maintaining an understanding about the operations of the industry and how to appropriately regulate its activities.

Shifting paradigm for land use planning Many municipalities enforce a zoning ordinance which perpetuates unintended forms of development by:

- Rigidly separating types of land uses into different zoning districts; and
- Overprescribing inflexible standards for things like parking, setbacks, road design, and lot sizes which have the potential to increase development costs and limit the creativity of the developer. This is of particular concern with stormwater regulations where developers are required to build stormwater facilities to accommodate the structures and appurtenant facilities, as well as additional impervious surfaces generated due to meeting excessive parking and road design standards.

Many jurisdictions take a “set it and forget it” approach to zoning by not amending their ordinance until the ordinance becomes overly problematic or its legality is challenged. Having said that, it should be noted that no zoning ordinance will ever be perfect, but it is a useful tool which serves an important purpose. This tool is an often overlooked and undervalued implementation mechanism of the Comprehensive Plan.

Moving forward, land use planning should consider the concepts encouraged by the Congress for New Urbanism and Strong Towns, which are further exemplified through initiatives, by advocating a framework for fiscally sound municipal investments, resilient communities which are scaled appropriately for their surroundings, ecologically beneficial recreational spaces, and positioning our communities in a way to maximize our economic development potential. The land use planning paradigm continuously shifts and our implementation tools should be expected to shift to meet these paradigms when the community deems it necessary. Figure 30 highlights this shift over the past 75 years.

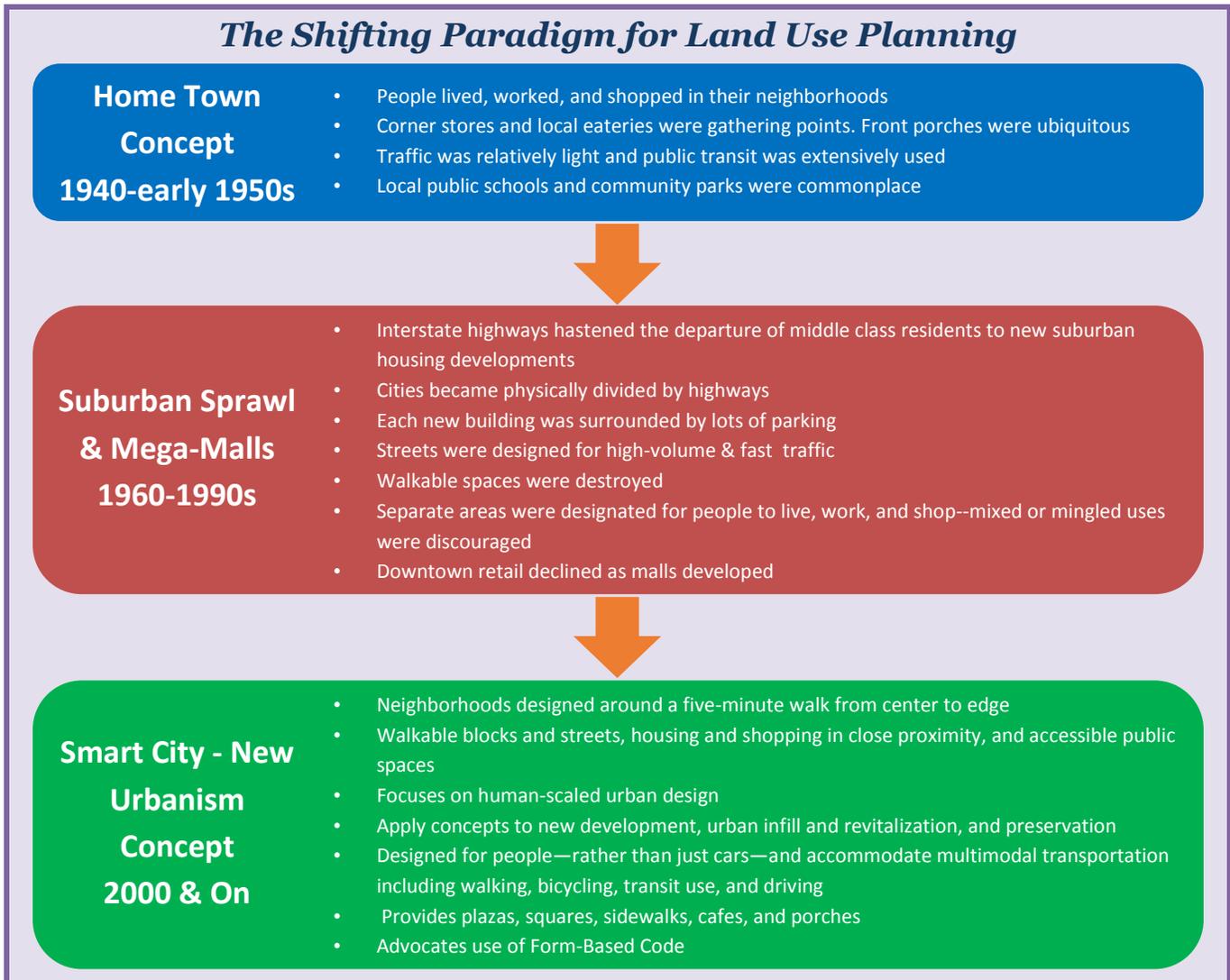


Figure 30: The Shifting Paradigm for Land Use Planning

Key Implications Failure to implement and enforce land use regulations will result in uncoordinated development and land use conflicts. Land use conflicts could cause decreases in property values which hurts the economic prosperity of the municipality. Additionally, uncoordinated development could result in public safety hazards and unintended municipal fiscal burdens. Land use regulations also protect local resources such as our community character and help to coordinate new development with existing/planned infrastructure and utilities.

In 2006, local zoning ordinances of most municipalities did not contain guidance regarding Natural Gas development. If the County and municipalities had not responded as quickly as they did with this industry, then many of the County’s most spectacular landscapes may have been scarred for the foreseeable future.

If land use regulations are not regularly reviewed for streamlining purposes, then municipalities may continue to impose development costs and burdens that add little to no value to the ultimate outcome. When land use

regulations are based on the “objectives to be achieved,” then the rationale for those ordinances are bolstered significantly and the general public’s support is more forthcoming.

Additionally, it is imperative that the existing vacant retail spaces within the County be refilled or repurposed. Vacancy will negatively impact the tax base for the municipal, school, and County governments and may even impact adjacent property values. These large businesses also make up a significant portion of the customer base for the local water and sewer provider. If these large spaces are not filled then water and sewer rates may rise as a result.

The implication of failing to keep up with the shifting paradigm within land use planning is the unavoidable lost opportunity to revitalize and redirect our communities. Our community’s ideal vision is best achieved when leaders are exposed (educated) to the best practices being experienced across America and can then translate those ideas into a local formula that is tailored to their community.

Projects of Regional Significance for this Issue

EXPLORE RE-USE OPPORTUNITIES FOR VACANT COMMERCIAL AND INDUSTRIAL PROPERTIES

With Macy’s, Sears, Bon-Ton, and JC Penny’s having closed their stores in the Lycoming Mall it has become apparent that the long-term viability of the mall is at risk. The adjoining parcels of the Grizzly Industrial property and Toys R’ Us are also currently vacant. The County working in partnership with the governing municipal leaders, the Williamsport/Lycoming Chamber of Commerce (WLCC), and the Lycoming County Water and Sewer Authority (LCWSA) should proactively deal with the economic impacts of losing these stores and to encourage re-use of these buildings and others which are currently vacant or may be vacant in the future.

- Work with the WLCC to engage current Lycoming Mall ownership and owners of other vacant properties to determine the needs of the mall and to consider innovative methods for making the Lycoming Mall and the other properties a place for vibrant business.
- Evaluate zoning use standards surrounding the mall and in other locations of the planning area where other vacant commercial and industrial structures are located to ensure that all practical uses are allowed within the district and any revisions that could be made to the ordinances to incentivize redevelopment. Innovative uses, such as conversion of large retail spaces into smaller specialty boutiques or even more flexible pop-up retail locations may create increased interest, foot traffic, and might possibly serve as a business incubator for new retail ventures. Redeveloping the mall into a mixed use asset featuring innovative commercial/light industrial space, entertainment venues, residential living space, improved public transit options, and passive recreational possibilities may also yield a positive outcome.
- Work with the Williamsport Lycoming Chamber of Commerce to identify potential businesses to locate within these structures.

When a mall starts losing anchor stores, it significantly increases its probability that it becomes a dead mall. Changes to the Lycoming County Zoning Ordinance could allow a wider variety of uses on the Mall parcel to encourage long term viability of this property. Parking standards could potentially be reduced to encourage re-use of the property. Mall ownership should be engaged early in the process. The discussion with mall ownership should identify potential future uses which the owners envision along with other potential compatible uses. Other land use controls which restrict re-use of the property should also be discussed. In addition to reviewing the zoning ordinance requirements surrounding the mall, municipal leaders, the County and the Williamsport Lycoming Chamber of Commerce must join the mall in recruitment and retention efforts for business and industry. Significant financial investment has been made in public infrastructure to include public sewer and water in this growth corridor. It is imperative that new business and industry is recruited.

CSVT – I-180 INTERCHANGE ZONING REVIEWS AND TRAFFIC IMPACT STUDY

The CSVT transportation project may create additional development pressure in this corridor of I-180. To proactively deal with the potential development pressure, the applicable municipalities should review their current ordinances and determine if changes are needed to accommodate development pressure including the possibility of creating interchange overlay zoning districts. As part of their ordinance review, typical interchange

uses should be examined and the municipalities should decide which uses they want to allow near interchanges. Additionally, the infrastructure needs should be reviewed at these interchange locations and catalogued for near term improvements if needed. With the completion of CSVT a large proportion of central Pennsylvania north-south through traffic may choose to re-route through the PA State Route 147/I-180 corridor (which will offer uninterrupted, four-lane limited access freeway travel) instead of the US-15 corridor (which is two-lane highway with numerous access points and intersections and far more prone to congestion). This potential shift of traffic volumes (and the attendant possibility for commerce) from one corridor to another could provide some communities with additional economic development opportunities while reducing those opportunities in others. To better determine the impact of the CSVT project on these two corridors, PCD is pursuing funding to perform a Transportation and Land Use special study. However, such opportunities also pose challenges that will need to be addressed:

- Mitigate potential negative impacts such as drawing commercial investment away from downtowns.
- Provide sufficient infrastructure to accommodate this growth.
- Once the results of the Transportation and Land Use special study have been prepared a corridor master planning exercise will need to be undertaken in the US-15 South planning area. For a more complete scope on this project, reference the top viable project for Priority Issue # 6 of the US-15 South Multi-Municipal Comprehensive Plan.

Current land use regulations do not specifically deal with highway interchange development activities. By creating interchange land use regulations, local municipalities can provide for development of land near interchanges and ensure that negative impacts from growth near interchanges are mitigated. If interchange zoning districts are created, interchange zoning districts should be limited in size and scope as to protect the rural community character.

ZONING REVIEW PROCESS

- Evaluate existing zoning, subdivision and land development, stormwater, and building codes to ensure they promote a vibrant and livable community and take into account future growth
- Evaluate the potential for multi-municipal zoning partnerships between neighboring municipalities, such as shared or joint zoning ordinances (as allowed under the PA MPC, Article VIII-A) or as part of the County's Zoning Partnership
- Consider the appropriateness of allowing "Tiny Houses" as dwelling units on individual properties, in cluster developments, or possibly in mobile home parks
- Employ effective code enforcement to maintain and enhance property values
- Evaluate the redevelopment opportunities of vacant Brownfield commercial/industrial sites to determine the redevelopment cost to make the sites viable for new development
- Evaluate areas in the municipalities for potential agricultural and conservation protection
- Identify areas for development of more concentrated and diverse developments where infrastructure is available or planned
- Evaluate future highway and municipal infrastructure needs on a regional basis related to the anticipated growth and development as part of the completion of CSVT

ENSURE ADEQUATE LAND USE EDUCATION AND TRAINING

Continuous education of elected and appointed officials is prerequisite to forward-looking decision making as the development paradigm shifts. It is equally critical to enlighten the general public about zoning and development processes. PCD should take lead on this initiative.

