Appendices

Upper Macungie Township
2019 Comprehensive Plan

Lehigh County, Pennsylvania

A Plan for Growth Management and Preservation

"Growth is inevitable in a place like Upper Macungie Township. The beauty of Upper Macungie's rolling landscape, its key location in the Lehigh Valley, its excellent school district, and the abundance of land have contributed to the Township's attraction for residential living and business development. Growth is generally beneficial for a place like Upper Macungie, providing jobs and a quality living environment. However, if growth occurs with little or no consideration of its impact to the community, serious problems can arise."
Source 2007 Comprehensive Plan, Executive Summary

Source: https://patch.com/pennsylvania/uppermacungie/fogelsville-dam-repair-or-remove

The information assembled and analyzed in this Appendices is part of the planning study and analysis based upon past, current, and projected conditions, the 2040 projected population, limited lands available for development, pending development plans, and the desire to achieve a sustainable community. This analysis supports various Comprehensive Plan elements and aspects of community sustainability. Various sustainability indicators graphically represented to the left are identified throughout the reports in this Appendices and the Comprehensive Plan elements.

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APPENDIX A

Briefing Paper

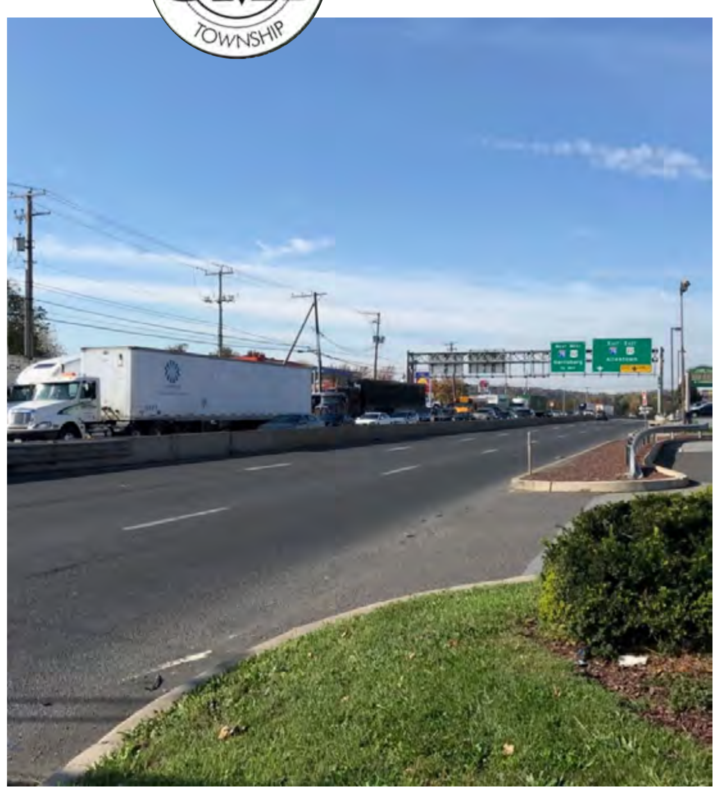
Source: Upper Macungie Township, PA website

UPPER MACUNGIE

THE INTERSECTION OF RURAL AND SUBURBAN LIFESTYLES!

UPPER MACUNGIE TOWNSHIP

In 2017, this briefing paper was prepared to evaluate the 2007 Comprehensive Plan offering recommendations for update and modernization of the plan. This document includes some trends and existing conditions, policy assessment, the status of implementation of the 2007 plan.



Upper Macungie Township Comprehensive Plan

- Collaborative
- Sustainable
- Fact Based
- Practical
- Implementable

Contents

A plan for continued growth and preservation of the Township

UPPER MACUNGIE TOWNSHIP, LEHIGH COUNTY, PA

The Comprehensive Plan Update Briefing Paper

A Comprehensive Plan typically looks out over a planning horizon of 20 years to establish a vision for future development of the community. The elements of a Comprehensive plan outlined to the right as part of the 2007 Plan help to define that future vision and if implemented successfully can further establish the character of your community.

Township Planners and a planning consultant have been tasked to develop a plan that focuses on sustainability offering a high quality of life for residents. The plan must meet the requirements of the Pennsylvania Municipalities Planning Code (MPC) and contain the level of detail to be considered an implementable plan.

Introduction

The 2007 Plan states, *"The beauty of Upper Macungie's rolling landscape, its key location in the Lehigh Valley, its excellent school district, and the abundance of land have contributed to the Township's attraction for residential living and business development."*

Once a rural township focused on agriculture, Upper Macungie's economy and population has changed rapidly in recent years and continues to change based upon development trends. Since the plan, the Township has experienced:

- Rapid population growth.
- Continued growth of large-scale enterprises such as distribution centers.
- Significant suburban housing development including apartments, townhouses and single-family detached dwellings.
- Increased truck traffic and congestion.

Balancing Growth

The 2007 Plan and subsequent updates provide a framework and strategy to balance growth and development in relationship to public services, recreation opportunities, housing options, employment, and economic resources, and natural amenities.

2007 Comprehensive Plan Elements

Executive Summary

Introduction

- Background
- Purpose of the Comprehensive Plan
- Planning Process
- Vision Statement

Existing Conditions and Trends

- Demographic Trends
- Land Use and Development
- Housing
- Community Character and Design
- Transportation
- Community Facilities
- Natural and Historic Resources
- Economy

Plan for Action

- Same Topics as above

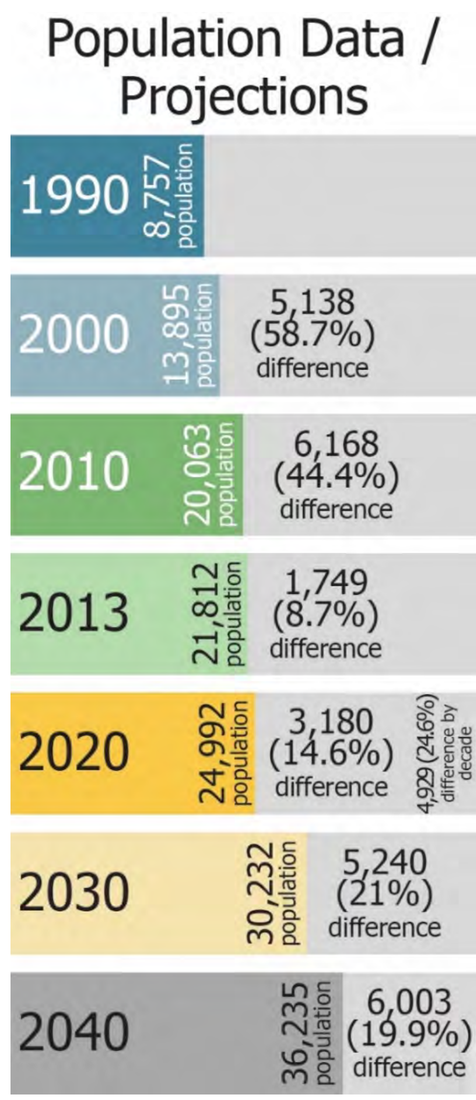
Implementation Schedule

Series of Charts and Tables

Maps

1. Land Use & Zoning
2. Zoning
3. Road Classification & Transit Routes
4. Water and Sewer Service Areas & Wells
5. Wellhead Protection Areas & Carbonate Bedrock Areas
6. Natural Resources
7. Agricultural Resources
8. Historic Resources
9. Future Land Use

The update to the 2007 Plan will provide an implementable framework to balance growth forecasting implications to the 2040 planning horizon. The plan will be both comprehensive and strategic in nature.



Growth Trends

What do residents know about change?

Since adoption of the 2007 Comprehensive Plan, the Township has adopted other plans and ordinances that affect land use policy and development including:

- Upper Macungie Township Park & Recreation Plan (2011)
- Tree Preservation Ordinance
- Conservation by Design Ordinance
- Other items to be identified in discussion with staff and Planning Commission

Population Shapes Community Character

Population growth has occurred much faster than projected or envisioned by the 2007 Plan as documented by the Lehigh Valley Planning Commission (LVPC). The Township is one of the fastest-growing areas in the state.

Population projections prepared by LVPC suggest a total population of 36,235 or a 66% increase from 2013 to 2040. The US Census has estimated the **2016 population for the Township to be 23,884**; whereas, the 2007 Plan projected the 2030 population for the Township at 24,992.

The Plan update should **evaluate the impacts of population change** on land use, housing, the environment, infrastructure, community facilities, and economics. A Maximum Build-Out Analysis of land available for development will be used to demonstrate the potential for population change projected to 2040.

Housing Shapes Community Character

Housing development spiked for two decades with 23% of the housing units in the Township built between 1990 and 1999 and an additional 32% built between 2000 and 2009 as a mix of owner- and renter-occupied units.

Within these two decades as population increased 129%, housing opportunities more than doubled. When comparing housing statistics from 2000 to 2015, the most significant change is the **increase of renter occupied units by 109%.**

During August and September of 2017, there were approximately 157 or 2% of the total number of homes in the Township listed as foreclosures, auction, or sale of new and used homes (Source: Zillow). The average range of values for these homes are from $9,900 to $999,000. The US Census housing value data shows that **over 50% of housing values are between $200,000 and $500,000**.

Housing Units	1990	2000	2015	% Change 2000-2015
Total Housing Units	3,343	5,335	8,434	58%
Occupied Units		5,128	8,078	58%
Vacant Units		207	356	72%
Owner Occupied Units	2,770	4,313	6,377	48%
Renter Occupied Units	456	815	1,701	109%
Persons/Unit		2.35	2.45	

A deeper **analysis of housing and market trends** will provide the basis for determining housing demands and will provide indicators of required changes in land use policies and zoning regulations to support meeting that demand.

Transportation Shapes Community Character

The Township owns and maintains approximately 131 miles of local roadways. As population has grown and development has increased, the volume of traffic has also increased making local roadways congested and less safe for residents, bicyclists, and pedestrians. The 2007 Plan suggests that an efficiently designed **multimodal transportation system** is the hallmark of planning for the Township as it continues to grow. The Plan **update will study congested corridors** identified in the 2007 Plan to determine current level of service (LOS) and safety as well as accessibility and mobility for non-vehicular modes. LVPC reports the following significant changes to Route 100 within the Township.

Route 100 –Traffic Volumes (AADT) and Growth Rates Between I-78 and Tilghman Street			
1999	2005	2013	% Change
17,755	21,350	26,010	46.5%

Appendix A – Briefing Paper

Land Use Shapes Community Character

Since 2006, Upper Macungie has been one of the fastest-growing residential communities within the Lehigh Valley. The agricultural land that has sustained both the Township and the region have been converted to support residential, commercial and industrial development.

Although the trends show a loss of agricultural lands, the Township has been able to **conserve over 646 acres** of agricultural lands, open space, and environmentally sensitive lands.

The intent is to **continue preservation with an option for low-impact design** of those areas outside of the Act 537 Plan service area; and to continue to **focus development activities inside of the service area**.

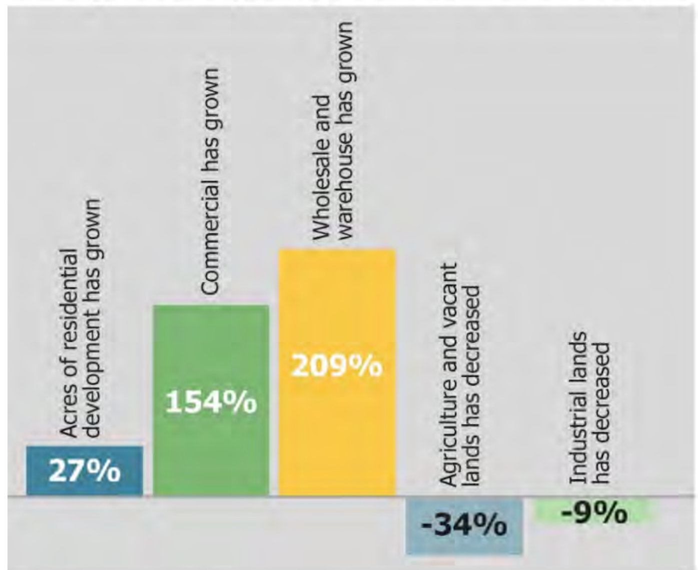
In 2012, LVPC identified over 55% of Township land was developed with 39.5% identified as agricultural lands (see graphic below).

In 2017, the following are **notable changes** in land use over the past 5 years:

- **Agricultural land** has decreased to 28% of the total land in the Township. From 2012, this 11.5% loss has significant impacts on community character.
- There is approximately 551 acres (3.9%) of **vacant developable land** not used as agricultural lands positioned predominantly inside the Act 537 Plan area easily served by public water and sewer to support development.
- There are **known sites with obsolete development** with the potential for future development/redevelopment. Recently, one of these sites—the former Kraft manufacturing site—fell prey to warehouse redevelopment.
- The potential for **loss of additional agricultural lands** to development is of concern.
- Since 2012, a 5.3% **increase of warehouse/distribution** use results in a range of community impacts that concern residents and Township leaders.

Land Use Facts

Over the past 20 years (1996-2017), the Township has experienced some significant changes in physical character of the community.

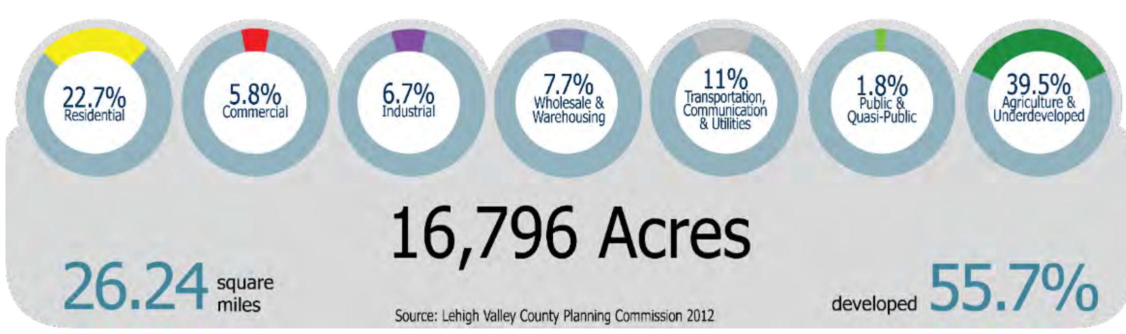


The Comprehensive Plan update process will focus on what are the land use goals for the next 20 years and what might be the anticipated implications.

Land Use	Percentage			
	1996	2006	2012	2017
Residential	17.9%	20.8%	22.7%	26.4%
Commercial	2.3%	6.0%	5.8%	10.4%
Industrial	7.4%	6.4%	6.7%	18.8%
Wholesale & Warehouse	2.5%	7.1%	7.7%	
Roads & Utilities	5.9%	10.7%	11.0%	
Institutional	0.8%	1.8%	1.8%	1.4%
Parks and Recreation	2.8%	3.1%		4.8%
Agriculture & Vacant Lands	60.4%	44.1%	39.5%	28.0%

Sources: LVPC, Municipal Profiles 2000 and 2008 US Census and UM Township 2017 GIS Data.

Land Use Characteristics



Economy Shapes Community Character

Upper Macungie Township has among the highest median family and household income rates in the state and an average nearly double that of the state overall. The Township has experienced levels of poverty lower than the state and county averages. The Township's poverty level since 2009 has been between 3.8% and 2.9%.

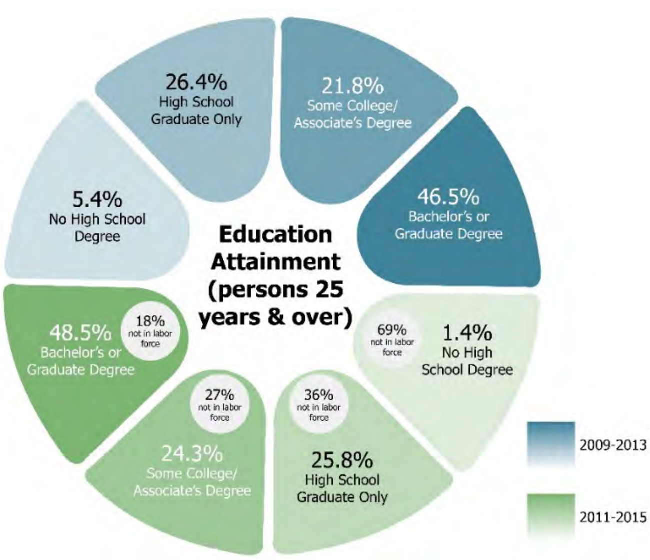
Of the 11,674 persons 16 years and older in the workplace, 73.2% work in the County, 22.5% work outside of the county, and 4.3% work outside of the State. **Over 76% commute to work outside of Upper Macungie Township.** This contributes to the traffic safety, mobility, and accessibility (congestion) issues both in the Township and the region. This congestion translates into state and local taxes to meet infrastructure demands.

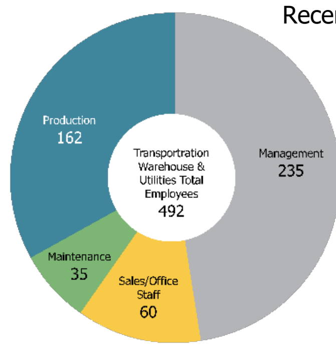
Residents experience one of the lowest tax structures in the County when compared to surrounding municipalities as well as other municipalities county-wide.

2014-2015 Local Tax Structure			
Municipality	Municipal	School	Total Mills
Upper Macungie	0.64	14.19	18.58
Weisenberg	0.56	15.96	20.27
South Whitehall	2.25	14.19	20.19
Lower Macungie	0.33	16.67	20.75

Source: Lehigh County Assessment Office – 1/2015

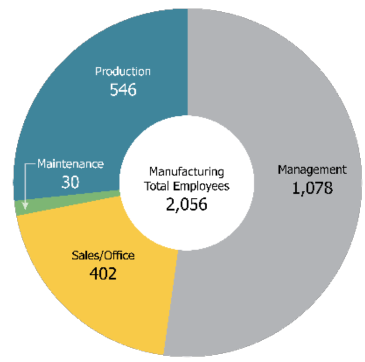
The Plan update will include an Economic Assessment and Market Analysis that will define housing needs and optimum land use as well as a Fiscal Impact Analysis that will identify potential tax revenues, expenditures (costs), and transportation concerns and needs.





Recent labor force statistics suggest a **manufacturing base** that should be protected and nurtured to foster growth.

Source: U.S Census



In 2012, the U.S. Census reported that the **Wholesale Trade Industry** within the Township prospered with **$2.9Billion** in annual sales/revenue.

2012 Employees in Township by Type of Employment	
Wholesale Trade	1,700
Retail Trade	1,694
Information	189
Real Estate & Rental/Leasing	131
Professional, Scientific & Technical Services	1,303
Administrative Support & Waste Management/Remediation	1,792
Education Services	38
Health Care & Social Services	871
Arts/Entertainment & Recreation	186
Accommodations & Food Services	1,239
Other Services	<500

Source: US Census

When compared to the nation, households in Upper Macungie are well above national averages. To put things in perspective, the **2015 national median household income was $56,516**–overall the nation experienced a 5.2% increase from 2014. This was the first annual increase in median household income measured nationally since 2007 before the recession.

Median household income is just one indicator of economic strength and vitality. For Upper Macungie and some surrounding municipalities, median income trends exceed those of the nation.

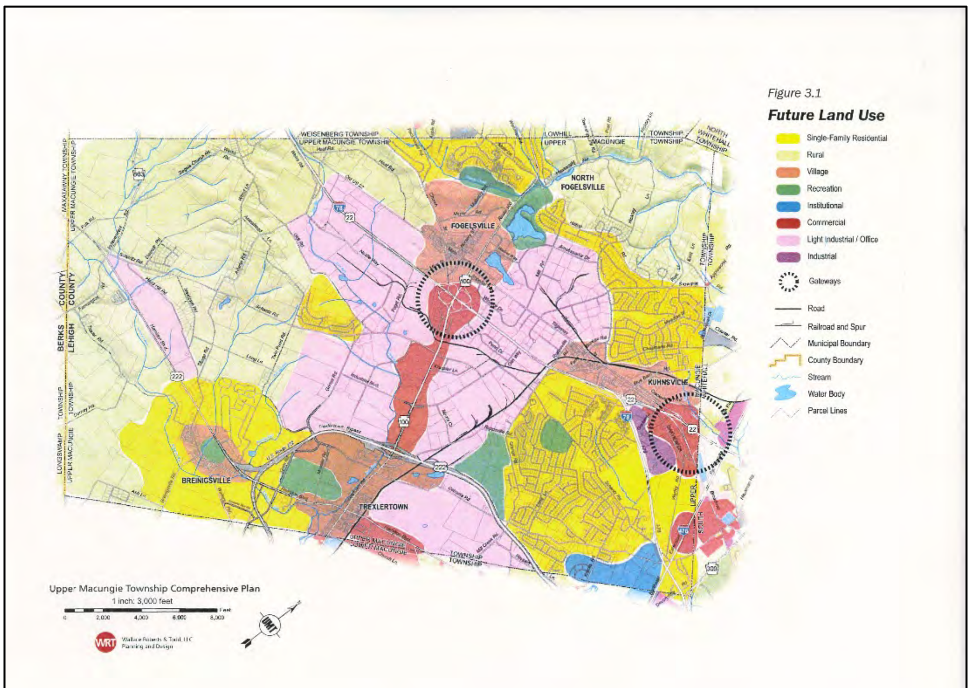
High levels of education equate to higher levels of income for Upper Macungie residents.

Income and Poverty Status					
Indicator	2000	2013	% Change	2015	% Change
Median Household Income	$79,188	$87,101	9.1%+	$88,866	2%+
Median Family Income	$74,299	$101,157	36.1%+	$99,337	1.8%-
Persons Below Poverty		786 (3.8%)		2.80%	

Sources: LVPC Municipal Profile and U.S. Census

2007 Plan Future Land Use Map

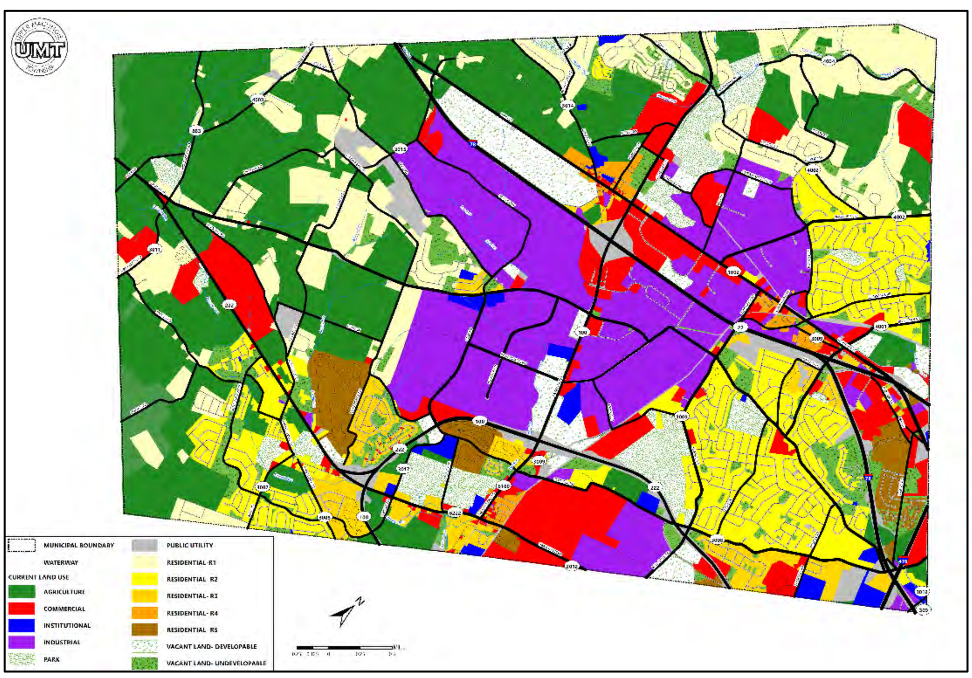
Prepared by Wallace Roberts & Todd, LLC with Keystone Consulting Engineers, Inc.



Source: UMT 2007 Comprehensive Plan, Map Prepared by WRT

2017 Land Use Map

Prepared by Keystone Consulting Engineers for the Comprehensive Plan update.



Source: Map Prepared by Keystone Consulting Engineers

Vision

What is the vision for the future?

The planning process will revisit the 2007 Plan Future Land Use Map and ask the following questions:

1. What is the vision for the future of UMT?
2. What do you like about UMT that you would not change?
3. What do you dislike about UMT that you would change?

COMPARISON OF LAND USE

A quick visual comparison of the 2007 Plan Future Land Use Map with the 2017 Current Land Use Maps suggests the following:

- Adoption and implementation of land use regulations to realize the future have been successful.
- Some lost opportunities have resulted in minor variations between the two maps.
- More warehouse/distribution uses have transpired versus desired industrial/manufacturing land uses.
- Less commercial development has occurred versus what was envisioned.
- More emphasis should be placed on growth and enhancement of the villages.

The Township's 2017 land use patterns are consistent with the 2007 Comprehensive Plan Future Land Use Map.

Land Use

Policies Balancing Tax Base with Quality of Life

What land uses do citizens prefer?

COMMUNITY INTEREST

The plan focuses on policy, regulation, and incentives for maximum public and private preservation to:

- Preserve scenic open space
- Enhanced open space with greenways and trails
- Protect water quality
- Improve air quality
- Preserve habitats
- Protect woodlands and tree canopy

Concerns expressed in the 2007 Plan:

- Location has played a role in the cluster of warehouse/distribution uses.
- Truck impacts supporting the cluster of warehouse/distribution uses.
- Lack of large retail shopping centers.
- Development around the villages has impacted the historic character of these traditional neighborhood developments.
- The plan suggests local bypasses around the villages to lessen impacts of traffic – local bypasses pose negative economic impacts on small village centers.
- Connecting neighborhoods with community centers, parks and recreation, schools, and shopping using multi-modal solutions.
- Providing bicycle lanes on appropriate roadways.
- Providing adequate public facilities and services to ensure a high quality of life for residents.
- Adopting adequate design standards to provide appropriate separation and buffering/screening of incompatible land uses.

Guiding Principles to Build Community Sustainability

Sustainable development is a form of development in which resource use aims to meet human and economic needs of the present without compromising the ability of future generations to meet their own needs.

Putting sustainable development into practice means ensuring land use, economic, and social policies deliver both environmental protections and enhance the well-being of your community by:

- Building a balanced tax base
- Improving quality of life
- Conserving and enhancing the environment
- Protecting landscapes

The 2007 Plan attempts to achieve this but falls short in several areas including:

- Absence of an overall vision statement.
- A vision statement including five major categories that are goals to achieve a vision that is not articulated.
- Limited demographic data and analysis with no definition of planning implications.
- Some indicators are discussed in the existing conditions and trends yet, again not tied to a clear definition of planning implications, strategies, and implementation.
- Goals identified in the Plan for Action should be organized as objectives of the plan.
- Lack of performance measures and methods of monitoring impact of plan implementation.

Indicators of a Sustainable Community

The 2007 Plan identifies several indicators providing a long-term view of the community. The Plan update should strive to indicators that measure the carrying capacity of the following:

- Natural resources
- Ecosystems
- Aesthetic qualities
- Built capital
- Quality of Life factors

Suggested Approach: Additional indicators are introduced in the Demographic and Trends section of the plan and carried throughout with connection to performance measures, planning implications/monitoring the success of plan implementation.

INITIAL POLICY ASSESSMENT

The 2007 Plan focused on land use policies that considered **impacts on the tax base** while reducing impacts of truck traffic. Implementation of this policy has resulted in a warehouse/distribution cluster that has significantly increased truck traffic since 2007.

Policies and regulations **concentrating residential development at higher densities** inside the Act 537 Plan area have been successful in achieving the following:

- Reducing sprawl
- Providing valuable public and private open space - greenways (approximately 755 acres)
- Protecting environmentally sensitive features.

The **Build-Out Analysis for 2030** suggests the total number of housing units at build-out will be 14,187 with 4,906 acres zoned for residential development and the capacity for 5,429 new units beyond the 6,240 existing units in 2006/2007.

In 2015, there were approximately 8,434 housing units accounting for 73% of the 2,518 units proposed in 2004. Remaining capacity to support a maximum build-out of 14,187 housing units will be studied to determine the:

- Optimum population for the Township
- Projected number of housing units at maximum build-out
- Land use mix to provide a sustainable economic based while protecting agricultural and natural scenic beauty of the Township

Population projects and maximum build-out should not drive land use decisions to determine how to accommodate maximum growth.

Instead, they should be used to determine the desired vision for the future of the Township balanced by the "carrying capacity" of the land **to preserve and conserve valuable community resources and minimize impacts** on those aspects in the best interest of the community outlined in the left column of this section.

Suggested Approach: Although many of the policies have served the community well, a policy shift to determine a true balance of tax base based upon market and economic analysis and **quality of life should** be conducted as part of the 2019 update.

Recreation

Upper Macungie Planning, Policy, and Citizen Surveys

What do residents have to say about recreation?

New Park Land Guidelines

The Township should plan to develop between 30 acres of land per 1,000 new residents to satisfy national and state standards as well as local needs.

Additional focus should be placed on connecting 3.18 miles of existing and approved walkways. Approximately 2.5 miles of additional walkways are needed to link existing paths.

2011 PARK & RECREATION FAST FACTS

Township Recreation Acres - 680
County/Private/School Acres - 257
Conservation Acres – 646

Acres of Land Set Aside for Active Recreation Use - 938

Development of additional lands and potentially acquisition of additional lands for parks and recreation may is required to meet the needs of the 2020 projected population.

COMMUNITY INTERESTS

2017 Recreation Survey

Residents want a range of activities and recreation opportunities available in the community.

Residents want a Community Center that is multifunctional, satisfying many needs.

The following are the priority activities of interest related to land use and transportation and programming of outdoor space as part of the proposed Community Center:

- Walking/Running Track
- Hiking
- Golf
- Cycling
- Farmers Market
- Outdoor concerts
- Swimming – Indoor/Outdoor Pool
- Library/Tech Component
- Specific park facilities include: Tennis, Pickleball, Field Hockey, Lacrosse, Football, Baseball/Softball, Basketball, Soccer and Disc Golf.

Most survey respondents support a Community Center to be built via phased construction without increasing taxes or borrowing money to complete the project. The Township is currently surveying the community with respect to details pertaining to the Community Center and other Grange Park improvements.

2010/2011 Recreation Survey

The following is a list of the most frequent recreational activities:

- Walking
- Playground Use
- Baseball/Softball
- Use of Pavilions
- Dog Walking

Most requested facilities include:

- Swimming Pool
- Playing Fields
- Bike Lanes and Trails
- Dog Park
- Community Center
- Walking Paths

The greatest demand for facilities is to support youth athletic leagues.

Upper Macungie Township Park and Recreation Plan 2011

The plan includes an inventory of natural, scenic, historic, cultural, and recreation resources with strategies and recommendations to ensure the long-term protection of resources. The plan is to be used to assist the Board of Supervisors in developing yearling objectives, new policies, capital and operating budgets, and programs.

Challenge: The challenge lies in providing leisure opportunities that conveniently serve many of the citizens of the Township while helping to preserve important natural and cultural resources.

Relationship to Land Use Policies:

1. The demand for leisure opportunities is directly related to the size and characteristics of the population.
2. The 2007 Comprehensive Plan recognized the need for additional recreation facilities based upon projected development opportunity.
3. The plan augments the Comprehensive Plan by updating inventories and provides goals, objectives, and recommendations for recreation, open space, and preservation of natural resources.
4. The plan is also to be used when reviewing new subdivision plans to assure they meet short- and long-term objectives of meeting public open space requirements.
5. The plan meets MPC requirements to adopt planning documents to support Section 503(11) to require developer to dedicate public land for park and recreation purposes or the option to provide a fee in lieu of land dedication.
6. Analysis are needed to provide neighborhood based planning and adequate park, recreation, and open space.

Development Policy: Each neighborhood should contain a Township park or private facilities in cases where apartments or townhouse developments have an association to maintain the areas (policy has not been consistently implemented).

Recent Regulations: Conservation Design Ordinance adopted to preserve open space, environmentally sensitive lands, and agricultural lands.

Source: Excerpts from the Upper Macungie Township, Park and Recreation Plan, 2011 prepared by Keystone Consulting Engineering, Inc.

Transportation

Safety, Mobility, and Accessibility

TRANSPORTATION / TRAFFIC SAFETY

Safe and timely vehicle traffic management continues to be a top issue for the Township leadership. Police Department, and citizens.

The Township has established a Good Neighbor Coalition (GNC) with the goal to improve relations between homeowners and businesses (particularly those that use trucking transport). One important community initiative of the GNC is trucking transport safety issues.

Freight Traffic Rerouting
Freight traffic rerouting is a leading priority for the Township, residents, and truck transport reliant businesses. A study is under way for a new I-78 interchange to reduce the volume of tractor trailers on Route 100 and Schantz Road.

Adams Route, approximately 1.4 miles west of Route 100, has been identified as the possible site for a new interchange. This new interchange is estimated to be a $200 million project. The following outlines the project:

- Step 1: Conduct a Point of Access Study to look all aspects of the project including need, environmental impacts, feasibility, and eligibility of funding.
- Step 2: Design of the new interchange (preliminary & final design).
- Step 3: Construction of the new interchange.

Public input throughout this process is a crucial requirement. Step 1, the Point of Access Study, is being conducted as a public/private partnership. This step is expected to be completed in the Summer 2019. *Source: Upper Macungie Township*

Challenge: Establish policy, regulations, and protections to guide development around the new interchange while reducing truck congestion on existing roadways. Requirements for overnight truck parking space.

Policy/Regulatory: Establish a Truck Route Map with restructured routes and Subdivision/Land Development Ordinances requiring Traffic Impact Studies for proposed development.

What should citizens know about transportation?

2013 Traffic Quick Facts – AADT*	
Route 100 – I-78/Tilghman St.	26,010
Hamilton Blvd – Trexler/Continental	15,530
Trexlertown Road – Railroad/Cetronia	9,750
Independence Road – Schantz/Folk	1,160

**Annual Average Daily Traffic (AADT)*

The following improvements demonstrate the commitment **to improving mobility and safety** throughout the community.

Transportation Projects	Status
Route 222 & Mill Creek Road Eliminate cross traffic and left turns from side streets. Protected left turns from Route 222.	Complete
Mill Creek Road Widening	
Proposed West Grange Road Connector to redistribute traffic to Cetronia Road	
Mill Creek Road & Proposed West Grange Road Signalization	
Cetronia Road & Proposed West Grange Road Signalization	
Grange Road & Cetronia Road Turning Lanes	
Route 222 & Grim Road/Cetronia Road Protected Left Turn	
Hamilton Blvd. & Trexlertown Shopping Center Emergency Preemption	
Hamilton Blvd. & Weilers Road Left Turn Arrow	
Route 222 & Route 863/Farmington Road Temporary Signal	
Route 222 & Route 863/Farmington Road Future Roundabout & Rodway Alignment	Under Design
Route 222 & Schantz Road Temporary Signal	Complete
Route 222 & Schantz Road Cul-de-sac	Under Design
Route 100 & Nursery Street Signal	2017
Route 100 & Weilers Road Protected Left Turn	Complete
Route 100 & Weilers Road Multi-phase Roadway Improvements	2017
I-78 Eastbound at Route 100 Lane Addition	Complete
Blue Barn Road Roadway Overlay	
Oak View Drive Right Turn Lane	
Morris Court Resurfacing	
Industrial Blvd. Resurfacing	
Werley Road Reconstruction & Widening	
I-78 &Adams Road Interchange Point of Access Study	2019
Hamilton Blvd. Streetscape and Roadway Improvement Study	Under Study

COMMUNITY INTERESTS

2017 Traffic Safety Survey

Residents are concerned about:

- Safe access to their homes
- Less truck traffic and congestion
- Safer access for children and others walking, biking, and traveling to school

Planning & Policy: The Township continues to invest in transportation planning, programming, and implementation working collaboratively at the local level with surrounding municipalities and county/MPO through the TIP process and with PennDOT at the state level. The following timeline provides the context of various efforts which have contributed to a Transportation CIP. Projects are routinely implemented through public/public and public/private partners.

Village Character & Design

Interesting Places and Spaces

What community characteristics do citizens identify with?

Trexlertown and Foglesville Village Improvement Plan 2008

"Livable communities have a balance of jobs, homes, services, and amenities and provide inter-connections among these elements. Livable communities provide housing choices and are walkable and affordable. They're also well designed and attractive."

Excerpt from PA DCNR, Better Models for Development in Pennsylvania

The 2007 Comprehensive Plan encourages the Township to adopt a village overlay zoning district with design standards geared to help preserve the character of the villages while encouraging appropriate forms of redevelopment.

Shortly after adoption of the 2007 Comprehensive Plan, the Township undertook and completed the 2008 Trexlertown and Foglesville Village Improvement Plan.

The plan contains a detailed exterior building condition assessment and assessment of public space with recommendations for design standards associated with a vision for each of the villages all supported by the adoption of a Village Overlay Zoning District.

Source: Excerpts from Upper Macungie Township, Trexlertown & Fogelsville Village Improvement Plan (2008)

Villages in the Township

- Trexlertown
- Fogelsville
- Breinigsville
- Haaffsville
- Krocksville
- Kuhnsville
- Newtown
- Ruppsville

Each of these villages has played a role in the development of the Township and contributes to the character, historic resources, scenery, and livability of the community.