SUPPORT OPPORTUNITIES FOR DEVELOPING PEDESTRIAN/BIKE FRIENDLY ROUTES

Recreation is important to the citizens of Lycoming County. Pedestrian and Bike friendly routes will connect neighborhoods and communities together as well as providing access to local amenities such as parks, schools, and libraries. Equally important are the improvements to neighborhood walkability. At the larger scale, improvements may need to be made to primary routes throughout the County to make them safer for pedestrians and cyclists. These improvements should be targeted along collectors and arterial roadways as these roadways usually provide the best connectivity but also the greatest risk of accidents. Roadway designs could include narrower lanes, lower speed limits, and clearly marked bicycle lanes or wide shoulders for cyclists. The County will work with PennDOT and our municipalities to emphasize the importance of these facilities when roads are being re-designed or renovated.



Wide shoulders allow cyclists to travel outside of the main travel lane.
Source: [thirdwavecyclingblog](http://thirdwavecyclingblog.com)

Priority Issue #6



Volunteerism and civic engagement, particularly among young people, are insufficient to sustain community institutions and services.

Back Story Many public and non-profit institutions in Lycoming County rely heavily on volunteers to provide amenities and services to the citizens of this County. Volunteers fulfill a variety of essential community functions such as serving as local firefighters and EMTs and assisting municipalities on boards such as municipal planning commissions, zoning hearing boards, municipal authorities, and local election boards. Many local non-profit groups also rely on volunteers to achieve their missions. However, volunteerism and civic engagement, particularly among young people, has been an issue of concern since at least the 1980s. As an example, since 1985 the number of fire and EMS volunteers statewide has declined from 152,000 to 70,000. Municipal officials and community leaders at the local level recognize that the declining trend in volunteer involvement is consistent with what they have seen in their municipalities. At least one municipality in the County has reported that they did not have enough manpower to cover EMS responsibilities at all times. A need for more adult volunteers to support social service programs was also identified at the Community Development Focus Group meeting held on April 14, 2016, as part of the development of this plan.

Local appointed boards are filled mostly with older citizens (many of which are in their late 50s and older, according to municipal secretaries within the PATs). While this may not have been a major problem in the past, the issue is becoming more apparent as technology is dividing the population. The issue involves attracting, communicating with, engaging, and retaining the younger generation to serve as volunteers on boards with aging members.

Civic engagement is another area where community leaders identified deficiencies. According to the American Psychological Association, civic engagement can be defined as “individual and collective actions designed to identify and address issues of public concern and can take many forms from individual volunteerism to organizational involvement to electoral participation.”^{xxxxv} Civic engagement is an important factor in shaping public policy. Effectively engaging a diverse segment of the public (and not just “the usual suspects”) throughout the development of projects results in more community buy-in for that project. However, when citizens are not effectively engaged they can become disenfranchised with local leaders. In the Summer of 2016, PCD staff conducted surveys in Lycoming County as part of preparation for this plan to find out what County residents do and don’t like about the County. “Feelings towards local government” was the second most frequently commented on negative issue (as shown in the Survey Results Graph) and of positive and negative issues it was the fourth most frequently commented on. These comments covered a wide range of the political spectrum and ranged from relatively simple feelings that local government did not listen, to issues related to specific local government business. It’s clear from these comments that many Lycoming County citizens feel disenfranchised by their local government. However, many in local government know that very few people

actually actively participate in local government decision-making in spite of being given many opportunities to do so.

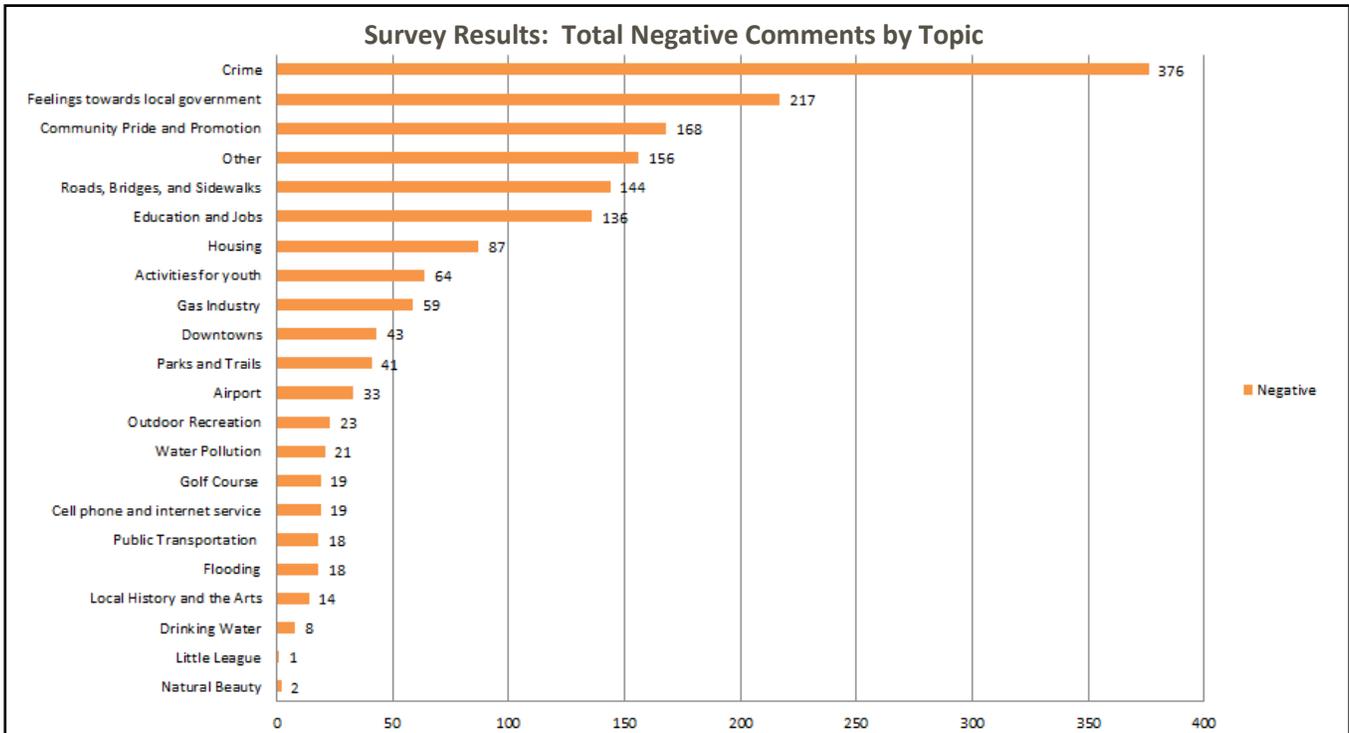


Figure 31: 2016 Comprehensive Plan Outreach Survey Results: Negative Comments by Topic
Source: PCD

Priority Issue Overview While some non-profit and government boards experience a lot of success in finding volunteers, others have struggled. Experience is a valuable commodity on these boards, however, it is also important to ensure that there is board turnover in order to bring fresh ideas into the mix. In order to encourage board turnover, many boards (such as the Lycoming County Planning Commission) opt to enact term limits. Board members should also consider actively recruiting new board members from the community by targeting specific individuals with skillsets which would be valuable to the board and simply asking them to be part of the board.

Civic disengagement is being driven by three main factors in Lycoming County and much of America in general: a lack of knowledge of how the public sphere operates, ineffective communication between institutions and the public, and institutional parochialism.

Lack of knowledge of how the public sphere operates – In spite of the fact that many school curriculums involve civics at some stage of the education process, youth are graduating from school without a sufficient understanding of the roles, responsibilities, and opportunities to affect change of the various levels of government. In April 2016, the Lycoming County Planning Department held a Youth Focus Group meeting that included about 25 students from seven school districts within Lycoming and Sullivan Counties. Students offered many useful insights but also indicated they did not fully

comprehend the roles and responsibilities of local government before the meeting. It's important to understand that educational institutions must be the spearhead of any efforts to address this deficiency. Much of the success of any work to address this issue will hinge on how much the school districts and colleges participate. The task is difficult for educational institutions though, given the complexity and breadth of public sphere operations at the local, state, and federal levels; however, it is critical for students to have a holistic understanding of how the public sphere operates.

Ineffective communication between institutions and the public – According to a report published by the Pew Research Center in 2016, newspaper circulation has declined in 10 out of the last 12 years.^{xxxvi} Meanwhile, the Pew Research Center reported in 2015 that 61% of millennials (those born between 1981 and 1996) reported getting political news primarily on Facebook in a given week. In comparison, 60% of Internet-using Baby Boomers (those born between 1946 and 1964) reported getting political news primarily through local TV.^{xxxvii} So while governmental entities generally communicate through the newspaper, the public is not buying as many newspapers, resulting in a growing communication gap between government and the public. Lack of knowledge about public sphere operations also impacts this issue since people are not even aware of what to pay attention to. It's important to note that while communication patterns are changing, we still need to accommodate other segments of the population who are not changing their communication patterns.

Institutional parochialism – Parochial is defined by Dictionary.com as “very limited or narrow in scope or outlook; provincial.” In regards to this plan, the term *Institutional Parochialism* is intended to convey an idea that there are some institutions (government and non-profit) which are not open to change or influence from outside. This can be for a variety of reasons - such as not wanting to give up power - to not believing that others are capable or willing to do the job. Whatever the reasons, this is a problem which has been identified in multiple outreach areas throughout the development of the plan. The issue is even documented in the 2006 Comprehensive Plan. This issue was also mentioned frequently in the survey comments with people expressing a desire for government officials to work together to solve problems, bemoaning the lack of engagement from political leaders, and complaining leadership not being inclusive of outside opinions. The Youth Focus Group said that “they feel the older generations do not always understand their perspective.” The problem was even identified by community leaders during the development of this plan specifically during the SWOT analysis exercises conducted during the development of the six multi-municipal plans.

Some community leaders may believe that the public does not want to engage since they do not take advantage of the existing engagement opportunities, however, the survey comments are clear that this is not the case and that the public wants leadership to engage them more in decision-making processes. The Youth Focus Group also offered a few insights which indicate that they are ready to be engaged by leadership.

- They believe the single greatest way to make a difference in their community was through active participation in local government.
- They wanted the older generations to know that they are ready to step up into leadership positions in government and in the community.

- They are confident in their ability and interest in doing so.

Public engagement is frequently a requirement of much of government's work, however, these laws usually require public input at public meetings, occurring sometimes after much of the work has already been done planning a project. At this point soliciting public input is little more than checking a box and it serves more to make government transparent than it does to improve civic engagement. In order to more effectively engage the public it is important to understand what civic engagement is not. Civic engagement is not: selling an idea, program, or policy to the public; convincing people to support a plan or idea of the staff or council; a meeting where people gather to complain, blame, or find fault; gathering more or different people only to have the same old discussions; a process where the staff or council always controls the outcome; or lobbying the elected body. Instead, civic engagement is about citizens talking to citizens. The role of staff or elected officials is to pose the right questions, listen, and learn from the public. It's important to understand that civic engagement does not, cannot, and will not happen at a council or planning commission meeting. These types of meetings are the community's business meetings and are usually too late to get effective public feedback. However, if there is good civic engagement prior to meetings, these institutions will have a more productive community business meeting.

Building a strong culture of civic engagement in community institutions can have widespread benefits to the institution, individual, and community as a whole, as illustrated in Figure 32 on the next page. These benefits go far beyond creating a better government process. They also impact the economy and the wellbeing of the citizens.

Community leaders need to recognize when they are being impacted by Institutional Parochialism and be more open to change and outside opinions. Community leaders can improve this by actively recruiting volunteers to serve on boards and being willing to implement the projects in this section. Implementation of these projects will likely be difficult and may not yield considerable results at first, but it is important for community leaders to not be discouraged by lack of public involvement or negative public feedback. Eventually, we will cultivate a strong culture of civic engagement which will take root in our community for the benefit of the greater good.

The following two strategic approaches were identified throughout the development of this plan to address this issue:

- Utilizing social media and the Internet to engage public
- Actively recruiting volunteers

Benefits of Civic Engagement

Institutional Benefits of Civic Engagement

- Achieving greater buy-in to decisions with fewer backlashes such as lawsuits, special elections, or a council recall.
- Engendering trust between citizens and government, which improves public behavior at public meetings.
- Attaining successful outcomes on toxic issues, which helps elected officials avoid choosing between equally unappealing solutions.
- Developing better and more creative ideas and solutions.
- Implementing ideas, programs, and policies faster and more easily.
- Creating involved citizens instead of demanding customers.
- Building community within a city.
- Making your job easier and more satisfying.

Source: [How Civic Engagement Transforms Community Relationships by ICMA](#)

Individual Benefits of Civic Engagement

- Youth who develop meaningful positive relationships with other adults in the community have demonstrated better social and emotional development.
- When youth become engaged in community activities they develop the skills needed to be an effective leader and show better problem-solving and decision-making skills.
- Youth who volunteer at least one hour per week are 50% less likely to become pregnant as a teen, abuse drugs/alcohol/tobacco, drop out of school, or adopt other destructive or criminal behavior.
- Promotes Self-Determination and Self-Efficacy.
- College students who participate in service learning projects were likely to see an increase in GPA.
- Volunteering enhances various skills resulting in expanded career path.

Sources: [The Positive Effects of Youth Community Engagement](#)
[The Effects of Volunteering on the Volunteer](#)

Community Benefits of Civic Engagement

- Communities where youth are surrounded by adult support are more likely to be able to support youth in times of need.
- Communities that engage youth in government are frequently rated among the top places for young people to live and are more attractive to business.
- Youth who engage in the community develop better social networks and are less likely to relocate.
- Pennsylvanians provided 338.83 million hours of volunteer service in 2015 for a total value of \$7.7 billion of service contributed.

Sources: [Authentic Youth Civic Engagement by National League of Cities](#)
[The Positive Effects of Youth Community Engagement](#)
[The Effects of Volunteering on the Volunteer](#)

Figure 32: Benefits of Civic Engagement
Source: PCD

Key Implications

Lycoming County’s population peaked at the turn of the 21st Century and since that time has been shrinking. This in itself is not alarming, however, of particular note is that the population cohort under 18 has seen the most dramatic reduction, with an almost 50% decrease since 1960. This continuing population trend may have serious consequences, so it is important to understand how we are interacting with this age group, and become more effective in our communications with them.

Attracting and engaging youth requires an adjustment in how the local boards communicate with the communities they serve. The Internet is pulling younger people away from traditional local news outlets, thus local governments are

losing one of their most effective methods for communicating with their citizens. Institutions within this County communicate mostly through the newspaper (which in most cases is required by law). Online presence varies between municipalities where some utilize their website and social media while others do not have any online presence. Even for those already with an online presence there is still plenty of room for improvement to learn how to best utilize these tools to improve communication and civic engagement.

As the means of communication change, citizens not inclined to use traditional means may become less informed on important local decisions and may miss the opportunity to voice their concerns and participate in government decision-making before a program or project is implemented. Yet, there is evidence that youth want to be actively engaged. As stated at the Youth Focus Group, the high school students expressed a desire to be informed, present, and involved in the decision-making process with local government and educational institutions.

While the structure of local government in Pennsylvania presents some challenges for providing services, it also provides the key benefit of allowing citizens to directly participate in local government decision-making by serving on boards and voicing their concerns directly to government representatives. However, if local governments are not effectively communicating with their citizens, and civic engagement continues to decline,

50 Year Lycoming County Population Trend

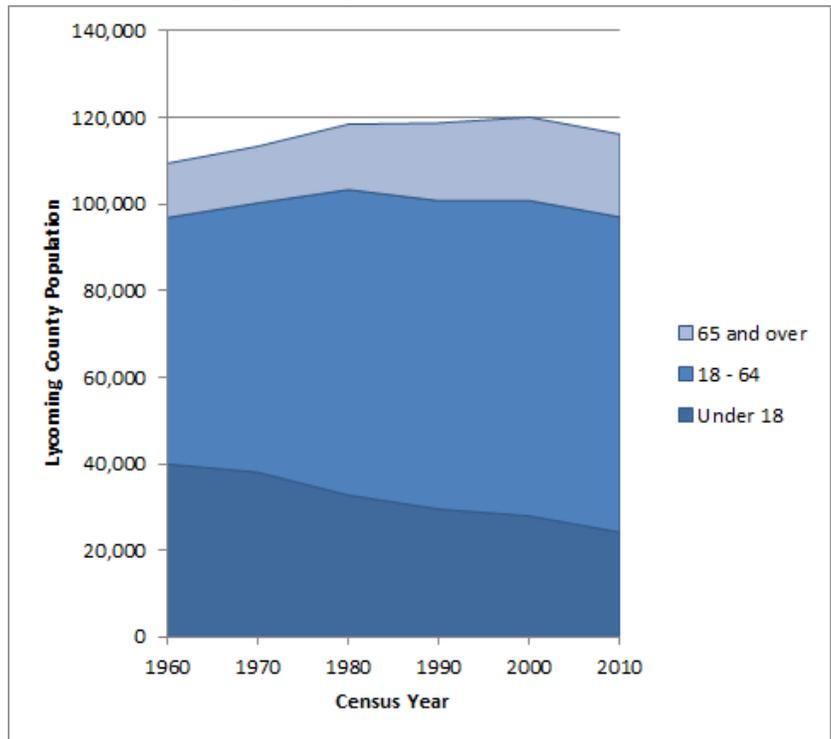


Figure 33: 50 Year Lycoming County Population Trend
Source: PCD

then these benefits will rapidly diminish. Local government officials need to find solutions to solve this problem so that this local government structure remains relevant in the 21st Century.

Project of Countywide Significance for this Issue

CREATE A CIVIC ENGAGEMENT COMMITTEE TO DEVELOP A CIVIC ENGAGEMENT TOOLBOX

The intent of this project is to provide a set of tools which community leaders can utilize to improve civic engagement and attract more volunteers. Some of the research completed will be available to government, non-profits, and businesses to utilize however they see as appropriate for their operation. Others involve specific programs to be implemented with the assistance of County Planning and other agencies. In order to begin this project, a Project Delivery Team (PDT) must be assembled involving representatives from the recommended partners below. The PDT will create a strategy to complete the programs listed below and also consider other opportunities for improved engagement.

HOW PROJECT ADDRESSES THE ISSUE

The PDT will help foster the development of these key initiatives listed below but will also be responsible for considering other opportunities to engage the public. The programs each address one of the three factors of disengagement mentioned in the last section. The intention is to cultivate a culture of civic engagement to strengthen our community and capture as many of the benefits which were previously identified as possible.

The Youth Ambassador Program This program would involve partnering with local school districts and municipal and non-profit boards. The intent is to create board positions for students to serve on. These programs already exist throughout the United States and even in this County with strong results. The Pennsylvania State Association of Boroughs (PSAB) promotes a youth program titled the Junior Council Person Program which seeks to appoint local high school and college students to serve on boards. These board positions could have full voting powers or the students could act more as an advisor to the board. Board positions would typically only last one year to encourage turnover. According to a report published in November 2011 by the Center for the Study of Social Policy titled “Promoting Youth Civic Engagement,” youth civic engagement leads to reduced risky behavior, increased success in school,

The City of Lacey, Washington has implemented a program that allows for high school students to act as full-voting members of their Board of Park Commissioners, the Lacey Historical Commission, and the Lacey Library Board.

Lacey, Washington high school students who wish to serve as full-voting member of their Board of Park Commissioners, the Lacey Historical Commission, and the Lacey Library Board must meet the following criteria: 16 years of age by September 1st of the respective term year; a resident of the City of Lacey or the Lacey Urban Growth Area; attend a school

(public, private, or homeschool) within the North Thurston School District; and be able to attend monthly board meetings, occasional joint planning sessions, and appropriate preparation time. Upon election, the Youth Commissioner is given equal powers to standard Commissioners, except for counting towards a quorum. Students may serve two consecutive 1-year terms on a given board or run for a separate commission position in the second year. This program has been seen as a success in Lacey. The Board of Park Commissioners has seen a Youth Commissioner serve as the Vice-Chair of the Board since 2015. Exit statements by three of the most recent “retired” Youth Commissioners have indicated the program has helped prepare them for college.

Source: www.ci.lacey.wa.us

and greater civic participation later in life. Also stated in the report was that “children and teens who have opportunities for involvement in extracurricular activities and community institutions are more likely to vote and participate in other forms of civic engagement as young adults.” (Center for the Study of Social Policy 2011) Additionally, a report published by the National League of Cities in 2010 titled “Authentic Youth Civic Engagement” noted that, “youth input can redirect city investments away from programs and facilities that would be underutilized into areas that reflect the needs of youth and their families.” (National League of Cities 2010) In addition to these benefits, the report also indicates who youth that participate in youth civic engagement programs are more likely to graduate, adopt productive attitudes about their role in the community, and avoid risky behavior. In addition, communities that engage youth in government are frequently rated among the top places for young people to live and are more attractive to businesses. Interested municipalities could utilize the PSAB Junior Council Person Program as a framework for building their own program.

Public Participation Plan The Public Participation Plan would outline best management practices for engaging and communicating with the general public. Different engagement strategies should be identified depending on what needs to be accomplished. Sometimes the institution may wish to:

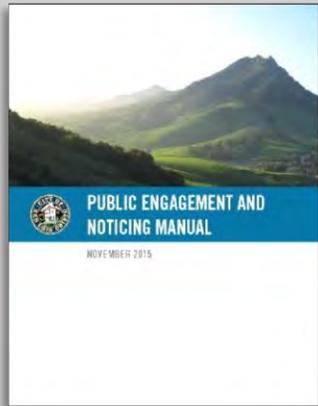
- Inform the citizens about new services and programs, upcoming events in the community, or temporary service disruptions
- Consult with the public to gather information or opinions from citizens
- Collaborate with the public to identify alternatives and creative ideas to address community-wide concerns

Specific protocols should be developed so that institutions will know how best to engage the public to achieve maximum results. One specific area that the committee should focus on would be the expanded use of social media to engage the public.

Social Media Engagement Coalition

Social media platforms such as Facebook and Twitter utilize algorithms to determine what users see. Learning how to use these digital tools to reach a wider audience should be an important aspect of the Public Participation Plan. This project will build off of the social media strategies identified by the Public Participation Plan. The idea is to create a coalition of governments, non-profits, and businesses who collaborate on social media to reach a wider audience. These entities will be encouraged (but not required) to support the work of other entities by sharing their content. By sharing the content of another organization, you are allowing their message to disseminate to your audience thereby

In November 2015, the City of San Luis Obispo in California adopted a Public Engagement and Noticing Manual to provide guidance to various departments within the City on how to best engage the public. The manual identifies best practices depending on whether the communication objective is to inform, consult, or collaborate. The Montoursville-Muncy Public and Youth Engagement Committee could use this manual as a template for their own guidance documentation.



Source: slocity.org

increasing reach. If used correctly, entities will be able to reach a far wider audience allowing more of the public to hear their message and become engaged.

Volunteer Fair This program would be an annual event where people interested in volunteering could meet volunteer organizations from around the County and sign up to participate. The Volunteer Fair could be held at a locations such as Lycoming College and Pennsylvania College of Technology (PCT) in order to recruit youth and encourage them to stay in the area. An effective marketing campaign will be crucial in the development of this program. Tools developed under the Public Participation Plan and by the Social Media Engagement Coalition will be instrumental in marketing this event. Already existing is the Penn College Youth Leadership Program which recruits volunteers from PCT. Also existing is the Non-Profit PM Exchange series run by the Williamsport/Lycoming Chamber of Commerce. These existing programs could be important building blocks for this project.

Volunteer Booklet This project involves the development of a Volunteer Booklet which could be made available to people looking for volunteer organizations within their community. The Volunteer Booklet will contain key information about volunteer organizations including: organization name, organization leadership, organization's contact information, and a summary of the purpose of the organization. The difficult part will be disseminating the Volunteer Booklet to the people who need it. In order to assist with this, organizations such as the colleges could disseminate the booklet to their students while the Williamsport/Lycoming Chamber of Commerce could coordinate with local businesses to make them available to their new employees.

Community Event Calendar This project will involve the development of a Community Event Calendar in order to inform the public about community events. The calendar should include events such as government meetings, community events, and business events. As with the Volunteer Fair, an effective marketing campaign will be crucial to the success of the Community Event Calendar. The development of an app-based calendar would be ideal with the opportunity for users to filter content by their areas of interest including organizations and types of activities. If successful, the calendar could help facilitate the creation of new networks among individuals with shared interests resulting in a stronger community. It could also promote civic engagement by better informing citizens of important public discussions. Local businesses could also benefit by attracting more people to events such as First Fridays. The James V. Brown Library has a community event calendar on their website, however, this calendar is not consistently populated with information about community events outside of the library. This project could consider expanding on the existing community calendar with the library.