The design of new development and redevelopment at key locations throughout the Township will further define community character to benefit residents, businesses, and visitors alike.

VILLAGE VISION & POLICY GUIDANCE

Ensure that Trexlertown and Fogelsville are physically attractive and pedestrian-friendly places to live, work, and visit and that they project a strong community identify, and sense of place as well as offer suitable locations for appropriate small retail, service, and office reuse projects.

Specific visions are developed for each of the villages along with revitalization strategies and design standards. The following are various policies and regulations to consider as part of the Comprehensive Plan update:

1. Both villages are zoned NC – Neighborhood Commercial. But, the district does not completely accomplish the goals, objectives, and strategies outlined in the plan. The goal is to attract smaller-scale development.
2. Center Overlay District like a Traditional Neighborhood Development (TND) District as outlined in the MPC with possibly form-based codes for infill/redevelopment and design standards consistent with those outlined in the plan.
3. Policy to support a TND and various codes and requirements to address walkability, aesthetics, gateways, streetscapes, signage, coordination of parking, commercial facades, and building massing.

The planning update process will look closely at the remaining villages to address opportunities for development and enhancements through policies and recommendations for regulations.

Trexlertown

The village has potential for additional commercial development as demonstrated with past development/redevelopment activity.

Residential development within and adjacent to the village provides a ready customer base for future retail and personal service uses. The nearby Lehigh County Velodrome and adjacent public space also provide opportunities to enhance marketability of village businesses.

Challenges: Historic development patterns pose challenges for parking and pedestrian improvements such as sidewalks in the heart of the village.

Photography by Allie Scarfaro, JMT

Fogelsville

Challenge: The village's Main Street has very few underutilized parcels conducive to commercial redevelopment.

The nearby shopping center at Tilghman Street and Route 100 will be significant competition for small-scale neighborhood businesses.

Redevelopment might be best focused on small office uses and small specialty retail uses. A GAP Analysis/Leakage Study may assist with identifying small specialty retail uses.

Recommendations

Ways to Modernize the Update to the 2007 Plan

Plan Purpose & Vision

In addition to those areas identified in Section 1.2 of the 2007 Plan to frame the intent of the plan, the following should be included:

- Manage growth to balance preservation and demands for new comers to call the Township their home
- Provide a balanced tax base to assure financial sustainability

Other factors will be identified based on work with the Township Planning Commission, Steering Committee, and public.

The **vison** is organized around five major categories each with the common goal to support the plan. There is no one overarching vision to encapsulate what the general vision is for the Township.

Suggested Approach: Craft an overarching vision statement working collaboratively with the Planning Commission, Steering Committee, and the public. The 2007 vision statements for the five major categories should be reviewed for relevance and modified accordingly to be written as goals that support the overarching vision.

Analysis

Suggested Approach: Build upon the analysis conducted in the 2007 Plan to include the following:

- Housing Market Analysis
- Assessment of Redevelopment Opportunities
- Build-Out Analysis
- Planning Scenarios to determine Future Land Use
- Planning Implications
- Fiscal Impact Analysis

Plan Format

Suggested Approach: Streamline content with the organizational structure of the plan. Include details of technical analysis in appendices.

Utilize ESRI Story Maps as a tool to produce an online document integrating public input while building the plan throughout the planning process.

Planning Commission/Steering Committee Activities

Suggested Approach: Participate in three Workshops to support plan development and review.

Provide insight and guidance to support policy on subject matter similar to that which was obtained as part of the 2005-2007 planning process.

Review and update the vision, goals, and objectives of the 2007 Plan.

Review and assess with staff and the Planning Commission/Steering Committee the effectiveness of the 2007 Plan using the Implementation Schedule as the template for assessment.

Growth Boundary

Continue to utilize the Act 537 Plan area as the local growth boundary to focus continued growth within the urbanized area of the Township.

Community Character & Design

Suggested Approach: Fully develop this section of the plan based upon detailed analysis centered around placemaking principles integrated with land use and transportation strategies.

Provide graphic representation and land use regulation and design standard recommendations.

Plan for Action

Suggested Approach: Integrate the Future Land Use Plan with various strategies associated with each Plan element.

Implementation Schedule

Suggested Approach: Revise the format to relate strategies from the Plan of Action with implementation in a matrix format accounting for time including the following details:

- Implementers – Public/public and public/private partnerships
- Capital cost estimates and funding sources
- Detail transportation projects so ready for submission to LVCP for consideration on the TIP
- Indicators and performance measures to allow for monitoring and assessment

2019 Comprehensive Plan Elements

PennDOT Connects Initiative requires municipalities and MPOs to demonstrate the connection of transportation projects to the community vision, and various policies and strategies are outlined in local comprehensive plans.

Status of 2007 Plan Implementation

Successful Implementation

What has the Township accomplished?

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Land Use and Housing Action Strategies			
1. Update Act 537 Plan to permit modular extensions.	No Action	1-5 years	There is not enough public support for these types of extensions.
2. Prohibit extension of public sewer and water outside of Act 537 area.	✓	1-5 years	Current policy. The UMT Act 537 Plan will be updated to be consistent with the UMT 2019 Comprehensive Plan Future Land Use Map. The Act 537 boundaries will serve to direct urban/suburban growth (a municipal growth boundary).
3. Redevelopment plans for the four villages.	✓	1-5 years	The UMT 2019 Comprehensive Plan will integrate the Trexlertown & Fogelsville Village Improvement Plan (2008) into the overall vision for the Township. The update will address the UMT Property Rehabilitation Development ordinance (§27-1001 thru §27-1006) and provide recommendations to support revitalization efforts in the two village areas of the Township as well as the Kunhsville/ Chapman village.
4. Focus infrastructure improvements to urbanized areas and create Village Overlay Zoning.	✓	1-5 years	The UMT 2019 Comprehensive Plan will integrate the Trexlertown & Fogelsville Village Improvement Plan (2008) into the overall vision for the Township. The Comprehensive Plan will provide recommendations to support the creation of a Village Overlay Zone.
5. Create a Gateway Overlay Zoning District.	No Action	1-5 years	The UMT 2019 Comprehensive Plan will include concepts and recommendations to support the creation of a Gateway Overlay Zoning District.
6. Apply for grants for streetscapes and other improvements to Villages and Gateways.	✓	1-5 years	The UMT 2019 Comprehensive Plan will integrate the Trexlertown & Fogelsville Village Improvement Plan (2008) into the overall vision for the Township. The Plan will provide recommendations for grants to support revitalization efforts.
7. Coordinate with adjacent Municipalities and LVPC to establish consistent review standards/ordinances for land uses of regional significance.	✓	5-10 years	UMT and surrounding municipalities and the County share plan updates and ordinance revisions which will include the UMT 2019 Comprehensive Plan in accordance with the MPC. The LVPC Comprehensive Plan update may address the issue of Developments of Regional Impact and Significance, connections, and valued community resources.
8. Partner with developers who specialize in mixed income housing development and rehabilitation infill development to incorporate affordable housing options as part of village redevelopment.	✓	5-10 years	UMT is working with the local development community to address the expansion of Fogelsville along with warehouse development placed in proximity to the anticipated interchange on Adams Road. Mixed densities behind Lehigh Hills Shopping Center. A concept for opportunities for expansion of Fogelsville will be provided.

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Community Character and Design Action Strategies			
1. Develop truck routes and truck ordinance.	✓	1-5 years	UMT completed an update to the Truck Restriction Map (2017). Ordinance §15-207(3)(A) & (B)--Truck restrictions on identified roadways (2012); and subsection 5 - fines and penalties (2017).
2. Requirement for heavily planted buffers between residential and non-residential uses and zoning districts.	✓	1-5 years	The UMT 2019 Comprehensive Plan will provide concepts for buffer zones. Ordinance §27-803(4)(A-G)--Detailed buffer section identifying width, when required, location, character, plantings, and buffer plan (1994). Buffers are also addressed in SALDO.
3. Require berms and landscaping to buffer truck parking courts and enhance appearance of industrial/ warehouse development.	✓	1-5 years	The UMT 2019 Comprehensive Plan will provide concepts for new development opportunities to transition from warehouse development to surrounding existing and planned uses. Zoning Ordinance §27-803(4)(A-G) plus §27-604 Landscaping, §27-603 Design Standards for Off-Street Parking (2003) and §27-605 Off-Street Loading (1994) address these issues. Screening is also addressed in SALDO.
4. Develop contextual design/bulk standards in mixed use zoning districts.	✓	5-10 years	There are limited vacant lands for new development in zones NC and HC. Efforts in the future will be to support redevelopment. Property Rehabilitation Development ordinance (§21-1001-27-1006) is applicable for R4, NC, and HC (mixed use neighborhoods/zones).
5. Develop standards to encourage public amenities and landscaping to enhance visual historical and cultural character of the Township.	No Action	5-10 years	The UMT SALDO includes site design standards and roadway requirements. The UMT 2019 Comprehensive Plan will include recommendations to enhance these standards.
6. Develop traffic calming measures on residential streets. Prioritize streets based on traffic volumes and speeds.	✓	10-25 years	Village Overlay District will address traffic calming. UMT Police Department enforcement and outreach supports traffic calming. Ongoing evaluation of traffic data for local streets supports these efforts. Traffic calming strategies and general illustrations will be provided.
7. Increase efficiency of volunteer fire department financially.	Under way	10-25 years	The UMT Fire Study (2015) assessed volunteer forces as well as human and financial resources and needs. ISO standards were used to base the evaluation.
8. Collaborate with Parkland School District on school facility planning by reporting on new development.	✓	10-25 years	UMT continues to collaborate with and regularly provides information to the School District. A new Elementary School has been studied and sited.
9. Consider a community performing arts theater and other cultural facilities as part of the revitalization plan for Trexlertown and/or Fogelsville. Coordinate with Lehigh Valley Arts Council.	No Action	10-25 years	Concepts will be provided as part of either the villages or town center concept.

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Transportation Action Strategies			
1. Township Transportation Study upon completion of US 222 Relocation Project.	✓	1-5 years	UMT completed a Transportation Capital Improvement Plan (2013/2014), Traffic Modeling (2014), and Comprehensive Traffic Impact Study (2014). UMT, with assistance from KCE, is updating the Transportation Capital Improvement Plan, which will be referenced in the 2019 UMT Comprehensive Plan.
2. Update Roadway Classification Map.	✓	1-5 years	Roadway classification maps are routinely updated by Lehigh Valley Planning Commission (LVPC) and Township.
3. Identify truck routes based on industrial/distribution and commercial activity.	✓	1-5 years	UMT completed an update to the Truck Restriction Map (2017).
4. Prepare Studies/reports to support new interchange at I-78 west of Fogelsville.	✓	1-5 years	Point of Access Study is under way funded by property owner/developer.
5. Partnerships for future improvement to connect US 222 to roads serving major developments.	✓	1-5 years	Access provided to Uline via Mill Creek Road as a connection to Route 222 and Route 222 Bypass.
6. Partnership with developers for improvements to adjoining roadways/ intersections, etc.	✓	1-5 years	UMT has a Traffic Impact Study requirement for developers (1994), which is also cross-referenced to SALDO Chapter 22 required improvements. Zoning Ordinance §27-812.
7. Explore Traffic Impact Fee Ordinance and sources other than state and federal highway funds.	✓	1-5 years	UMT has not completed a Traffic Impact Fee Study to support the adoption of an Ordinance (PA MPC Article V Municipal Capital Improvement) as there is not enough development/ redevelopment opportunity to support a Traffic Impact Fee. UMT continues to work with developers to obtain on-site improvements in accordance with the MPC. UMT is exploring other options to support transportation infrastructure costs.
8. Identify trails connecting existing parks, villages and employment centers; walkways along streams.	✓	5-10 years	UMT worked with the LVPC to identify connections to regional facilities as part of the County's Greenways Plan. The UMT Comprehensive Plan will integrate and expand upon these connections.
9. Alternative funding sources - Elm Street and Main Street Programs and Wildlands Conservancy.	No Action	5-10 years	While UMT will find it difficult to qualify for Main Street and Elm Street Program based upon development patterns and small size of villages and program criteria, the Comprehensive Plan will identify other funding sources for transportation improvements.
10. Parking management strategy as part of Village Redevelopment Plans.	✓	5-10 years	Parking and parking management were addressed in the Trexlertown & Fogelsville Village Improvement Plan (2008) and recommendations will be integrated into the UMT 2019 Comprehensive Plan. Shared parking is reference in the Property Rehabilitation Development §27-1006.

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Community Facilities Action Strategies			
1. Create Rural Preservation Overlay District for lands outside of Act 537 boundary.	No Action	1-5 years	The UMT Comprehensive Plan will provide recommendations to support the creation of a Rural Preservation Overlay District, if appropriate. UMT has identified an Agriculture Security line item in the budget and is working with farmers to preserve and conserve land.
2. Require public sewer and water connections for all development within Act 537 area.	✓	1-5 years	Current policy specifies that lots within the Act 537 boundary not connected to water and public sewerage will be addressed through redevelopment and the Township's on-lot system maintenance and operation inspection process.
3. Develop a Wellhead Protection Plan.	✓	5-10 years	Current Policy. Wellhead Protection is regulated through §27-101(2)(a-e).
4. Require sidewalks and/or bicycle lanes on all new roads. Conservation subdivisions require open space to be designed that is accessible and connected to other open spaces.	✓	5-10 years	Current policy. Several roadways have wide shoulders and are signed for bicycles. Nearly all storm inlets are improved with bicycle-friendly grates. Not all roadways are improved with sidewalks. Conservation Design Ordinance (§27-901 includes walking paths and preserving greenways) and SALDO requires curb and sidewalks on all roads waived at the discretion of the Board (§22-704).
5. Prepare a Municipal Complex Master Plan to analyze the need of future services and facilities.	✓	5-10 years	UMT is currently in the process of planning and developing Grange Road Park improvements including a Community Center. The UMT 2019 Comprehensive Plan will integrate this effort, and the Future Land Use Map and strategies will be consistent.

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Natural and Historic Resources Action Strategy			
1. Adopt a Riparian Buffer Ordinance along stream channels.	✓	5-10 years	Riparian buffers within the Act 537 area have been preserved but UMT does not have regulations to address riparian buffers in agricultural areas outside of Act 537 boundary. The UMT Comprehensive Plan will provide recommendations to support the creation of a Riparian Buffer Ordinance.
2. Prepare a comprehensive survey of historic resources. Apply for grant from PHMC.	✓	5-10 years	The LVCP recently updated the historic inventory county-wide, which UMT will use.
3. Continue to work with Lehigh County Agricultural Land Preservation Board. Prioritize properties by soil classification and lands identified in the LVPC Comp Plan. Continue relationships with trusts, etc. for funding.	✓	10-25 years	UMT coordinates closely with the Lehigh County Agricultural Land Preservation Board and conservation agencies, land trusts, and others to provide funding and incentives for agriculture preservation.
4. Continue conservation by design standards where development occurs.	✓	10-25 years	UMT adopted a Conservation Design Development Ordinance (Article IX) prior to the 2007 Comprehensive Plan and applies these standards to preserve/conserve land. UMT conducts regular reviews and updates as needed such as the amendment to address townhome and twin development.
5. Work with American Farmland Trust to prepare an agricultural preservation plan prioritizing lands applying various tools.	✓	10-25 years	UMT collaborates with the County and other agencies/organizations to identify priority farmlands to preserve and creation of an inventory of lands for future preservation/conservation efforts.

IMPLEMENTATION/ ACTION STRATEGIES	COMPLETED	TIMEFRAME	STATUS
Economic Resources Action Strategy			
1. Develop standards to encourage continued use of existing industrial/warehouse buildings and industrial complexes. Review and adopt zoning and subdivision regulations to address long term market and technology changes.	No Action	10-25 years	The UMT 2019 Comprehensive Plan will provide strategies, concepts, and recommendations to address market changes with an emphasis on adaptive reuses of big box development.
2. Work with partners to develop a regional Agricultural Economic Development Plan.	✓	10-25 years	UMT worked with LVPC to address this, UMT works closely with farmers to develop Agritainment/Agritourism. The UMT 2019 Comprehensive Plan will provide recommendations to support this effort.
3. Provide opportunities for farming of Township lands which are dedicated as open space through Township Conservation Ordinances.	✓	10-25 years	UMT has purchased agricultural land for conservation, open space, and passive recreation and works collaboratively with County and State preservation/conservation program coordinators and property owners. The UMT 2019 Comprehensive Plan will provide recommendations for enhancement.

Reference Documents

Planning allows you to explore opportunities

Upper Macungie Township Comprehensive Plan (2007)

Township of Upper Macungie Website, www.uppermac.org

Upper Macungie Township Park and Recreation Plan (2011)

Leigh County Livable Landscapes and Open Spaces Initiatives Planning

U.S. Census Data and Trends

Lehigh Valley Planning Commission, Data, Plans and Municipal Profiles

Upper Macungie Township Zoning Ordinance

Upper Macungie Township Subdivision and Land Development Ordinance

Upper Macungie Township, Trexlertown & Fogelsville Village Improvement Plan (2008)


Source: Imagery © 2018 TerraMetrics, Map data © 2018 Google

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Appendix B

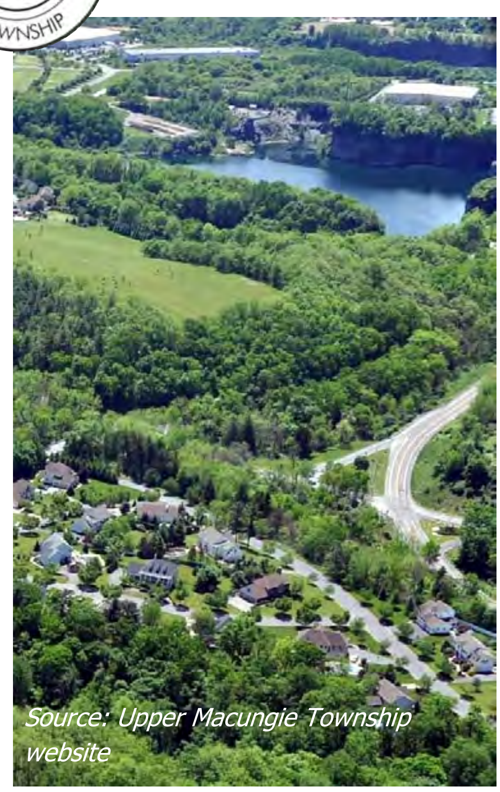
Public Input Summary

UPPER MACUNGIE

THE INTERSECTION OF RURAL AND SUBURBAN LIFESTYLES!

UPPER MACUNGIE TOWNSHIP

This document is a supplemental report and part of the appendices of the Upper Macungie Township 2019 Comprehensive Plan. This report summaries various public involvement activities and engagement throughout the planning process.



Source: Upper Macungie Township website

Upper Macungie Township Comprehensive Plan

- Public Engagement
- Community Survey
- Steering Committee
- Public Meeting Results

Community sustainability can be achieved through citizen-, community-, and stakeholder-based planning processes deciding land use policy and expected economic, environmental, preservation/ conservation, and development outcomes.

Contents

Introduction

Land use changes affect residents and property owners of the Township, and by nature, citizens have a desire to participate in major decisions about the future of the Township. Increased community involvement, including diverse types of people, in the comprehensive planning process is crucial to successful creation and adoption of a plan that outlines the desired vision for the future of the Township.

> The goal and objective of the project is to work collaboratively with the community and planning partners to prepare an implementable comprehensive plan with emphasis on sustainability.

Involvement and engagement takes place in various forms throughout the planning process. Participation allows each contributor to gain a better understanding of facts, issues, and potential consequences or outcomes, and allows them to see and hear the perspective of others. This process is constructive when all participants listen to others to gain a deeper knowledge and understanding of the issues.

The public involvement and engagement process for the UMT Comprehensive Plan was developed to provide the maximum opportunity for residents and others to interact, listen to others, learn, and help shape the plan. The following are key highlights of public involvement activities completed during the Fall 2017. Those activities are summarized in this document.

2017 Activities

July

Information Assessment. Collaboration of planning partners to determine current and relevant data, information, maps, analysis, and reports to best inform the public.

Stakeholder & Planning Partner Involvement. Group discussions targeted to obtain valuable input and information to help guide plan development.

Aug

Planning Commission. Routine engagement to assess data, issues, and planning implications, and to identify community vision, goals, and objectives.

2007 Plan Assessment. Determine the extent to which plan policies and recommendations have been implemented. A **Briefing Paper** summarized findings and provided recommendations and guidance for how to develop the plan.

Sept

Oct

Community Survey and Information Kiosk. On-line community survey to obtain citizen perspectives on land use priorities and concerns and an information kiosk located in the Township meeting room to gain additional citizen input.

Nov

Public Visioning Workshop. Information sharing with the public using hands-on activities to obtain input to guide the plan vision and policy, and community connectivity and development opportunities.

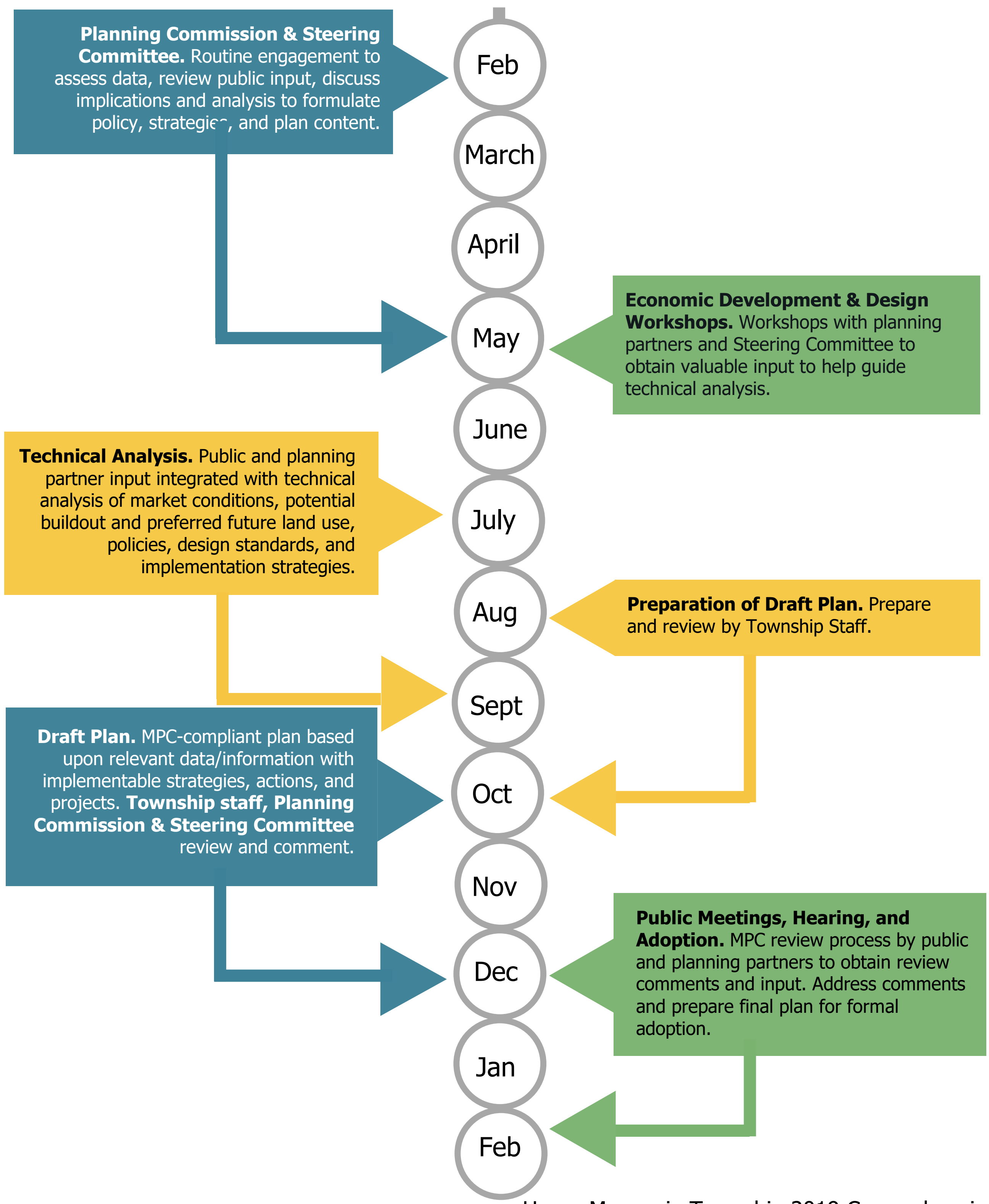
Dec

Steering Committee. Finalize Steering Committee membership and invitations.

Appendix B – Public Input Summary

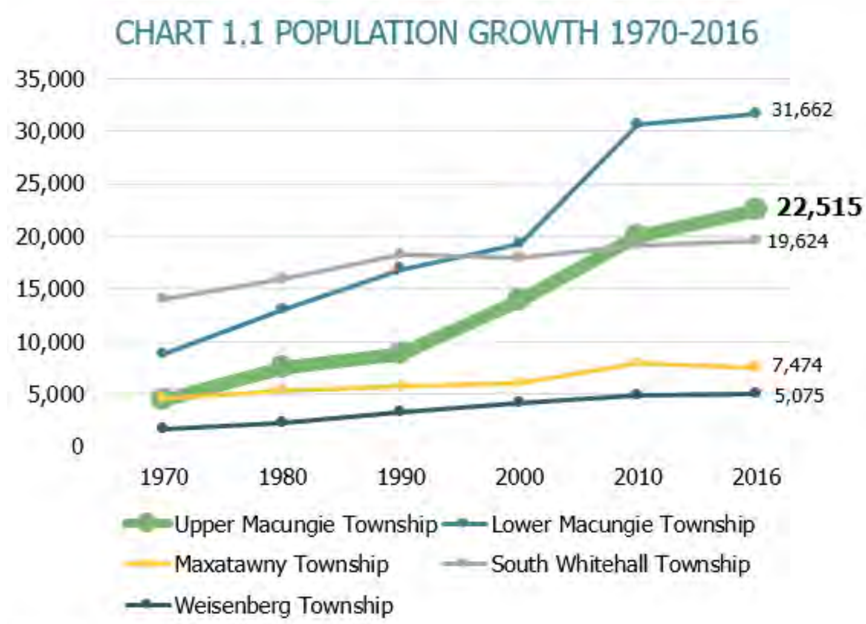
Public participation activities anticipated for 2018 are identified below. These activities include the establishment of a Steering Committee to join the Planning Commission members to provide additional citizen perspectives, guidance, and insight to the Township staff and planning consultant. Several activities are geared to include planning partners with the Planning Commission and Steering Committee to provide a framework for plan and policy development. Activities also include public meeting and hearing requirements outlined in the Pennsylvania Municipalities Planning Code (MPC) as enacted and amended.

2018-2019 Activities



Community Characteristics and Planning Implications

Located west of Allentown in Lehigh County, Pennsylvania, Upper Macungie Township is less than two hours from New York City and one hour from Philadelphia. Its proximity and access to major cities via Interstate 78 certainly has contributed to the township's population growth of almost 10% between 2010 and 2015. This growth reflects a substantial increase in new housing along with warehouse distribution centers.



Sources: US Census Bureau
* 2012-2016 (ACS) 5-Year Estimates

The Township's agriculture history remains a desired characteristic for residents, but Upper Macungie's population and economy have changed rapidly. In the 1960's, the gradual shift from agriculture as the mainstay of the economy began and now the Township is a mix of industries. Over the years, the Township has experienced a substantial growth in employment opportunities and an increased demand for new housing and retail services, all of which has acted as a catalyst for infrastructure improvements.

Growing and Developing Community

Upper Macungie is growing at a faster rate than surrounding municipalities. Planning implications associated with an influx of new residents can result in increased demands for recreational and youth activities, educational and medical services and facilities, and personal and commercial services. Additional factors associated with population growth include increased traffic levels and land consumption (a loss of agricultural, open space, and natural lands) as new housing is built.

A third (33%) of Upper Macungie Township is within the 35 to 54 age group while about a quarter (23%) of the population is within the 5 to 19 age range. The growing number of school-age children emphasizes the importance of the educational and recreational services offered within the community and can signal a need for new educational facilities. This population increase can be seen in the enrollment numbers of the Parkland School District, which saw a significant spike from the 2015-2016 school year to the 2016-2017 school year.

The characteristics and conclusions contained in this section are an overall evaluation of socioeconomic data and trends for the Township. Analysis and discussion of planning implications associated with these trends helped to guide the comprehensive plan process.

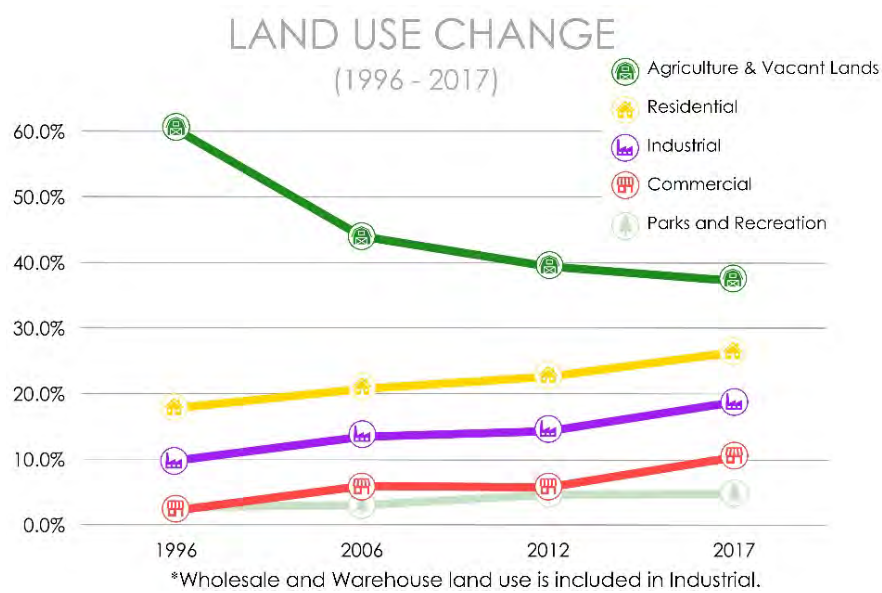
With this information, the Township has a strong foundation upon which to frame the community's vision and develop the Plan's policies, goals, and objectives.

If planning implications are left unchecked or unaddressed, consequences to the social, environmental and economic conditions of the Township will likely result.

The land use patterns of Upper Macungie have changed dramatically over the last 20 years. What was once primarily a farming community, now is predominantly a suburban landscape with the construction of new housing developments and large warehouses near major transportation corridors. This change in land use has generated a rise in heavy truck traffic and converted farm lands and open space to industrial uses.

Economy and Market Trends

Residents are highly educated with 47% of the population in Upper Macungie having a bachelor's degree or higher. The presence of an educated workforce contributes to a strong regional economy and healthy local tax base. Residents enjoy a higher median income ($88,866) than the county ($56,117) and the presence of an educated and skilled workforce contributes to the low unemployment rate (2.9%).



The interstate network and proximity of the Township to major employment centers such as Philadelphia and New York City support residents who value the comparatively low tax rates and good school system in the Township and choose to commute to work. Employment opportunities within the Township represent a mix of high skilled professional jobs and semi- to low-skilled jobs in the manufacturing, retail trade, and service industries. The manufacturing industry was the largest employment sector until 2000 when a rise in the educational, health, and social services occurred.

Housing

The higher-than-average median household income for Upper Macungie Township indicates positive economic prosperity for the Township. The median housing values in Upper Macungie Township reflect this earning capacity with 46% of homes having a median value ranging between $300,000 and $499,999. However, the median housing values coupled with a high cost-burden of housing signals a need for more affordable housing options for homeowners and renters alike. If development is targeted only toward a higher-income demographic, housing affordability will become an issue for the Township. The Township will need to be mindful of the fact that renters face more cost burden when it comes to monthly housing costs than people who own their homes. Approximately 21% of homeowners and 41% of the renters in Upper Macungie are considered cost burdened due to monthly housing costs.

Transportation/Mobility

Upper Macungie is an attractive location for companies relying on freight transport. The increase in new warehouse developments coincides with a growing number of tractor trailers on area roads. Conflicts with passenger vehicles, pedestrians, and bicyclists are a concern for residents who desire safe, non-motorized ways of moving about the community.

Planning Commission Guidance

Draft Vision Statement & Sustainability Principles

A vision statement is a community's public expression of its dream for the future. Vision statements should be concise and easy to communicate but broad enough to include a diversity of local perspectives. A good vision statement should be inspiring and serve to motivate the community to support the recommendations of the Comprehensive Plan.

Draft Vision Statement: *Upper Macungie Township is an inclusive, family-friendly, sustainable community and welcoming place to live, work, and play. Our well-managed community and resident-focused government support a diverse population and a strong economy that follows community-approved sustainability principles to provide a high quality of life for residents and financial prosperity for businesses.*

Sustainability Principles

- **Community character:** Strengthening cultural resources and historic landmark protection, revitalizing villages, following high standards for quality development
- **Natural resources and farmland protection:** Providing quality open space, protecting the environment, promoting a healthy community
- **Affordable housing developments:** Offering housing options for all ages and all income levels
- **Multimodal transportation solutions:** Supporting transportation choices and extending community connections through the integration of walking, bicycling and transit with vehicular modes of travel
- **Appropriate public infrastructure:** Ensuring the efficient and effective provision of public infrastructure occurs in pace with development
- **Quality public and private services:** Providing appropriate community services to offer a safe and healthy living environment, extending recreational options, and promoting active lifestyles

The vision statement and sustainability principles for the Township were reviewed and modified at the public Visioning Workshop and refined during the planning process to reflect input from the Steering Committee, Planning Partners, Stakeholders, and staff.

Definition of Sustainability

Meeting the needs of the present without compromising the ability of future generations to meet their own needs (United Nations December 11, 1987)

Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality and social equity (World Business Council on Sustainable Development)

Sustainable communities are "economically, environmentally, and socially healthy and resilient" and meet "challenges through integrated solutions rather than through fragmented approaches." Sustainable communities take a long-term perspective, focusing on "both the present and future, well beyond the next budget or election cycle." (Institute for Sustainable Communities)

Draft Plan Goals and Objectives

The goals and objectives on the following pages were carried forward from the Vision Statement of the 2007 Comprehensive Plan and updated by Township staff, the Planning Commission, and the Steering Committee.

Community Character

- Goal: Upper Macungie will be a place that successfully marries the rural landscape and modern communities.
    - Objective: Enact design guidelines and performance standards to achieve architectural excellence and create a pleasing community characteristic.
    - Objective: Improve major roads with appropriate landscaping and streetscape elements to enhance the traveling experience.
    - Objective: Conserve riparian buffers and provide public access to natural areas that will serve as active and passive recreation, which will ensure that residents have access to the natural environment and green spaces.
- Goal: The children who grow up in Upper Macungie will be able to afford to live there in the future and throughout their lifetime with opportunities for aging in place.
    - Objective: Provide incentives for a variety of housing types and options for residents of all ages and economic means.
- Goal: Upper Macungie's historic villages will be revitalized and serve as centers of the community.
    - Objective: Create physically attractive and pedestrian and bike-friendly places to live, work, and visit.
    - Objective: Create a strong community identity and sense of place through architectural excellence and consistent code enforcement.
    - Objective: Offer suitable locations for small-scale niche retail, service, and office uses.

The 2007 Comprehensive Plan included numerous statements that articulated a vision for the Township. During a workshop with the Planning Commission, members were asked to review these statements and provide comments, edits and identify missing issues.

The vision statements were organized by topic and rewritten as goals and objectives to support the creation of a new, overall vision statement.

The newly crafted Vision Statement, and Goals and Objectives support the plan's recommendations and implementation strategy and will ultimately be referenced/reflected in the community development objectives section of the Township's Zoning Ordinance.

Planning Commission Review and Input from 10/18/2017 Workshop:

- Provide for Architectural excellence; to create a more attractive community and workplaces.
- To provide for a "walkable and "bikeable" landscape to make our community attractive to young professionals.
- Planned communities, village redevelopment and revitalization.
- Conservation of riparian buffers and to provide public access for active and passive recreation.
- Stick to our guns with respect to landscaping around industrial uses, earth berms and sound barriers as well as perpetual maintenance bonds for street trees and buffers.
- Provide for senior living and active living.
- Code enforcement.

Discussion Notes from 10/18/2017 Workshop:

1. Who is reviewing consistency of architectural character of commercial/industrial buildings?
2. Commercial zones and developments – should have master plans that provide a walkable area connected to other connections identified in the County Plan.
3. Tributaries/riparian buffers should be conserved for passive/active recreation.
4. Landscaping and street tree requirements must also include maintenance bonds. There is a lack of enforcement of maintenance of landscaping. Issues include lack of responsive HOAs in residential neighborhoods.
5. No boulevard designs due to the high volume of truck traffic on certain roadways—stick to landscaping requirements.
6. Consider an active living ordinance to address dormitory style living for seniors.

Natural Resources

- Goal: Upper Macungie will preserve important green space and scenic open space through a variety of innovative conservation tactics that include zoning, partnerships with land trusts, and effective use of incentives for voluntary preservation.
    - Objective: Enhance open space and greenways and trails to link major open spaces and activity areas.
    - Objective: Protect water quality through appropriate development standards that will mitigate upstream impacts and ensure that waterways serve as community resources for open space.
    - Objective: Improve air quality by providing alternatives to automobile use and by routing commercial traffic away from neighborhoods.
    - Objective: Preserve habitats as an ecosystem of interconnected components through careful development practices.
    - Objective: Protect woodlands and tree canopy by limiting unnecessary clearing for development.