Continue Youth Plan the Future This will be an ongoing Planning Department initiative building off the success of the Youth Focus Group referenced earlier in this section. Students and planners both found immense value in the first meeting. It would be beneficial to continue this work to inform students about their communities as well as generating much needed feedback from an extremely important segment of the population. Future youth outreach initiatives could take many forms. A few students could be provided the opportunity to come to the County offices as they did previously to take part in a discussion about County operations. Planning staff could also travel to schools to present more focused information to a wider audience.

The objective is to teach youth about how government operates and hopefully improve overall civic engagement and volunteerism.

PROJECT LEADERSHIP

County of Lycoming, School Districts of Lycoming County, Lycoming College, Pennsylvania College of Technology (PCT), First Community Foundation Partnership (FCFP), Williamsport/Lycoming Chamber of Commerce (WLCC), and the James V. Brown Library are the main partners who should be involved in this project, however, engagement from many institutions (public and private) will lead to a better outcome.

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Priority Issue #7



Water quality is vital, but is vulnerable to a multitude of threats.

This Issue was reported as a priority issue in four of the six multi-municipal planning areas: Greater Williamsport Alliance, Lower Lycoming Creek, Muncy Creek, and US-15 South. Each of these planning areas stated in their own unique way that protecting source water was very important.

Back Story Water is constantly vulnerable to threats coming from above, below and on the surface of the planet. According to the U.S. Geological Survey (USGS), about 71 percent of the Earth's surface is water-covered, which translates to more than 326 million trillion gallons, with only 1% of all the water on the earth being suitable to drink. The earth suffers from global threats such as droughts and access to safe drinking water. Water borne diseases are a problem in many countries that do not have the means to clean their surface waters of contamination. The inability to safely dispose waste or drill a well for drinking water are other widespread issues found around the world. Access to clean drinking water is essential for a community to survive and prosper. Not only is water necessary to support public health, but reliable water service is also needed to foster development and economic growth. In 2010, the USGS calculated that the United States used about 275 billion gallons of surface water per day, and about 79.3 billion gallons of groundwater per day. Fresh water is used for drinking, cleaning, bathing, recreating, energy generation, manufacturing cooling, and food making processes, among many other uses. This knowledge only gives us a glimpse of the importance that water plays in our daily lives.

Water is the foundation for human health. Complex ecosystems of plants, animals, insects, and all other living things rely on water for sustainability and to thrive. The Figure 34 illustration depicts that, based upon state average, the County of Lycoming receives about 41 inches of precipitation per year and only 13 inches recharges our groundwater aquifers. The remainder of the precipitation either runs directly into creeks and streams or returns back to the atmosphere. At any point along the fundamental steps of the hydrologic cycle, water can be exposed to threats that have potential to reduce its quality.

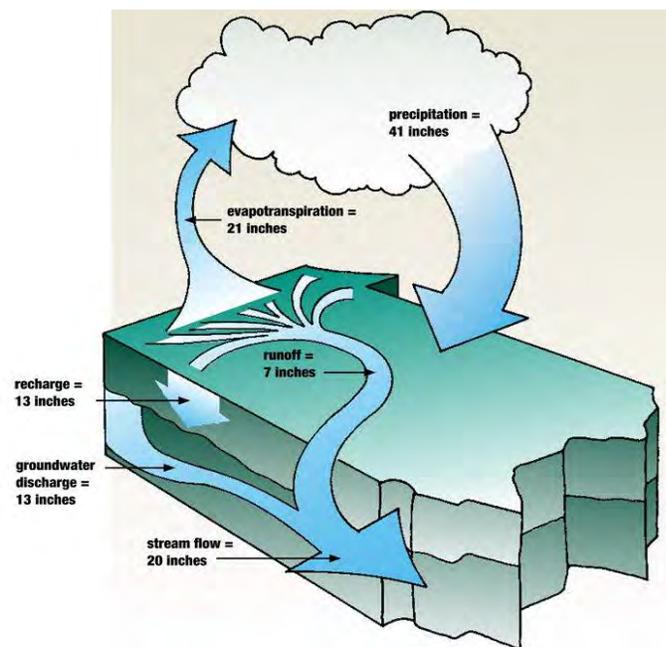


Figure 34: The hydrologic cycle for an average year in Pennsylvania
Source: [Penn State Extension](#)

Lycoming County thrives with an abundance of water in streams, lakes, creeks, and the Susquehanna River. This includes how residents and visitors recreate and promote tourism in Lycoming County with fishing, boating, skiing, camping, hunting, hiking, and biking, all happening on or near water. Also, the natural gas industry has been well supported in Lycoming County due to the ease of access to large volumes of water for fracking natural gas wells.

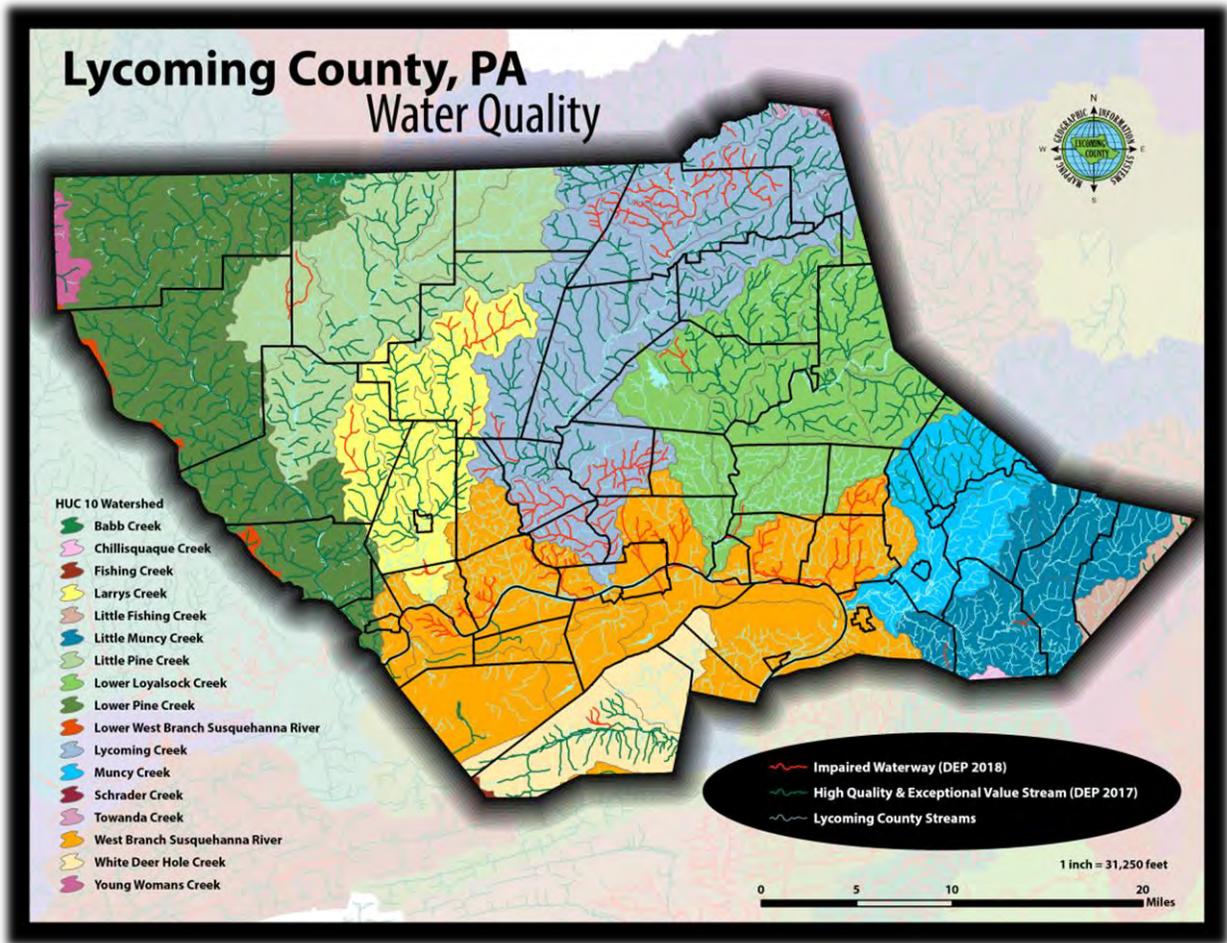


Figure 35: Characterization of Water Quality for Streams in Lycoming County
 Source: PCD

Looking at water as a natural resource in Lycoming County, shown on Figure 35 there are nine major watersheds at USGS’s HUC 10 level: Babb Creek, Little Pine Creek, Larrys Creek, Lycoming Creek, Lower Loyalsock Creek, Muncy Creek, Little Muncy Creek, West Branch Susquehanna River, and White Deer Hole Creek. The PA Housing Research Center reported in 2014 that Lycoming County contains 1161 miles of streams that are designated high quality (HQ) and exceptional value (EV) waters, qualifying by their good chemistry and biological makeup. Two of Lycoming County’s EV/ HQ streams are known throughout the State for their exceptional quality: Pine Creek and the Loyalsock Creek. Outdoor lovers flock to Pine Creek to experience its scenic vistas and quality nature experience. The Loyalsock was recognized as the “2018 PA River of the Year” by the Pennsylvania Department of Conservation and Natural Resources (PA DCNR) and the Pennsylvania Organization for Waterways and Rivers (POWR).

As is the case with any watershed or aquifer, groundwater, and surface water sources are vulnerable to a variety of potential contaminants such as improper disposal of hazardous chemicals or infiltration of man-made products including gasoline, oil, road salt, pesticides, or fertilizer runoff. Each year, PA DEP releases a water quality status report in accordance with the Clean Water Act. The most recent report is titled “2016 Final Pennsylvania Integrated Water Quality Monitoring and Assessment Report.” The narrative report contains summaries of various water quality management programs including water quality standards, point and nonpoint source controls, as well as descriptions of programs to protect lakes, wetlands, and groundwater quality. PA DEP categorizes surface and groundwater impairments as having a “source” and a “cause”. See the PA DEP website for the report that shows details of sources and causes of impairment for groundwater, lakes, and streams in PA.

Although Lycoming County is recognized as having abundant high quality waterways, some streams or portions of streams are categorized as impaired due to one or more contaminants (see Figure 35). Directly quoted from Lycoming County’s Implementation Plan for the Chesapeake Bay Tributary Strategy-2015, “There are approximately 2,200 miles of streams and 92 water bodies in the County. Roughly eight percent (185.74 miles) of the streams located in the County are listed as impaired. Atmospheric Deposition (68.74 miles), followed by Agriculturally Related Activities (50.99 miles), Small Residential Runoff (25.2 miles), and Acid Mine Drainage (8.23 miles) are the known causes of impairment. There are also 32.58 miles of impairment with unknown sources.” Other streams are still unassessed with no recorded water quality data.

Based upon the 2016 Final PA Integrated Water Quality & Assessment Report, the West Branch Susquehanna River is impaired with metals, siltation, nutrients, thermal modifications, and pathogens. Although impaired, the West Branch of the Susquehanna is a show piece at the heart of Lycoming County, used as a water source for drinking and manufacturing as well a recreational and scenic asset for local boaters, fisherman, and those enjoying the Susquehanna River Walk.

As a result of Lycoming County’s reliance and love for water, many watershed association groups have formed over the years and some have developed plans to help manage the resource; from the Pine Creek Watershed Council’s River Conservation Plan on the west end of the County to Larry’s Creek Watershed Association’s Coldwater Conservation Plan in the central part of Lycoming County. A complete list of river conservation and coldwater conservation plans are listed in the Appendix E.

These conservation plans identify concerns and threats, with some discussion about preventative measures, local stream projects, and advocacy for federal, state, and local agency regulations that supports watershed protection for:

1. Neglect of stewardship of the resource
2. Land use issues including natural gas exploration
3. Waste disposal including on-lot septic systems and solid waste
4. Erosion & run-off from roads, development, & agriculture practices
5. Flooding events leading to streambank erosion/destabilization and an avenue for contaminants to enter surface and ground water.

Lycoming County has collaborated with many federal, state and local agencies and organizations with the common goal to promote watershed stewardship. Lycoming County will continue to look for opportunities to partner with:

FEDERAL	STATE	REGIONAL	LOCAL
USGS	PA DEP	North Central PA Conservancy	Watershed Associations
US EPA	PA DCED	Chesapeake Bay Foundation	Trout Unlimited- Susquehanna Chapter
US Fish & Wildlife Service	PA DCNR	Chesapeake Conservancy	Lycoming County MS4 Coalition
USDA-NRCS	PA Dept. of Agriculture	Penn State Extension	Lycoming Audubon Society

Table 10: Partner Agencies

Concerns for water supplies have led to studies to better understand water quality in Lycoming County. In 2010-2011, USGS and PA DEP conducted an assessment of baseline surface and groundwater conditions in Lycoming County’s Lycoming Creek Watershed: 31 main stem and tributary water samples and 14 ground water samples. To continue tackling the assessment of private water well supplies, Lycoming County Planning partnered with the USGS and PA DCED in 2014 to conduct a snap shot of the groundwater quality in Lycoming County through random sampling and testing of 75 private wells. The majority of private wells serve single-family residences in rural areas. The results from this testing showed existing geology and land use influences in our ground water. Some samples exceeded primary or secondary maximum contaminant levels (MCLs) for arsenic, iron, manganese, total dissolved solids (TDS), chloride, pH, bacteria, or radon-222. The USGS “Groundwater Quality for 75 Domestic Wells in Lycoming County, PA 2014” can be found on the USGS website (see also Appendix C, Community Facilities and Infrastructure Background Data).

Priority Issue Overview

The PA Municipalities Planning Code, MPC §301 (b) states that “the comprehensive plan shall include a plan for the reliable supply of water, considering current and future water resources availability, uses and limitations, including provisions to adequately protect water supply sources.” If it is understood how much water there is, how water moves through the hydrologic cycle, and how the community obtains and uses water, it can be accepted that there is a great responsibility to ensure that abundant, good quality water remains for the continued use of Lycoming County residents and businesses both present and future. Threats to our surface and ground waters can be described in two pollution categories:

- Point source- attributable to a single identifiable site. Examples include: failing private septic systems that can introduce disease-causing microorganisms, man-made products including gasoline and oil spilled down a drain, or improper disposal/discharge of industrial wastes.
- Non-point source- occurs from rainfall or snowmelt moving over and through the ground picking up a variety of contaminants like road salt, pesticides, or fertilizer runoff as well as particulates collected from the atmosphere through precipitation.

Stormwater: Stormwater runoff is inevitable and creates a countywide issue when it picks up soil, debris, and contaminants. Wherever precipitation encounters the earth’s surface, a percentage filters through the soil into the groundwater and the remainder flows over land as stormwater run-off to surface waters. When water runs over a surface in a sheet flow and spreads over a large area, it is considered a potential non-point source. Developed lands with impervious surfaces generally take stormwater and direct it through structures creating

point source discharges. In 2011, Lycoming County Commissioners adopted the Lycoming County Stormwater Plan to be in compliance with PA Act 167 and to guide stormwater management within the County. The PA Department of Environmental Protection required each of the County's 52 municipalities to enact stormwater management ordinances that were consistent with the County's plan. Pennsylvania has also committed to have its National Pollution Discharge Elimination System (NPDES) permitted Municipal Separate Storm Sewer System (MS4) municipalities reduce sediment by 10% by 2025 through the implementation of a required Chesapeake Bay Pollution Reduction Plan and following six "Minimum Control Measures":

1. Public education and outreach
2. Public participation
3. Illicit discharge detection and elimination
4. Management of construction site runoff
5. Management of post construction site runoff (new development and redevelopment)
6. Good housekeeping in municipal operations

Role of the Public in Stormwater

The public can contribute towards these measures by playing their part with adhering to "only rain down the storm drain" and following property maintenance best practices such as using minimal lawn fertilizers, automotive fluid receptacles, and properly managing water run-off from their homes, driveways, and patios with water infiltration techniques to reduce erosion and sedimentation entering storm sewers, drainage ditches, and streams. Watershed specific stormwater plans are needed to better define the amount of stormwater management required to offset development and give stormwater the opportunity to be cleansed prior to entering our surface and ground waters.

Flooding: Flooding is a two-fold concern in Lycoming County. The force of moving water can collapse fuel and chemical pipelines and tanks and collects man-made items and garbage, causing point source pollution. The flood waters also pick up contaminants while moving across the land including chemicals, fuel, nutrients and large amounts of organics and sediment that contribute to non-point sources of pollution. Implementing stormwater best management practices and maintaining forested open space are crucial for stormwater absorption and groundwater recharge, which reduce the severity of flooding for downstream properties and the Lycoming County urbanized communities of Williamsport, Jersey Shore, Montoursville, South Williamsport, Duboistown, Muncy and Montgomery.

Land Use: Land use plays a major part in Lycoming County's water quantity and quality. Three intensive land use concerns have been raised since the adoption of the 2006 County Comprehensive Plan, specifically in the rural areas: natural gas extraction activities, agriculture, and failing on-lot septic systems. For the purpose of this discussion, land uses become intensive when the use overcomes nature's ability to handle environmental impacts through natural systems, requiring man made solutions to minimize the impact.

Natural gas extraction activities: For decades prior to 2006, Lycoming County had experienced only shallow well or conventional oil and gas exploration on a small scale, with very little known environmental impact. Outside of a handful of intensive agricultural operations and a seven mile long, 35-tower, wind power electric generation facility, Lycoming County has not experienced a large scale intensive land use that has

affected much of the rural areas of the County. Over the past 12 years, the County has seen unconventional natural gas drilling-related activities rise, increasing the number of avenues for contaminants to enter surface and ground water supplies as point source and non-point source pollution:

- Potential natural gas and frac fluid migration during horizontal gas well drilling, well casing, or hydraulic fracturing stages
- Potential spills from transporting frac chemicals, lubricants, fuel, and drilling flowback fluid or produced water that contains injected chemicals plus naturally occurring materials such as brines, metals, radionuclides, and hydrocarbons (flowback fluid or produced water sometimes is filtered to be reused onsite or nearby drilling locations; once these fluids become waste water, they are transported for disposal at deep well injection or treatment plants)
- Erosion and sedimentation from large scale earth disturbances of well drilling pads, compressor station and metering pads, water impoundments, access roads, pipelines, and staging areas
- Air contaminants from flare-offs, compressor stations, and diesel truck traffic

The photo below depicts some of the types of intensive development where contamination is possible, including a natural gas drilling pad, compressor station, water impoundment, and access roads.



Non-Conventional Natural Gas Development in Lycoming County
Source: PCD

Nearly 2,000 unconventional natural gas drilling permits have been issued in Lycoming County since January of 2006. PA DEP has issued numerous violations over the 12 year time frame that have included frac fluid containment issues, diesel fuel spills, and well casing integrity problems. There are documented cases of sub-surface natural gas migration that have impacted private water supplies, most likely from failed well casings that have occurred in some Lycoming County municipalities: Franklin, McNett, McIntyre, and Moreland Townships. Evidence of sediment and metals contamination in private wells has also occurred in Eldred and Hepburn Townships from natural gas drilling activities.

Pennsylvania has comprehensively regulated the oil and gas industry since the 1984 PA State Oil and Gas Act 223. With the increase of oil and gas development beginning in 2007 in Lycoming County, in 2011, the Lycoming County Commissioners adopted oil and gas zoning regulations that have assisted municipalities under County Zoning jurisdiction to guide oil and gas extraction activities. Until the updated Oil and Gas Act 13 of 2012 clarified that zoning and other local

regulations would be applicable to oil and gas development, there had been a question whether or not the state law pre-empted and superseded all local land use controls. These County Zoning oil and gas regulations could be adopted by all municipalities that enforce their own land use ordinances. Doing so will help minimize threats to surface and ground water by locating related development out of the floodplain and steep slopes and ensuring proper permits and safeguards are in place and implemented. Although, Lycoming County's geology is not conducive to be used for deep well injection, local oil and gas regulations could include specifics to address disposal of oil and gas related wastes, such as systems like the proprietary flowback/ produced water treatment plants that have been developed here in Lycoming County. These systems help avoid longer transportation hauls and help reduce the chance of deep well injection sites being investigated for permitting in the County that bring their own set of threats to water quality.

Agriculture: The 158,462 acres of land used for agricultural purposes, there is a significant farming presence in the County, that is in part, contributing towards non-point source nutrient and siltation stream impairments. Traditional agriculture activities have not used progressive agriculture best management practices (BMPs) that promote soil health, soil retention, animal and manure containment, erosion control, stormwater management, water management, stream riparian buffer protection, or forest management.

USDA-NRCS, PA DEP, Conservation District staff, and Penn State Extension are working to provide the needed tools, education, and incentives to the agriculture community to help minimize negative impacts to Lycoming County's water quality. In 1985, the USDA Farm Service Agency began the Conservation Reserve Enhancement Program (CREP) where farmers receive payment to voluntarily remove environmentally sensitive land from agricultural production and plant trees and other ground cover that will improve soil and water quality and reduce loss of wildlife habitat. One of the most effective agricultural BMPs is to fence farm animals out of water ways, allowing riparian plantings to grow and protect stream quality.

Over the past 10 years, and most recent as within the last two years, the PA state regulatory agencies are coordinating to reduce agriculture's footprint as a major contributor to non-point source pollution across Pennsylvania. Lycoming County began a PA DEP-approved Nutrient Credit Trading program in 2010 that has the potential to reward farmers for going over and above minimum best management agricultural practice standards. The US EPA has mandated the Chesapeake Bay states to reduce the amount of sediment, nitrogen, and phosphorus discharged into waterways. In turn, PA DEP has stepped up the requirements for its National Pollution Discharge Elimination System Permits and is also conducting more farm inspections through PA DEP staff and Conservation District staff for verifying that farmers are implementing BMPs found within the required agriculture conservation plans and manure management plans. NRCS assists Conservation District staff by working with farmers who need conservation plans. At times, the number of plans needed to be written out numbers the qualified individuals available to write the plans, adding farmers to a waiting list to come into compliance. All involved in agriculture are seeking to find a balance between responsible land stewardship and the need for regulatory compliance to minimize the threat to Lycoming County's water quality.

On-lot septic systems: In Lycoming County, approximately 95% of its land mass is rural countryside outside the designated growth area and not served by public sewer. Except for some isolated small private and public sanitary sewer systemed areas, residential and business development must rely on individual on-lot septic

systems for sewage disposal. An improperly functioning septic system may cause point source pollution to nearby streams and groundwater aquifers, with pathogen contamination indicated by the presence of E. coli bacteria. According to PA DEP, a land owner may be experiencing a failing septic system if there is:

- Sewer odors in the house and/or drinking water
- Illness, often to household visitors
- Sponginess around septic tank, distribution box or dosing tank and absorption area
- Surfacing raw sewage

Because of this threat to drinking water, Pennsylvania, through Act 537, has made each municipality ultimately responsible for the disposal of all sewage generated within its boundaries. PA Code 71.73 requires municipalities to initiate a program to ensure proper maintenance of on-lot septic systems and to promote system efficiency and longevity. Municipalities should be aware that state officials are considering enforcing PA Code 71.73 with a mandate for all municipalities to comply with the regulation by adopting on-lot sewage management system ordinances. About 25% of Lycoming County's municipalities have adopted an on-lot sewage management system ordinance and only a portion of them are being enforced. Traditionally, municipalities have been reluctant to place new regulations on their residents.

To be effective, an on-lot sewage management system ordinance must be approved by PA DEP and include requirements for the:

- Removal of septage or other solids from treatment tanks once every three years or other as needed interval
- Diversion of stormwater away from the treatment facilities and absorption areas and protection of the absorption areas from physical damage
- Use of water conservation devices to reduce hydraulic loading to the sewage system
- Operation and maintenance of: electrical, mechanical, and chemical components of the sewage facilities; collection and conveyance piping, pressure lines, and manholes; alarm and flow recorder devices; pumps; and disinfection equipment and related safety items
- Other requirements as stated in PA Code 71.73

Each on-lot sewage management system ordinance should also indicate that only a certified Sewage Enforcement Officer can perform the inspections. This gives the highest chance for problems to be found and opportunity for landowner education prior to a potential septic system failure. Many times sewage pumpers/ haulers or permit/ zoning officers are contracted with the municipality but do not have the proper training to conduct inspections and often miss:

- Deteriorating septic holding and dosing tanks
- Broken septic tank clean-outs, baffles, and piping
- Malfunctioning alarms

Municipalities that also require on-lot septic system back-up or replacement area soils testing for development significantly reduce the chances of the need to extend sewer, which involves the enormous task of installing infrastructure and the additional financial burden to the municipality and its affected residents. Often this requirement is part of the on-lot sewage management system ordinance and added to municipal or county subdivision and land development ordinances.