Planning Commission Review and Input from 10/18/2017 Workshop:

- In addition to exiting air quality statement in the 2008 vision statement, air quality could be improved by rerouting commercial traffic out of neighborhoods.
- Offering alternatives to automobiles (greenways, trails, paths, etc.) become more important as traffic increases on roadways.
- Existing woodlands and tree canopy augmented by buffering and screening is important to reduce noise and improve air quality. There should be stronger requirements for replanting coupled with code enforcement.

Discussion Notes from 10/18/2017 Workshop:

1. Tree preservation ordinance did not touch on wildlife preservation—how can we address this?
2. Noise, light pollution and air pollution is an issue with warehouse development.
3. Limited public transportation service is provided.
4. Reducing and rerouting truck traffic out of neighborhoods is crucial.
5. Alternatives to vehicular travel—must provide infrastructure such as sidewalks, paths, trails and additional bus service.
6. Require maintenance bonds for plantings.

Quality of Development

- Goal: New development will be environmentally sustainable and enhance surrounding neighborhoods and the community.
    - Objective: Provide incentives for conservation-by-design.
    - Objective: Provide appropriate transitions, connections, and mixed-use clusters between new and existing development.
    - Objective: Provide appropriate design standards and development concepts that demonstrate building placement, massing and appearance.
- Goal: When appropriate, new development will follow the traditional neighborhood or village model, where walking or biking between home, employment, school, or shopping is possible for residents.
    - Objective: Incorporate mixed uses and densities and encourage convenient alternatives to automobile use.
    - Objective: Preserve and restore historic, cultural, and natural resources to enhance community characteristics and appeal.
    - Objective: Coordinate development so that roads and street form an integrated network to avoid undue pressure on highways.
    - Objective: Organize commercial development into walkable districts with attractive frontages on major roads.

Planning Commission Review and Input from 10/18/2017 Workshop:
- First bullet above – yes new development.
- Second bullet above – this does not apply everywhere. Change ordinance to promote TND/VM and encourage where practical.
- Third bullet above – Conservation by Design Ordinance –focus on densities and resources. Mixed use should be subject to demand. Fogelsville has the potential for mixed use; yet, ordinance does not really encourage. Alternative use for autos – LANTA should provide better/ additional service to the warehouses.
- Fourth bullet above – This is a must and has been a focus of the Township for 20 years.
- Fifth bullet above – Agree but failed on walkability—only recently has there been enhancements with sidewalks. Attractive frontages should focus on commercial buildings.
- Sixth bullet above – Review ordinances to promote environmental sustainability and define environmentally sustainable.

Discussion Notes from 10/18/2017 Workshop:
1. Developments since 2007 have resulted in no connectivity between neighborhoods and shopping, and other development.
2. Where does retail fit into the Township? There is little mixed-use zoning currently.
3. Fogelsville has opportunity for mixed-use if more connected/walkable.
4. Opportunity site behind the Mobile Station and in other locations to be identified and discussed.
5. Office Map and CIP are next steps after update of the comprehensive plan.

Infrastructure

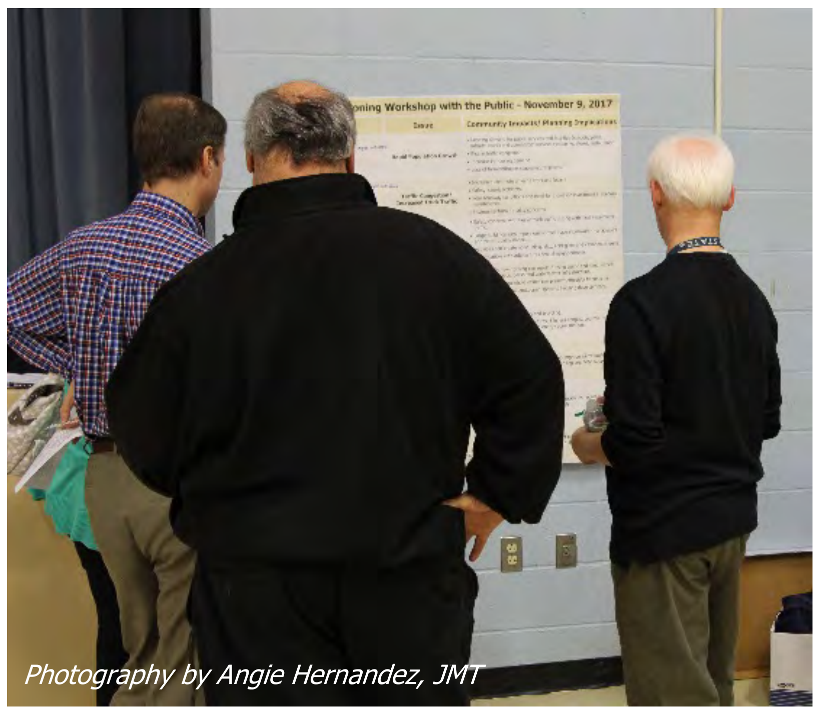
- Goal: Upper Macungie public infrastructure and services will be well-planned, well-managed, and coordinated.
  - Objective: Align water and sewer infrastructure systems with the Township's Act 537 Plan and coordinate in a manner that meets long-term needs, guides desired development patterns, and conserves resources.
  - Objective: Continue to provide high quality of recreation facilities and programs.
  - Objective: Develop new pedestrian connections to recreational facilities and implement a consistent maintenance plan.
  - Objective: Continue to provide excellent emergency services that keep pace with Township growth.
  - Objective: Continue to enhance the local transportation system and upgrade road conditions to improve safety, reduce congestion, develop alternative modes of travel, and provide for convenient motorized and non-motorized circulation throughout the Township.
  - Objective: Ensure the high quality of educational facilities in coordination with the school district and commensurate with school enrollment.
- Objective: UMT residents will continue to have access to quality health care/wellness services.
  - Objective: Work with existing local and regional health care and wellness service providers to assure adequate space is allocated for both expansion and creation of new facilities.
  - Objective: Provide adequate incentives for the cluster of health care/wellness services and other support services.

Planning Commission Review and Input from 10/18/2017 Workshop:
- The villages need more population density to make them thrive economically and walkable.
- Sidewalks, trials, pedestrians and bikes–need a stand-alone bullet to address transportation infrastructure and connectivity aside from recreation.
- Growth and infrastructure improvements should continue to be tied to the Act 537 Plan service boundary.
  - Unfunded mandates related to I&I corrections (MS4 requirements) is of concern.
  - Need for pump stations so far has contained development within the service area.
  - What tools can be used to contain development within this boundary?

Public Workshop Summary

Approximately 45 people attended a Community Visioning Workshop on November 9, 2017 at the Fogelsville Elementary School. The Township and JMT conducted a short PowerPoint presentation after which attendees participated in four different activities designed to encourage people to share their opinions about the vision for the Township. Four interactive stations allowed residents to engage in prioritization activities and mapping exercises to identify where to improve connectivity within the Township, their preferred development styles, and community character preferences.

Photography by Angie Hernandez, JMT


Photography by Angie Hernandez, JMT

Each meeting participant received a blank note card to provide written comments on matters of importance.

Comment Card Summary:

1. Plan needs to consider and take a position on proposed new I-78 interchange. It would have a major impact on area.
2. Best idea I saw tonight was a bike/pedestrian circle around warehouses linked with other paths from around the township. (Station 2 map).
3. Preserve open space–farms, parks.
4. No more warehouses! Family-friendly retail, restaurants, entertainment. Keep open space! No more low-density housing. More parks like Lone Lane–easy access from neighborhood. Keep trucks away from residential.
5. Ensure existing parks are preserved not sold for commercial warehouse use.
6. This is an exercise in futility. Warehouse developers always win! It’s all too late. We live in truck congestion and you can’t undo it.
7. Placemaking Activity–Cubby holing types of development, should be more open-minded, keep retail along exiting arteries, propose retail for existing parcels along arteries.

Station 1: Community Vision & Issue Prioritization

Purpose of Activity: Station One focused on two separate activities to have attendees comment on the new Vision Statement and prioritize community issues. The first activity asked people to prioritize the community issues identified as important by the Township and Planning Commission. There was also an opportunity to identify additional issues that should be included in the planning process. The second activity provided the opportunity to add comments or revisions to the Vision Statement (see draft vision statement on page 5).

Priority Issues:

1. Traffic Congestion/Increased Truck Traffic
2. Large-scale Warehouse Distribution Development
3. Community Connectivity
4. Preservation/Conservation
5. Sense of Place/Community Character
6. Rapid Population Growth
7. Housing, Housing Choices & Affordability
8. New & Redevelopment of Commercial/Industrial Sites Development

Prior to the Public Workshop, the Planning Commission identified the top 5 community issues.

1. Large-scale Warehouse Distribution Development
2. Affordable Housing & Rapid Population Growth
3. Traffic Congestion/Increased Truck Traffic
4. Impacts of Development
5. Public Service

General Comments:

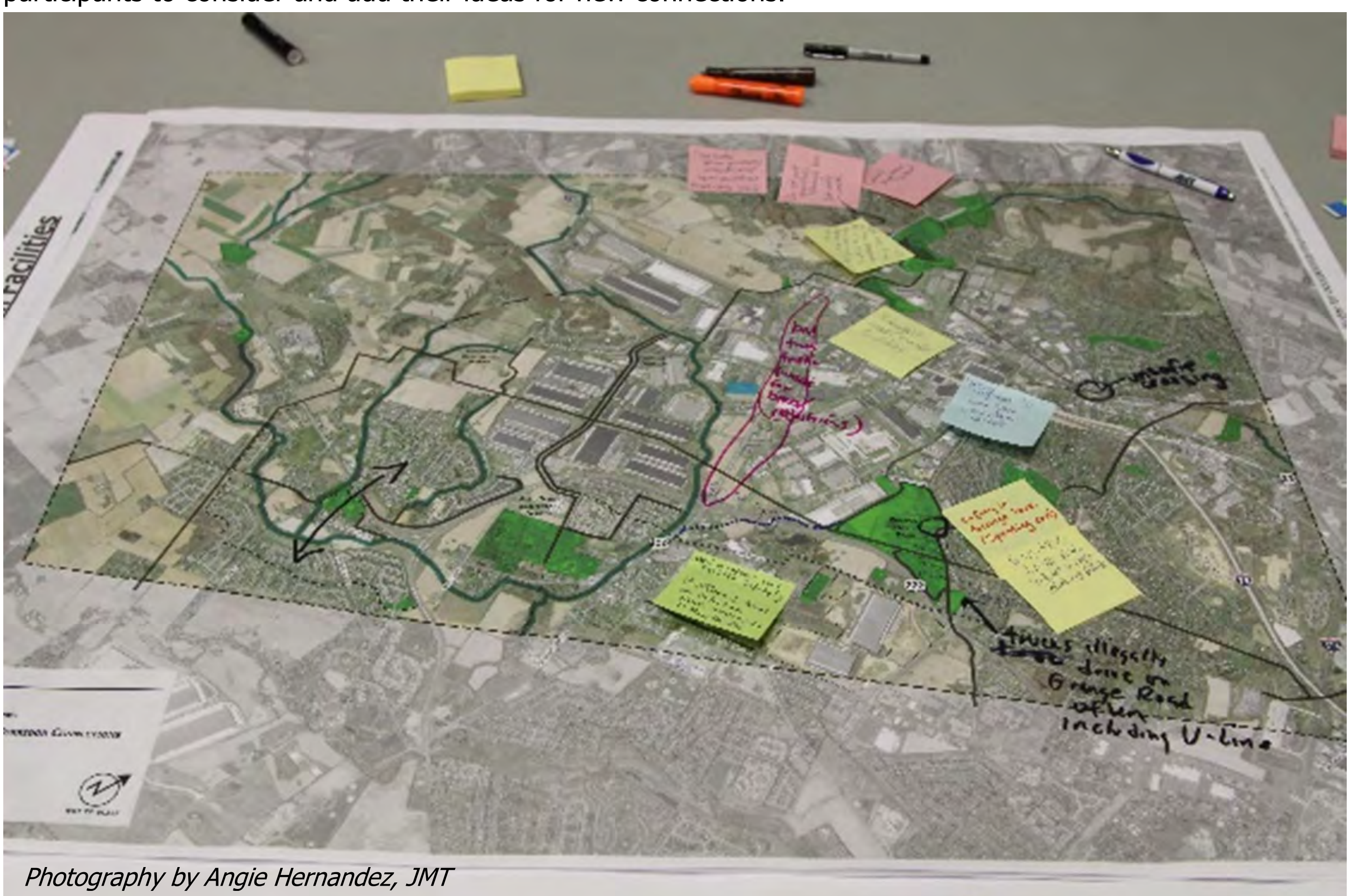
- Sense of being an outsider for people who have moved into the Township. Transplant versus longtime residents.
    - UMT should be family-friendly. Doesn’t feel like Township is going in that direction.
- Consider impact fees.
- Business license should include health inspection fees.
- Why do we have truck traffic on Cetronia Road?
    - Blvd Bypass with traffic lights.
    - Uline warehouses have right of way.
- Bypass - something needs to be done to control/lessen the noise.
- Need to have standards that address quality of life and are quantifiable/enforceable.
    - Noise, air, and light
    - Apply to all development (warehouse, industrial, commercial, residential)
- There are impacts from high-density residential.
- Get trucks off local roads.
- Will bypass encourage trucks and increase traffic?

Station 2: Community Connections

Purpose of Activity: Station Two was designed to identify and prioritize the non-motorized connections that are available or needed in the Township. Participants were asked "Where would you like to walk or bike instead of drive there in a car?"

Connections Map

Station 2 gave workshop attendees the chance to discuss where pedestrian and bicycle connections should be created or enhanced. Working with the Township and Planning Commission, JMT prepared a Potential Connections Map that displayed preserved/conserved lands, riparian buffers, pathways, and trails for participants to consider and add their ideas for new connections.



Photography by Angie Hernandez, JMT

As people added connections on the map, they also could write why they wanted these connections added or enhanced. The following summarizes the input received and is arranged in priority order based on how often these topics were discussed as an important consideration.

- Connect neighborhoods to parks and other neighborhoods (Many neighborhoods are isolated and residents desire more multimodal connections).
    - Connect Fogelsville to park. Don't put open trails along creek in Fogelsville because of proximity to boy scout camp. (This needs to be further investigated-is it private property, do the boy scouts feel this way or just one person?)
    - Require developers to install pedestrian/bike connections with new development.
    - Connect all parks with safe bike/pedestrian facilities.

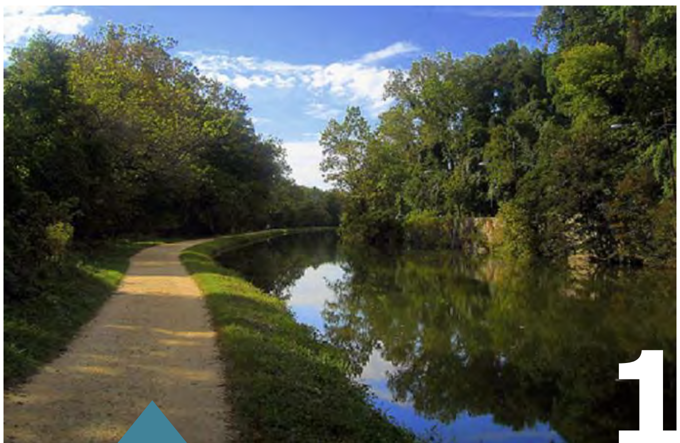
Appendix B – Public Input Summary

- Route 100 Safety Improvements are needed.
    - Need safe crossing on Route 100 from developments to shopping on other side (e.g. Weis grocery store and other locations).
    - Route 100 Corridor between Route 78 and Route 222 has heavy truck traffic and is unsafe for bikes/pedestrians.
- Need more bike/pedestrian safety in Grange Park.
    - Speeding cars on local roadway.
    - Blinking pedestrian light into Grange Park.
    - Trucks illegally drive on Grange Road.
- Create a greenway loop using primarily riparian stream buffers and closing the gap through agricultural land (south-west portion of the County as displayed in connections map). Stressing the importance of providing connections to current and future neighborhoods and parks.
- Need connection from Grange Park to neighborhoods south west of Route 222 in the Trexlertown area. Trail could use existing rail tunnel under Route 222.
    - A resident noted that his children currently use this route to get to the park, but he would like it to be a safer established connection.
- Create on-road cycling loop starting and ending at the Velodrome. Connect to PA Bike route in upper left corner of Township and utilize existing roadways and shoulders to connect full loop.
- Tilghman Street crossing is unsafe.
- Buffered trail needed on Cetronia Road from Weilers Road to Minesite Road.
- Connections to downtown Allentown so people who work in Allentown and live in Upper Mac could commute by bike.
- Make more connections to local hospitals, Fogelsville post office, town center, steel fitness health club, and other locations.
- Safe biking between neighborhoods
- On-call shuttle
- Safe biking between residential communities
- Parks and Town Center
- Post Office (Fogelsville)
- Sidewalks and crossings in new development
- To Fogelsville Town Center
- Downtown Allentown (work)
- Local hospitals
- Steel Fitness Health Club
- Township Parks
- Make Grange Road more bike friendly

Ranking of Preferred Bicycle/Pedestrian Facilities

Facilities Ranking Exercise

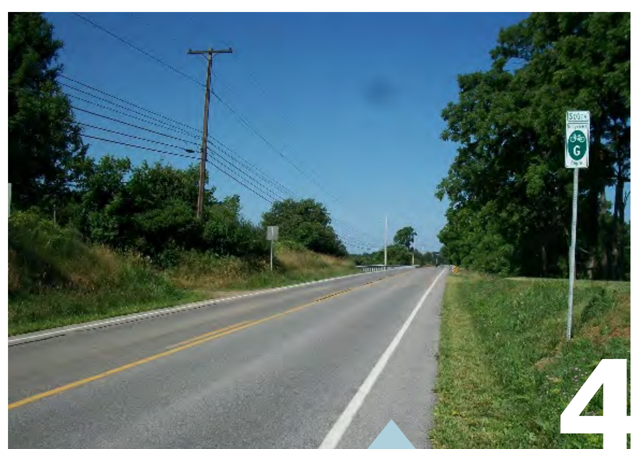
Participants of Station 2 were asked to identify which type of bicycle and/or pedestrian facility they preferred. The following are ranked in order of preference:



Off-road buffered pathways near open space and stream corridors

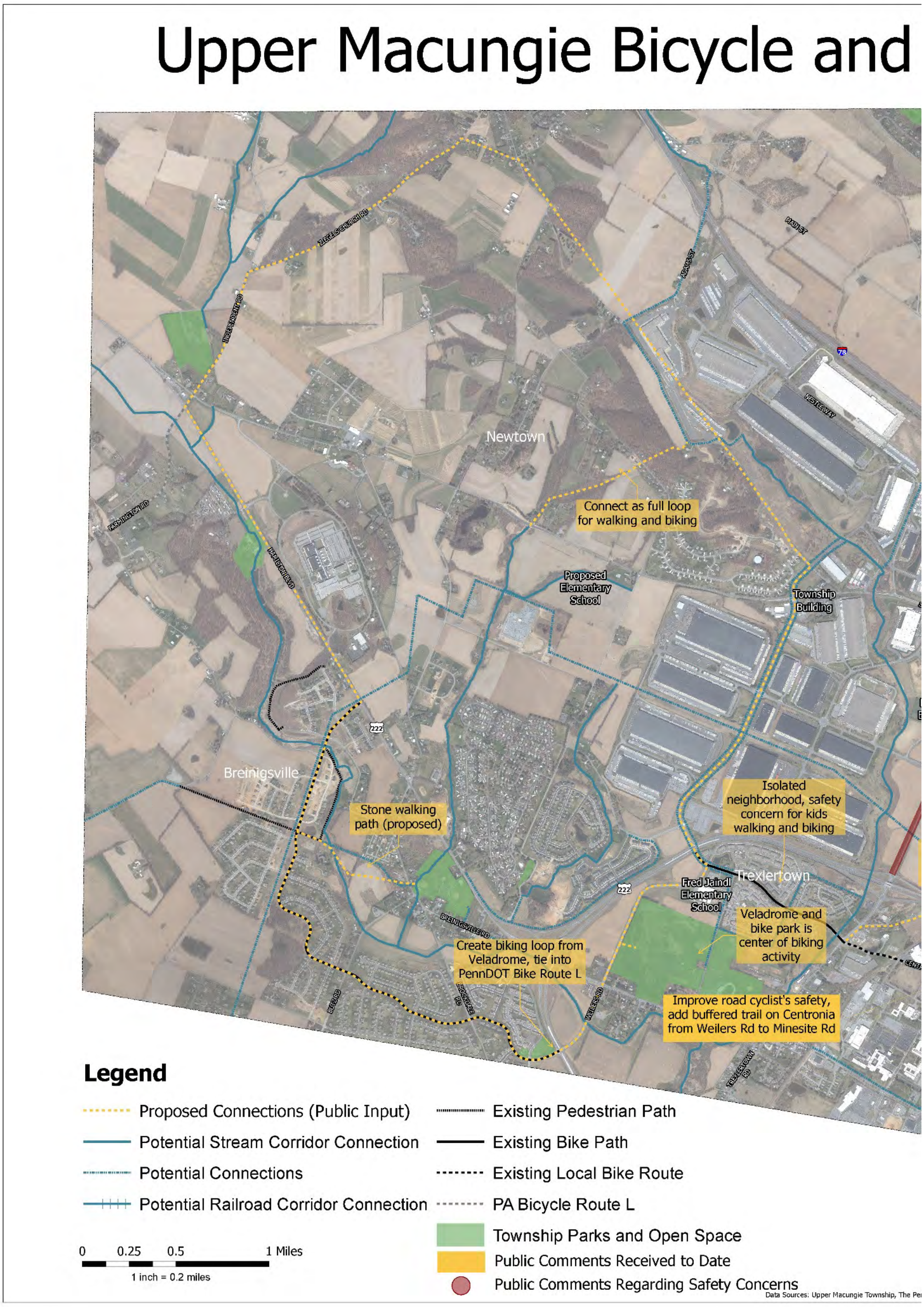
On-road buffered pathways

Off-road multi-use bypass pathways

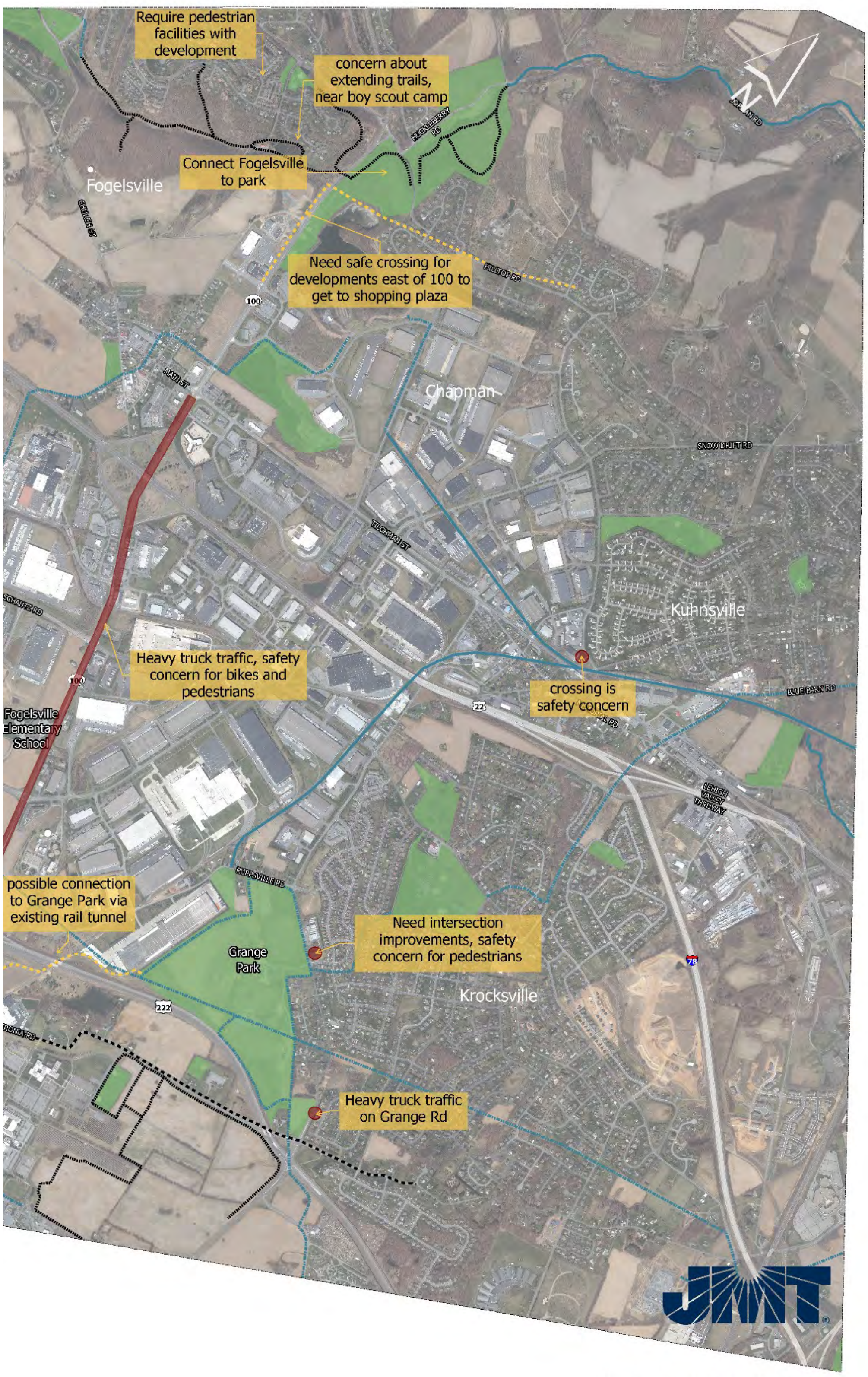


Least preferred are state or locally designated bicycle or pedestrian facilities on roads with narrow shoulders.

Note: Photos above were obtained from the internet and are for informational and educational purposes only.


Upper Macungie Bicycle and
Newtown
Connect as full loop for walking and biking
Proposed Elementary School
Township Building
Breinigsville
Stone walking path (proposed)
Isolated neighborhood, safety concern for kids walking and biking
Trexlertown
Fred Jaindl Elementary School
Veladrome and bike park is center of biking activity
Create biking loop from Veladrome, tie into PennDOT Bike Route L
Improve road cyclist's safety, add buffered trail on Centronia from Weilers Rd to Minesite Rd
Legend
Proposed Connections (Public Input)
Potential Stream Corridor Connection
Potential Connections
Potential Railroad Corridor Connection
Existing Pedestrian Path
Existing Bike Path
Existing Local Bike Route
PA Bicycle Route L
Township Parks and Open Space
Public Comments Received to Date
Public Comments Regarding Safety Concerns
0 0.25 0.5 1 Miles
1 inch = 0.2 miles

Pedestrian Connections



Map Created: Date: 11/27/2017

ennsylvania Department of Conservation and Natural Resources, Rails-to-Trails Conservancy, PA Fish and Boat Commission, and the Keystone Trails Association, The NRPA GIS Data Model, and the Lehigh Valley Planning Commision.

Station 3: Placemaking

Purpose of Activity: The purpose of Station Three was to identify preferred locations and types of redevelopment or new development within the Township.

Overall comments logged on a flip chart include the following:

- No more development – enough!
- More restaurants
- Don't build new retail with lots of open space
- Trexler Mall and mall next to it
- Future of Air Products Facility (site) – possibly an indoor sports facility
- Temple India (300 families to serve)
- Air Products Facility and Uline Building
- Too much warehousing industry which causes too much traffic
- When will Township say "no" to warehouse developers
- Rezoning – residents have no say
- Increase in taxes when will taxes be decreased from more warehousing industry
- Long-term residents have had enough!

Photography by Angie Hernandez, JMT

Identification of Development Opportunities

To support discussion, participants reviewed a map that displayed the top five key sites for new development as had been identified by the Township with stakeholder input. Two additional key sites were identified during the workshop and were added to encompass all input received related to desired development. Comments associated with each of these sites is as follows (refer to map on following page for site number reference):

Site 1:

- Truck access concerns
- Village development near Fogelsville
- No large warehouses
- Retail, restaurants, open space
- Farmland preservation (north of site)

Site 2 & 3:

- Expand south
- Add recreation
- No single family
- More bike improvements
- More recreation activities
- Convenience retail
- Incentives for green roofs

Site 4:

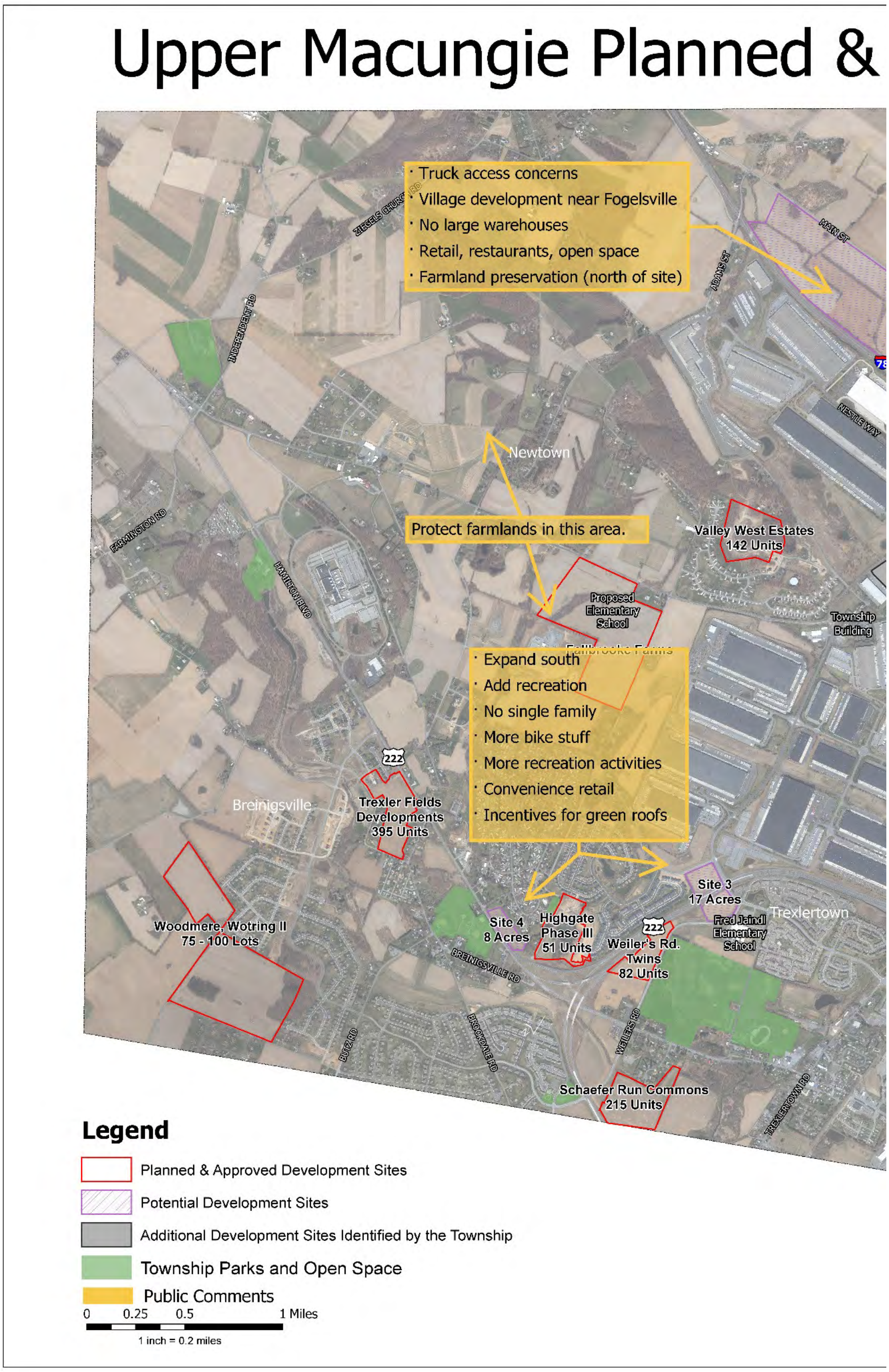
- Traffic concerns
- Use is less important than character of development
- Entertainment: Music, grocery, movies, bowling, pizza

Site 5:

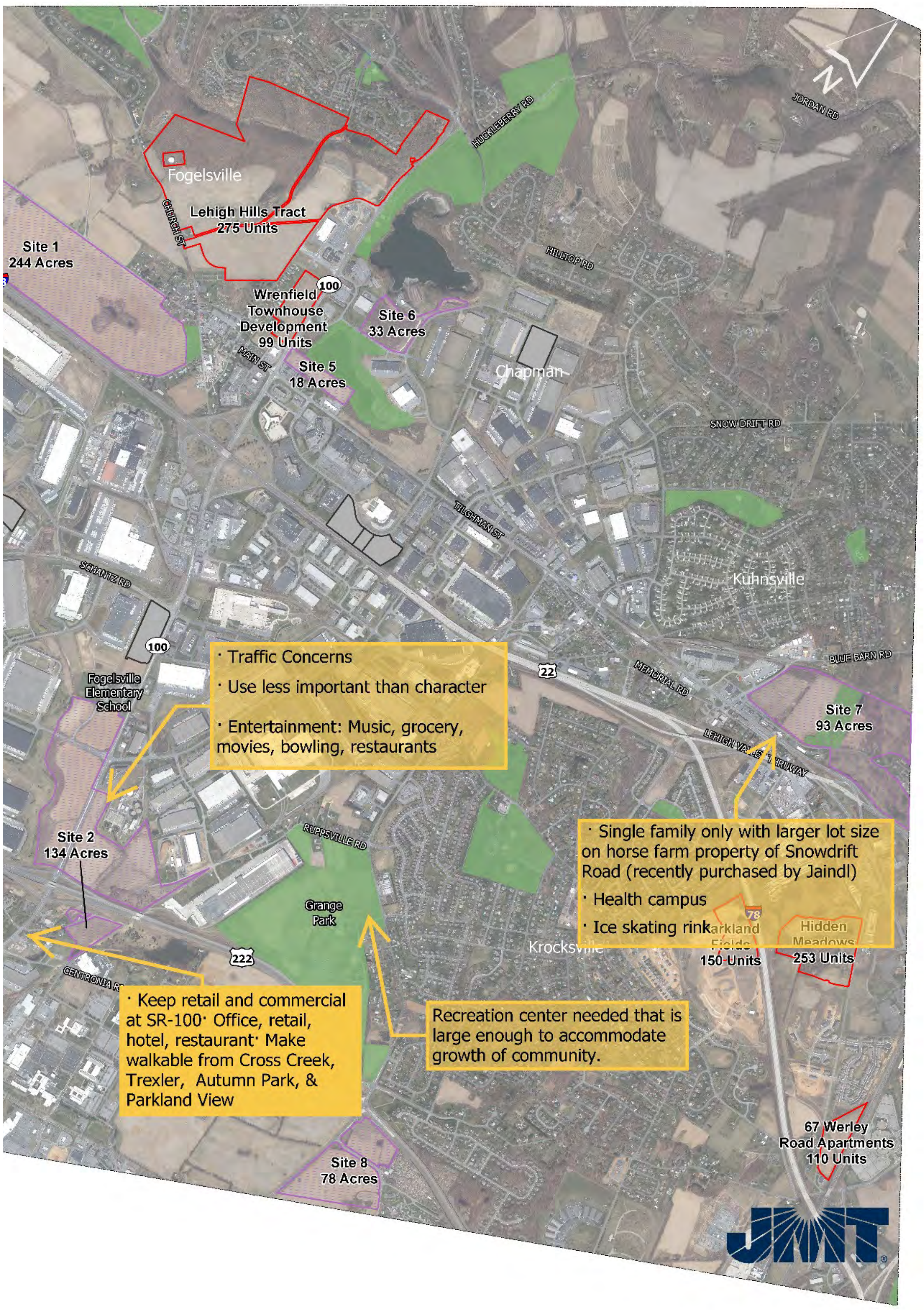
- Single family only with larger lot size on horse farm property of Snowdrift Road
- Health campus
- Ice skating rink

Additional Sites:

- Township Building - expand buffer
- Near Grange Road Park offer a recreation center that is large enough to accommodate anticipated growth of the community
- Proposed elementary school site – protect farmlands in this area


Upper Macungie Planned &
· Truck access concerns
· Village development near Fogelsville
· No large warehouses
· Retail, restaurants, open space
· Farmland preservation (north of site)
Newtown
Protect farmlands in this area.
Valley West Estates
142 Units
Proposed Elementary School
Township Building
· Expand south
· Add recreation
· No single family
· More bike stuff
· More recreation activities
· Convenience retail
· Incentives for green roofs
Breinigsville
Trexler Fields Developments
395 Units
Woodmere, Wotring II
75 - 100 Lots
Site 3
17 Acres
Trexlertown
Fred Jaindl Elementary School
Site 4
8 Acres
Highgate Phase III
51 Units
Weiler's Rd. Twins
82 Units
Schaefer Run Commons
215 Units
222
MAIN ST
ADAMS ST
NESTLE WAY
INDEPENDENT RD
HAMILTON BLVD
FARMINGTON RD
BREINIGSVILLE RD
BROOKDALE RD
WEILERS RD
TREXLERTOWN RD
Legend
Planned & Approved Development Sites
Potential Development Sites
Additional Development Sites Identified by the Township
Township Parks and Open Space
Public Comments
0 0.25 0.5 1 Miles
1 inch = 0.2 miles

Potential Development Sites



Map Created Date: 1/12/2018

Data Sources: Upper Macungie Township, The Pennsylvania Department of Conservation and Natural Resources, the NRPA GIS Data Model, and the Lehigh Valley Planning Commision.

Station 4: Favorite Place

Purpose of Activity: Station 4 was designed to identify the locations within the Township that are important and/or contribute to the community character.

Favorite Places Identified on Map

- Vynecrest Winery
- Love Lane
- Historic Building Church
- Splash Park
- Velodrome (Valley Preferred Cycling Center or Lehigh Valley Velodrome)
- Boy Scout Camp

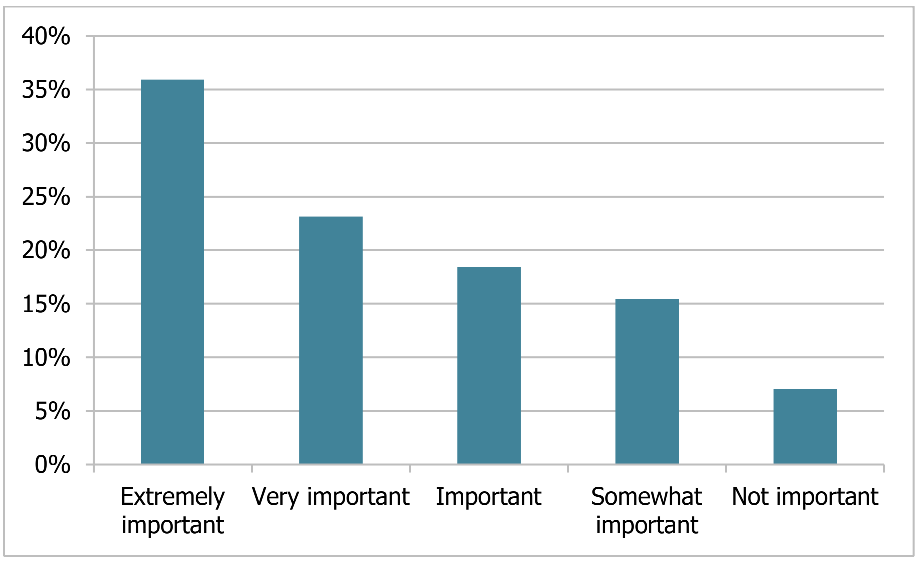
Additional comments received:

- Highlight historic villages
- More passive recreation – parks like Rosedale
- More family friendly – no more warehouses, no more business traffic
- Dog park – the park along Route 100 is not enough and not maintained well
    - Need a dedicated small dog park with water and shelter
- Do not want more industrial
- Want more tennis courts
- Industrial located in the middle of Township is poor planning
    - Need to connect neighborhoods away from traffic/congested roadways
- What happens if Air Products relocates?
    - Loss of employees
    - Loss of tax $$ for Township
    - Hate to see another warehouse
- More tennis and more playgrounds
- Limit I-78 exit to Adams Road side only. Keep traffic away from Main Street in Fogelsville
- Keep areas for walking, biking, and nature that is out of traffic
- Add walking and biking (Velodrome, Love Lane Park)
- Town Center
- Preserve farm land (Independent Road/Ziegels Church Road)
- Preserve horse farm as best we can – recently sold to warehouse developer
- Open space around Fogelsville Elementary school
- Low Density Housing (Development Site 1) and Promenades style development
- Rolling hills / farmland (northeast quadrant of Twp.)
- Breinigsville Road Park – 4th of July Fireworks

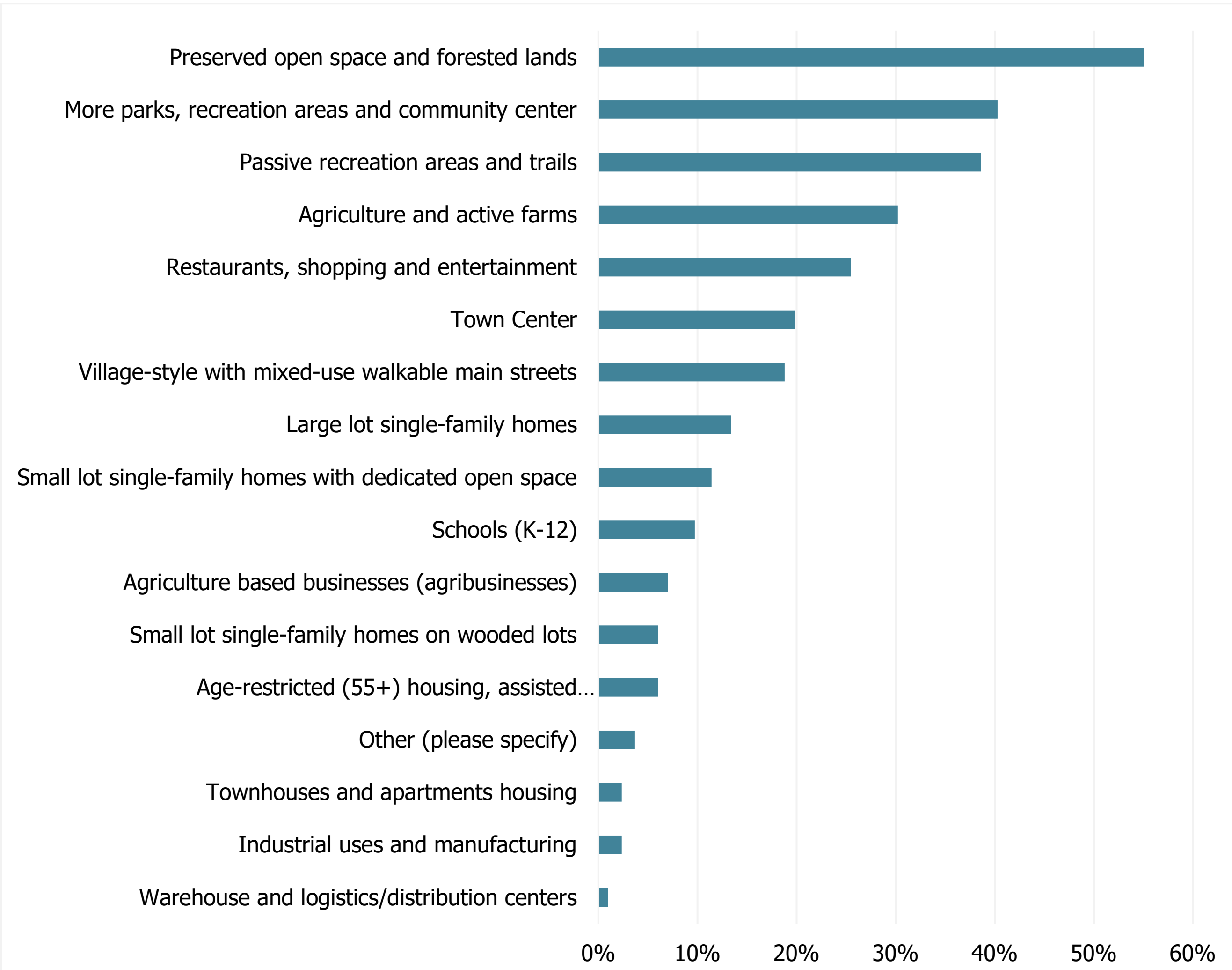
Community Survey Summary

The Visioning Process included a public opinion survey distributed via hard copy and online. As of December 5, 2017, 299 survey responses had been received. The survey was designed to be brief and prioritize land use preferences. Overwhelmingly, the survey responses demonstrated the importance of non-motorized transportation, preservation of the natural environment, and addressing traffic congestion and perceived safety conflicts.

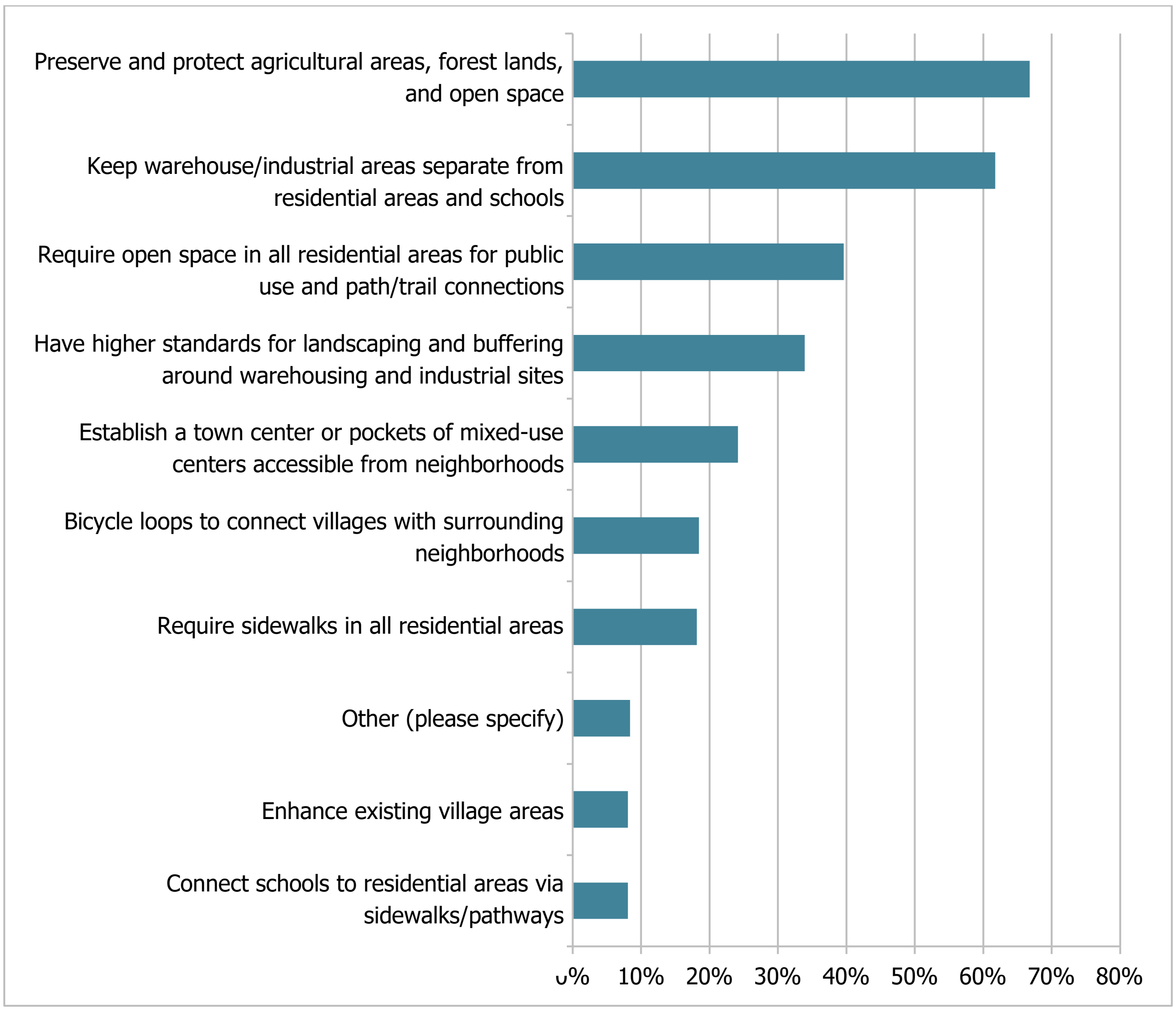
Question 1: How important is it to have more sidewalks and pathways for pedestrians and bicyclists to move around the Township and connect to the region? (Select one)



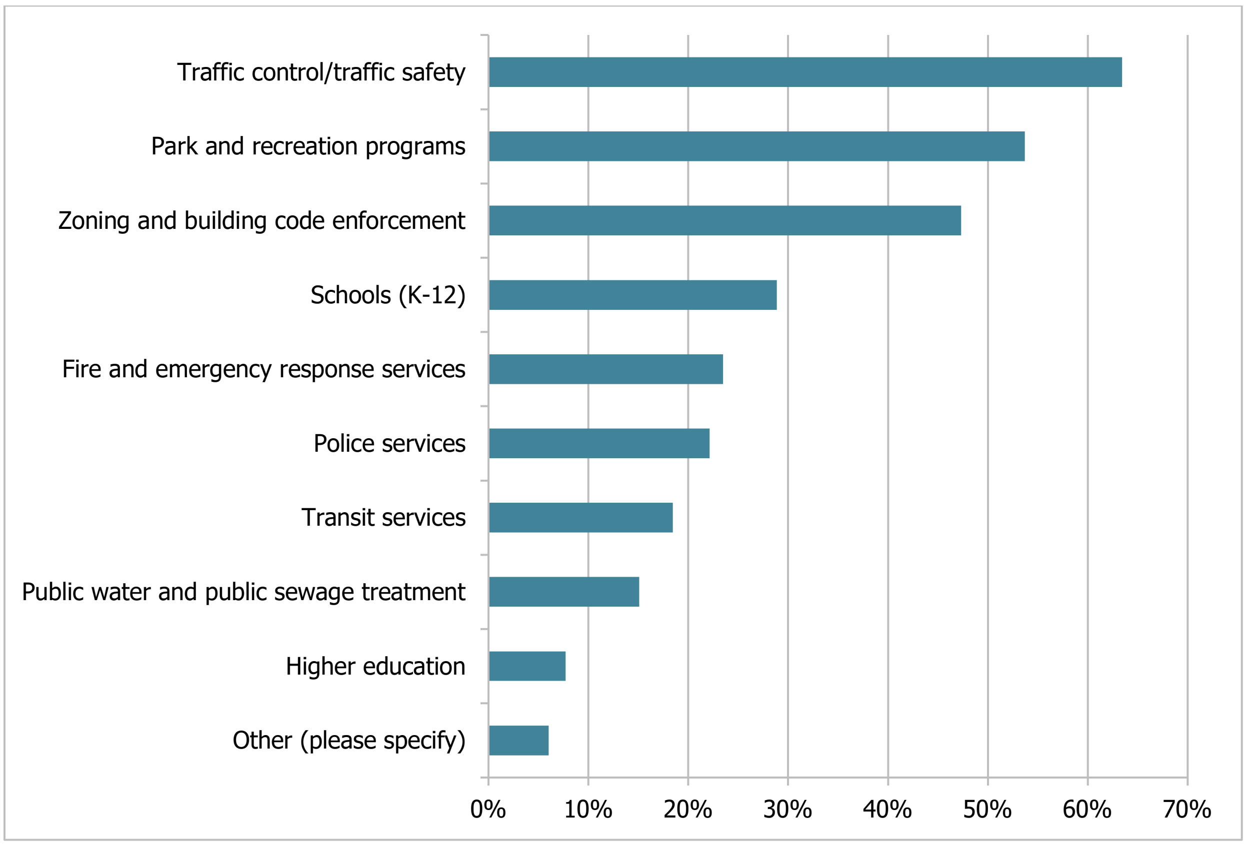
Question 2: Which of the following land uses do you feel the Township needs the most? (Select only 3)



Question 3: How can the Township best protect the community character of special places and neighborhoods and improve the quality of life of all residents? (Select only 3)



Question 4: Which of the following community services are the most important to improve? (Select only 3)



Steering Committee Input

The Steering Committee membership was finalized shortly after the beginning of 2018. Members were invited to join the Planning Commission members to participate in various discussions, activities, and review of information as part of the planning process to provide input. Input from the Planning Commission members and the Steering Committee members was documented and integrated into the 2019 Comprehensive Plan. The following identifies topics for each of the meetings and workshops.

Steering Committee Meeting/Workshop Discussion Topics

February 2018 Topics	March 2018 Topics	April 2018	May 2018
Steering Committee Introductions and why important to participate	Review of Comprehensive Planning Process and Pitfalls to Avoid/Role of Committee	Final Refinement of Vision and Mission Statement	Housing Analysis Presentation and Discussion
Project Overview & Schedule	Final Review of November 2017 Public Workshop Summary	Review of Sustainability Principles	Opportunity Site Concept Workshop (Presentation, Discussion, and Input)
Review Briefing Paper & Assessment of 2007 Plan Implementation	Discussion of Traffic Issues Discussion of Land Use Issues	Final Review of Goals and Objectives	
Review Demographic Data	Final Review/Refinement Visions, Goals, and Objectives	Discussion and Input on Opportunity Site (Potential Land Uses)	
Review Summary of November 2017 Public Visioning Workshop	Visual Preference Survey of Bicycle Facility Types & Connections Map	Discussion and Input on the Connections Map (Identify additional bicycle/pedestrian connections)	
Review Land Use Changes (2004, 2008, and 2017)	Opportunity Sites Discussion (Potential Future Land Use)	Summary of Planning Process Plan Development to Final Adoption	
Review Other Thematic Maps	Visual Preference Survey of Potential Development Types	Review of PA Municipalities Plan Requirements (Various Plan Elements)	
Review/Refine 2007 Plan Vision, Goals & Objectives			
Community Issues Ranking			

Planning Partner Workshops

Planning partner meetings/workshops are anticipated with input and outcomes focused on the future land use and economic development, community design, and partnerships to support plan implementation. Details pertaining to these activities will be inserted into this document as meetings are scheduled and activities are completed.

Township Interdepartmental Workshops

In the Spring 2017, an interdepartmental workshop was conducted to gain insight, gather information, obtain guidance, and establish communication protocol between planning consultant and staff.

An interdepartmental meeting was conducted on December 14, 2017 to review the results of the November 9, 2017 Public Workshop, review initial market research, and discuss target sites for buildout analysis and to obtain input from the development community and others.

Economic Development Workshop

In May 2018, Upper Macungie Township staff and planning consultant met with the Lehigh Valley Economic Development Corporation (LVEDC) to discuss economic development opportunities in the context of the region and what does that mean for the Township, economic development initiatives and strategies, impediments to market factors, target market sectors and niche markets, and input for potential development of opportunity sites.

Public Meeting and Public Hearing

The Pennsylvania Municipalities Planning Code (MPC) required public meetings and a public hearing are anticipated in Winter 2019 as part of the legal review and adoption process. Meeting summaries and public hearing transcripts will be available on file at the Township.

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Allentown, PA 18106
P. 610-366-1191

jmt.com

APPENDIX C
Demographic Report

UPPER MACUNGIE

THE INTERSECTION OF RURAL AND SUBURBAN LIFESTYLES!

UPPER MACUNGIE TOWNSHIP

This document is a supplement report and part of the appendices of the Upper Macungie Township 2019 Comprehensive Plan. This report summarizes various data and trends that influence land use policies, development controls, and resources to provide adequate public infrastructure, facilities, and services. This report identifies various **indicators of sustainability** (with each numbered) that will be addressed by goals, objectives, policies, strategies, and performance metrics outlined in the Comprehensive Plan.

Upper Macungie Township Comprehensive Plan

- Population Trends
- Household Characteristics
- Housing Demographics
- Economic Data

Demographics, data, and trends help to explain existing conditions and the projected future. Trends are examined in the context of shifts in the economy, social, and environmental conditions impacting people.

Contents

Source: iStock by Getty Images

Demographic Trends

Challenges & Opportunities

Compared to surrounding municipalities, Upper Macungie's population is growing at a much higher rate. This increase in population places increased pressure on municipal and regional services including transportation, schools, open spaces and recreation, utilities, and emergency services.

Most of the population (33%) is within the 35 to 54 age cohorts and (23%) is within the 5 to 19 cohort. The large demographic within the 5 to 19 age cohorts signals a need for increased public schools and recreation facilities, among other services which can burden the tax base. Fortunately, the 35 to 54 age cohort represents an adequate workforce population able to support a healthy tax base

Upper Macungie Township is located within the Parkland School District. Compared to surrounding school districts, Parkland had the highest enrollment and largest percent increase from the 2015-2016 school year to the 2016-2017 school year.

The median household income ($88,866) for Upper Macungie Township is much higher than both Lehigh County and the Commonwealth of Pennsylvania. This higher household income is a sign of positive economic prosperity for the Township; however, if development is targeted only towards this higher income demographic housing affordability issues will continue in the Township.

Quick Facts

- Upper Macungie Township is located within the fastest-growing and third-most populous region of Pennsylvania.
- Upper Macungie Township Population is anticipated to grow to 36,235 by 2040.
- Upper Macungie Township has a population density of 769.6 people per square mile.
- The median age of all residents is 39.1.
- 44% of the school age population enrolled in school in Upper Macungie is in elementary school.
- 47% of the population over age 25 in Upper Macungie has a bachelor's degree or higher.
- Approximately 2.8% of the population is living below the poverty level.

Population Trends

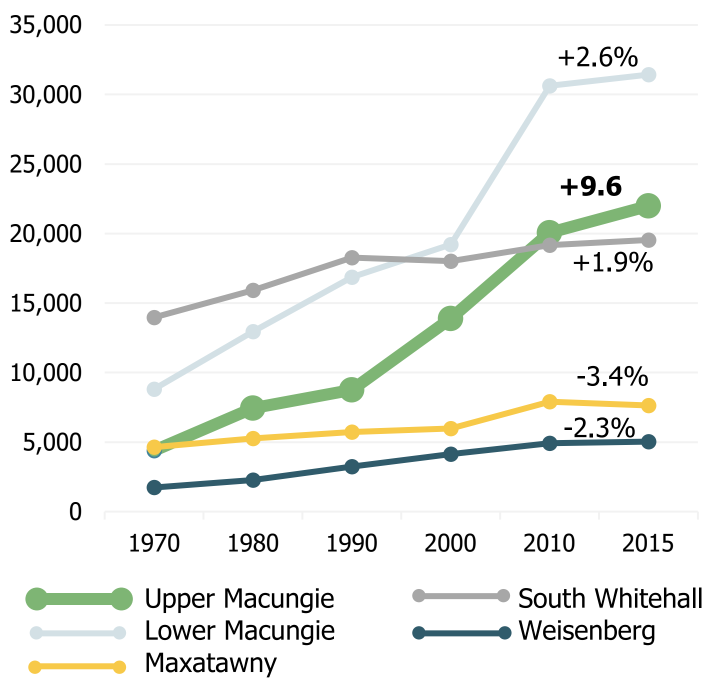
Upper Macungie Township is located within the fastest-growing and third-most populous region of Pennsylvania. Geographically positioned less than two hours' drive from New York City and one hour from Philadelphia, the Township has experienced rapid population growth over the last few decades. This growth has produced a demand for new housing and expanded community services in this former agricultural community.

Between 2010 and 2015 Upper Macungie Township's population grew from 20,063 to 21,988, an increase of 9.6%. According to the Lehigh Valley Planning Commission, population is anticipated to continue to grow in Upper Macungie Township, reaching 36,235 by 2040 (see Table 1).

Compared to surrounding municipalities, Upper Macungie is growing at a much higher rate (see Figure 1). This increase in population will place increased pressure on municipal and regional services including transportation, schools, open spaces and recreation, utilities, and emergency services. Planning for this growth is key to maintaining and preserving the Township's character and quality of life.

2 Population
SUSTAINABILITY INDICATOR

Figure 1: Population Growth 2010 – 2015
Growth Rate by Municipality



Sources: U.S. Census Bureau; LVPC Population Projections
** 2011-2015 American Community Survey (ACS) 5-Year Estimates*

Table 1: Total Population Growth Upper Macungie & Surrounding Municipalities – 1970-2040

	1970	1980	1990	2000	2010	*2015	2020	2030	2040
Upper Macungie Township	4,390	7,446	8,757	13,895	20,063	21,988	24,992	30,232	36,235
Lower Macungie Township	8,814	12,958	16,871	19,220	30,633	31,432	33,749	37,011	40,596
Maxatawny Township	4,640	5,269	5,724	5,982	7,906	7,634	(X)	(X)	(X)
South Whitehall Township	13,971	15,919	18,261	18,028	19,180	19,541	21,513	24,119	26,621
Weisenberg Township	1,737	2,272	3,246	4,144	4,923	5,036	6,054	7,346	8,437
Lehigh County	255,304	272,349	291,130	312,090	349,497	356,756	385,710	427,162	469,975

Sources: US Census Bureau; LVPC Population Projections
** 2011-2015 American Community Survey (ACS) 5-Year Estimates*

Population Density

Table 2 illustrates the different population densities and housing per square mile for Upper Macungie Township and Lehigh County. As depicted in Figure 2, Upper Macungie Township has a population density of 769.6 people per square mile, meaning that the Township is approximately 25% less densely populated than Lehigh County as a whole. Upper Macungie is more densely populated than Weisenberg and Maxatawny townships, but less densely populated than Lower Macungie and South Whitehall townships.

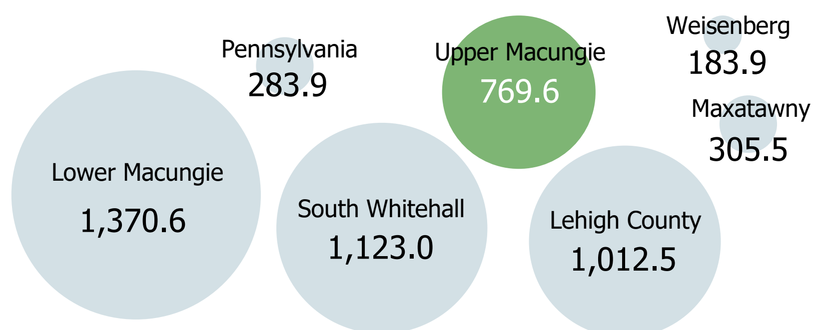
Age Composition

As represented in Figure 3, the median age of residents in Upper Macungie Township was 39.1 in 2010, with most of the population within the 5 to 19 and 35 to 54 age cohorts. The large demographic within the 5 to 19 age cohorts signals a need for public schools and recreation facilities, among other services which can burden the tax base. Fortunately, the 35 to 54 age cohort represents an adequate workforce population able to support a healthy tax base.

Table 2: Population Density 2010

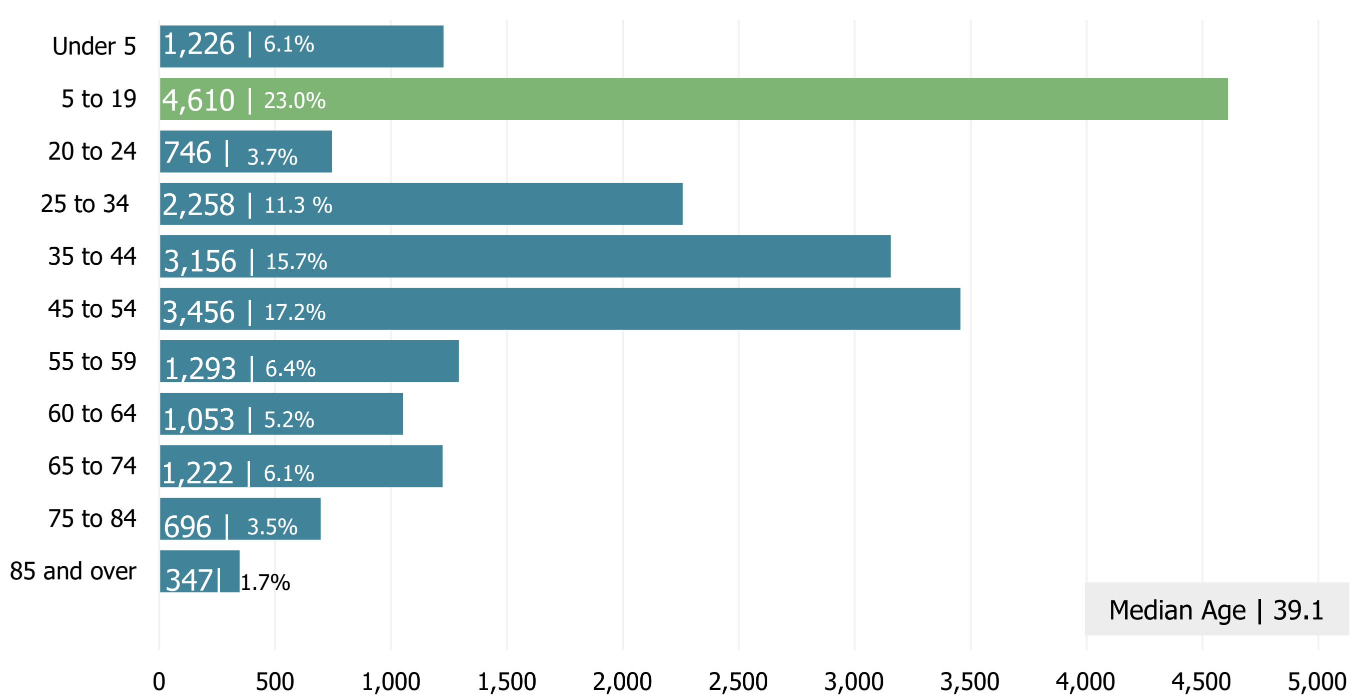
	Upper Macungie Township	Lehigh County
Total Population	20,063	349,497
Total Occupied Housing Units	7,843	142,613
Land Area in Square Miles	26.07	345.17
Population per Square Mile	769.6	1,012.50
Housing Units per Square Mile	300.9	413.2

Figure 2: Population Per Sq. Mile 2010



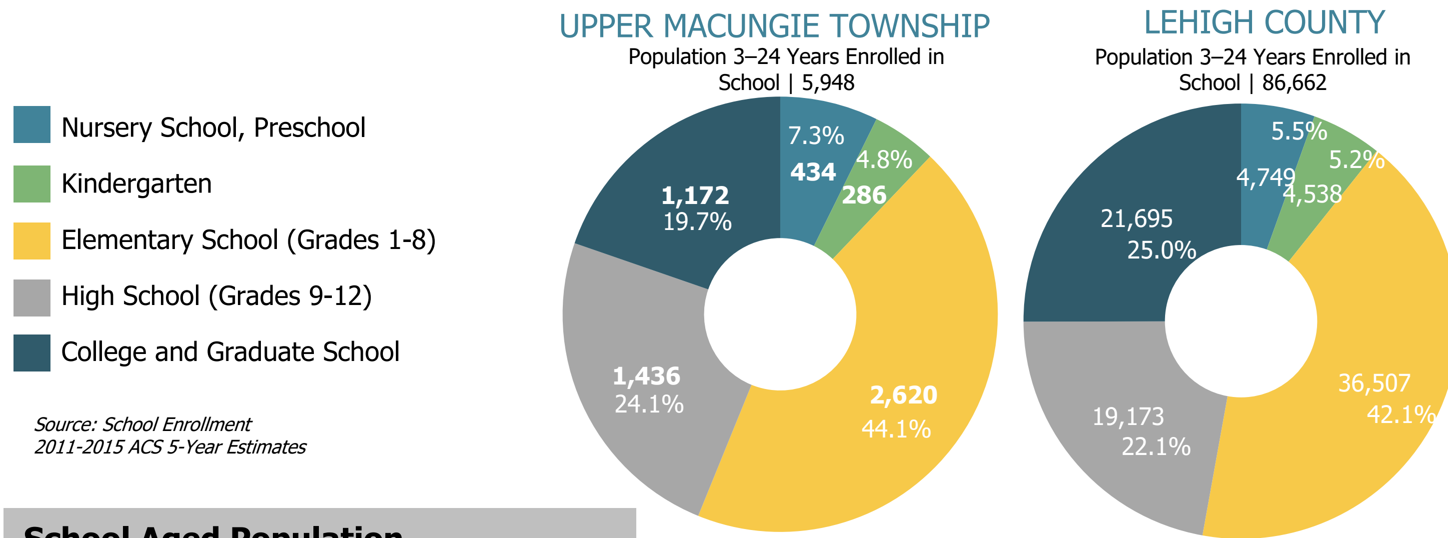
Source: Population, Housing Units, Area, and Density
2010 Census Summary File 1

Figure 3: Age Composition Upper Macungie Township - 2010



Source: Age Groups & Sex
2010 Census Summary File 1

Figure 4: School-Age Population Enrolled in School 2011 – 2015 ACS Estimates



Source: School Enrollment 2011-2015 ACS 5-Year Estimates

School Aged Population

Figure 4 illustrates the number and percentage of the school-aged population by the type of school in which they are enrolled. Figure 4 refers to the school-aged children that reside in Upper Macungie Township and does not include the school-aged population that resides in the entire Parkland School District, which includes Allentown, Bethlehem, Easton, North Whitehall Township, South Whitehall Township, and Upper Macungie Township. For more information on school district enrollment refer to Table 3 on page 5.

As shown in Figure 4, it is estimated that 5,948 people (27% of the total population of Upper Macungie Township) are enrolled in school.

Figure 5 – School-Age Population Not Enrolled in School, represents the number of school-aged individuals that were not enrolled in school as estimated in the 2011-2015 American Community Census (ACS). It is estimated that a total of 228 individuals aged 5 to 19 (traditional ages for grades K through 12) are not enrolled in school, representing 23% of the school aged population not enrolled in school in Upper Macungie Township. Comparatively, Lehigh County has an estimated 5,002 individuals aged 5 to 19 years that old are not enrolled in school, representing 21% of the school-aged population not enrolled in school.

Figure 5: School-Age Population Not Enrolled in School

Upper Macungie Township 2011 – 2015 ACS Estimates

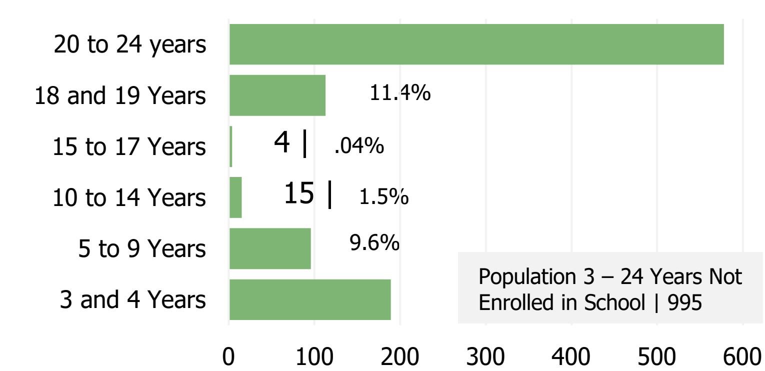
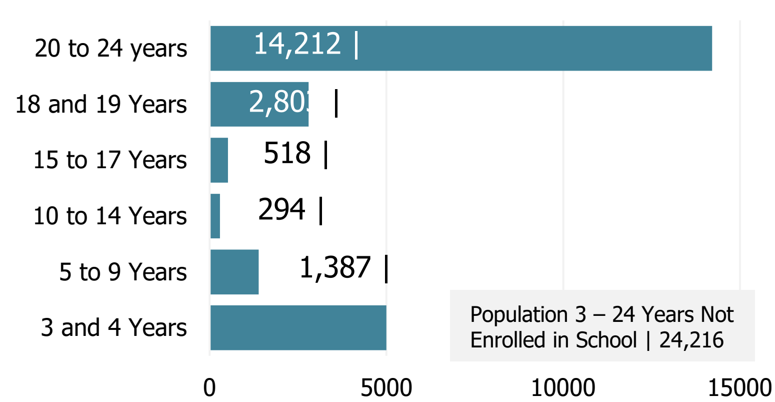
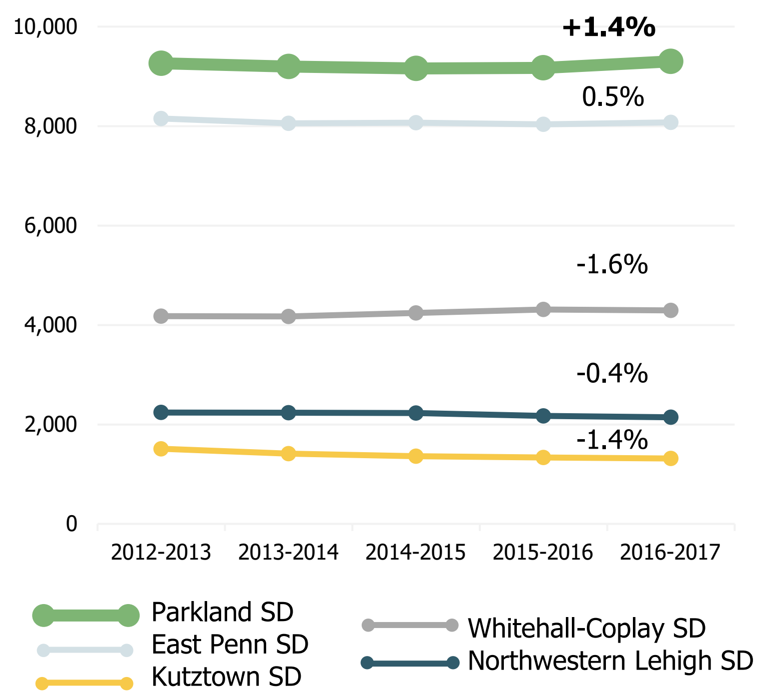


Figure 6: Lehigh County 2011 – 2015 ACS Estimates



Source: Sex by School Enrollment by Type of School by Age for the Population 3 Years and Over 2011-2015 ACS 5-Year Estimates

Figure 7: School District (SD) Enrollment



Source: Pennsylvania Department of Education

Parkland School District

Upper Macungie Township is located within the Parkland School District. There were 9,301 students enrolled in the Parkland School District for the 2016-2017 school year, an increase of 1.4% from the previous year. Compared to surrounding school districts, Parkland had the highest enrollment and largest percent increase from the 2015-2016 school year to the 2016-2017 school year.