Source Water Protection: Through the US EPA’s mandate to the states from the Safe Drinking Water Act, the PA DEP Northcentral office has provided financial and technical assistance to public water systems in Lycoming County to help establish source water protection (SWP) plans. Source water protection begins with watershed stewardship. This can be accomplished with SWP plans that: identify actual and potential sources of contamination to the source, allow communities to effectively educate the public on the importance of their drinking water source, serve as the first step for long-term sustainable planning for the future of the community, and provide a comprehensive action plan in case of an emergency.

Through PA Code, Title 25, Chapter 109, PA DEP requires public water systems to meet clean drinking water standards consistent with an approved SWP, and also that the provider reports water quality data to its users. See the Infrastructure chapter of this document for more information on public water systems in Lycoming County. Although PA DEP regulates the cleanliness of the water provided by public systems, there are no state requirements for construction, maintenance, and treatment of private water systems under a specific size and usage. Lycoming County residents located in rural areas rely on water supplied through natural occurring springs or manmade cisterns and private wells. In total, 85% of private water systems are drilled wells, 6% are hand-dug wells, and 9% are springs or cisterns. Because there is no ownership of water, the “reasonable use” of water is allowed. There is little protection for existing private water sources where the deepest well and the biggest well pump often wins.

The PA State Water Plan recognizes that “the state forest provides an abundance of high quality forest products and represents a two million acre water treatment plant and

Integrated Water Resources Management

Water, in its various forms, affects so many different aspects of daily life. Pennsylvania’s “State Water Plan Principles” (2009) state, “...land development, flooding, stormwater, wastewater, groundwater recharge, irrigation and water supply and withdrawals are elements of the same interconnected system.” To be good stewards of the resource, the future of water management in Lycoming County should be consistent with the PA State Water Plan and looked at in a more holistic view, using integrated water resources management (IWRM). From the American Water Resources Association (AWRA), IWRM is “the coordinated planning, development, protection, and management of water, land and related resources in a manner that fosters sustainable economic activity, improves or sustains environmental quality, ensures public health and safety, and provides for the sustainability of communities and ecosystems.”

The County Planning Directors Association of Pennsylvania One Water Task Force has developed several documents including a Planners Guide and Checklist tool to educate and assist community planners move in the direction of IWRM. These documents can be found at: www.pacounties.org.

air purification system. The Plan recognizes the function of state forest lands on municipal and private water supplies and states “Future land use and development within both existing and potential watersheds must be compatible with water production.” The Plan expressed the need to be more diligent in locating certain land uses away from public water supply areas and not developing steep slope and ridge tops to reduce the chance for erosion and soil instability. Also, stormwater management, soil conservation measures, and riparian buffers are key tools for maintaining surface water quality. In short, source water protection is needed now more than ever throughout the entire County. The North Central Source Water Protection Alliance formed within Lycoming County and surrounding counties and works towards educating the public and solving source water protection issues (see also Appendix C, Community Facilities and Infrastructure Background Data). Efforts to protect source water yield numerous benefits:

- It helps keep the supply of public water more cost affordable because clean water is simpler and less expensive to treat.
- Implementing proactive source water protection measures will also reduce system operation and maintenance costs.
- A dependable and clean water source also enhances the community’s potential to attract new development.

Key Implications Lycoming County has an abundant natural resource of good quality and quantity of water, both surface and ground water. A vast number of ecological services from our water resource will be lost if the County does not protect it and execute the most fundamental responsibility—to provide for the health, safety, and welfare of County citizens. If threats to the County’s water resources are not addressed, negative impacts are likely to occur:

- Both public and private water systems will run an increased risk of contamination from preventable sources of pollution
- The required treatments to combat these contaminants will become more complex
- The resulting costs to provide clean and safe water will increase
- If contamination escalates, water suppliers run the risk of being forced to shut down wells and identify new sources of water
- Replacement well locations are finite and limited by geography and geology
- There are significant penalty costs associated with non-compliance of regulatory requirements.

There is a need to ensure that source water protection plans are in place, reviewed regularly, updated as needed, and implemented for the urbanized sectors served by public water authorities and sometimes smaller private water systems. Degrading the quality or abundance of water will compromise the quality of life within Lycoming County and the world around it.

Projects of Countywide Significance for this Issue

LYCOMING COUNTY INTEGRATED WATER RESOURCES MANAGEMENT INITIATIVE

This project will be implemented in coordination with public water suppliers, public and private water users, academia, PA DEP, municipalities, etc... with various options for implementation. The project is in response to all the points of discussion related to the countywide threats to water quality. A comprehensive countywide integrated water resources initiative can accomplish the following:

1. Take inventory of existing source water protection plans and work with PA DEP and water providers to understand the level of implementation and need for improvement.
2. Support conservation of the source water protection areas for municipal water systems.
3. Support the 2017 multi-municipal planning efforts in establishing new source water protection plans where needed across the County.
4. Provide information and training to municipal officials on where the source water protection areas are in their municipality and their options for protecting these areas from threats.
5. Support education of local officials and public through social media, TV, newspaper, and schools in adopting an integrated water resources management approach in planning for all projects and initiatives from infrastructure projects to land development and transportation projects.
6. Promote Best Management Practices (BMP) education of private water well owners.
7. Support the gathering of existing water quality data and obtaining new data.
8. Review Act 537 plan recommendations.
9. Support and advocate for legislative action for private well water quality and construction standards.
10. Support the Lycoming County Conservation District with efforts for reduction in non-point source pollution.

UPDATE THE COUNTY STORMWATER PLAN

The Stormwater Act 167 specifies that the County shall review and if necessary, revise the adopted and approved stormwater study area plan a minimum of every five years. The Watershed Advisory Committee can be called upon to review the adequacy of the County Stormwater Plan to determine if the Plan is adequate for minimizing the runoff impacts of new development. The Committee would then advise the County to the need for revision. If no revisions are to be made, the County would then adopt a resolution stating the Plan has been reviewed and meets the provisions of Act 167 and forward the resolution to PA DEP.

SUPPORT MUNICIPAL STORMWATER ORDINANCE REVIEW & UPDATE PROCESSES IN LYCOMING COUNTY

A stormwater ordinance is only as good as a municipality is willing to enforce the requirements. Stormwater regulations must be reasonable, practical, and regularly reviewed/updated to make sure that development is sufficiently being offset with stormwater management controls and best management practices that are cost effective and consistent with the local watershed stormwater plan.

SUPPORT THE SYLVAN DELL CONSERVATION PROJECT

The Sylvan Dell Conservation Project consists of fee simple land acquisition of approximately 229 acres of land in Armstrong Township, Lycoming County directly adjacent to the South Williamsport Community Park Complex. This project will protect high quality wetlands, 3,790 LF of riparian forest buffers along the West Branch of the Susquehanna River, cultural and historic resources, and important habitat. Once acquired, it will be owned and operated by Armstrong Township and its partners as a public nature preserve for conservation and passive recreational use. Long-term plans for the project may include wetland and habitat restoration, passive recreation development such as trails, nature viewing areas, kayak/canoe launch, environmental and historic interpretive signage and/or educational facilities. Lycoming County is assisting Armstrong Township with this acquisition by working with the project partners, negotiating with the property owners, and providing overall project planning, coordination, technical, legal, grant assistance, and staff support.

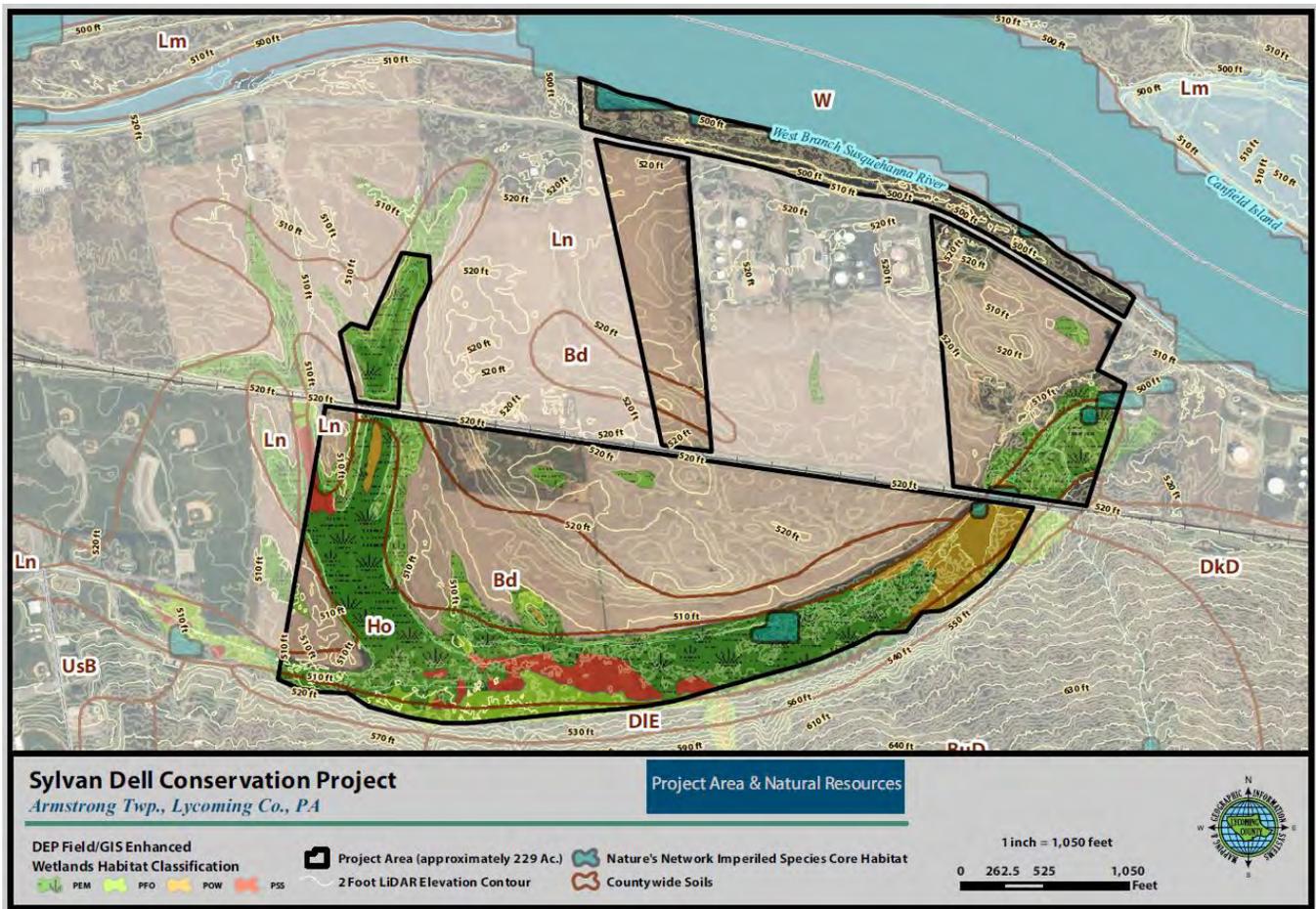


Figure 36: Sylvan Dell Conservation Project Area & Natural Resources
 Source: PCD

Priority Issue #8



Drugs, particularly heroin and opioids, are creating significant social, economic, public health, and safety problems across the County

Back Story Nationally, drug abuse and drug overdose are becoming major health problems. In 2013, opioid analgesics were involved in 16,235 deaths — far exceeding deaths from any other drug or drug class, licit or illicit. Specifically, in 2014, nearly 2,500 Pennsylvanians died from drug-related causes, a 20 percent increase from the previous year, according to the PA State Coroners Association. This currently puts PA as seventh in the nation for drug-related overdose deaths.