According to the Parkland School District 2016-2017 District Profile, the school district includes 72 square miles encompassing a total population of approximately 50,000. Approximately 23% of students within the school district are eligible for free/reduced lunch, and 15% receive special education services. The ethnic and racial demographics of the student body are 68% white, 13% Hispanic, 4% African American, 12% Asian, and 3% other.

Table 3: Parkland School District Enrollment 2007-2017

	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2007-2008	544	646	632	689	692	667	720	767	684	794	802	787	762	9,186
2008-2009	517	648	674	673	705	721	710	742	775	760	804	790	787	9,306
2009-2010	539	599	666	704	683	722	729	729	763	821	760	794	783	9,292
2010-2011	541	648	630	693	732	706	758	750	741	800	811	750	794	9,354
2011-2012	515	600	659	652	717	739	731	793	770	784	794	783	748	9,285
2012-2013	506	588	625	678	667	730	760	744	808	811	776	794	776	9,263
2013-2014	515	601	630	643	697	684	739	783	755	824	784	754	788	9,197
2014-2015	511	613	620	657	664	707	723	753	788	785	806	768	764	9,159
2015-2016	533	586	636	631	676	675	736	749	769	803	797	808	771	9,170
2016-2017	562	632	622	664	673	690	715	754	760	801	800	809	819	9,301

Sources: Pennsylvania Department of Education, Parkland School District Enrollment
Notes: 1-Excludes students in full-time out-of-district special education, comprehensive AVTSs, charter schools, state-owned schools, consortium-operated alternative high schools, and juvenile correctional institutions.
2 - Four-year-old kindergarten students, if any, added to K enrollments.
3 - Elementary and secondary ungraded students were distributed among the grades. Therefore, enrollments by grade may differ from those reported by the local education agencies.

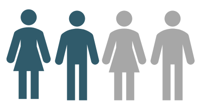
Education Attainment

As depicted in Table 4 the education attainment in Upper Macungie Township is higher than Lehigh County; approximately nine out of ten people in Upper Macungie Township (95.6%) over the age of 25 have a high school diploma equivalency or higher; and approximately two-in-four people in the Township (47.0%) over the age of 25 have a bachelor's degree or higher.


Source: iStock by Getty Images


High School Diploma Equivalency or Higher
Population 25 Years and Over

4 Quality Education
SUSTAINABILITY INDICATOR


Bachelor's Degree or Higher
Population 25 Years and Over


Source: iStock by Getty Images

Table 4: Educational Attainment 2011 – 2015 ACS Estimates

	Upper Macungie		Lehigh County	
	Number	Percent	Number	Percent
Population 25 years and over	15,156	100.00%	242,376	100.0%
Less than High school graduate	662	4.4%	30,612	12.6%
High school graduate (includes equivalency)	3,793	25.0%	80,199	33.1%
Some college or associate's degree	3,572	23.6%	62,560	25.8%
Bachelor's degree or higher	7,129	47.0%	69,005	28.5%
High School Equivalency or Higher	14,494	95.6%	211,764	87.4%
Bachelor's degree or higher	7,129	47.0%	69,005	28.5%

Educational Attainment and Employment Status by Language Spoken at Home for the Population 25 Years and Over
2011-2015 American Community Survey (ACS) 5-Year Estimates

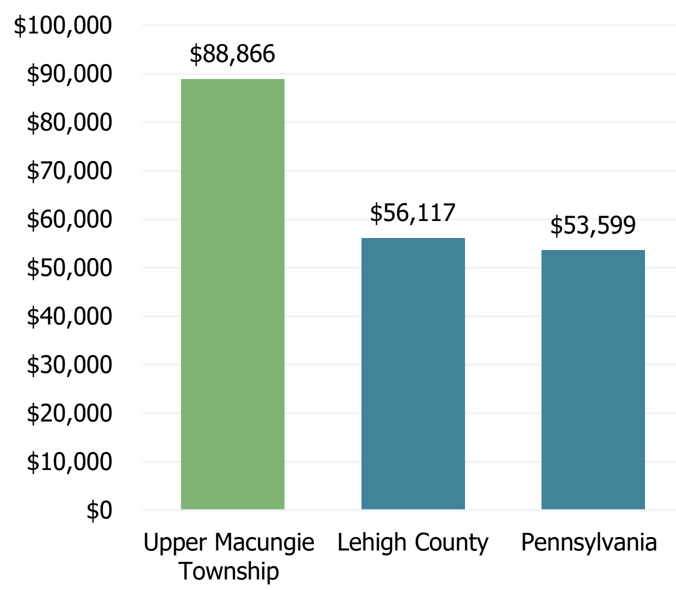
Household Income

The median household income ($88,866) for Upper Macungie Township is much higher than both Lehigh County and the State of Pennsylvania (see Figure 7). This higher household income is a sign of positive economic prosperity for the Township; however, if development is targeted only towards this higher income demographic housing affordability issues will continue through the future. Providing a balanced supply of moderately priced housing will remain crucial for the Township.

Poverty Status

As illustrated in Table 5, approximately 2.8% of the population of Upper Macungie Township is living below the poverty level. This is less than the 13.1% living below the poverty level in Lehigh County. The majority of the population living below the poverty level, for both the Township and the County, is within the 18 to 64 age cohort.

Figure 7: Median Income 2011 – 2015 ACS Estimates



Source: Selected Economic Characteristics
2011-2015 American Community Survey (ACS) 5-Year Estimates

Table 5: Poverty Status 2011 – 2015 ACS Estimates

	Upper Macungie			Lehigh County		
	TOTAL	BELOW POVERTY LEVEL		TOTAL	BELOW POVERTY LEVEL	
	Estimate	Estimate	Percent	Estimate	Estimate	Percent
Total Persons for whom poverty status is Determined	21,919	603	2.80%	347,353	45,488	13.10%
Under 18 years	5,505	154	2.80%	80,754	16,689	20.70%
Under 5 years	1,224	95	7.80%	20,968	5,182	24.70%
18 to 64 years	13,687	420	3.10%	214,079	25,422	11.90%
65 years and over	2,727	29	1.10%	52,520	3,377	6.40%

Source: Poverty Status in the Past 12 Months
2011-2015 American Community Survey (ACS) 5-Year Estimates

Race & Ethnicity

Table 6 illustrates the race and ethnicity of the population for Upper Macungie Township and Lehigh County. Hispanic or Latino identification is separate from race identification, as a person can identify as one race while still identifying their ethnicity as Hispanic or Latino, therefore Hispanic or Latino data is not part of the race data's totals.

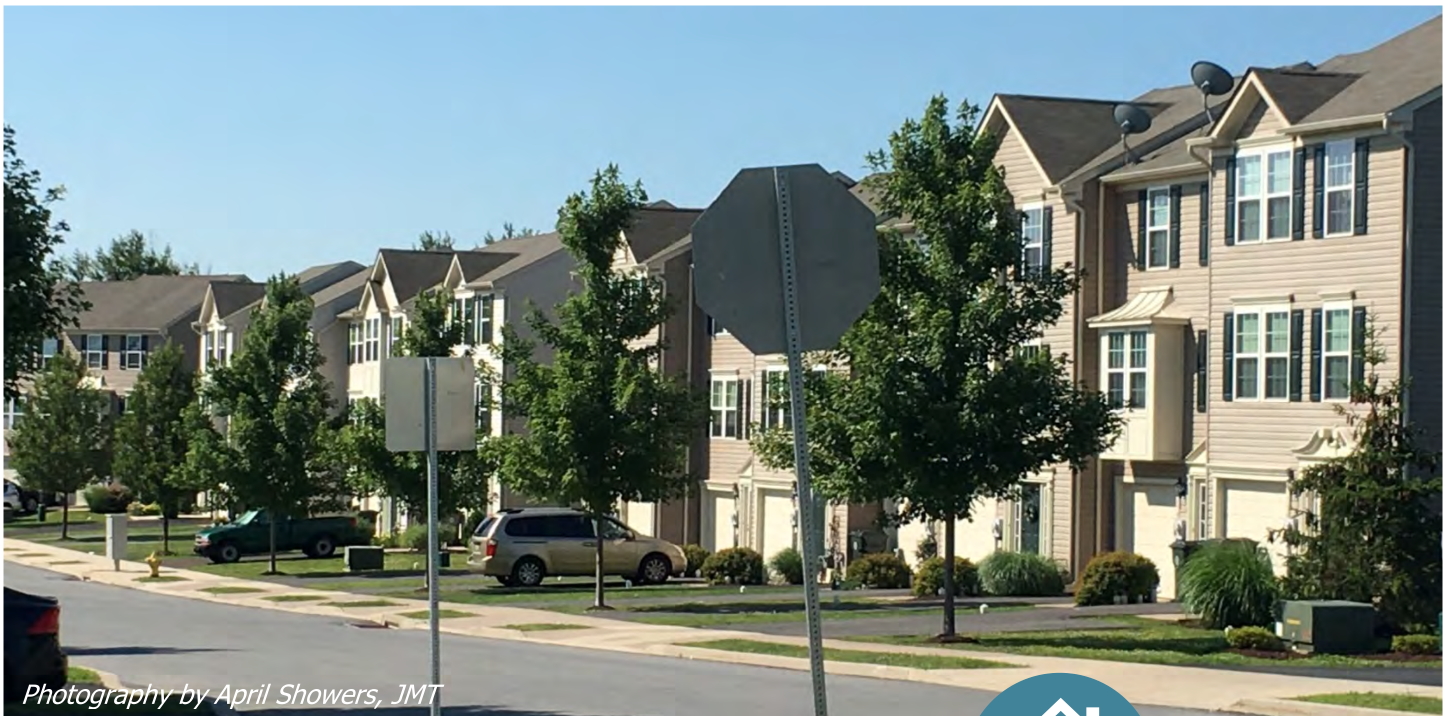

Source: iStock by Getty Images

In 2010, Upper Macungie Township was predominantly one-race (white, 85.0%), with a higher percentage of Asians (9.0%) than Black or African American (2.7%) and 1.8% of the population having two or more races. The Hispanic or Latino population represented less than 5 % (4.9%) of the total population.

Table 6: Race & Ethnicity 2010

	Upper Macungie		Lehigh County	
	Number	Percent	Number	Percent
Total population	20,063	100.0%	349,497	100.0%
Population of one race	19,706	98.2%	339,442	97.1%
White	17,051	85.0%	276,286	79.1%
Black or African American	539	2.7%	21,440	6.1%
American Indian and Alaska Native	29	0.1%	1,279	0.4%
Asian	1,799	9.0%	10,247	2.9%
Native Hawaiian and Other Pacific Islander	5	0.0%	126	0.0%
Some other race	283	1.4%	30,064	8.6%
Population of two or more races	357	1.8%	10,055	2.9%
Hispanic or Latino (of any race)	988	4.9%	65,615	18.8%

Source: Race or Ethnic Origin
2010 Census Summary File 1



Photography by April Showers, JMT

Housing

Challenges & Opportunities

The high value of housing in Upper Macungie Township is a positive indication of economic stability. However, high housing costs create a shortage of affordable housing options both for home ownership and renting options. Overall renters face more cost burden when it comes to monthly housing costs.

This section of this report provides basic data about housing. Analysis of the housing market and implications is contained in Appendix D: Housing Analysis for more details about affordability.

3 Housing Types/ Affordability

SUSTAINABILITY INDICATOR

Quick Facts

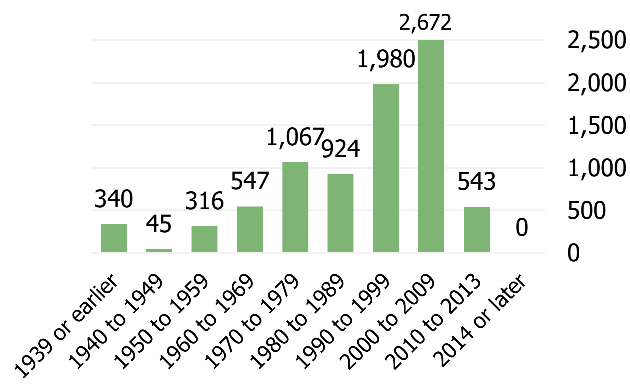
- Upper Macungie Township has a housing vacancy rate of 4.2%.
- Almost half of the housing in Upper Macungie Township costs between $300,000 and $499,999.
- Approximately 21% of homeowners and 41% of the renters in Upper Macungie are considered cost burdened due to monthly housing costs.
- Renter-occupied housing demand is increasing rapidly in the Township.
- Most householders are within the 35- to 64-year-old age range
- Approximately 32% of all Upper Macungie Township householders have children under 18 years old.

Table 7: Housing Trends Upper Macungie Township

Source	Total
2000 Census – Total Housing Units	5,335
2010 Census– Total Housing Units	7,843
2010 – 2016 Residential Building Permits Issued	1,487
2017 Residential Building Permits Issued (YTD 9/1/17)	124

Source: General Housing Characteristics 2000 & 2010 Census Data, & Upper Macungie Township Residential Permit Data 2007 - 2017

Figure 8: Year Structure Built Upper Macungie Township 2011 – 2015 ACS Estimates

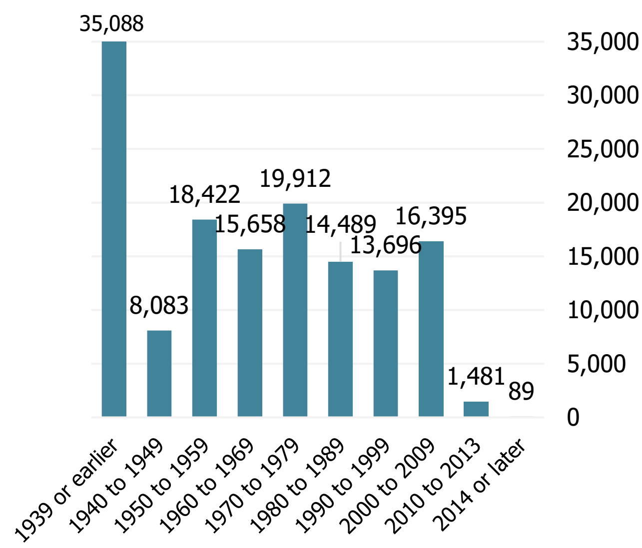


Housing Development Trends

As illustrated in Figure 8, Housing development spiked for two decades (1990-2009) with 23% of the housing units (1,980) in the Township built between 1990 and 1999 and an additional 32% (2,672) built between 2000 and 2009. This rapid increase in new housing units was not replicated across Lehigh County. Conversely, Lehigh County saw its greatest spike in housing development in 1939 and earlier, with housing development remaining relatively flat since the 1950's. Housing development has been slowing in both Upper Macungie Township in Lehigh County since 2009 as a result of the national, state, and regional housing market. Housing development in 2018 has started to steadily increase.

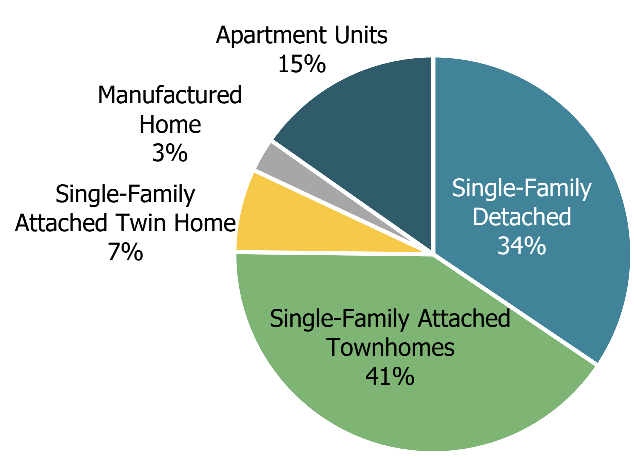
Most of the housing built in Upper Macungie Township 2007-2017 was single-family housing (see Figure 10). Most of this single-family housing development has been attached townhomes, followed by detached homes, and attached twin homes. Only 15% of the residential permits issued over this time was for apartment units.

Figure 9: Lehigh County 2011 – 2015 ACS Estimates



Source: Year Structure Built 2011-2015 American Community Survey 5-Year Estimates

Figure 10: Residential Permits Upper Macungie Township 2007 – 2017



Source: Upper Macungie Township Residential Permit Data 2007-2017

Housing Diversity Trends

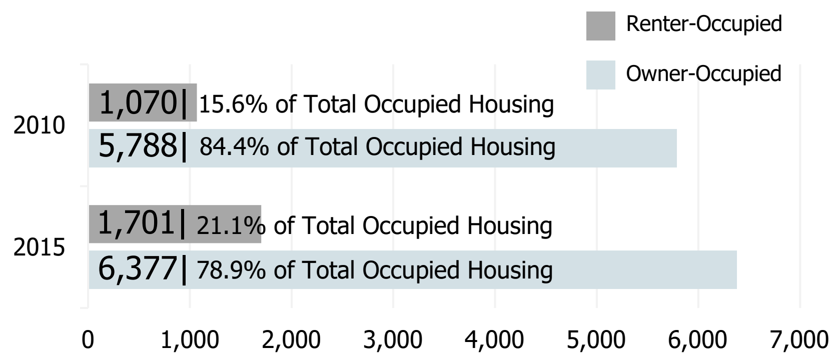
According to 2011-2015 ACS 5-Year Estimates data, there were a total of 8,434 housing units in Upper Macungie Township, 356 (4.2%) of those units were vacant. This vacancy rate is lower than Lehigh County's vacancy rate of 6.5%. Low vacancy rates are often associated with increased housing prices as demand surpasses supply.

As shown in Figure 11, renter-occupied housing units increased by 58.8% from 2010 to 2015. Owner-occupied housing increasing by only 10.2% over the same time. Figure 12 illustrates the average household size, which increased for renter-occupied units while decreasing for owner-occupied units.

Table 8 provides an overview of the different housing types in Upper Macungie Township, including the percent change from 2000–2015. According to the ACS 5-Year Estimates, there were significant increases in attached and multi-unit structures between 2000 and 2015. However, 1-unit, detached (i.e. single-family housing) remain as the majority of all housing units (57.6% of total housing).

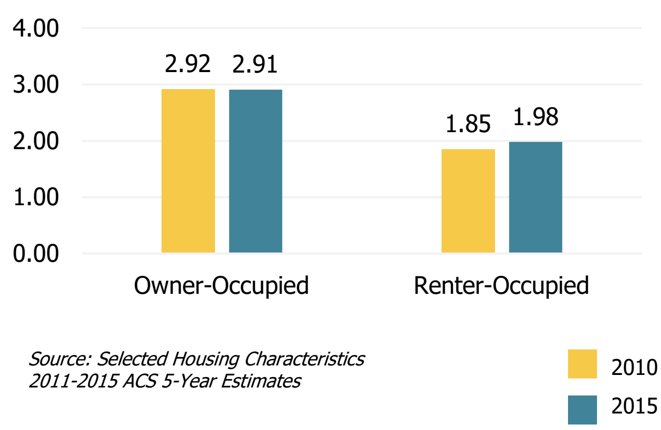
The increase of housing diversity of multi-unit and detached housing, coupled with the increasing numbers of renter-occupied housing and household size demonstrate a demand for smaller, more affordable housing options within the Township.

Figure 11: Housing Tenure Upper Macungie Township 2006-2010 & 2011 – 2015 ACS Estimates



Source: Selected Housing Characteristics 2006-2010 & 2011-2015 ACS 5-Year Estimates

Figure 12: Average Household Size 2011-2015 ACS Estimates



Source: Selected Housing Characteristics 2011-2015 ACS 5-Year Estimates

Table 8: Units in Structure 2011-2015 ACS Estimates

	2000 Estimate	2015 Estimate	Percent Change	Percent of Total Units (2015)
1-unit, detached	4,700	4,858	3.4%	57.6%
1-unit, attached	874	1,739	99.0%	20.6%
2 units	97	54	-44.3%	0.6%
3 or 4 units	53	120	126.4%	1.4%
5 to 9 units	235	193	-17.9%	2.3%
10 to 19 units	207	519	150.7%	6.2%
20 or more units	240	249	3.8%	3.0%
Mobile home	768	702	-8.6%	8.3%

Source: Selected Housing Characteristics
2011-2015 American Community Survey 5-Year Estimates & 2006-2010 American Community Survey 5-Year Estimates

Housing Cost & Value

According to the U.S. Department of Housing and Urban Development (HUD); "Families who pay more than 30% of their income for housing are considered cost burdened and may have difficulty affording necessities such as food, clothing, transportation, and medical care."

The rows highlighted in gold in Table 9 indicate homeowners and renters whose housing or renting costs are 30% or more of their monthly household income. Approximately 1,322 (20.7%) homeowners, and 703 (41.3%) of the renters in Upper Macungie Township are considered cost burdened. In general, the percentage of cost-burdened homeowners and renters is lower than in Lehigh County.

As shown in Table 10 on the following page, 46.5% off all housing in Upper Macungie Township costs between $300,000 and $499,999, with 26.6 percent costing between $200,000 and $299,999. In general, the cost of housing in the Township is significantly higher than housing in Lehigh County where housing is more evenly distributed between the $100,000 to $499,999 price ranges.

Figure 13 on the following page compares home sale trends of the four Lehigh County School Districts surrounding Upper Macungie Township. As the chart illustrates there were fewer homes sold in 2016 and 2017 than in previous years. However, the 2017 data only shows homes that were sold between January and July 2017, meaning there are still 5 months left in the year that may bring the total homes sold higher in 2017 than what was sold in 2016.

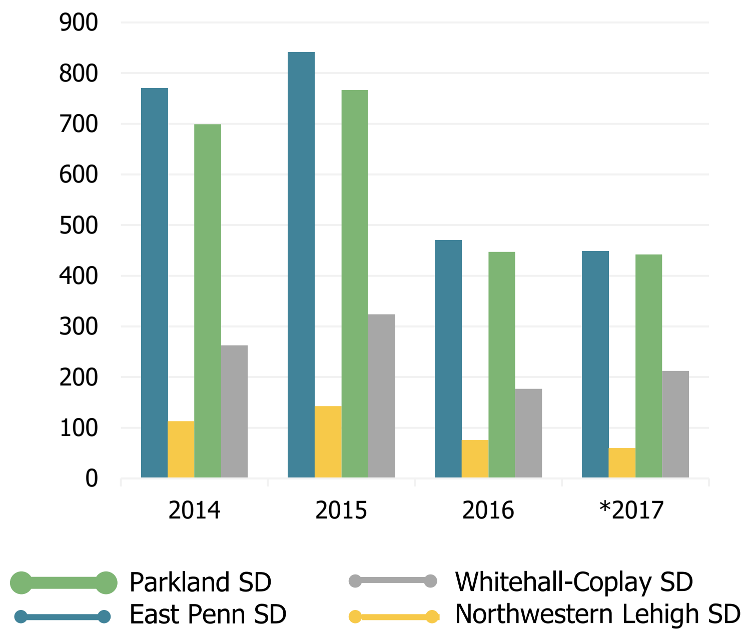
As shown in the data, the cost of housing in Upper Macungie is very high for both homeowners and renters, with renters being overall more cost burdened. The cost of housing coupled with the decrease in homes being sold signals a need for more affordable housing options within the County to keep up with demand.

Table 9: Monthly Housing Cost as Percentage of Income 2011-2015 ACS Estimates

	Upper Macungie		Lehigh Valley	
	Number	Percent	Number	Percent
WITH A MORTGAGE	4,619	72.4%	59,120	66%
Less than 15 %	1022	16.0%	10891	12.2%
15 to 24.9 %	2,069	32.4%	21341	23.9%
25 to 29.9 %	455	7.1%	7660	8.6%
30 to 34.9 %	294	4.6%	5109	5.7%
35 or more %	779	12.2%	14003	15.7%
Not computed	0	0.0%	116	0.1%
WITHOUT A MORTGAGE	1,758	27.6%	30,058	33.7%
Less than 15 %	1050	16.5%	15,621	17.5%
15 to 24.9 %	375	5.9%	7,119	8.0%
25 to 29.9 %	69	1.1%	1,801	2.0%
30 to 34.9 %	61	1.0%	1,231	1.4%
35 or more %	188	2.9%	4,035	4.5%
Not computed	15	0.2%	251	0.3%
GROSS RENT	1,701	100.0%	44,782	100.0%
Less than 15 %	133	7.8%	4,315	9.6%
15 to 24.9 %	504	29.6%	10,183	22.7%
25 to 29.9 %	198	11.6%	4,930	11.0%
30 to 34.9 %	183	10.8%	3,940	8.8%
35 or more %	520	30.6%	19,143	42.7%
Not computed	163	9.6%	2271	5.1%

Source: Mortgage Status by Selected Monthly Owner Costs as a Percentage of Household Income in the Past 12 Months
2011-2015 American Community Survey Selected Population Tables

Figure 13: Number of Homes Sold by School District 2014-(July) 2017



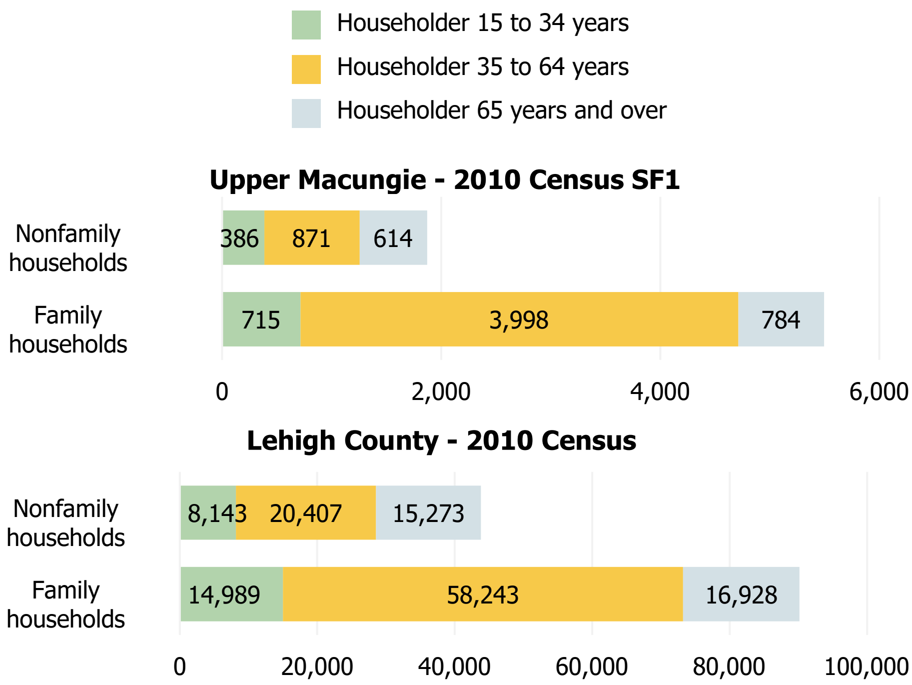
Source: Greater Lehigh Valley Realtors - Market Updates (2015, 2016, 2017)
**2017 data only includes home sold between January - July, therefore date does not represent all homes sold within 2017.*

Table 10: Median Housing Value 2011-2015 ACS Estimates

	Upper Macungie		Lehigh County	
	Number	Percent	Number	Percent
Total	6,145	100%	87,568	100%
Less than $50,000	521	8.5%	3,640	4.2%
$50,000 to $99,999	52	0.8%	7,405	8.5%
$100,000 to $149,999	64	1.0%	15,608	17.8%
$150,000 to $199,999	718	11.7%	18,126	20.7%
$200,000 to $299,999	1,634	26.6%	23,299	26.6%
$300,000 to $499,999	2,858	46.5%	16,030	18.3%
$500,000 to $999,999	217	3.5%	3,149	3.6%
$1,000,000 or more	81	1.3%	311	0.4%

Source: Housing Value
2015 American Community Survey 1-Year Supplemental Estimates with a Population Threshold of 20,000 or More

Figure 14: Householder by Age



Source: Household Type by Age of Householder
2010 Census Summary File 2

Householders

According to the 2010 Census, there were a total of 7,368 households in Upper Macungie Township, with 5,497 (74.6%) listed as family households and 1,871 (25.4%) as nonfamily households. As illustrated in Figure 14, the majority of householders are within the 35- to 64-year-old age range. This is not very different than the Lehigh County householder data which reveals 90,160 (67.3%) family households and 48,823 (32.7%) nonfamily households.

Table 11 provides characterization data based on household occupants. Within Upper Macungie Township, 5,901 (80.1%) of the households have two or more people; most of the households (64.2%) of the households with two or more people are married couples; and nearly half (32%) of the married couple have children that are less than 18 years old.

Table 11: Householder by Type and Presence of Own Children 2010 Census SF1

	Upper Macungie		Lehigh County	
	Number	Percent	Number	Percent
Total	7,368	100.0%	133,983	100.0%
1-person household	1,467	19.9%	35,279	26.3%
2-or-more-person household	5,901	80.1%	98,704	73.7%
Family households	5,497	74.6%	90,160	67.3%
Husband-wife family:	4,728	64.2%	66,509	49.6%
With own children under 18 years	2,356	32.0%	26,371	19.7%
No own children under 18 years	2,372	32.2%	40,138	30.0%
Other family	769	10.4%	23,651	17.7%
Male householder, no wife present	231	3.1%	6,427	4.8%
With own children under 18 years	136	1.8%	3,329	2.5%
No own children under 18 years	95	1.3%	3,098	2.3%
Female householder, no husband present	538	7.3%	17,224	12.9%
With own children under 18 years	318	4.3%	10,318	7.7%
No own children under 18 years	220	3.0%	6,906	5.2%
Nonfamily households	404	5.5%	8,544	6.4%

Source: Household Size by Household Type by Presence of Own Children
2010 Census Summary File 1

Source: iStock by Getty Images

Economy

Challenges & Opportunities

Educational, health, and social services had the largest number of employees in Upper Macungie Township in both 2010 and 2015. Until 2000, the manufacturing industry had the largest number of employees. The manufacturing industry is still the second-largest employment industry in the Township, but growth is slowing. This industry should be protected and nurtured to foster growth.

Overall, the industry employment within Upper Macungie Township is a diverse mix of occupations with a balance of high-skilled professional jobs and sem- to low-skilled jobs in the manufacturing, retail trade, and service industries.

Distribution and industrial centers for manufacturing and warehousing have created a niche in the economy of Upper Macungie Township that provide diverse employment opportunities and a strong tax base. The facilities required to support these industries require large tracts of land with sprawling one-story facilities to house their operations. If there were to be an economic shift that would force these industries to close the Township could experience negative economic and physical impacts. Although the Township is still experiencing growth in these industries, the growth is slowing. Planning for potential future economic shifts should be considered in the future land use planning for the Township.

The regional and local economy is further discussed in a detailed Economic Analysis in Appendix E.

Quick Facts

- The unemployment rate in Upper Macungie Township is 2.9%.
- 27.8% of the Upper Macungie population over the age of 16 is not in the labor force.
- Management, business, science, and arts make up 48% of the employment sector.
- Educational, health, and social services had the largest number of employees in the Township in both 2010 and 2015.

Employment & Unemployment

The labor force consists of all people age 16 and over that are currently employed or seeking employment. As shown in Table 12, it is estimated that 72.2% of the population 16 years and over is in the labor force in Upper Macungie Township. Meaning that the remaining 27.8% of the population not in the labor force is possibly retired, disabled, choose not to work, or is pursuing higher education, among other reasons.

The employment data from the 2011-2015 ACS indicate a 2.9% unemployment rate for the Upper Macungie labor force, lower than the County's rate of 5.5%.

Employment Sectors

As Figure 15 shows, workers in Upper Macungie Township are employed in a range of occupational sectors. The largest employment sector in the Township is management, business, science, and arts, which comprise of 48% of the workforce, followed by sales and office at 26%. More detailed information on employment by industry is listed in Table 13 on the following page.

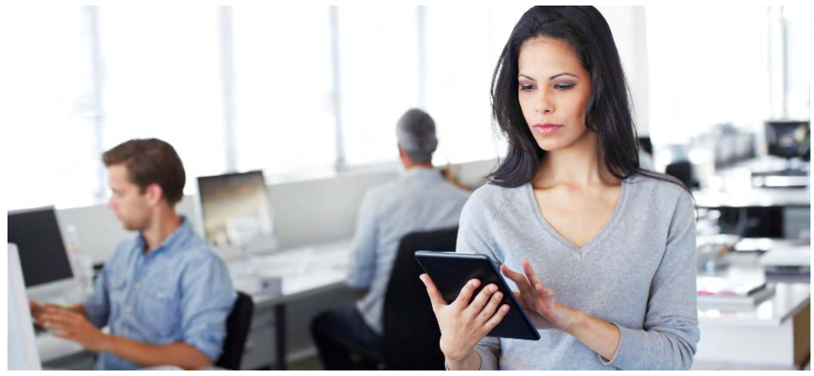
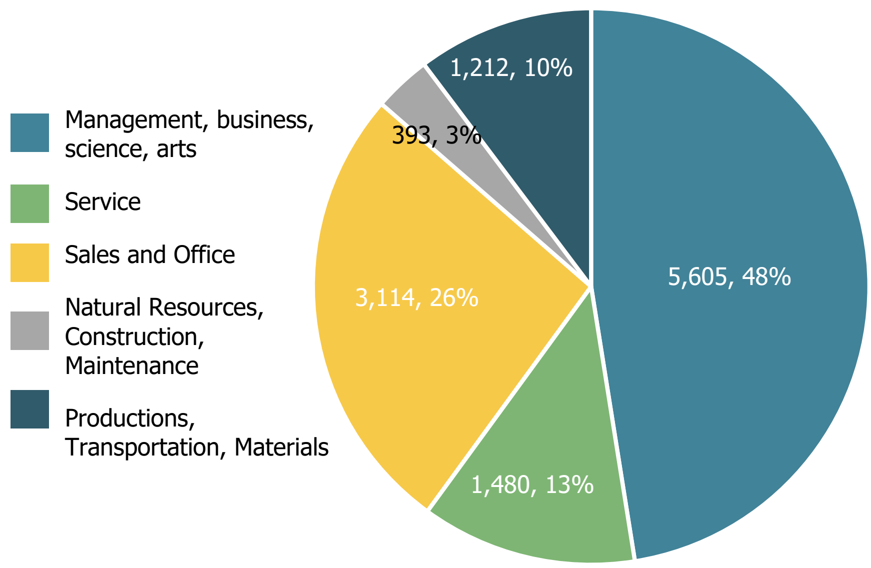


Figure 15: Employment Sectors Upper Macungie 2011-2015 ACS Estimates



Source: Industry by Occupation for the Civilian Employed Population 16 Years and Over 2011-2015 American Community Survey 5-Year Estimates

Table 12: Employment Status – Population 16 Years & Over 2011-2015 ACS Estimates

	Upper Macungie		Lehigh County	
	Number	Percent	Number	Percent
Population 16 years and over	17,087	100.0%	284,482	100.0%
In labor force	12,335	72.2%	186,286	65.5%
Civilian labor force	12,301	72.0%	173,010	60.8%
Employed	11,804	69.1%	170,448	59.9%
Unemployed	497	2.9%	15,757	5.5%
Armed forces	34	0.2%	81	0.0%
Not in the labor force	4,752	27.8%	98,196	34.5%

Source: Sex by Age by Employment Status for the Population 16 Years and Over 2011-2015 American Community Survey Selected Population Tables
****34 individuals in Upper Macungie Township are in the Armed Forces, 81 s in Lehigh County.*

Employment by Industry

The employment sectors with the highest percentages of employment in Upper Macungie Township are:

- Educational, health, and social services
- Manufacturing
- Professional, scientific, management, administrative, and waste management services
- Retail Trade

Calculating Location Quotients (LQs) is a planning analysis method often used to determine concentrations of employment in an industry. If the LQ is greater than 1.0 that industry is considered a basic industry or export. If the LQ is less than 1.0 it is assumed that industry is an import and the goods or services generated by that industry must be imported from other areas.

The last column in Table 13 displays the LQ for each of the industries of employment in Upper Macungie Township comparing them against the regional economy of Lehigh County. As depicted in the chart, the following industries are considered a basic (export) industry:

- Professional, scientific, management, administrative, and waste management services
- Manufacturing
- Public Administration
- Retail Trade

The remaining industries LQs are below 1.0, but not by a significant amount for the most part. These location quotients indicate that Upper Macungie Township has many employment industries provided by the local economy, with little need to import from the regional economy.

Table 13: Employment by Industry 2011-2015 ACS Estimates

	Upper Macungie		Lehigh County		Location Quotient
	Number	Percent	Number	Percent	
Agriculture, forestry, fishing and hunting, and mining	28	0%	867	1%	0.5
Construction	482	4%	9,066	5%	0.8
Manufacturing	2,056	17%	25,341	15%	**1.2**
Wholesale trade	339	3%	5,693	3%	0.9
Retail trade	1,377	12%	20,619	12%	**1.0**
Transportation and warehousing, and utilities	492	4%	10,453	6%	0.7
Information	172	1%	3,045	2%	0.8
Finance, insurance, real estate, and rental and leasing	860	7%	9,793	6%	**1.3**
Professional, scientific, management, administrative, and waste management services	1,586	13%	17,137	10%	**1.3**
Educational, health and social services	2,756	23%	42,212	25%	0.9
Arts, entertainment, recreation, accommodation and food services	891	8%	14,385	8%	0.9
Other services (except public administration)	389	3%	7,297	4%	0.8
Public administration	376	3%	4,540	3%	**1.2**

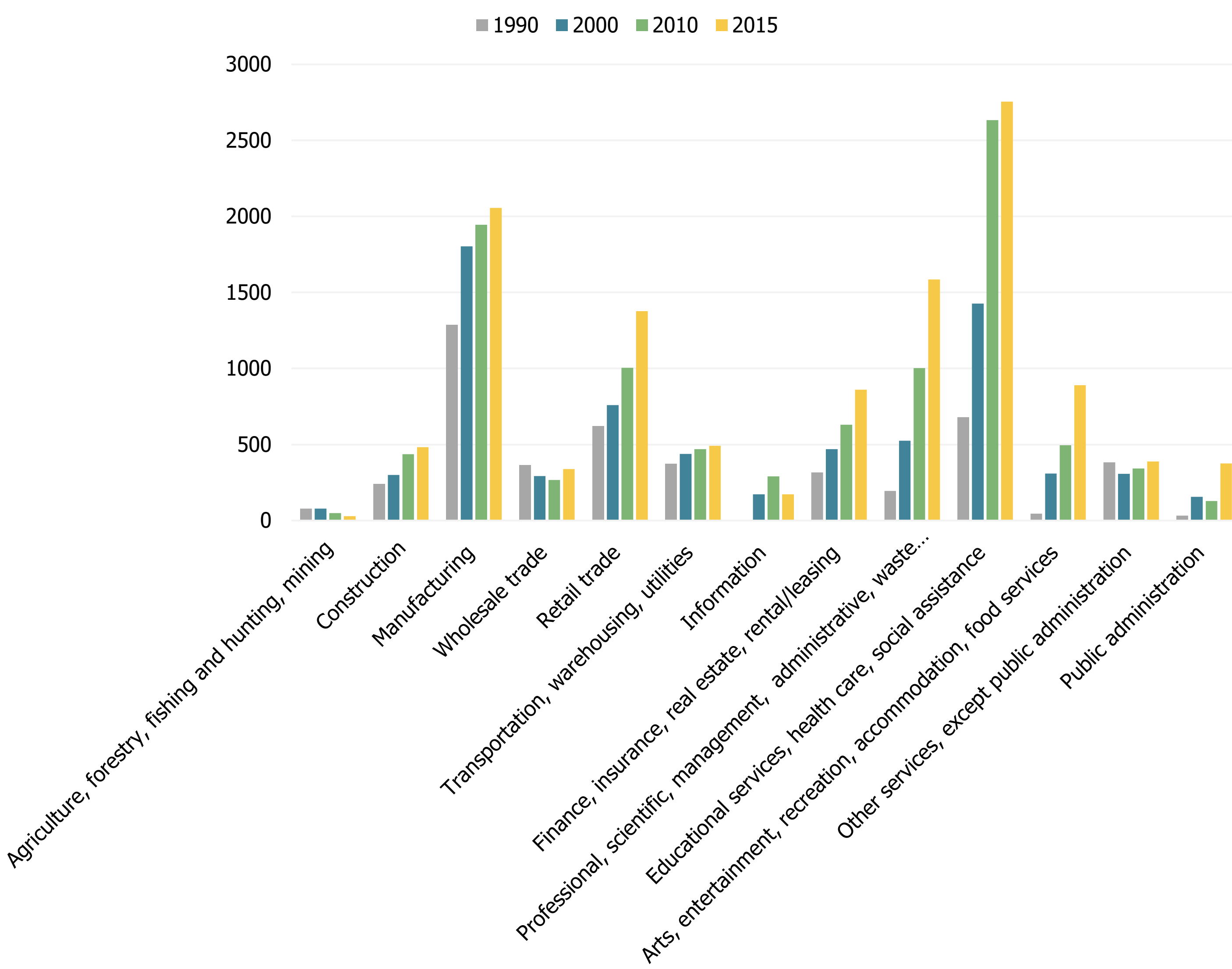
Source: Industry by Occupation for the Civilian Employed Population 16 Years and Over 2011-2015 American Community Survey 5-Year Estimates

Figure 16 compares the change in employment by industry from 1990 to 2015. As illustrated in the chart, educational, health, and social services had the largest number of employees in the Township in both 2010 and 2015. Until 2000, the manufacturing industry had the largest number of employees. The manufacturing industry is still the second-largest employment industry in the Township, but growth is slowing. This industry should be protected and nurtured to foster growth.

Overall, the industry employment within Upper Macungie Township is a diverse mix of occupations with a balance of high-skilled professional jobs and semi- to low-skilled jobs in the manufacturing, retail trade, and service industries.


Source: Pixabay/vicwag

Figure 16: Employment by Industry – 1990-2015 Change
Upper Macungie 1990 & 2000 Census, 2006-2010 & 2011-2015 ACS Estimates



Source: 1990 & 2000 Census, 2006-2010 & 2011-2015 ACS 5-Year Estimates

Sector Statistics

Table 14 below illustrates industries located within the Township that may or may not employ Township residents. The purpose of this chart is to demonstrate that although an industry may have a relatively small labor force they may generate large revenues and have large payrolls; conversely a business may have a relatively large labor force but proportionately low revenues and small payrolls.

Source: Pixabay/gumigasuki

Table 14: Sector Statistics Upper Macungie 2012 Economic Census of the United States

INDUSTRY DESCRIPTION	NUMBER OF ESTABLISHMENTS	SALES, SHIPMENTS RECEIPTS, OR REVENUE (THOUSANDS)	ANNUAL PAYROLL (THOUSANDS)	NUMBER OF EMPLOYEES
Manufacturing	60	4,072,848	244,536	4,427
Wholesale trade*	59	2,898,823	103,325	1,700
Retail trade	75	902,653	51,857	1,694
Information	12	N	11,745	189
Real estate & rental & leasing	26	30,277	6,332	131
Professional, scientific, & technical services	100	258,396	94,857	1,303
Administrative & support & waste managements & remediation service	45	132,245	63,300	1,792
Educational services	9	2,565	957	38
Health care & social assistance	50	59,270	25,614	871
Arts, entertainment, & recreation	8	4,835	1,610	186
Accommodation & food services	59	63,684	16,448	1,239
Other services (except public administration)	41	D	D	250 to 499

Source: Geographic Area Series: Economy-Wide Key Statistics: 2012
2012 Economic Census of the United States

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Appendix D
Housing Analysis

Photography by April Showers, JMT

UPPER MACUNGIE

THE INTERSECTION OF RURAL AND SUBURBAN LIFESTYLES!

UPPER MACUNGIE TOWNSHIP

This document is a technical report and part of the appendices of the Upper Macungie Township 2019 Comprehensive Plan. This report summarizes the housing market and identifies implications and housing issues to be addressed in the Comprehensive Plan.

Report prepared by: Real Estate Strategies, Inc./RES Advisors

Photography by Allie Scarfaro, JMT

Photography by April Showers, JMT

Upper Macungie Township Comprehensive Plan

- Market Analysis
- Regional Trends
- Inventory
- Affordability

UMT influences the private housing market through planning and decisions about land use policies, zoning, and development controls. Housing choice and affordability for all ages and all incomes build neighborhood sustainability.

Contents

Introduction


Source: Internet

An understanding of housing market conditions provides important context for the Township's comprehensive planning process. The following analysis offers insights into how well the Township's current and proposed residential inventory matches demand and which segments of the market may be underserved. This analysis reviews existing housing market conditions in Upper Macungie and the surrounding competitive market area. The analysis then addresses historic and projected demand through 2030, based on Lehigh Valley Planning Commission demographic projections.

Primary Market Area (PMA) Definition

The residential market in Upper Macungie Township functions within a larger Primary Market Area (PMA). A residential PMA is defined as the area from which 60% to 70% of prospective renters or home purchasers in the study area are drawn and within which residential developments compete for buyers or tenants. To define a PMA, RES interviewed local real estate professionals, reviewed demographic patterns, and investigated access and commuting patterns.

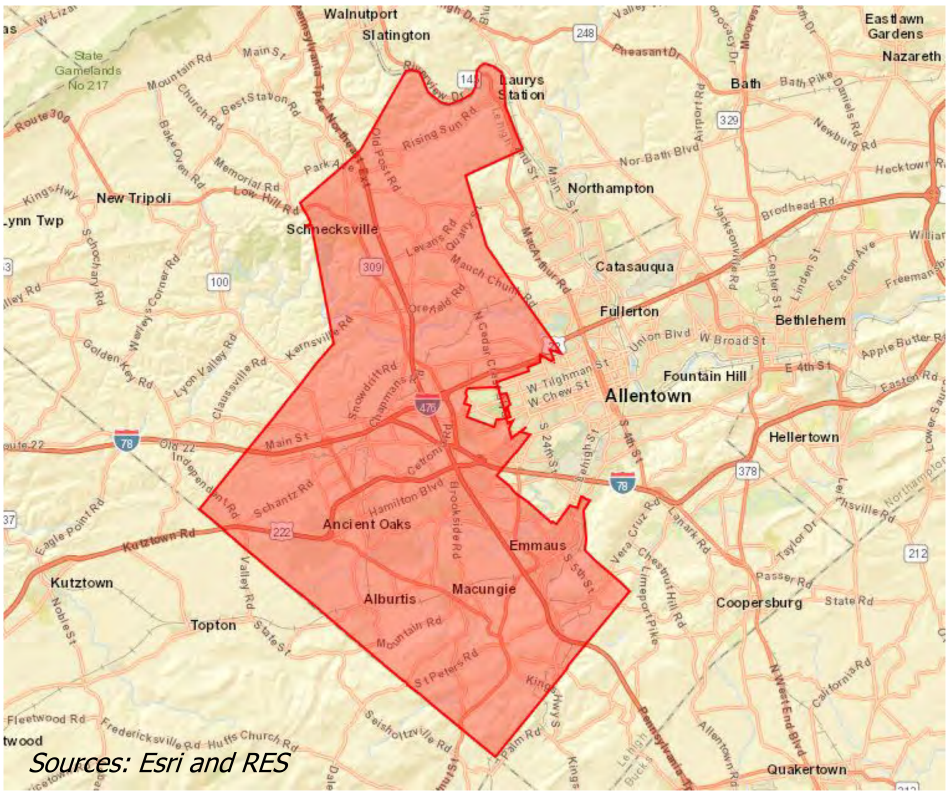
Local real estate agents and brokers report that the majority of home purchases in Upper Macungie are made by existing Lehigh County residents. Those home buyers who are from outside of Lehigh County include corporate transfers relocating to the area for employment as well as residents of New York City and northern New Jersey seeking lower-cost housing options within commuting distance of employment in the New York metropolitan area. Proximity to I-78 allows workers to maintain employment in New York while living in the PMA. Realtors also report that the relatively low real estate tax rate in Upper Macungie is a positive factor for prospective home buyers.

Family renters and buyers are attracted to the strength of the Parkland and East Penn school districts. These households tend to focus on school district boundaries, rather than the component municipalities, when seeking housing. Because Realtors and brokers interviewed for this analysis emphasized the significance of high-quality public schools in the broader Lehigh Valley residential market, the Upper Macungie PMA has been defined to include the Parkland and East Penn school districts. A map of the PMA is shown in Figure 1.

The Parkland School District includes Upper Macungie, South Whitehall, and North Whitehall townships. The East Penn School District includes Upper Milford and Lower Macungie townships and the boroughs of Macungie, Alburtis, and Emmaus. The City of Allentown was excluded from the PMA because residential property in the city is unlikely to compete directly with the housing stock in Upper Macungie.

The PMA is centered on the interchange where I-78 and I-476 (the Northeast Extension of the Pennsylvania Turnpike) meet, just west of Allentown. The highway network offers PMA residents access to multiple employment centers in both the Philadelphia and New York metropolitan areas. Local employment opportunities are located within Upper Macungie and the surrounding suburban townships as well as in the central cities of the Allentown-Bethlehem-Easton metropolitan area.

Figure 1: Upper Macungie Primary Market Area (PMA) Boundaries



Economic and Demographic Characteristics

Table 1 presents population and household trends for Upper Macungie Township, the PMA, and Lehigh County as a whole. Household formation is a primary generator of housing demand, while household size, income, and age characteristics impact the type of housing with market support.

Population and Household Trends 2000-2017

According to decennial Census statistics, Upper Macungie's population grew by 44.4% from 2000 to 2010. Population increased in the PMA and Lehigh County over this 10-year period by 22.7% and 12.0%, respectively. The estimated population growth rate decreased significantly in Upper Macungie, the PMA and Lehigh County between 2010 and 2017.

One-person and two-person households accounted for over 50% of all households in Upper Macungie, the PMA, and Lehigh County, according to 2010 U.S. Census data. Larger households are more prevalent in Upper Macungie compared to the PMA and Lehigh County. The percentage of households with four or more persons is higher in Upper Macungie than in the PMA as whole or in Lehigh County overall; 29.3% of Township households have at least four members.

Population and Household Trend Projections through 2030

Esri projects that the Upper Macungie population will grow by 7.4% between 2017 and 2022. Esri projections of population growth in the PMA and Lehigh County during this period are lower at 3.2% and 2.3%, respectively.


Source: Internet


Source: Internet


Source: Internet

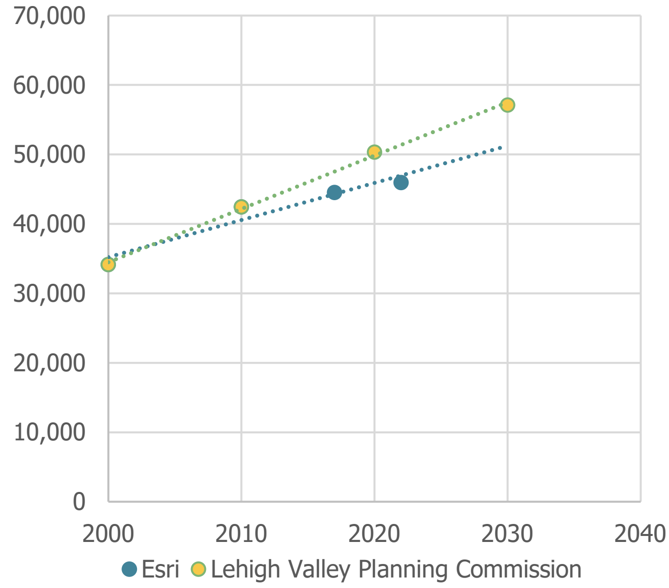
Table 1: Population and Household Trends

	Upper Macungie	Primary Market Area	Lehigh County
Total Population			
2000 Census	13,895	89,264	312,111
2010 Census	20,063	109,517	349,497
2017 Estimate (Esri)	23,007	116,118	364,549
2022 Projection (Esri)	24,715	120,474	374,977
LVPC 2030 Projections*	24,992	142,723	427,162
Percent Change 2000 - 2010	44.4%	22.7%	12.0%
Percent Change 2010 - 2017	14.7%	6.0%	4.3%
Percent Change 2017 - 2022	7.4%	3.8%	2.9%
Percent Change 2010 - 2030*	24.6%	30.3%	22.2%
2000 - 2010 Avg. Annual Growth	3.7%	2.1%	1.1%
2010 - 2017 Avg. Annual Growth	2.0%	0.8%	0.6%
2017 - 2022 Avg. Annual Growth	1.4%	0.7%	0.6%
2010 - 2030 Avg. Annual Growth*	1.1%	1.3%	1.0%
Total Households			
2000 Census	5,128	34,135	121,914
2010 Census	7,368	42,440	133,983
2017 Estimate (Esri)	8,389	44,521	137,995
2022 Projection (Esri)	8,976	45,945	141,171
LVPC 2030 Projections*	9,492	57,120	169,582
Percent Change 2000 - 2010	43.7%	24.3%	9.9%
Percent Change 2010 - 2017	13.9%	4.9%	3.0%
Percent Change 2017 - 2022	7.0%	3.2%	2.3%
Percent Change 2010 - 2030*	28.8%	34.6%	26.6%
2000 - 2010 Avg. Annual Growth	3.7%	2.2%	0.9%
2010 - 2017 Avg. Annual Growth	1.9%	0.7%	0.4%
2017 - 2022 Avg. Annual Growth	1.4%	0.6%	0.5%
Percent Change 2010 - 2030*	1.3%	1.5%	1.2%

* Lehigh Valley Planning Commission
Note: Percentages may not add due to rounding.
Sources: US Census Bureau, Esri, RES

The lifespan of a comprehensive plan is typically longer than the five-year projection period of most demographic data vendors. The Lehigh Valley Planning Commission (LVPC) publishes projections of population and households counts by municipality including figures for 2020, 2030, and 2040. In comparison to Esri projections, LVPC shows faster household growth for the PMA as illustrated in the chart on the following page.

Figure 2: PMA Household Trends, 2000-2030: Esri and LVPC Projection Trendlines



Sources: Esri, RES

Table 2: Population Characteristics

	Upper Macungie		Primary Market Area		Lehigh County	
	Number	Percent	Number	Percent	Number	Percent
2017 Population by Age						
0 - 4	1,288	5.6%	5,690	4.9%	20,779	5.7%
5 - 9	1,518	6.6%	6,735	5.8%	21,873	6.0%
10 - 14	1,818	7.9%	7,780	6.7%	23,331	6.4%
15 - 24	2,692	11.7%	12,889	11.1%	47,027	12.9%
25 - 34	2,531	11.0%	12,076	10.4%	44,840	12.3%
35 - 44	3,221	14.0%	14,631	12.6%	44,840	12.3%
45 - 54	3,612	15.7%	17,185	14.8%	49,579	13.6%
55 - 64	3,198	13.9%	17,302	14.9%	49,579	13.6%
65 - 74	1,910	8.3%	12,192	10.5%	34,632	9.5%
75 - 84	828	3.6%	6,386	5.5%	18,592	5.1%
85+	391	1.7%	3,135	2.7%	10,207	2.8%
Median Age in Years						
2010 Census	39.0		42.1		39.3	
2017 Estimate	40.3		43.8		40.5	
2022 Estimate	40.9		44.8		41.3	
2017 Population by Race/Ethnicity						
White Alone	18,360	79.8%	99,861	86.0%	270,495	74.2%
African-American Alone	897	3.9%	4,064	3.5%	26,612	7.3%
American Indian Alone	46	0.2%	232	0.2%	1,458	0.4%
Asian or Pacific Islander Alone	2,623	11.4%	6,967	6.0%	13,124	3.6%
Some Other Race Alone	529	2.3%	2,555	2.2%	40,100	11.0%
Two or More Races	552	2.4%	2,438	2.1%	12,759	3.5%
2017 Population of Hispanic Origin	1,841	8.0%	8,593	7.4%	87,856	24.1%

Note: Numbers and percentages may not add due to rounding.
Sources: US Census Bureau, Esri, RES

LVPC projects that by 2030, there will be 57,120 households in the PMA, or a gain of 14,680 households over Census 2010 estimates. PMA household growth over the 12-year period 2018-2020 is estimated to be 60% of the 20-year total growth, or 8,808 additional households through 2030 (an average annual increase of 734 households in the PMA).

Population Characteristics

Table 2 compares population distribution by race and age in Upper Macungie, the PMA, and Lehigh County. The median age in Upper Macungie is notably lower than in the PMA as a whole. Upper Macungie has a lower Hispanic population compared to Lehigh County overall, but a higher percentage of Asian residents than either the County or the PMA as a whole.

Household Age and Income

Esri 2017 estimates in Table 3 below highlight the affluence of both the PMA and Upper Macungie relative to Lehigh County. Median household income is highest in Upper Macungie at $91,493 followed by the PMA overall at $79,975 and the County at $59,256. Esri reports that 13.2% of households in Upper Macungie earn $200,000 or more.

Table 3: Distribution of Households by Income

	Upper Macungie		PMA		Lehigh County	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Income Band						
< $15,000	378	4.5%	2,092	4.7%	13,386	9.7%
$15,000 - $24,999	302	3.6%	2,627	5.9%	12,834	9.3%
$25,000 - $34,999	361	4.3%	2,805	6.3%	12,834	9.3%
$35,000 - $49,999	663	7.9%	4,719	10.6%	17,801	12.9%
$50,000 - $74,999	1,451	17.3%	8,325	18.7%	26,081	18.9%
$75,000 - $99,999	1,435	17.1%	6,767	15.2%	18,767	13.6%
$100,000 - $149,999	1,636	19.5%	8,726	19.6%	20,423	14.8%
$150,000 - $199,999	1,057	12.6%	4,274	9.6%	8,142	5.9%
$200,000 +	1,107	13.2%	4,229	9.5%	7,728	5.6%
Median HH Income						
2017 Estimate	$91,493		$79,975		$59,256	
2022 Estimate	$99,660		$87,811		$66,812	
Average HH Income						
2017 Estimate	$120,268		$105,160		$81,471	
2022 Estimate	$134,906		$118,591		$92,488	

Note: Percentages may not add due to rounding.
Sources: Esri, RES

Tables 4 and 5 show Esri cross tabulations of PMA households by age cohort and income band, including 2017 estimates and 2022 projections. Household change by age cohort is particularly relevant in these tables. Because these data are presented in nominal rather than constant dollars, the changes in household count by income band are less clear and can result from the Esri model's assumptions about inflation during this time period, rather than real income growth.

Table 4: PMA Households by Age and Income: 2017 Estimates and 2022 Projections

	Age Cohort							Total
Income Band	**<25**	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**	**75+**	**Households**
2017 Households								
< $15,000	69	150	205	239	422	373	639	2,097
$15,000 - $24,999	62	208	255	270	431	518	865	2,609
$25,000 - $34,999	57	294	313	304	490	482	846	2,786
$35,000 - $49,999	99	560	608	638	804	875	1,143	4,727
$50,000 - $74,999	190	1,172	1,230	1,455	1,509	1,517	1,258	8,331
$75,000 - $99,999	104	972	1,330	1,383	1,456	1,125	395	6,765
$100,000 - $149,999	68	940	1,803	2,257	2,042	1,147	458	8,715
$150,000 - $199,999	27	347	880	1,382	1,042	480	113	4,271
$200,000 +	16	254	811	1,225	1,221	535	158	4,220
Total Households	692	4,897	7,435	9,153	9,417	7,052	5,875	44,521
2022 Households								
< $15,000	63	148	206	191	349	385	708	2,050
$15,000 - $24,999	55	190	196	188	342	493	925	2,389
$25,000 - $34,999	39	240	247	203	375	457	856	2,417
$35,000 - $49,999	84	459	457	449	617	807	1,219	4,092
$50,000 - $74,999	171	1,058	1,067	1,125	1,289	1,565	1,423	7,698
$75,000 - $99,999	122	1,065	1,403	1,311	1,513	1,419	539	7,372
$100,000 - $149,999	71	1,131	1,988	2,265	2,266	1,494	698	9,913
$150,000 - $199,999	32	449	1,025	1,436	1,219	659	182	5,002
$200,000 +	17	336	967	1,293	1,374	762	263	5,012
Total Households	654	5,076	7,556	8,461	9,344	8,041	6,813	45,945

Sources: Esri, RES

Table 5: PMA Households by Age and Income: Change 2017-2022

	Age Cohort							Total
Income Band	**15-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**	**75+**	**Households**
< $15,000	(6)	(2)	1	(48)	(73)	12	69	(47)
$15,000 - $24,999	(7)	(18)	(59)	(82)	(89)	(25)	60	(220)
$25,000 - $34,999	(18)	(54)	(66)	(101)	(115)	(25)	10	(369)
$35,000 - $49,999	(15)	(101)	(151)	(189)	(187)	(68)	76	(635)
$50,000 - $74,999	(19)	(114)	(163)	(330)	(220)	48	165	(633)
$75,000 - $99,999	18	93	73	(72)	57	294	144	607
$100,000 - $149,999	3	191	185	8	224	347	240	1,198
$150,000 - $199,999	5	102	145	54	177	179	69	731
$200,000 +	1	82	156	68	153	227	105	792
Total Households	(38)	179	121	(692)	(73)	989	938	1,424

Sources: Esri, RES

The data show significant growth in the number of PMA households headed by persons in the 65-74 and 75+ age cohorts over the next five years. This growth in the number of senior households is expected to continue through 2030. This growth trend reflects the aging of the Baby Boom generation and is being seen in many markets across the United States. The number of households in the 45-54 age cohort is projected to decrease by 692 over the next five years and this reduction may impact the 55-64 age cohort through 2030. Increases in the number of households headed by persons ages 25-34 and 35-44 are also projected.

Demand Analysis

Housing demand is a function of projected household growth, the need to replace obsolete or deteriorated housing units, and shifts in household age and income characteristics.

Household Growth

LVPC projections indicate demand from household growth in the PMA of 8,808 housing units through 2030.

Replacement Demand

The Census Bureau's Component of Inventory Change (CINCH), provides data on the percentage of housing stock lost from inventory for two-year periods. For the U.S. as a whole, the most recent CINCH data (2011 to 2013) indicates that an average of 0.4% of the nation's suburban housing stock was lost each year. Applying this replacement factor to the 2017 estimate of 46,011 PMA housing units (see Table 7) results in estimated replacement demand of 2,209 housing units through 2030. Housing units are lost to the inventory for many reasons including conversion, demolition, damage from fire and weather, and deterioration. Replacement demand is met through both new construction and the substantial rehabilitation of deteriorating housing stock.

Gross Residential Demand

Aggregating demand from household growth with replacement demand results in a **total PMA gross incremental residential demand of 11,017 units through 2030**. Typically, gross residential demand is calculated for five-year periods; however, RES calculated demand based on 2030 growth projections, consistent with long-term planning goals of Upper Macungie Township. The proportion of this demand that can be captured in the Township depends on the competitiveness of Upper Macungie versus other municipalities in the PMA as well as the availability of land for residential development.

Housing Supply: Existing Conditions

Structure Type

Single-family detached homes are the most common housing unit type in both Upper Macungie and the overall PMA, representing well over half of all units in both geographies. Approximately 20% of housing units in Upper Macungie and the broader PMA are single-family attached homes (townhouses and twin units). Larger multifamily buildings are not common in either Upper Macungie or the PMA; in these geographies, only about 3% of housing structures have 20 or more units. Approximately 8.5% of Upper Macungie's housing units are in multifamily properties with 5-to-19 units compared to 6.5% in the broader PMA. These 5-to-19-unit structures are typical in suburban garden apartment complexes. Upper Macungie has a relatively low percentage of multifamily units in 2-to-4-unit buildings. The ACS reported that 8.3% of all housing units in Upper Macungie are mobile homes, which is notably higher than the percentage of mobile homes in the PMA and Lehigh County overall. Table 6 summarizes the distribution of housing units by structure type in the three analysis geographies.

Table 6: Housing Units by Structure Type, ACS 2011-2015

	Upper Macungie		Primary Market Area		Lehigh County	
Housing Structure	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total	8,434	100.0%	46,151	100.0%	143,313	100%
1, detached	4,858	57.6%	28,853	62.5%	69,358	48.4%
1, attached	1,739	20.6%	9,368	20.3%	36,149	25.2%
2	54	0.6%	586	1.3%	6,467	4.5%
3 or 4	120	1.4%	1,034	2.2%	7,825	5.5%
5 to 9	193	2.3%	1,345	2.9%	6,742	4.7%
10 to 19	519	6.2%	1,661	3.6%	6,335	4.4%
20 or more	249	3.0%	1,316	2.9%	7,265	5.1%
Mobile home	702	8.3%	1,988	4.3%	3,172	2.2%
Boat, RV, van, etc.	0	0.0%	0	0.0%	0	0.0%

Note: Percentages may not add due to rounding.
Sources: US Census Bureau; Esri; RES.

Tenure and Vacancy

Census counts and Esri estimates suggest that the number of housing units in the PMA increased by 1,552 between 2010 and 2017. Approximately 47% of this growth-an estimated 736 units--took place in Upper Macungie Township. Over the 17-year period between 2000 and 2017, approximately 30% of PMA housing unit growth took place in Upper Macungie.

The housing tenure (owner versus renter) breakdown in Upper Macungie is similar to that of the PMA as a whole. Esri estimates that in 2017, more than three out of four housing units in both Upper Macungie and the PMA were owner-occupied. Approximately 20% of units in each geography are renter-occupied. It is likely that the percentage of renters in the PMA and in Upper Macungie will trend upward as overall in the United States homeownership rates are dropping. The increased propensity to rent is an outgrowth of several factors including the psychological and economic/credit impact of the housing crisis that began in 2007/8, increased preferences for more urban live/work/play environments and the growing student debt burden carried by younger households.

Upper Macungie has an Esri estimated 2017 residential vacancy rate of 2.2% compared to 3.2% in the PMA as whole and 5.8% in Lehigh County overall. The 2012-2016 American Community Survey reports fewer than 75 "other vacant" units in the Township. "Other vacant" units that are neither for rent/sale nor seasonal properties are often severely deteriorated. Low overall vacancy and a low level of "other vacant" units suggests a strong housing market in Upper Macungie and virtually no "slack" available to absorb incremental demand. As a result, household growth and replacement demand must be satisfied through production of new or substantially rehabilitated units. Table 7 summarizes housing units by occupancy characteristics and estimated value.


Source: Internet

Table 7: Housing Units, Occupancy Status, and Estimated Value

	Upper Macungie	Primary Market Area	Lehigh County
Total Units			
2000 Census	5,335	35,364	128,918
2010 Census	7,843	44,459	142,613
2017 Estimate	8,579	46,011	146,432
Occupancy Characteristics in 2017			
Percent Owner-Occupied	77.4%	77.3%	61.9%
Percent Renter-Occupied	20.4%	19.5%	32.3%
Percent Vacant	2.2%	3.2%	5.8%
Estimated Value, Owner Occupied Units in 2017			
< $50,000	6.3%	3.3%	3.1%
$50,000 - $99,999	2.5%	2.4%	6.4%
$100,000 - $149,999	2.3%	5.7%	14.5%
$150,000 - $199,999	8.7%	15.3%	19.9%
$200,000 - $249,000	13.6%	17.6%	16.3%
$250,000 - $299,999	14.6%	15.4%	12.1%
$300,000 - $399,999	31.3%	24.1%	15.5%
$400,000 - $499,000	11.8%	9.3%	6.3%
$500,000 +	8.9%	6.9%	5.9%
Median Value	$306,370	$268,432	$218,650

Note: Percentages may not add due to rounding.
Sources: US Census Bureau; Esri; RES.

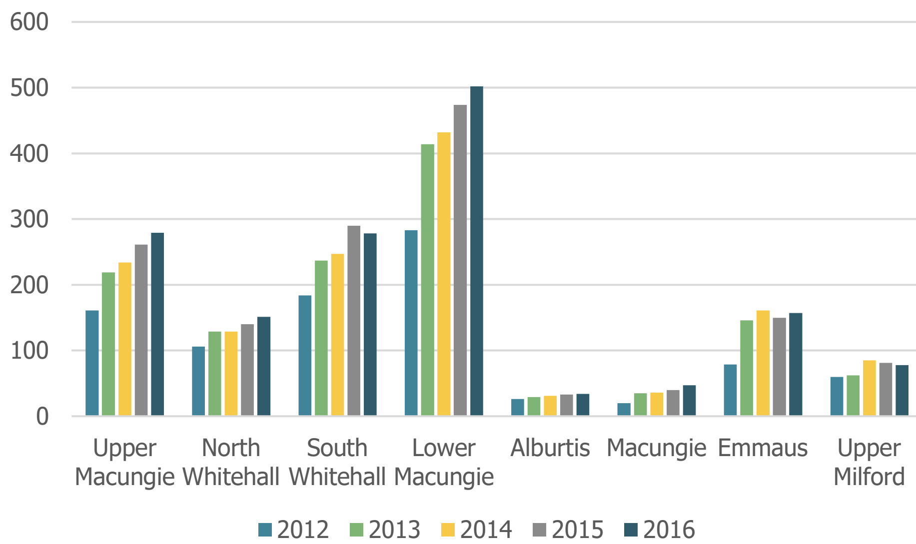
Home Values, Sales Volume and Price Trends

Home values in Upper Macungie are generally higher than those in the PMA or County overall, as shown in the Census and Esri data in Table 6. The estimated 2017 median value for owner-occupied homes in the Township was $306,370. The estimated 2017 median values in the PMA and Lehigh County as a whole were $268,432 and $218,650, respectively. Upper Macungie does have a higher share of owner-occupied housing units with values estimated below $50,000 than the comparison areas. This may be a reflection of the number of mobile homes in the Township.

The Lehigh Valley Planning Commission (LVPC) tracks home sales volume and price trends for municipalities and school districts in Lehigh and Northampton Counties. The newest LVPC data release covers the five-year period 2012 through 2016. Sales data by school district for this five-year period show that the numbers of sales in the PMA school districts (Parkland and East Penn) are significantly greater than the sales volume in other suburban Lehigh Valley school districts. This activity is a reflection of both the desirability of these school districts and the availability of new residential products in this part of the County.

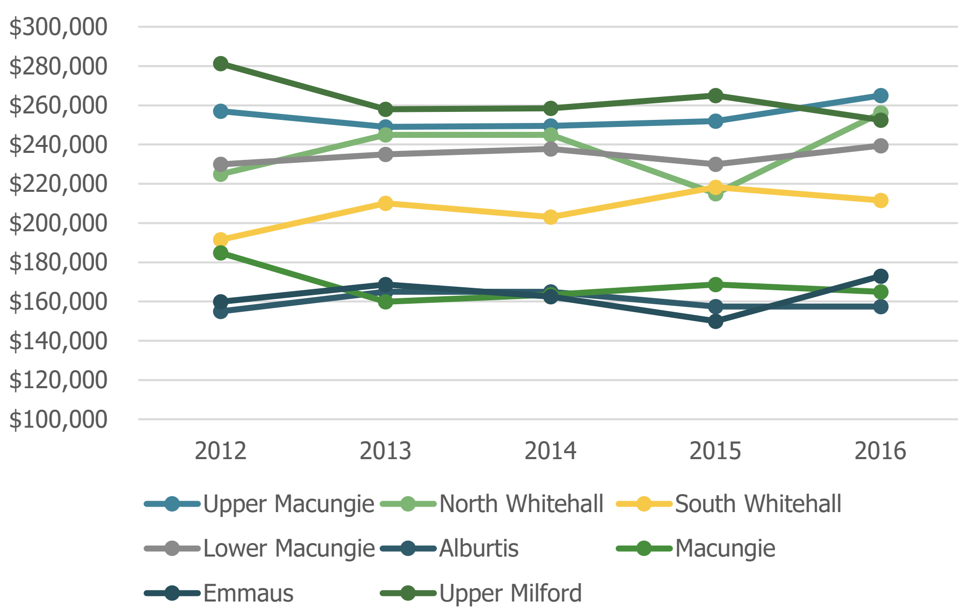
LVPC reports that the number of residential sales in the PMA 2012-2016 totaled 6,660. The PMA municipal level sales data in Figure 3 indicates that the number of annual home sales generally trended upward from 2012 through 2016. Housing markets have recovered from the impacts of the national recession. The majority of PMA home sales take place in four municipalities: Upper Macungie, Lower Macungie, North Whitehall, and South Whitehall townships. In Upper Macungie the total number of residential sales increased from 161 in 2012 to 279 in 2016. The total number of residential sales in Upper Macungie over this five-year period was 1,154, 17.3% of the PMA total sales. Upper Macungie averaged approximately 231 sales per year during the 2012-2016 period.

Figure 3: Residential Sales Volume by PMA Municipality, 2012-2016



Source: LVPC

Figure 4: Median Sales Price by PMA Municipality, 2012-2016



Source: LVPC

Of the PMA municipalities, the largest number of sales occurred in Lower Macungie Township; the increase in sales over the five-year period was highest there as well. Sales volume increased in Lower Macungie from 281 in 2012 to 502 in 2016. The number of sales in Emmaus was highest among the boroughs. Upper Milford had significantly fewer sales than other PMA townships.

The data in Figure 4 show that in each PMA municipality sales prices remained relatively stable over the five-year period. Median sales prices in Upper Macungie, Lower Macungie, Upper Milford, and North Whitehall and South Whitehall were consistently higher than in the PMA boroughs of Alburtis, Emmaus, and Macungie. In 2016, the median sales prices in PMA townships ranged from $211,500 in South Whitehall to $265,000 in Upper Macungie. Median prices in the PMA boroughs ranged from $157,500 in Alburtis to $173,000 in Emmaus.

Table 8: Home Sales Volume and Price Data by PMA School District, 2012-2016

	Parkland		East Penn	
Year	Number of Sales	Median Sales	Number of Sales	Median Sales
2012	472	$227,533	468	$200,000
2013	609	$235,000	686	$204,000
2014	636	$230,000	745	$205,000
2015	714	$230,000	778	$207,000
2016	734	$238,000	818	$219,950

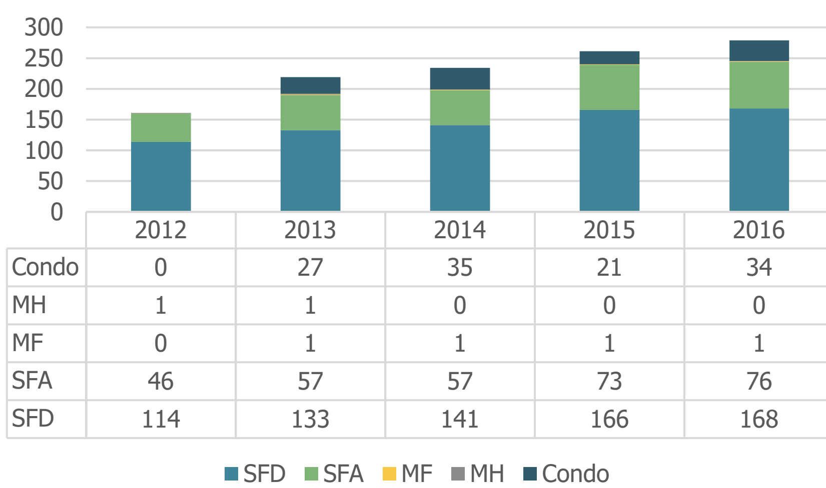
Source: LVPC

A comparison of 2012-2016 home sales data for the two PMA school districts shows that the number of sales and median sales prices increased every year in both districts. In 2012, the number of sales in Parkland and East Penn were 472 and 468, respectively. By 2016, sales volume had increased to 734 in Parkland and 818 in East Penn. Median sales prices are generally higher in Parkland than East Penn. High sales volumes and strong price growth reflect demand for housing in both districts and in Upper Macungie Township.