According to the National Survey on Drug Use and Health (NSDUH), in 2012 an estimated 2.1 million Americans were addicted to opioid pain relievers and 467,000 were addicted to heroin. These estimates do not include an additional 2.5 million or more pain patients who may be suffering from an opioid use disorder because the NSDUH excludes individuals receiving legitimate opioid prescriptions.

Other important national statistics from a September 2014 Report for the Center for Rural PA:

- 4.2 million Americans age 12 and older have used heroin at least once
- 80% of heroin addicts reported abusing prescription opioids before starting heroin
- Health care providers wrote 259 million prescriptions for painkillers in 2012
- Heroin abuse affects one out of every four families

There are significant numbers of people in the Country that need treatment and are not receiving it. According to the September 2014 Report for the Center for Rural Pennsylvania, the Federal Government claims that only one in ten individuals across the nation that need treatment are able to obtain or access it due to a lack of funding for addiction services.

Across Pennsylvania, heroin and opioid abuse is becoming a serious epidemic. According to the Center for Rural Pennsylvania December 2015 Report - Heroin: Combating this Epidemic in Pennsylvania:

- From 2007-2012 over 3,000 Pennsylvanians died from overdoses
- Overdose deaths increased by an astounding 470% over the last two decades
- More people are dying from overdoses than from car accidents (ages 20-44 in PA)
- 52,150 Pennsylvanians are receiving addiction treatment services
- Approximately 760,703 Pennsylvanians remain untreated

“Drug overdose death rates in the U.S. have increased five-fold between 1980 and 2008, making drug overdose the leading cause of injury death.”

Johns Hopkins Bloomberg School of Public Health report titled The Prescription Opioid Epidemic: An Evidence-Based Approach

- Access to treatment is also a concern within the State -approximately 1 in 8 Pennsylvanians are not able to access addiction treatment due to a lack of funding

Heroin users are ubiquitous-there is no such thing as a typical heroin user. Heroin addiction frequently starts as an opioid addiction. It is cheap and accessible. Heroin addiction brings an increase in crime and it is not easy to beat. Sadly, the problem is pervasive and growing. The PA Department of Drug and Alcohol Programs states that one in four people has substance abuse in their families. However, treatment programs can help.

Priority Issue Overview Heroin is rapidly becoming an epidemic throughout Lycoming County; moreover, heroin and opioid abuse crosses all socioeconomic groups all ages and all races. This issue is not only a health concern but also affects community and economic development throughout the County. Not only does the heroin epidemic taint the image of the community to outside investors, but there are significant workforce concerns as well. In a 2016 Focus Group session with County manufacturers and business owners, they reported that in some industries, only about 30-40% of qualified candidates for jobs pass the drug tests. It is becoming increasingly more difficult to find the qualified workforce to do the jobs needed because of this epidemic. This hinders growth and expansion opportunities as well as the sustainability of some businesses to remain here. Furthermore, the problem is causing additional stresses on the EMS service delivery and social service programs in just about every community.

According to the Lycoming County District Attorney, in 2012 the heroin epidemic that was devastating Pennsylvania began to impact Lycoming County. There are typically 50-60 heroin overdoses in Lycoming County

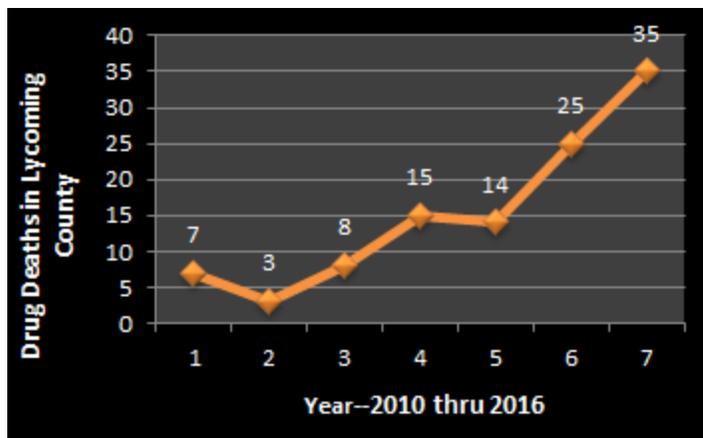


Figure 37: Drug Deaths in Lycoming County
Source: Lycoming County District Attorney's Office

every month; most of these victims survive. However, the death toll (due to overdose) in the County has risen from eight in 2012 to 38 in 2017. This represents a 338% increase over a four-year period. Recently, drug-induced deaths appear to be due more often to fentanyl and cocaine.

A public survey, conducted in 2016 as part of the County's comprehensive planning process, documented the level of concern by the general public regarding the drug problem and associated crime. When respondents were presented an online survey (as well as in-person interviews at

public events), they were asked to select five areas (from a list of 12) where they would most like to invest public resources. More than 1,000 local citizens participated. Seventy percent (70%) of the respondents identified crime as one of their top five areas. Even more telling was the response to the question regarding what residents would like to change in Lycoming County. In that survey, crime and drugs was by far the most frequently received comment.

In Lycoming County, the West Branch Drug and Alcohol Commission functions as the Single County Authority (SCA). It has been in operation since 1974 as a private, non-profit human service agency for helping people find their way to recovery. The Commission is responsible for developing and providing a comprehensive and balanced continuum of care for quality substance abuse prevention, intervention, and treatment services for Lycoming and Clinton County residents. The Commission seeks to reduce the addiction, alleviate its effect, and ultimately eliminate the abuse and misuse of alcohol, tobacco, and other drugs. To address this issue, a number of potential approaches must be explored:

- **REHABILITATE**-Support the provision of treatment, rehabilitation, education, and counseling to prevent addiction and assist recovery
- **EDUCATE**-Reach students at a young age to impress upon them the dangers before possible drug use begins
- **PROTECT**-Continue to evaluate the need for a paid police department
- **ENGAGE**-Promote volunteerism among all populations and young people in particular through the use of social media and applications

Education is the proactive intervention to rehabilitation and is best achieved before a person is entangled in the drug culture. West Branch Drug & Alcohol Abuse Commission has presented the “Too Good for Drugs” program to some 2,300 students in 92 classrooms across Lycoming and Clinton Counties. The program is generally offered at the 5th-7th grade levels. This program fosters confidence and self-efficacy and resistance to substance abuse through goal setting and achievement, responsible decision making, positive conflict resolution, and healthy relationships. The key point is to educate youth early and repetitively.

The Pennsylvania Youth Survey (PAYS) is a biennial survey administered to adolescents in grades 6th, 8th, 10th, and 12th and aims to collect information about knowledge, attitudes, and behaviors towards alcohol, tobacco, and other drug use. In 2015, Lycoming County had a 77% participation rate (2,697 students). According to the National Institute on Drug Abuse and The Centers for Disease Control, youth who engage in the use of “gateway drugs” (alcohol, tobacco, and marijuana) exhibit a significant greater likelihood of future use of other illicit drugs such as opioids, heroin, and crack cocaine.

One area where Lycoming County youth may be more vulnerable than their counterparts across Pennsylvania involves narcotic prescription drugs Table 11. Among the County students who have used these drugs, about 41% obtain them from a friend or family, while 39% simply took them from a family member living in their home. Offsetting this illicit use is the attitude embraced by student peers: about 91% of 6th graders, 88% of 8th graders, 84% of 10th graders, and 80% of 12th graders “somewhat disapprove” or “strongly disapprove” of their peers using prescription drugs not prescribed to them.

6th Grade	1.0% (1.0%)
8th Grade	2.7% (1.6%)
10th Grade	4.0% (2.0%)
12th Grade	3.8% (3.0%)
All	2.8% (1.9%)

Table 11: Youth Narcotic Prescription Drug Use
Source: Pennsylvania Youth Survey

During its 2015 Community Needs Assessment process, STEP Inc.- a bi-county community action agency- conducted a community survey of 464 randomly selected registered voters in Lycoming County. Registered voters were selected with the purpose of providing a broad cross-section of residents in the County. Respondents were asked to identify the most important problem facing Lycoming County today. The survey’s top issue was Drugs and Alcohol. Survey results related to this issue from three additional years are also shown in Table 12.

STEP also issued a survey to its 150 social service partner agencies; 179 responses were received. Among the 44 identified concerns, the top three issues are shown in Table 13.

Community and partner surveys concurred that substance abuse is a major problem in Lycoming County. Over two-thirds of the general public and nearly one-third of agency customers knew of someone dealing with substance abuse. Focus Group respondents indicated that the problem exacerbates the other identified needs in the County. Breaking the cycle of substance abuse goes well beyond treating the addiction; life’s normal problems are amplified by addiction.

Key Implications The cost of illicit drug use is generally defined in three principal areas: health costs, lost productivity cost, and crime-related cost. According to Lycoming County District Attorney’s office, from 2012-2016 the crime numbers in Lycoming County rose by 20%, nearly erasing all of the progress that had been made since 2008 in reducing crime in the County. As noted to the right, crime increases in Lycoming County were found to be directly attributed to heroin cases and the implications of this crisis are far-reaching.

The heroin crisis has resulted in the following crime increases:

- Number of drug possession cases
- Number of shoplifting cases
- Number of DUI cases (driving while impaired by drugs)
- Number of credit card fraud cases

	2015	2012	2009	2005
Drugs/Alcohol	48.5%	4.6%	13.3%	11.0%

Table 12: Percentage of Survey Respondents that rated Drugs/Alcohol as the Top Issue in the County
Source: STEP Inc., 2015 Community Needs Assessment

	2015	2012	2009	2005
	Rank	Rank	Rank	Rank
Abuse of alcohol and/or drugs by youth	1	5	1	2
Abuse of alcohol and/or drugs by adults	2	T7	4	T6
Access to substance abuse services	3	T15	T12	***

*T = Tied

Table 13: Drugs/Alcohol Related Issue Rankings by Service Partner Agencies
Source: STEP Inc., 2015 Community Needs Assessment



Beyond the human carnage, the heroin and opioid epidemic has impacted Lycoming County’s budget in a number of additional ways:

- increases criminal justice system cost
- aggravates prison overcrowding
- increases recidivism with multiple periods of incarceration
- overloads court schedule
- causes additional work for parole and probation office
- increases activity for district attorney and public defender’s office
- creates impact on the families of the defendants
- induces negative impact on the budgets for other County departments thus forcing reductions in service delivery to general public projects

- Level of prostitution
- Frequency of burglary and robbery as addicts commit crimes to support their habit

As highlighted above, the drug epidemic has a ripple effect throughout Lycoming County government. The County's Criminal Justice System has worked hard over the last half decade to address and overcome the overcrowding issues in the County Prison. The male overcrowding issue has been trending downward; however, the female population continues to increase and overcrowding conditions persist.

Moreover, the heroin and opioid plight is ubiquitous. It is attacking every municipality in Lycoming County, regardless of the income or educational level of their residents. The human toll on families from heroin and opioid addiction is devastating. It is particularly upsetting when this issue hits children. All too often drug-related overdose has been listed as the cause of death of a parent or sibling.

The County has had to face the challenge of finding a way to provide balanced resources to all departments and not just those departments directly impacted by the heroin epidemic. It is increasingly evident that the County cannot incarcerate its way out of this problem: aggressive and early education and long-term rehabilitation are recommended as much more effective approaches.

Effective rehabilitation involves two sequential phases:

- Near-term treatment
- Long-term follow-up

According to the National Institute of Health (NIH), successful drug rehabilitation outcomes are contingent on sufficient treatment length. "Treatment enables people to counteract addiction's powerful disruptive effects on the brain and behavior and to regain control of their lives. The chronic nature of the disease means that relapsing to drug abuse is not only possible but also likely, with symptom recurrence rates similar to those for other well-characterized chronic medical illnesses-such as diabetes, hypertension, and asthma." For Heroin and Opioids abuse, relapse and return to substance abuse is often a catalyst for recidivism - a return to committing crime.

There is no universal standard that defines an adequate treatment length. Individuals progress through drug addiction treatment at various rates. However, according to NIH research has shown unequivocally that residential or outpatient treatment programs, whose duration is less than 90 days, are of limited effectiveness. NIH contends that treatment lasting significantly longer than 90 days is recommended for maintaining positive outcomes.

According to the National Institute on Drug Abuse, highly structured long-term rehab programs in therapeutic communities typically last from 6 to 12 months. For methadone maintenance, 12 months is considered the minimum, and some opioid-addicted individuals continue to benefit from methadone maintenance for many years. Moreover, treatment dropout is one of the major problems encountered by these programs. Research shows that motivational techniques that can keep patients engaged will also improve outcomes.