Although the LVPC data extend through 2016, the Greater Lehigh Valley Realtors' market update reports suggest that 2017 saw continued price growth in the PMA. At the end of 2017, year-to-date average sales prices in the Parkland School District increased to $271,805 from the 2016 average of $266,803, a one-year increase of 1.9%. In East Penn, the average home sales price increased 3.6% from $238,892 in 2016 to $247,521 in 2017. The Realtors data did not report home sale price medians that would be directly comparable to the LVPC data presented above.

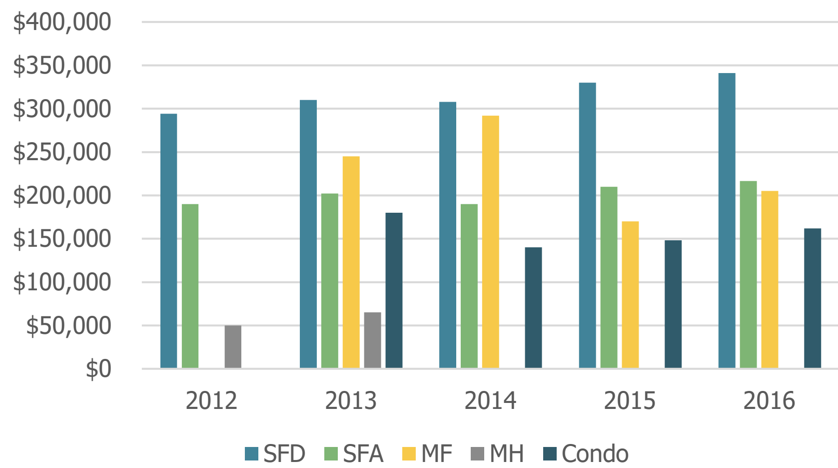
The LVPC data show that single-family detached units account for the majority of home sales in the PMA, followed by single-family attached units. Condominium sales represent 8.4% of the PMA total and 10% of the sales in Upper Macungie Township. Figure 5 shows the distribution of Upper Macungie home sales by structure type and Figure 6 shows the median sales price by structure type in the Township. Single-family attached housing and condominiums offer residential purchase options in Upper Macungie Township that are generally more affordable than the single-family detached stock. Multi-housing (units in buildings with 2-4 units) and multifamily sales (except for condominiums) are generally not occurring in Upper Macungie.

Figure 5: Upper Macungie Sales by Structure Type 2012-2016



Sources: LVPC, RES

Figure 6: Upper Macungie Median Home Sales Price by Structure Type: 2012-2016



Sources: LVPC, RES

Rental Housing Supply

In 2017, there were an estimated 1,560 rental housing units in Upper Macungie, approximately 20% of the PMA rental supply. Three out of four rental units in Upper Macungie—a total of 1,171 rental units-are in market-rate apartment complexes. There are approximately 2,800 apartment units in professionally managed market-rate apartment complexes in the PMA; 42% of these units are in Upper Macungie.

Table 9: Renter-Occupied Housing Units by Contract Rent

	Upper Macungie 2017 Estimate		Primary Market Area 2017 Estimate		Lehigh County 2017 Estimate	
	Number	Percent	Number	Percent	Number	Percent
Less than $500	0	0.0%	601	7.9%	4,639	10.7%
$500 to $999	338	21.7%	3,418	44.7%	20,554	47.5%
$1,000 to $1,499	706	45.2%	2,929	38.3%	14,396	33.3%
$1,500 to $1,999	379	24.3%	557	7.3%	3,002	6.9%
$2,000 or more	137	8.8%	136	1.8%	675	1.6%
TOTAL	1,560	100.0%	7,641	100.0%	43,266	100.0%

Sources: US Census Bureau; Esri; RES.

According to 2017 Esri estimates shown in Table 9, the contract rents of renter-occupied housing units in the PMA and Upper Macungie range from $500 to $1,500. Contract rents do not include tenant-paid utilities. Units with higher rents are a larger proportion of the rental stock in Upper Macungie than in the PMA overall and Lehigh County. Esri reports that 24.3% of units in Upper Macungie have contract rents between $1,500 and $1,999; and 8.8% have rents greater than $2,000. By contrast, only 8.5% of units in Lehigh County or the PMA as whole rent for over $1,000. There are no units renting for less than $500 in the Upper Macungie. In the PMA, 7.3% of units have contract rents below $500 per month; 10.7% of units in Lehigh County are in this rent range.

Table 10 presents information on market rate apartment complexes in the PMA, including five properties in Upper

An annual income of $41,920 or $20.15 hourly wage is needed to afford a two-bedroom home at 2018 Fair Market Rent of $1,048/month (30% of gross income). Spending 30% of gross income or more on housing is considered "housing-cost burdened" buy the U.S. Census.

Source: National Low-Income Housing Coalition (2018)

Macungie Township. According to the data vendor REIS, as of April 2018, the average weighted vacancy rate for this group of properties was 1.5%. (The newest apartment property in the PMA—Spring View in South Whitehall Township—opened in 2018 and is still in lease-up. Because it has not reached stabilized occupancy, this property was not included in the weighted vacancy rate calculation.) A stabilized vacancy rate of 5% is an indicator of a balanced rental market. These data indicate that the Upper Macungie PMA apartment market is tight, signaling potential demand for additional apartment units.

Table 10: Market Rate Apartment Complexes in the Upper Macungie PMA

Name	Municipality	Type	Year Built	Number of Units	Unit Type	Square Feet	Rent	Vacancy Rate
Woodmont Ridge	Upper Macungie	Elevator	2016	293	1 BR / 1 BA	820-975	$1,440-$2,140	0.3%
					2 BR / 2 BA	1,145-1,185	$1,550-$2,265	
Oakwood Apartments	Upper Macungie	Walkup	1961	60	1 BR / 1 BA	535	$800	N/A
					2 BA / 1 BA	735	$900	
Apartments at Olde Towne	Upper Macungie	Walkup	1997	108	2 BR / 2 BA	1,106-1,139	$1,250-$1,300	1.9%
Autumn Park	Upper Macungie	Walkup	2000	326	1 BR / 1 BA	974-1,026	$1,185	1.5%
					2 BR / 2 BA	1,330-1,725	$1,435	
					3 BR / 2 BA	1,792	$1,857	
Parkland View	Upper Macungie	Walkup	2010	384	1 BR / 1 BA	890-978	$1,226	2.5%
					2 BR / 2 BA	1,218-1,290	$1,522	
The Meadows	Emmaus	Walkup	1992	232	1 BR / 1.5 BA	775-825	$1,170-$1,240	1.3%
					1 BR / 2 BA	1,300	$1,40-$1,450	
					2 BR / 2 BA	1,100-1,200	$1,340-$1,420	
Brookfield Apartments	Macungie	Walkup	1989	136	1 BR / 1.5 BA	750	$1,130-$1,155	1.5%
					1 BR / 2.5 BA	1,250	$1,340-$1,360	
					2 BR / 2.5 BA	1,050-1,100	$1,270-$1,320	
Mill Run Apartments	Emmaus	Walkup	1975	92	1 BR / 1 BA	700	$709-$829	5.3%
					2 BR / 2 BA	900	$799-$929	
Valley Ridge Apartments	Lower Macungie	Walkup	1974	132	Studio	550	$682	3.0%
					1 BR / 1 BA	700	$920	
					2 BR / 2 BA	950	$937	
					3 BR / 2 BA	1,050	$1,137	
Spring Creek Apartments	Macungie	Walkup	2002	240	2 BR / 2 BA	1,298	$1,393	1.3%
Chestnut Commons	Emmaus	Walkup	1987	48	1 BR / 1 BA	575	$675-$700	0.0%
Colonial Crest Apartments	Emmaus	Walkup	1978	329	1 BR / 1 BA	686-714	$950-$1,075	0.9%
					2 BR / 1 BA	897	$1,070-$1,210	
					2 BR / 1.5 BA	974	$1,210-$1,310	
Spring View	South Whitehall	Elevator	2018	45	1 BR / 1 BA	849	$1,450	8.9%
					2 BR / 2 BA	1,192	$1,750	
Macungie Village	Macungie	Walkup	1978	346	1 BR / 1 BA	840-856	$1,034-$1,913	0.9%
					2 BR / 1.5 BA	960	$ 1,176-$1,943	
					2 BR / 1 BA	1032	$1,186-$2,120	
The Nesting	Emmaus	Walkup	1983	36	1 BR / 1 BA	800	$750-$900	N/A
			TOTAL	**2,807**	**units**			

Income-Restricted Housing

Upper Macungie does not have any federally assisted income-restricted units. Only a limited amount of income-restricted housing is found in the balance of the PMA.

- There is a total of 227 Low-Income Housing Tax Credit (LIHTC) units in the PMA. Most are restricted to occupancy by seniors. The largest LIHTC developments are East Penn Place/East Penn Place II, a two-phased affordable housing development in Emmaus consisting of a total of 87 units, and the 50-unit Cedar Village Apartments in South Whitehall.
- Additional income-restricted housing includes Ridge Manor, a 75-unit public housing development in Emmaus.

Table 10 summarizes the existing income-restricted rental units located in the PMA. Few Section 8 Housing Choice Vouchers (HCVs) are used in rental housing within Upper Macungie. Rents in the Township typically exceed the Section 8 Fair Market Rents for Lehigh County making HCV use too expensive for low-income households.

Table 11: Income-Restricted Housing Developments: Upper Macungie PMA

Project Name	Address	City	Zip Code	Year Built	Total Units	Program	Type
Cedar Village Apartments	4234 Dorney Park Rd	Allentown	18104	1995	50	LIHTC	Senior 55+
Locust Street Apartments	22 Locust St	Macungie	18062	2001	17	LIHTC	Senior 55+
Walnut Street Apartments	624 Walnut St	Emmaus	18049	1996	4	LIHTC	General occupancy
Cedar Street Apartments	25 Cedar St	Macungie	18062	2003	19	LIHTC	Senior 55+
East Penn Place	633 Broad St	Emmaus	18049	1994	47	LIHTC	Senior 55+
East Penn Place II	643 Broad St	Emmaus	18049	1996	40	LIHTC	Senior 55+
Macungie Meadows	101 W Main St	Macungie	18062	1982	34	LIHTC	Senior 62+, Disabled
Ridge Manor	333 Ridge St	Emmaus	18049	1989	75	Public Housing	Senior 62+
Ridge Manor II	120 N. Third St	Emmaus	18049	1989	50	LIHTC	Senior 62+

Source: PolicyMap; PA Housing Search

The primary federal program supporting the production of affordable rental housing in the United States is the Low-Income Housing Tax Credit (LIHTC) program. To qualify for occupancy in LIHTC units, households must have incomes below either 60% of the area median income (AMI) based on household size. In some cases, the maximum income allowed is set at 50% of AMI. Table 11 above shows the 2017 income limits and maximum LIHTC rents for Lehigh County as published by the Pennsylvania Housing Finance Agency.

Source: Internet

A listing of subsidized housing for Lehigh County can be referenced on the Lehigh County website and a listing of affordable rentals and housing options in Lehigh County can be referenced at https://www.lowincomehousing.us/cty/pa-lehigh.

Table 12: Low-Income Housing Tax Credit Program Lehigh County Income and Rent Maximums

MAXIMUM INCOMES		
Household Size	50%	60%
One Person:	$25,700	$30,840
Two Persons:	$29,400	$35,280
Three Persons:	$33,050	$39,660
Four Persons:	$36,700	$44,040
Five Persons:	$39,650	$47,580
Six Persons:	$42,600	$51,120
MAXIMUM RENTS		
Unit Size	50%	60%
Studio	$643	$771
One-bedroom:	$689	$827
Two-bedroom:	$826	$992
Three-bedroom:	$954	$1,145
Four-bedroom:	$1,065	$1,278

Source: PHFA

LIHTC housing typically serves households working in low wage occupations. A review of Pennsylvania Department of Labor 2018 Lehigh County wage data suggests the types of occupations with incomes that would allow individuals to qualify for LIHTC housing. Examples of these occupations include:

- Social Workers
- Pharmacy Techs
- Emergency Medical Technicians (EMTs)
- Cooks
- Security Guards
- Hair Dressers
- Bank Tellers
- Construction Labor
- School Bus Drivers
- Warehouse Workers

Age-Restricted Housing

In Upper Macungie, the only existing age-restricted housing is at Heather Glen Senior Living, a 55+ assisted living facility located at 415 Blue Barn Road. Schaefer Run Commons is a 215- unit 55+ townhome community proposed for development adjacent to intersection of Route 100 and Route 222 in the Township. Market-rate age-restricted independent living housing in the balance of the PMA is limited to for-sale single family homes in 55+ communities. As described in the previous section, there are eight income-restricted senior rental buildings in the PMA, all outside of Upper Macungie Township.

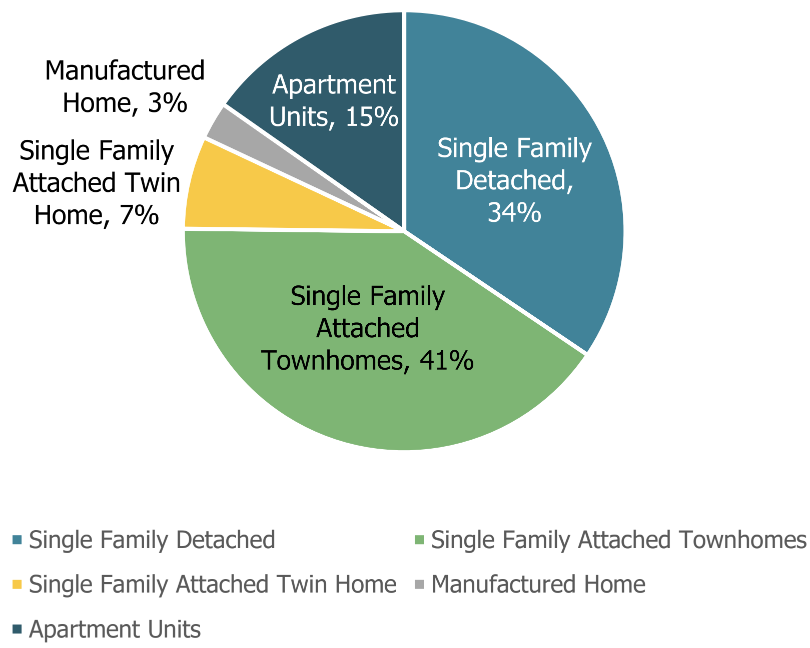
Housing Production Trends

Residential Building Permits

An estimated 2,612 residential building permits were issued in Upper Macungie between 2007 and 2017, an annual average of 237 permitted units. Figure 7 on the following page illustrates the distribution of residential permits issued during this period by structure type. The majority of permits were issued for single-family detached units or single-family attached townhomes. Fifteen percent of permits were issued for apartment units.

Source: Internet

Figure 7: Upper Macungie, Residential Building Permits Issued by Structure Type, 2007-2017



Source: Upper Macungie Township

According to data tracked by the Township and the Parkland School District, there are at least 1,872 units under construction or planned in Upper Macungie in 11 projects, of which an estimated 1,610 units remain to be built. These include single-family detached (SFD), twin, townhouse, and apartment units as well as one age-restricted development—Schaeffer Run Commons. Schaeffer Run Commons is partially located in Lower Macungie Township. Table 13 summarizes residential developments planned or under construction in Upper Macungie Township.

Table 13: Upper Macungie Residential Developments Planned or Under Construction

Development	Type	Units Planned	Units Constructed through 2017	Unbuilt Units
Woodmere Wotring II	SFD	100		100
Trexler Field Developments	SFD, twins, townhouses	395	110	285
Highgate Phase III	SFD, townhouses	51	41	10
Weiler's Road Twins	Twins	82		82
Schaeffer Run Commons*	Age restricted	215		215
Werley Roads Commons	Apartments	110		110
Parkland Fields	SFD	150	81	69
Valley West Estates	SFD, townhouses	142		142
Lehigh Hills Tracts	SFD, townhouses, apartments	550		550
Wrenfield	Townhouses	99		99
Hidden Meadows	Townhouses	253	30	223
Total		2,147		1,885

**Some of the units in this development will be located in Lower Macungie Township. Sources: Upper Macungie Township: Parkland School District; RES*

Reconciling Demand and Supply through 2030

Table 14 below summarizes the estimate of demand for additional residential units in Upper Macungie Township through 2030. Gross PMA residential demand is estimated to total approximately 11,000 units through 2030. A review of the proportion of new PMA housing production captured by the Township in various periods since the year 2000 suggests that 30% to 45% of this demand could be captured in Upper Macungie Township. Based on this capture rate range, it is estimated that potential demand for 3,300 to 4,950 new residential units will exist in the Township through 2030. The current pipeline of unbuilt residential units is approximately 1,600, suggesting incremental demand would exist for 1,700 to 3,350 additional residential units during this time period. A full range of product types would be marketable—single-family detached units, twins, townhouses, and rental apartments.

Table 14: Upper Macungie Residential Demand Estimate Through 2030

	Units	Source
Household Growth	8,808	LVPC projections
Replacement (occupied units)	2,209	Census CINCH (.004%/year)
Gross PMA Demand	11,017	
Upper Macungie Share (30%-45%)	3,300-4,950	
Less: Units in Pipeline	(1,600)	
Upper Macungie Net Demand	1,700 – 3,350	

Sources: UMT; LVPC; RES

Because of changing household age patterns—specifically the projected reduction in the number of households in the 45-64 age cohort-the move-up market (large single-family detached homes on large lots) may weaken over the planning period. The projected growth in the number of senior households suggests an ongoing market for low-maintenance, accessible units whether or not they are formally age-restricted. Growth in the number of younger households (ages 25-44) will support the market for apartments and entry level-homeownership options.

Issues for Consideration in the Comprehensive Plan

The primary drivers of housing demand in the PMA—excellent highway access and high-quality public schools—are unlikely to change over the life of the Township's comprehensive plan update, and residential development pressure will continue in Upper Macungie. Household growth as well as the need to replace or rehabilitate deteriorated or damaged units will create demand for up to 3,350 additional residential units in the Township through 2030. The following issues should be considered in planning for future residential development in Upper Macungie:

- Product diversity (in terms of density, structure type, sales price/rental rate levels, and tenure) offers opportunities for households to live in Upper Macungie at all life stages and cushions the Township's housing market from demographic shifts. The amount of land available for additional residential development is limited. The Township should consider maintaining and/or increasing product density and diversity to maximize the value of remaining developable land and its contribution to the tax base.
- Overall in the country and the Lehigh Valley, there is an increased propensity for households to rent. Apartment development should continue to have market support in Upper Macungie.
- Robust public amenities and well-functioning road and highway infrastructure will help to support the housing market over time and should be prioritized in the comprehensive planning process.

Appendix D – Housing Analysis

- There is no income-restricted affordable housing in Upper Macungie. While there are few housing cost-burdened households residing in the Township now, provision of general occupancy affordable housing would open opportunities for lower-income families to benefit from the high-quality public schools in the Parkland School District.
- Creating mixed-use developments that include residential units, community serving retail, services and dining and facilities for employers (office, health care, etc.) would help reduce traffic volumes and appeal to the growing household preferences for walkable live/work/play environments.
- Manufactured homes and mobile homes are a solution to affordable housing and prevalent in the Township (from 2007-2017, 3% of permits in the Township were for manufactured homes). In the Allentown metro region, there were approximately 6,132 mobiles homes in 2016 (represents 1.9% of housing in the region) with the median income of householders residing in these homes $36,400 compared to traditional housing and apartments at $63,410 (source: apartment list rentonomics 2018).
- The growing interest in tiny houses–structures typically under 400 square feet in size that are built on a trailer base and can be towed from one location to another–could offer housing options that address some of the issues identified in the Township.

Note: Both manufactured homes/mobiles homes and tiny homes could be appropriate housing for temporary farm workers, singles, and couples needing affordable housing options, lower income families, warehouse workers that typically commute from outside of the Township, and professionals entering the labor force, and others who wish to occupy smaller housing. Because of the need for utility hookups to serve tiny homes, campgrounds and mobile home parks can be a feasible location for this type of housing with a special section of the campground or mobile home park devoted to tiny homes. Appropriate zoning regulations may be needed to facilitate the location of tiny houses on individual residential lots.




Examples of Manufactured and mobile homes and tiny houses in rural settings.
Source: Internet

References

American Tiny House Association: https://americantinyhouseassociation.org

Apartment List Rentonomics, "Are Manufactured Homes a Solution to the Housing Affordability Crisis:" https://www.apartmentlist.com/rentonomics/mobile-homes-affordability-crisis/

Esri Demographic Estimates and Projections: www.esri.com

Lehigh Valley Planning Commission (LVPC): www.lvpc.org

Low Income Housing US, Affordable Rental and Housing Options for Lehigh County: https://www.lowincomehousing.us/cty/pa-lehigh

National Low-Income Housing Coalition, "Out of Reach, the High Cost of Housing (2018):" http://nlihc.org/sites/default/files/oor/OOR_2018.pdf

Pennsylvania Housing Search, Affordable Housing Supply Data: www.pahousingsearch.com

PolicyMap, Affordable Housing Supply Data: www.policymap.org

REIS, Apartment Supply Data: www.reis.com

Subsidized Housing in Lehigh County, PA: https://www.lehighcounty.org/Departments/Human-Services/Aging-and-Adult-Services/Programs/Housing-Assistance/Subsidized-Housing

Upper Macungie Township and Parkland School District, Residential Development Pipeline Data

US Census Bureau, American Community Survey (ACS): https://factfinder.census.gov

US Department of Housing and Urban Development Components of Inventory Change Dataset (CINCH): https://www.huduser.gov/portal/datasets/cinch.html

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Appendix E

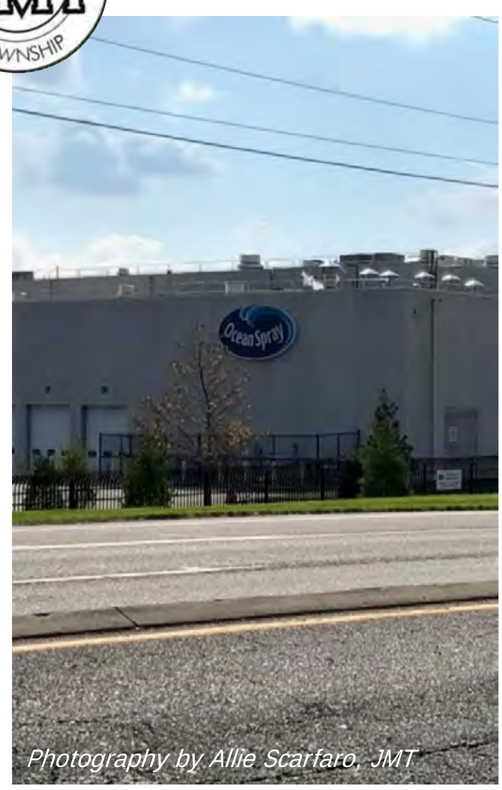
Economic Analysis

Photography by April Showers, JMT

UPPER MACUNGIE TOWNSHIP

This document is a technical report and part of the appendices of the Upper Macungie Township 2019 Comprehensive Plan. This report summarizes labor force trends, major employers, commuting patterns, and various non-residential markets.

Report prepared by: Real Estate Strategies, Inc./RES Advisors.



Photography by Allie Scarfaro, JMT

Upper Macungie Township Comprehensive Plan

- Labor Force Trends
- Major Employers
- Commuting Patterns
- Assessment of Markets

UMT influences economic viability through planning and decisions about land use policies and development controls. Sustainability is achieved through viable local economies that are environmentally sensitive and socially responsible.

Contents

Introduction

Economic development strategy includes both regional and local government roles. The Lehigh Valley Economic Development Corporation (LVEDC) has identified the following industry groups for targeted business attraction and retention efforts in Lehigh and Northampton Counties: high performance manufacturing; high value business services; life science research and manufacturing; and food and beverage processing. LVEDC is also focused on recruiting professional office, industrial users, and manufacturers to the downtowns and urban redevelopment areas within the Lehigh Valley.

The local government role in economic development includes:

- Identifying opportunity sites and ensuring that they are zoned to match the needs of desired business and industry types
- Ensuring that permitting processes are simple and efficient
- Maintaining a competitive tax structure
- Investing in public improvements that strengthen the municipality both as a business location and a residential area of choice for employees

The economic development goals included in the updated Upper Macungie Township Comprehensive Plan must be grounded in both the advantages and challenges of the municipality's location as well as workforce characteristics and trends present in the broader Lehigh Valley labor market area. This chapter summarizes these factors and suggests land use and development strategies to support appropriate business attraction and retention, and job growth efforts in Upper Macungie.

Labor Force Trends

The table below shows employment and labor force statistics in the Lehigh Valley Workforce Development Area, which includes Lehigh and Northampton Counties, from 2007 to 2017.

Table 1: Annual Average Labor Force Statistics: Lehigh Valley Workforce Development Area (Not Seasonally Adjusted)

Year	Labor Force	Employed	Unemployed	Unemployment Rate
2007	327,700	313,300	14,400	4.4%
2008	332,800	314,300	18,500	5.5%
2009	332,100	303,800	28,400	8.5%
2010	329,100	299,500	29,600	9.0%
2011	332,100	304,000	28,100	8.5%
2012	338,300	310,200	28,100	8.3%
2013	339,100	313,200	25,900	7.6%
2014	338,400	318,100	20,300	6.0%
2015	342,400	324,200	18,200	5.3%
2016	348,000	329,600	18,300	5.3%
2017	347,500	330,200	17,300	5.0%

Source: PA Dept of Labor and Industry

Appendix E – Economic Analysis

Employment in the Lehigh Valley declined from 2008 through 2010, reflecting the national recession. The growing labor force combined with the loss of jobs contributed to an unemployment rate of 9.0% and 29,600 unemployed during 2010, both highs for the 10-year period. Since 2011, both the size of the labor force and the level of employment has steadily increased in the Lehigh Valley. The unemployment rate in 2017 was 5.0%, the lowest level since 2007, and a level suggesting a balanced labor market approaching full employment. While full employment indicates a robust local economy, very low unemployment rates can discourage additional employers from locating in a community because of concerns about a shortage of available labor.

Table 2: Annual Average Unemployment Rate for Lehigh Valley, Pennsylvania, and United States 2007-2017

Year	Lehigh Valley	Pennsylvania	United States
2007	4.4%	4.4%	4.6%
2008	5.5%	5.3%	5.8%
2009	8.5%	8.0%	9.3%
2010	9.0%	8.5%	9.6%
2011	8.5%	7.9%	8.9%
2012	8.3%	7.8%	8.1%
2013	7.6%	7.4%	7.4%
2014	6.0%	5.9%	6.2%
2015	5.3%	5.3%	5.3%
2016	5.3%	5.4%	4.9%
2017	5.0%	4.9%	4.4%

Source: Bureau of Labor Statistics

The table above compares unemployment rate trends for the Lehigh Valley, Pennsylvania and the United States. Based on the unemployment rates during the national recession, the Lehigh Valley and the State of Pennsylvania were less impacted by economic decline than the United States as a whole. From 2008 to 2009, the unemployment rate increased by 3.0 and 3.3 percentage points in the Lehigh Valley and Pennsylvania, respectively. The nationwide unemployment rate increased by 4.5 percentage points over the same period. Unemployment peaked in 2010 across all three geographies at 9.0% in the Lehigh Valley, 8.5% in Pennsylvania and 9.6% for the United States. For 2017, the Lehigh Valley annualized unemployment rate (5.0%) exceeded levels for Pennsylvania and the United States as a whole.

Source: Internet – Sunset Grille

Source: Internet – Florence Italian Grille

Educational Attainment

Upper Macungie is home to an educated labor force. An estimated 96% of adult residents (age 25+) are high school graduates, and nearly 47% have at least a bachelor's degree. In Lehigh County as a whole, 88% of adult residents have graduated from high school and 29% have attained a bachelor's degree or higher. The diversity of education levels in the Township and surrounding County offer a labor pool for many types of businesses.

Table 3: Educational Attainment of Adults Age 25+, 2012-2016 ACS

	Upper Macungie		Lehigh County	
No high school diploma	615	3.9%	29,113	11.9%
High school graduate	4,180	26.6%	81,306	33.3%
Some college, no degree	2,136	13.6%	40,877	16.8%
Associate's degree	1,425	9.1%	22,124	9.1%
Bachelor's degree	4,611	29.3%	43,341	17.8%
Graduate or professional degree	2,750	17.5%	27,176	11.1%
Total	15,717	100.0%	243,937	100.0%

Source: ACS 2012-2016

Commuting Patterns

Upper Macungie is a suburban employment hub that offers Township residents employment opportunities close to home. The Census Bureau's OnTheMap application documents household home and work destinations from the Longitudinal Employer-Household Dynamics (LEHD) dataset, a collaborative effort of the Census Bureau and state Departments of Labor. In 2015, the latest year from which data is available, more than 31,000 workers commuted into Upper Macungie Township, while close to 8,700 Township residents commuted to work in other municipalities. Approximately 1,700 individuals—16.5% of employed Upper Macungie residents-both lived and worked in Upper Macungie.

Nearly 45% of jobs in Upper Macungie are held by Lehigh County residents, including the 14% of jobs in the Township held by residents of Allentown. An additional 12.5% of jobs in the Township are held by Northampton County residents.

The Township's accessibility also provides residents the opportunity to commute to employment throughout the region. Outside of Upper Macungie itself, Allentown is the municipality where the largest number of Township residents work. More than 1,200 Township residents (11.7% of total employed residents) commute to Allentown.

Source: Internet - LoopNet

Employment by Industry Sector

The following table shows employment by industry sector at year-end 2017 and year-over-year changes for the Allentown Metropolitan Statistical Area (MSA), which includes Lehigh and Northampton counties as well as Carbon County. The share of jobs in trade, transportation, and utilities is greater in the Allentown MSA (23.6% of all jobs) compared to Pennsylvania (19.3% of jobs). The percentage of employment in both manufacturing and leisure and hospitality also exceed statewide proportions in these sectors. The distribution of MSA jobs within the remaining industrial sectors while slightly lower than statewide levels, generally reflects a similar pattern as the state as a whole. From December 2016, the sector with the largest change in employment in the MSA was leisure and hospitality which gained 7.3%. Professional and businesses services was the largest decrease in employment, a 6.8% loss.

Table 4: December 2017 Nonfarm Employment by Industry Sector for MSA
(Not Seasonally Adjusted)

	Allentown-Bethlehem-Easton MSA			Pennsylvania		
	Employment	Percent of Total	12-Month Change	Employment	Percent of Total	12-Month Change
Total Nonfarm	364,100	100.0%	-0.1%	6,039,200	100.0%	1.4%
Natural Resources, Mining, and Construction	13,300	3.7%	3.9%	256,200	4.2%	5.7%
Manufacturing	36,000	9.9%	-0.3%	553,900	9.2%	-0.6%
Trade, Transportation, and Utilities	85,800	23.6%	1.7%	1,167,800	19.3%	0.1%
Information	6,100	1.7%	-1.6%	83,600	1.4%	-2.3%
Finance	15,000	4.1%	1.4%	320,000	5.3%	0.9%
Professional and Business Services	45,400	12.5%	-6.8%	819,200	13.6%	2.6%
Education and Health Services	73,800	20.3%	-0.7%	1,281,500	21.2%	1.9%
Leisure and Hospitality	35,400	9.7%	7.3%	568,700	9.4%	4.5%
Other Services	13,600	3.7%	0.0%	259,900	4.3%	2.9%
Government	39,700	10.9%	-1.7%	713,900	11.8%	-0.7%

Source: Pennsylvania Department of Labor and Industry

Source: Internet

Education and Health Services Industry Sector

The Education and Health Services sector ("eds and meds") has the second highest concentration of MSA employment after Trade, Transportation, and Utilities. One in five jobs is in this sector. The Lehigh Valley Workforce Development Area (WDA) is well served by quality educational options at both the K-12 and post-secondary levels. There are 17 school districts in the Lehigh Valley, the majority of which have graduation rates above 90%, based on data from the Lehigh Valley Planning Commission (LVPC). Institutions of higher education in the Lehigh Valley include:

- Cedar Crest College
- DeSales University
- East Stroudsburg University Lehigh Valley Campus
- Lafayette College
- Lehigh Carbon Community College
- Lehigh Career & Technical Institute
- Lehigh University
- Moravian College
- Muhlenberg College
- Northampton Community College
- Penn State Lehigh Valley

The Lehigh Valley Hospital and Health Network and the St. Luke's Hospital and Health Network are Lehigh County's largest private sector employers.

Agriculture, Forestry, Fishing, and Hunting and Mining Industry Sector

The table below shows employment in the agriculture, forestry, fishing, and hunting and mining industry sector, which plays a significant role in Pennsylvania, given the prevalence of protected farmland throughout the state. Farmland preservation has been a major goal in the Lehigh Valley as well as an important goal in Upper Macungie, where the growth of industrial development has led to the reduction of open space available for farming. There are 307 farms with over 23,411 acres of preserved land in Lehigh County, based on data provided by the County. Over 932 acres of agricultural land on 12 farms have been preserved in Upper Macungie. Five-year Census Bureau American Community Survey (ACS) data show that the level of employment in agricultural and extractive industries remained relatively stable in Upper Macungie and grew in Lehigh County and the state overall between ACS 2007-2011 and ACS 2012-2016.

Table 5: Employment in Agriculture, Forestry, Fishing, and Hunting and Mining Industry Sector

Census Year	Upper Macungie		Lehigh County		Pennsylvania	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
ACS 2007-2011	31	0.31%	754	0.46%	75,170	1.27%
ACS 2012-2016	27	0.22%	887	0.51%	87,736	1.45%
Source: U.S. Census Bureau						

Major Employers and Distribution of Businesses by Size

The table below lists the 10 largest employers in Lehigh County. The County's largest private sector employers are in health services, warehouse/distribution, and manufacturing. Two of the County's top 10 employers, Air Products and Chemicals Inc. (Air Products) and Amazon, are located in Upper Macungie Township. In 2018, Air Products announced plans to relocate and consolidate its headquarters and research and development functions from its existing 235-acre campus at 7201 Hamilton Boulevard to a new site on Mill Creek Road in Upper Macungie Township. The new facilities will reportedly be ready for occupancy in 2021. Approximately 2,000 employees will work at the new Air Products site. It is to be determined if Air Products will put its existing Trexlertown campus up for sale. In addition to the company's operations

Photography by Allie Scarfaro, JMT

on Hamilton Boulevard, several suppliers lease space on the old campus and are considering their options after Air Products moves to Mill Creek Road.

Despite the presence of very large employers in the County, over 80% of business establishments in Lehigh County have fewer than 10 employees. The following table identifies the top 10 employers in the region and as previously mentioned several of these companies have facilities locate within Upper Macungie.

Table 6: Top 10 Employers in Lehigh County, 2017

Company	Number of Employees
Lehigh Valley Hospital and Health Network	17,000
St. Luke's Hospital and Health Network	14,000
Amazon.com*	3,000
Lehigh County Government	2,500
Air Products and Chemicals*	2,300
Allentown School District	2,300
B Braun Medical	2,000
Lehigh University	2,000
Mack Trucks Inc.	1,800
Lutron Electronics*	1,500
Sources: Lehigh Valley Business; Pennsylvania Department of Labor and Industry * Employment primarily located in Upper Macungie Township.	

Table 7: Distribution of Businesses in Lehigh County by Size, 2011 and 2016

Businesses	2011	% of Total	2016	% of Total
Total	21,358	100	24,352	100
Self Employed	2,652	12.4	3,434	14.1
2-9 Employees	15,131	70.8	16,671	68.5
10-99 Employees	3,340	15.6	3,978	16.3
100-499 Employees	211	1	241	1
500+ Employees	24	0.1	28	0.1
Source: National Establishment Time Series (NETS)				

ce: Internet – Air Products (Concept of Potential New Facility)

Industrial Market

Nationwide, the industrial market has been fueled by the growth of e-commerce and the subsequent demand for warehouse/distribution space. Advances in manufacturing technology are also supporting new industrial production facilities in the United States that take advantage of a more highly skilled and productive workforce. Industrial uses play a pivotal role in the Lehigh Valley economy. The region is competitive in both warehouse/distribution and manufacturing.

Upper Macungie is located in the I-78/I-81 Corridor (Lehigh Valley) submarket, known for its high volume of warehouse/distribution uses. Proximity to a confluence of major highways makes Upper Macungie and adjacent municipalities ideal for this transportation-related use. Manufacturing operations also operate in the Township capitalizing on both skilled blue-collar labor and professional engineering talent, some of which is home-grown at the Lehigh Valley universities. Ocean Spray recently relocated a bottling plant from New Jersey to a new facility in Upper Macungie. Flex product, which blends warehouse space and finished office space, is also present and utilized by a range of industrial tenant types.