The follow-up to treatment is equally important. This involves a well-developed outpatient aftercare program based on a strong mentoring/sponsoring/support group element. Successfully designed and implemented, a drug addiction aftercare program is shown to:

- reduce relapse
- decrease recidivism
- increase the rate of full recovery

Such programs are based on providing a high level of accountability, behavioral feedback, and effective management of negative emotions. The core programs also involve substance abstinence and development of a society contributing role. In the final analysis, there is no panacea and there is no cure to substance addiction, but the condition can be managed and recovery sustained - it's a lifelong commitment.

Developing and implementing effective rehabilitation programs is absolutely essential to combat the heroin and opioid epidemic. But, perhaps the best tool is early education that successfully reaches youth before they start down a destructive pathway.

Projects of Countywide Significance for this Issue

SUPPORT COUNTY RE-ENTRY PROGRAMING

- Financial assistance from Lycoming County to continue extensive programming, particularly related to drug recidivism.

SUPPORT PUBLIC EDUCATION PROGRAMS

- Continue to support other educational awareness programs in the community and in our schools, such as "Too Good for Drugs" and promote wholesome extracurricular activities.
- Encourage parents to educate themselves on pain management practices and the proper use of prescription drugs as well as the dangers of abuse and overdose while maintaining effective pain management.

SUPPORT LAW ENFORCEMENT EFFORTS

- Encourage municipal law enforcement agencies to work more closely with West Branch Drug and Alcohol and the criminal justice system to understand and adopt effective intervention efforts – police-assisted referrals into treatment models.
- Promote municipal first responder and law enforcement naloxone projects.

SUPPORT DRUG & ALCOHOL TREATMENT PROGRAMS

- Work to support the West Branch Drug and Alcohol Commission prevention, intervention, treatment and recovery programs of adequate length.
- Advocate for the Friends and Family Naloxone Project.

SUMMER SPORTS PROGRAMS WITH DRUG EDUCATION

Develop a collaborative approach with local social service agencies, schools and colleges to provide an extracurricular and/or summer program for school-aged kids to provide productive and active outlets for them. This can be done as a sponsorship program by using local human and financial resources to implement. Drug education would be incorporated into the program goals.

CJAB SUBSTANCE ABUSE COMMITTEE

The committee is developing a “Strategic Plan for Opioid Overdose Reduction” in collaboration with PA Opioid Overdose Reduction Technical Assistance Center at Pitt Pharmacy Program Evaluation and Research Unit (PERU). The Strategic Plan Goals are for the 3-year period between 2018 and 2021. The primary goals of the plan include: Professional Education, Community Awareness, Access to Treatment, Agency Coordination, Prevention and Harm Reduction. These goals provide a comprehensive strategy for Lycoming County and its agency partners to positively impact substance abuse overdoses.

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Chapter 4: Growth Area and Future Land Use Maps

The following modifications have been made to the 2006 Designated Growth Areas and Future Land Use Maps. These were determined by and approved by the municipalities in which they are situated through their respective multi-municipal plan updates. Please refer to the multi-municipal plans for more information.

Designated Growth Area Changes since 2006

Armstrong Township

In Armstrong Township, an area around WMWA’s Lower Mosquito Valley Reservoir has been included because of the potential for these areas to receive public water service, however, steep slopes will limit this future growth area from expanding beyond these bounds.

Loyalsock Township

In Loyalsock Township, the future growth area reflects areas where WMWA has studied the feasibility of extending water service with successful results.

Piatt and Woodward

The growth area was reduced in size from the 2006 map since the I-99 highway project has been deferred by PennDOT and less growth is expected to occur as a result. The Growth Area Map reflects realistic growth potential in light of this situation. Additionally, Nippenose Township has been added to the growth area.

Muncy Borough and Muncy Creek Township

The future growth area south of Muncy Borough, east of I-80 and west of Musser Lane in Muncy Creek Township was added to the designated future growth area because it is located outside of the floodplain and is largely served by existing water and sewer infrastructure.

Brady Township

The designated growth area was extended into the northern portion of Brady Township to encompass residential areas serviced by the Township’s sewage treatment plan. Future growth area has also been added along Elimsport Road, west of its intersection with US-15 because of the possibility of expanding sewage collection infrastructure to that area as well.

Future Land Use Changes since 2006

Muncy Borough and Muncy Creek Township

Land use for the area south of Muncy Borough and east of Muncy Creek Township designated as the future growth area was changed from “Rural” to “Neighborhood” designation.

US-15 S

The designation of “Neighborhood” has been added along Elimsport Road west of its intersection with US-15.

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Future Growth Area Map

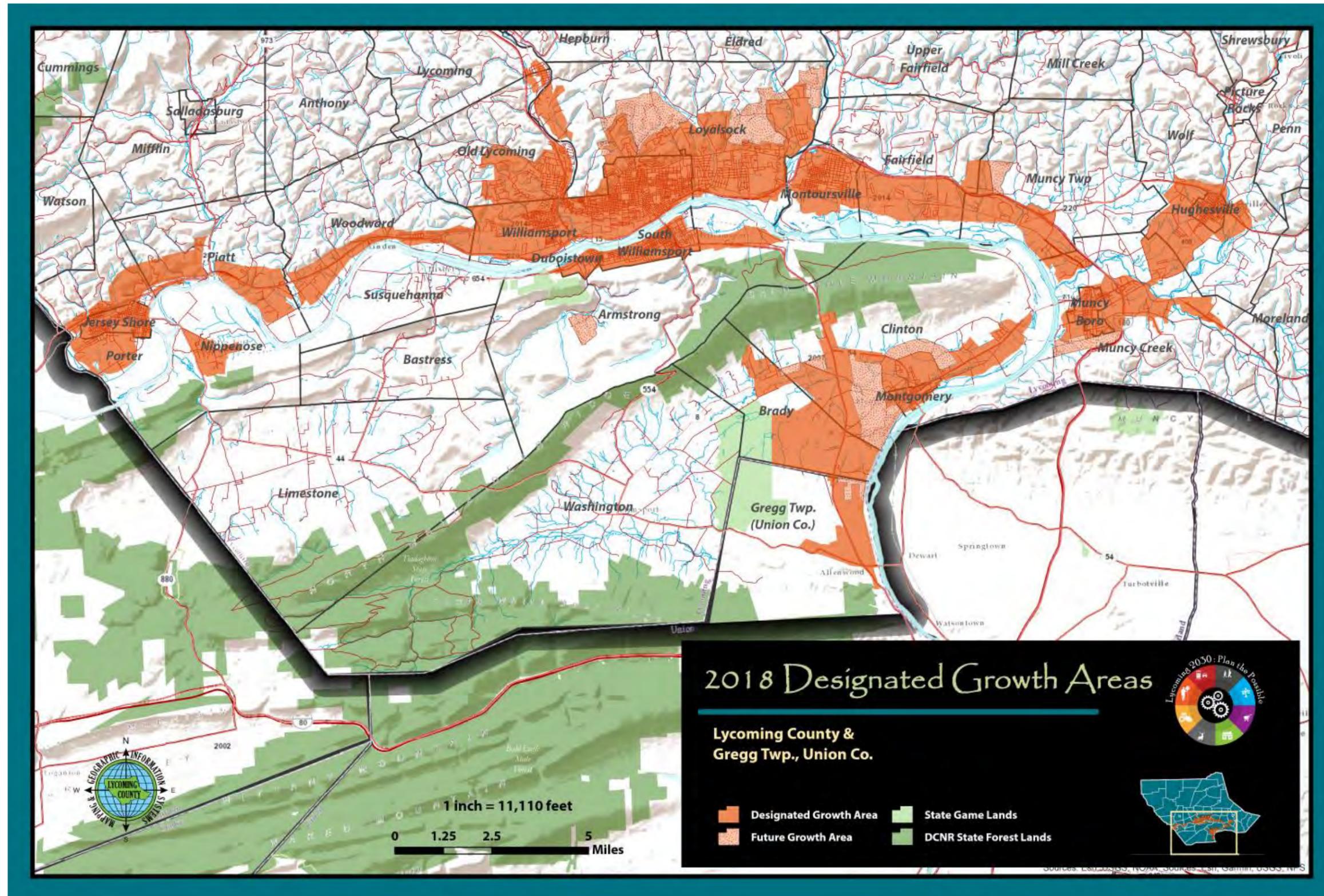


Figure 38: 2018 Designated Growth Areas

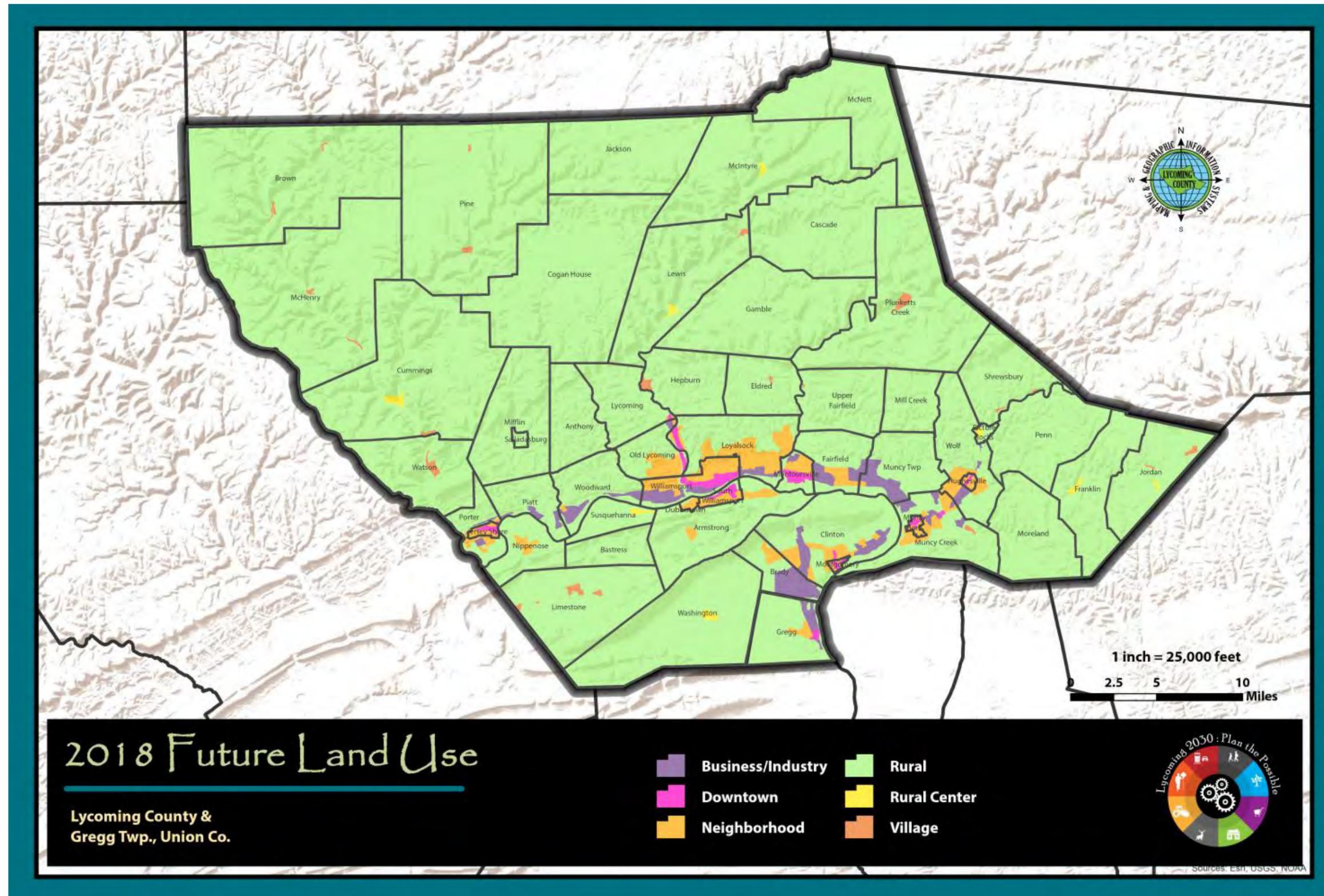


Figure 39: 2018 Future Land Use Map

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