Demand

In recent years, there has been speculative new warehouse construction in the Lehigh Valley submarket, driven by e-commerce growth, which has generated demand for extremely large footprint facilities. The greatest demand is for properties over 500,000 SF, with the ideal size being over 1 million SF. Currently, there are seven properties of over 1 million square feet within a five-mile radius of Upper Macungie Township.

The focus on speculative construction of large warehouse-distribution facilities has led to a shortage of newer small footprint industrial buildings (40,000 to 80,000 SF). The current inventory of buildings in this size range is aging. LVEDC reports that more than 55% of the 13.2 million SF of inventory in this range were built prior to 1980. Rent growth in this segment has outpaced the overall industrial space market, totaling 10.2% in the past year and 34.6% in the past five years, signaling a need for additional construction of this product.

The need for "last mile" delivery facilities in urbanized areas has created another use even smaller industrial buildings as distribution nodes. This use is also being seen nationwide in the adaptive reuse of vacated big box, department, and grocery stores. These stores have both space and loading docks appropriate for the needs of this final link in the distribution process.

Supply

LVEDC reported the following statistics on the Lehigh Valley industrial submarket as of the end of Q1 2018:

- 119.5 million SF of space
- 3.6 million SF under construction
- 6.3% vacancy rate
- 8.4% year-over-year rent growth

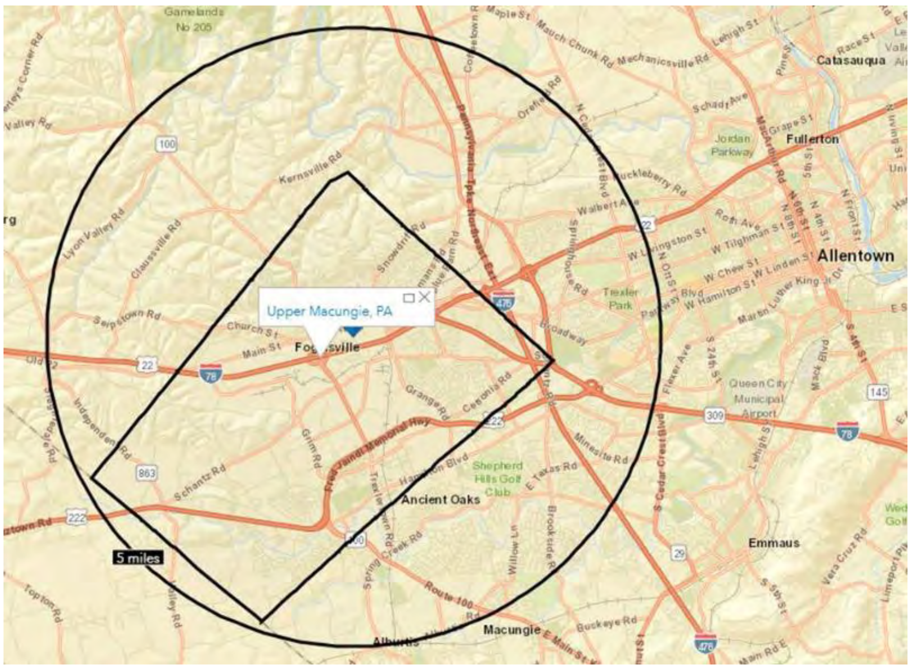
The industrial space in Upper Macungie Township represents 26% of the Lehigh Valley supply.


Source: Internet

Appendix E – Economic Analysis

There are approximately 26 million SF of warehouse and logistics space and 5 million SF of manufacturing space located in the Township.

Figure 1: Industrial Market Area – Upper Macungie 5-Mile Radius



Approximately one-third of the Lehigh Valley industrial inventory is located within a 5-mile radius of Route 100 and Route 78 as shown on the map below. Market data from Costar, a commercial real estate data tracking and reporting entity, reported the following key findings for this 5-mile radius area in 2017:

- 253 industrial buildings in the area, for a total of over 40 MSF of space.
- Approximately 10 MSF are owner-occupied and the remaining 30 MSF are tenant-occupied.
- Vacancy of tenant–occupied space was below 5%.

The table below shows the distribution of industrial buildings in and around Upper Macungie by size. Industrial property sizes range from less than 25,000 SF to over 1 million SF. The diversity of building types provides options for a variety of industrial user types.

Table 8: Number of Industrial Buildings by Size:
Upper Macungie 5-Mile Radius, 2017

Building Size	Number
<25,000 SF	83
25,000 - 100,000 SF	65
100,000 - 500,000 SF	77
500,000-1,000,000 SF	21
>1,000,000SF	7
Total	253

Source: Costar

Industrial Market Implications for the Comprehensive Planning Process

The Lehigh Valley industrial market is well positioned to compete for warehousing and distribution uses. The availability of large sites for industrial construction and access to major highways within a one-day drive of major northeastern population centers are assets that offer a competitive advantage for this use. The concentration of these uses in and around Upper Macungie has led to challenges related to heavy truck traffic on area roadways and conflicts between residential and industrial uses. Traffic congestion and potential labor shortages are risks that could dampen the current high level of demand for this industrial product. Continuing to diversify the types and sizes of newer industrial product available in the Township can help to hedge these risks. Other recommendations for consideration in the comprehensive planning process include:

- Investing in road improvements to lessen conflicts between large trucks and passenger cars.
- Considering zoning for housing affordable to the warehousing and manufacturing labor force.
- Encouraging improved public transportation or privately-operated shuttle services to facilitate access to workers living in the City of Allentown.
- Allowing "last mile" distribution uses in vacant retail stores.
- Monitor successful examples of adaptive reuse of vacated warehouse and industrial facilities in other U.S. communities (examples include sports facilities, indoor agriculture, educational institutions, etc.) and allow alternative productive uses of vacant obsolete industrially zoned space where such uses don't conflict with adjacent ongoing industrial uses.

Office Market

The primary driver behind office demand nationwide has been the desire for contemporary space marked by open layouts, amenities, and environmentally friendly features. Companies are choosing to renovate existing space or relocate to offices that utilize space more efficiently. Open offices and an abundance of amenities either in or proximate to office buildings are necessary to remain competitive in the office market long-term.

Due to the impact of technology-which has allowed remote work and minimized the need for paper file storage—as well as trends towards open-layout shared work spaces, employers have significantly reduced the average square footage per employee and in many cases, reduced the overall amount of space leased. Two decades ago, the average office space usage was 250 SF/employee; today that average has dropped to 150-175 SF/employee. In areas with limited public transit options, this densification of office space has ramifications for the amount of parking required. Open offices and an abundance of amenities either in or proximate to office buildings are necessary features for space to remain competitive in the office market long-term. As a result, some older office stock, particularly in suburban locations, has struggled with increasing vacancy in the absence of significant upgrades.

Demand

Upper Macungie offers several advantages for office uses including:

- Proximity to multiple interstate highways, which facilitates access to labor force throughout region
- Relatively low property taxes
- An educated workforce

Despite these favorable conditions, there are several factors that are less favorable to growth in office use businesses within Upper Macungie:

- Lack of amenities within walking distance of offices
- Aging office inventory
- Limited public transportation options
- Tight labor market

Appendix E – Economic Analysis

The establishment of the Allentown Neighborhood Improvement Zone (NIZ) incentive program has created an avenue for developers and employers locating within the NIZ to use tax revenues projected to be generated by their operations to finance construction of new facilities. While this may be appealing to some types of businesses, the extra costs to employees or parking and the higher earned income tax rate in Allentown (1.28% for non-residents) are factors that could discourage existing suburban employers from relocating to the City of Allentown.

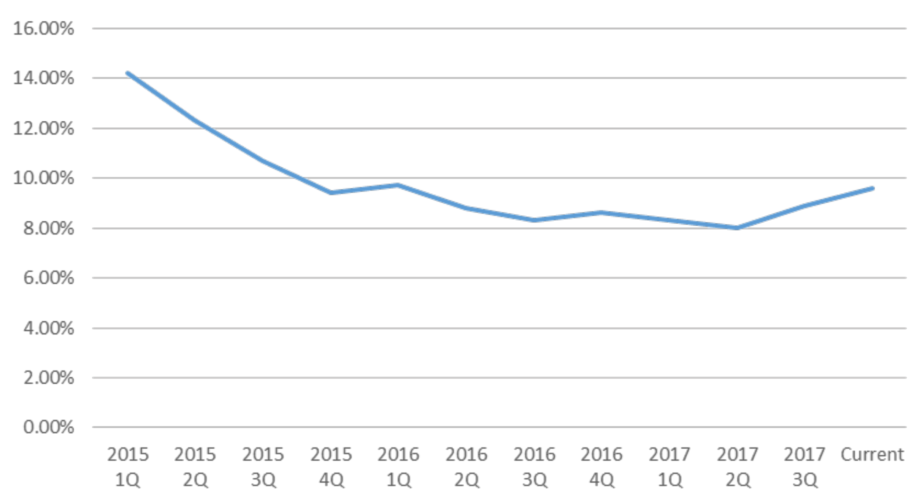
Supply

With the exception of buildings in Allentown's downtown, most of Lehigh Valley office inventory is in suburban office parks. Recent construction activity has shifted to urban areas.

According to data from LVEDC, the Lehigh Valley office market inventory totals 26.8 million SF. Approximately 13% of the space is medical office space – the new construction deliveries reported in 2017 were all medical office space. In 2018, more than 280,000 SF of office space was delivered in the first half of the year and another 295,000 SF of space was under construction. Ninety-six percent of the space delivered and all space currently under construction is located within the region's urban cores such as Allentown, Bethlehem, and Easton. LVEDC reports that the overall office vacancy rate in the Lehigh Valley was 8.2% in Q2 of 2018 and that asking rents averaged $14.59 per square foot. For Class A office space, the average was $18.13 per square foot.

There are approximately 6.8 million SF of office space within a 5-mile radius of Upper Macungie Township totaling one quarter of the Lehigh Valley inventory. Approximately one-half of this space is owner-occupied and one-half is tenant-occupied. Since the first quarter of 2015, office vacancy has generally decreased in and around Upper Macungie.

Figure 2: Tenant-Occupied Vacancy: Upper Macungie 5-Mile Radius, 2015-2017



Source: Costar

Typical office tenants in and around Upper Macungie include medical offices, law firms, real estate firms, and other professional services businesses. In Upper Macungie, office space is concentrated on major thoroughfares including Tilghman Street, Route 100, and Hamilton Boulevard. The majority of office space being marketed today was built between 1970 and 2000.

Office Market Implications for the Comprehensive Planning Process

Upper Macungie Township offers office users available land, an educated workforce, and good highway commuting access; however, the lack of public transit options is not ideal for companies with a large workforce. The Township has recently made changes to the zoning code that permits office buildings of up to 150 feet in height in certain industrial zones. This change offers flexibility for expansion, redevelopment, and new development of existing campuses like the Air Products campus and other areas with emphasis on developing up not out. With this zoning in place, the vacated campus could offer an opportunity for a mixed-use place-making plan including office, retail/service, and multi-family residential space on the Hamilton Boulevard frontage. These uses could complement the existing retail and entertainment uses that are located on the south side of Hamilton Boulevard.

Upper Macungie should create conditions that are attractive to contemporary office users to diversify the business types making up the non-residential tax base and increase the range of employment opportunities in the Township:

- Allow and encourage a mix of uses and amenities (restaurant, fitness, retail, etc.) in walkable settings adjacent to office space
- Support and encourage remodeling of older office product to meet the layout and energy efficiency characteristics that are increasingly in demand in the market
- Encourage co-working facilities as a potential use of vacant industrial or retail buildings
- Connect current and prospective small business owners with the Small Business Development Center (SBDC) at Legh University (an affiliate of the SBDC of PA), the Greater Lehigh Valley Chamber of Commerce and their Small Business Center, and the Lehigh Valley Economic Development Corporation (LVEDC) who offer a range of resources, technical assistance, and guidance on financial options
- Support traffic improvements and congestion mitigation efforts to improve access to area businesses for workers and customers
- Continue to improve quality of life amenities to maintain desirability of community as a live/work/play environment

Lodging Market

The combination of household and business growth in Upper Macungie Township and surrounding communities has generated additional demand for hotels. Lodging developers and the hotel brands with whom they contract prefer visible locations in close proximity to high traffic roadways. Hotels benefit from co-locating with demand generating office and industrial businesses. Mixed-use settings that include retail and restaurant options are also attractive locations for lodging properties. A 70% market-wide occupancy rate signals essentially a strong hotel market and typically stimulates new development. Several hotel properties have been developed in the Township in the last five years. If additional household and employment growth occurs as projected, there will be opportunities for additional hotel construction. Planning and zoning for future opportunity sites in

Source: Internet – LVB

Upper Macungie should anticipate and accommodate hotel uses.

Retail Market

Over the past decade, the rapid growth of e-commerce has shaken the retail industry and decreased the number of traditional "GAFO" retail stores available as shopping centers. "GAFO" stands for "general merchandise, apparel and accessories, furniture and home furnishings, and other retailers" and includes the lines of merchandise historically carried by department stores. The rapid growth of warehouse and distribution facilities in the Lehigh Valley reflects the shift in function from retail stores to e-commerce warehouse/distribution/fulfillment facilities in providing goods to the nation's households and businesses.


Source: Internet – Kings Real Estate Mgt & Development

The upheaval in the retail sector has led to new tenant types occupying traditional retail space. Personal services (hair and nail salons), fitness facilities, health care, professional services (accountants, real estate offices, etc.), restaurants, and entertainment tenants have become increasingly important to keeping retail storefronts leased. Owners of older retail assets are increasingly seeking opportunities to refashion these properties as mixed-use developments, often by adding residential units on unused portions of generously sized surface parking lots. Frequently these mixed-use redevelopments incorporate a health care system branded medical office component that benefits from the visibility of the retail real estate from both roadways and from visitors to remaining retail components of the complex.

Supply

Upper Macungie and surrounding municipalities are well-served by retailers. Shopping centers are concentrated along major thoroughfares including Hamilton Boulevard and Tilghman Street. Retail uses are most prevalent close to the nexus of I-476 and I-78, because of the access these locations offer for potential customers throughout the Lehigh Valley. Household growth in the 5-mile trade area surrounding Upper Macungie has kept vacancy in trade area shopping centers generally low, despite significant changes in the national retail environment.

The table below provides information on the 13 shopping centers located within a 5-mile radius surrounding Upper Macungie Township. These properties range in size from about 20,000 SF to 560,000 SF. (South Mall is just outside of the defined trade area, but was included given size and proximity to Emmaus, which is located within the 5-mile radius). The majority of these centers have vacancy rates below 10% except Trexlertown Plaza and Fogelsville Center which have vacancies of 11.4% and 17.0%, respectively. Macungie Crossings and Spring View Retail were in initial lease-up at the time of the survey.

The largest shopping centers in the 5-mile trade area are Hamilton Crossings and South Mall, which have total square footages of 560,000 SF and 405,290 SF, respectively. Major tenants with a presence in this market include Giant, Walmart, Costco, Staples, Whole Foods, Target, Kohl's, Marshalls, and Ross Dress for Less. A new Movie Tavern cinema with food and beverage service opened in Summer 2018 on Hamilton Boulevard to the east of the West Valley Marketplace. The recent departure of BonTon from Trexler Mall has left a large store vacant there and increased vacancy to an estimated 28%.

Table 9: Shopping Centers Within a 5-Mile Radius Around Upper Macungie

Name	Township	Anchors	Total SF	Vacancy Rate
Trexlertown Plaza	Upper Macungie	Giant Food, Hobby Lobby, Big Lots, Vacant	300,432	11.4%
Trexler Mall	Upper Macungie	Kohl's, The Wellness Center, Marshalls	337,297	20.8%
Village West	Upper Macungie	Giant, CVS, Dollar Tree, Pet Valu	140,474	6.9%
Lehigh Hills Shopping Center	Upper Macungie	Weis, Verizon, Lehigh Valley Health Network	139,263	0%
Fogelsville Center	Upper Macungie	Crackle Barrel, Arby's, Long John Silver, Pizza Hut	32,732	17.0%
Macungie Crossings	Upper Macungie	None	20,000	*
West Valley Marketplace	Lower Macungie	Walmart Super Center	267,939	4.1%
Hamilton Crossings	Lower Macungie	Costco, Target, Dick's Sporting Goods, Whole Foods	560,000	1.7%
Tilghman Square	South Whitehall	AMC Theatres, Cottage Crafters, Staples	229,264	2.1%
The Shops at 3900 Hamilton Center	South Whitehall	Talbots, Santander, H&R Block, Barre 3	N/A	N/A
Dorneyville Shopping Center	South Whitehall	Pizza Hut, The Dining Dog, China Buffet, Bounce-U	106,842	8.0%
Spring View Retail	South Whitehall	None	32,606	*
South Mall	Salisbury	Ross, Stein Mart, Staples, Bonton	405,290	3.3%

N/A-- Not Available
*--New development, not occupied
Sources: Loopnet; REIS; RES

Smaller shopping centers are being developed in the trade area such as Macungie Crossings and Spring View Retail, which have total square footages of 20,000 SF and 32,606 SF, respectively. In contrast, the majority of existing shopping center developments have square footages greater than 100,000 SF. These small-scale shopping centers are adjacent to residential developments or existing commercial space and have limited parking and retail options.

Retail Market Implications for the Comprehensive Planning Process

Despite changes and uncertainty in the retail industry, certain location factors still are critical to developers considering projects with a retail component. These include:

- Population density
- Daytime population
- Population/household growth
- Employment growth
- Income growth
- Site visibility
- High traffic counts

Source: Internet –Cedar Realty Trust

Warehouse, distribution, and logistics-related uses largely shape the built environment and the local economy in Upper Macungie. However, recent household growth has led to increased demand for amenities that serve the local residential population including more retail options. RES identified the following challenges in the local retail market to be addressed by Upper Macungie Township:

- Limited restaurant and entertainment uses
- Accessibility of retail amenities within walking distance of office buildings
- Negative impact of truck traffic on retail visibility

As previously discussed in the office market section, the preference for modern, amenitized office space, is a major driver of office demand nationwide. Warehouse and office employees in Upper Macungie have limited access to dining options due to the lack of restaurants around employment centers. Additional food places in the Township could not only meet demand in this industry group but could also ensure the sustainability of the office market going forwards.

Based on fieldwork, warehouse-related truck traffic has a negative impact on retailers along major thoroughfares. Large vehicles such as tractor trailers are prevalent in Upper Macungie and can block visibility of businesses and signage, particularly on Route 100. The scale of local roads due to the magnitude of industrial uses limits walkability and thus access to retail without driving.

One of the advantages of the entertainment, fitness, restaurant, health care, and commercial service uses that are increasingly occupying “retail” space are that they are flexible in scale. Many of these uses in small formats fit into village commercial corridors. These settings are most appropriate for independent businesses, because of their flexibility in adapting to existing real estate. It is often difficult for smaller independent tenants to afford the rents charged for newly constructed space. Larger footprints versions of these uses can be place-making elements in newer mixed-use developments. These enterprises are typically national chains or “credit tenants” that allow developers to obtain financing for new developments. Typically, these businesses require high visibility sites on roadways with high traffic counts.

A hybrid of the entertainment and fitness categories of private sports complexes catering to youth and adult athletic leagues. These can be single- or multi-sport in focus and offer outdoor or indoor facilities (or both). Facilities can be developed as an adaptive use of existing warehouse space or purpose-built. Typical market considerations for locating the complexes involve identifying concentrations of relatively affluent families with school-aged children. Regional accessibility and lodging options are factors for operations that are targeting tournament business. The Valley Preferred Cycling Center has been successful in drawing athletes to Upper Macungie. Additional sports facilities may be a suitable use given the demographic and locational advantages of the Township.

Conclusions

Because of its excellent highway access, educated workforce, and growing, affluent population, Upper Macungie has been an attractive location for a range of employer types. Industrial, office, and retail development have all been important land uses in the Township, coexisting with the agricultural landscape, traditional villages, and new residential neighborhoods. Historically each non-residential use—office, industrial, and retail—has been concentrated on single-use parcels. Major changes in the economics of each of these sectors as well as evolving tenant and consumer preferences suggest a need for more mixed-use environments and campus style development to allow the Township to remain competitive in the years ahead.

The aging Fogelsville Center located on Tilghman Street at Route 100 offers a redevelopment opportunity that could encompass some of these trends. The center is visible and accessible from two of the Township’s major roadways and is proximate to office and hotel uses as well as the more village-scaled part of Fogelsville. This large property offers the opportunity to create a mixed-use, walkable office/commercial environment that serves as a gateway to the village of Fogelsville. The existing Air Products campus is a second redevelopment opportunity. New development on opportunity sites in Upper Macungie should be envisioned as a mix of uses where appropriate. Newly constructed non-residential space will require credit tenants—typically established companies or chain retailers- to facilitate financing. For retail and office users, visibility and highway access will be key factors in site selection.

References

American Community Survey, United States Census Bureau: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Breeze, James, "E-commerce 2.0: Last Mile Delivery and the Rise of the Urban Warehouse." NAIOP Development Magazine, Spring 2017.

Brown, Nicholas, "Passion No Substitute for Business Acumen When Creating Indoor Sports Facilities." Athletic Business, December 2008. www.athleticbusiness.com

CBRE Research, "Same Day Speed: The Rise of Light Industrial in the Supply Chain:" February 2017.

CoStar Commercial Real Estate Data: http://www.costar.com/

DeFilippo, Loren, "From Big-Box Retail to Opportunities in Adaptive Re-Use." Colliers International, 9/20/17. https://knowledge-leader.colliers.com

Eames, Zachary, "Empty Big Box Stores Repurposed as Gyms." Athletic Business, April 2018.

FLEXE, the Marketplace for Warehouse Space, "The Future of Logistics: 20 Trends to Follow in 2017." www.flexe.com

Grist Business, "Thinking Inside the Big Box: Seven Brilliant Uses for Abandoned Chain Stores," 3/30/12.

Lehigh Valley Business "2018 Book of Lists:" http://www.lvb.com/

Lehigh Valley Economic Development Commission, "Commercial Real Estate Report" (Issue #13: Q1 2018): https://lehighvalley.org/about-lehigh-valley/research-documentation/

Longitudinal Employer and Household Dynamics Data Set Accessed at OntheMap—United States Census Bureau: https://onthemap.ces.census.gov/

Loopnet (Commercial Real Estate Listing Site): www.loopnet.com

LVPC October 2015 MOVELV Lehigh Regional Freight Plan: http://lvpc.org/pdf/MOVELV/freight/LV_RegionalFreightPlan.pdf

Malagiri, Nicholas J. "Adaptive Reuse of Big Box Buildings," Society of Industrial and Office Realtors, SIOR Magazine, Spring 2016.

McInturff Architects and Boardwalk Builders, "From Warehouse to Energy-Efficient Office Space," Remodeling, 12/31/08. www.remodeling.hw.net

National Establishment Time Series: www.YourEconomy.org

Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis: https://www.workstats.dli.pa.gov

REIS (Commercial Real Estate Data Vendor): www.reis.com

Santos, Sabrina, "20 Creative Adaptive Reuse Projects." Architecture Daily, 3/17/16. www.archdaily.com

Smith, Christopher. "The Adaptive Reuse of Industrial Buildings: Sustaining Urban Regeneration in America," University of Texas at Austin School of Architecture. Undated.

U.S. Cluster Mapping Program, Harvard Business School http://www.clustermapping.us/

Wagaman, Andrew "Air Products will Move Headquarters a Mile Away, near Uline," Morning Call, July 17, 2018: http://www.mcall.com/

Weekly, Faith. "From Vacant to Vibrant: Communities Find New Uses for Big Boxes." Federal Reserve Bank of St. Louis, Spring 2006.

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Appendix F

Build-Out and Impact Analysis

Upper Macungie

The Intersection of Rural and Suburban Lifestyles!

UPPER MACUNGIE TOWNSHIP

This document is a technical report and part of the appendices of the Upper Macungie Township 2019 Comprehensive Plan. This report summarizes the results of potential development of the Township under a maximum build-out scenario so that appropriate land use policies can be identified to achieve short- and long-term sustainability.

Source of Photos Used for Educational Purposes in this Report: Internet

Upper Macungie Township Comprehensive Plan

- Build-Out Analysis
- Impact Assessment

The Build-Out Analysis and Impact Assessment paints a picture of what could happened if lands available for development would build-out under current zoning. This picture is then used to help determine the desired Future Land Use Plan.

Contents

Introduction

Communities pay a high price for unplanned growth – scattered development typically causes traffic congestion and safety issues, air and water pollution, loss of open space and increased demand for costly public services.

Build-Out Analysis uses methods to determine the location of potential development to illustrate the pattern that development can take in the future when land use policies and regulation do not change. This type of analysis determines the number of additional dwelling units and non-residential square feet that could be built on developable land under existing zoning regulations. By providing a picture of the potential future, a build-out analysis helps identify the implications of existing development regulations and helps communities discuss what steps should be taken to manage future growth. Build-out analysis is the first step to support identification of impacts.

Developable Land is the area that can be feasibly developed into residential or mixed-use development in accordance with current land use regulations. Map 1: Lands Available for Development identifies the land feasible for development.

Steps to Build-Out and Impact Analysis

Step 1: Create a base map identifying developable land. Map 1: Lands Available for Development was constructed by dropping out: 1) public and privately developed land; 2) other land publicly owned, deed restricted and utility easements; 3) land permanently preserved and conserved; and 4) lands with environmental constraints such as wetlands, steep slopes, floodplains, and other similar constraints. Land that will be planned or pending development identified by Township staff will be included in this analysis based upon proposed or remaining residential units and/or non-residential square footages.

Step 2: Overlay existing zoning. This step involved overlaying existing zoning onto lands available for development to calculate what development could occur under current regulations. Standards for development were generally applied using the maximum standards under current zoning. Minimum lot size for residential uses and maximum square footage permitted for non-residential uses for each zoning district were applied along with a deduction of 20% for streets and infrastructure to determine the **net developable land**. For mixed-use districts it was assumed that the greatest percentage of non-residential use and the highest density of residential uses permitted would be applied.

Step 3: Identify Impacts. The Build-Out Analysis is quantified to determine impacts such as 1) population projection and estimated number of school age children; 2) projected number of residential units; 3) number of additional non-residential square feet and projected number of jobs; 4) traffic; 5) acres of lost farmland; 6) projected water usage; and 7) projected need for park and recreation lands.

Build-Out Analysis Results (Steps 1 & 2)

The following table identifies the total acreage of land by various zoning districts and the total net developable land per district. The table further breaks down the net developable land per district inside and outside of the Act 537 Service Area. The Act 537 Service Area has been identified as the Township's Urban Growth Boundary where within this area, lands should be developed at densities and intensities which require public water and sewer and a roadway network with access to interstates and arterials.

Table 1: Percentage of Land Zoned by Land Use Classifications

Land Use Classification	Percentage
Lands Zoned Residential	67.06%
Lands Zoned Commercial	6.32%
Lands Zoned Open Space Preservation	0.35%
Lands Zoned Industrial	26.27%
Total	**100.00%**

Source: GIS Calculation from UMT Zoning Map

Net Developable Lands – Approximately 18.28% of UMT lands are available for development with 7.04% located inside the Urban Growth Boundary and 11.24% outside of the Urban Growth Boundary (note: these percentages of lands available for development includes several pending developments for opportunity sites identified in Table 5).

Table 2: Total Acreage by Zoning District and Total Net Developable Land by Zoning District

Zoning District	Total Acres	Total Net Developable Land**	Net Developable Lands Inside 537 Service Area	Net Developable Lands Outside 537 Service Area
Residential Zoning Districts				
RU3 – Rural 3 Districts	1,017.95	256.67	0	256.67
RU1.5 Rural 1.5 Districts	2,538.09	690.65	0	690.65
R1 – Rural Residential Districts	2,696.31	1,001.99	67.42	934.57
R2 – Low Density Residential Districts	3,048.34	231.34	231.34	0
R3 – Medium Low-Density Residential Districts	1,273.10	179.74	179.74	0
R4 – Medium Density Residential Districts	112.98	13.31	13.31	0
R5 – Medium-High Density Residential Districts	560.61	81.42	81.42	0
Total Residential Lands	**11,247.38**	**2,455.12**	**573.23**	**1,881.89**
Commercial Zoning Districts				
HC – Highway Commercial Districts	539.86	61.09	61.09	0
NC – Neighborhood Commercial Districts	300.40	35.09	35.09	0
RT – Research Technology District*	220.30	0	0	0
Total Commercial Lands	**1,060.56**	**96.18**	**96.18**	**0**
Open Space Preservation Districts				
OSP – Open Space Preservation District	58.91	0	0	0
Total Open Space Lands	**58.91**	**0**	**0**	**0**
Industrial Districts				
GI – General Industrial Park District	102.21	0	0	0
LI – Light Industrial Park District	3,943.07	191.69	191.69	0
LIL – Limited Light Industrial Park District	359.70	323.15	320.40	2.75
Total Industrial Lands	**4,404.98**	**514.84**	**512.09**	**2.75**
TOTALS	**16,771.83**	**3,066.14**	**1,181.50**	**1,884.64**

**Undeveloped land in this district is part of the conservation by design approach to building out the Technology Park.*
***Total Net Developable Land are lands available for development minus environmental constraints (slopes greater than 25%, forested land, wetlands, water features, and 100-year floodplain).*

Impact Assessment (Step 3)

The following tables identify residential planned and approved development, non-residential concepts for development of opportunity sites, remaining residential lands for development, and remaining non-residential lands for development and associated impacts on population growth, increase in traffic, projected water usage, estimated loss of farmland, and acres of park/recreation land required.

Impacts of Planned and Approved Residential Development

Pending residential development show in Table 3 results in nearly over 400 acres of land developed for residential use resulting in approximately 1,667 housing units contributing to the housing supply meeting a portion of the housing demand both locally and regionally for single family dwellings (detached and attached), age qualified housing (55+), and apartments. With this development, the population of UMT will increase in the short-term by 5,001 individuals of which additional school age children are anticipated to increase. This pending residential development is anticipated to result in an additional 12,993 trips hitting the roadways daily, with significant increase in water usage (500,100 gallons per day), a loss of approximately 312 acres of farmland, and a need for an additional 51 acres of park, recreation, and open space.

Impacts of Residential Development on Lands Available for Development

Future development of lands currently zoned for residential development could potentially result in the development of an addition 2,048 acres of land resulting in an additional 1,794 housing units predominantly single-family dwellings when applying very low-density conservation by design standards. This development will result in the potential loss of 1,948 acres of farmland with additional impacts to traffic (16,301 ADTs), water usage (538,055 GPD), and demand for park and recreation lands (54 acres) – see Table 5. While both the pending and approved residential development in Table 3 and the development noted in Table 4 contribute to meet the housing demand locally and regionally as identified in Appendix C: Housing Analysis. The challenge based upon projections in this analysis – is the Township prepared to address the impacts of an additional 4,288 residential units over the long-term under maximum build-out?

Impacts of Potential Non-Residential Development

Tables 5 and 6 on the following page identify the potential Build-Out of non-residential and mix-use development in the Township applying current zoning. Opportunity sites referenced in Table 5 are identified by number in this table and on Map 1: Lands Available for Development on page 9. The potential for non-residential development if all sites Build-Out at maximum density is approximately 6 million square feet of commercial and industrial use with the potential to generate 14,242 additional jobs, with an increase in traffic in and out of UMT of approximately 76,185 daily trips plus an additional 5,744 trips for residential development as part of opportunity site development potential, with the loss of an additional 565 acres of farmland, and with increased demand on the local and regional water supply.

Table 3: Residential Planned or Approved Development

Residential Planned or Approved Development										
Zoning	Anticipated Development/Development Name	Density/Land Use Classification	Gross Lands Available for Development	LAD Minus Road, SWM & Utility Deductions	Development Potential (Housing Units)	Additional Population Projected[2]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost	Acres of Parkland Required[5]
R2 and R3	Lehigh Hills Tract	Medium Low Density Residential	130.80	104.64	528	1,584	4,125	158,400	130.80	16.00
R5	Wrenfield Townhouse Development	Medium High Density Residential	14.94	11.95	98	294	632	29,400	0	2.97
R1	Valley West Estates Phase 5B and 6	Rural Residential w/Conservation by Design	13.22	10.58	25	75	236	7,500	0.00	0.76
R2	Trexler Fields Phase 8 & 9 (remaining lots)	Low Density Residential	21.52	17.21	89	267	840	26,700	21.52	2.70
R1	Woodmere, Wotring II & Wortring North[1]	Rural Residential	98.34	78.67	226	678	2,133	67,800	98.34	6.85
R3	High Gate Phase III	Medium Low Density Residential	7.30	5.84	13	39	123	3,900	7.3	0.39
R4	Weiler's Road Twins	Medium Density Residential	13.31	10.64	82	246	582	24,600	13.31	2.48
R3	Schaefer Run Commons (55+ Community)	Medium Density Residential	22.59	18.07	157	471	842	47,100	22.59	4.76
R2	Parkland Fields Phase 5	Low Density Residential	11.35	9.08	34	102	321	10,200	11.35	1.03
R5	Werley Road Apartments	Medium High Density Residential	7.01	5.61	112	336	802	33,600	7.01	3.39
R1	Blue Barn Estates	Low Density Residential	9.40	7.52	12	36	113	3,600	0	0.36
R5	Hidden Meadows Phase 1B, 1C, and 2	Medium Density Residential	6.16	4.93	208	624	1,523	62,400	0	6.30
R5	Woodmont Phase 2	Medium High Density Residential			30	90	220	9,000	0	0.91
R4	Laurel Fields Phase 5	Medium Low Density Residential			25	75	236	7,500	0	0.76
R2	Blue Barn Meadows	Low Density Residential			6	18	57	1,800	0	0.18
R1	Ash Lane	Rural Residential			22	66	208	6,600	0	0.67
		TOTAL	**355.91**	**284.73**	**1,667**	**5,001**	**12,993**	**500,100**	**312.21**	**50.51**

NOTES:
1 Wotring II = 2 Lot, Wotring South = 15 Lots, Wotring North = 20 Lots, Woodmere=189 Lots
2 Used a average family size of 3.0.
3 AADT = 9.44 factor used for Low and Low to Medium Density and AADT = 7.32 used for Medium and Medium to High Density
Reference - AADT factors utilized from the ITE 10th Edition Trip Generation Manual
4 Applied national standard of 80-100 gallons a day per person--used 100 gallons/day.
5 Applied National Park & Recreation Association park metrics - 10.1 acres per 1,000 population.
6 Projected ADT known from developers Traffic Study

Table 4: Residential Lands Available for Development

Residential Lands Available for Development										
Zoning[1]	Anticipated Development/Development Name	LU Classification(s)	Lands Available for Development (LAD)	LAD Minus Conservation Design Development Deductions*	Development Potential (Housing Units)[1]	Additional Population Projected[2]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost	Acres of Park Land Required[5]
RU1.5	Lands Outside of the Act 537 Service Area	Very Low Densisty Residential with Conservation by Design	691	484	242	726	2,315	72,555	689	7.328055
RU3	Lands Outside of the Act 537 Service Area	Very Low Densisty Residential with Conservation by Design	257	180	60	180	573	17,967	257	1.814673691
R1	Lands Outside of the Act 537 Service Area	Very Low Densisty Residential with Conservation by Design	579	406	270	811	2,588	81,120	934	8.1931402
R1	Lands Inside of the Act 537 Service Area	Very Low Densisty Residential with Conservation by Design	311	218	558	1,674	5,340	167,408	68	16.90817692
R2	Lands Inside of the Act 537 Service Area	Low Density Residential	100	70	280	840	2,680	84,000	0	8.484
R3	Lands Inside of the Act 537 Service Area	Medium to Low Density Residential	101	71	338	1,014	2,473	101,370	0	10.23837
R5	Lands Inside of the Act 537 Service Area	Medium to High Density Residential	9	6	45	136	333	13,635	0	1.377135
		TOTAL	**2,048**	**1,434**	**1,794**	**5,381**	**16,301**	**538,055**	**1,948**	**54**

NOTES: [1]Conservation Design Development Standards Applied (Chapter 27, Part 9 §27-902 and §27-903) Assumes all areas will be served by public water and sewer with exception to RU3.

[2]Used a average family size of 3.0.

[3] AADT = 9.44 factor used for Low and Low to Medium Density and AADT = 7.32 used for Medium and Medium to High Density Reference - AADT factors utilized from the ITE 10th Edition Trip Generation Manual

[4]Applied national standard of 80-100 gallons a day per person--used 100 gallons/day.

[5]Applied National Park & Recreation Association park metrics - 10.1 acres per 1,000 population.

Table 5: Non-Residential Concept for Opportunity Sites

Non-Residential Concept for Opportunity Sites										
Zoning	Anticipated Development/Development Type	Opportunity Site Number	Lands Available for Development	LAD Minus Road, SWM & Utility Deductions	Development Potential (Commercia/Industrial SF/ Housing Units)[2]	Projected Population or Jobs Generated[1]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost	Acres of Parkland Required[5]
LIL	4 High-Cube Warehouses	Site 1	234	187	1,875,000	1,250	3,150	68,750	234	0.00
	Apartments				200	600	1,336	60,000		6.06
	Townhouses				20	60	116	6,000		0.61
	Single Family Dwellings				30	90	286	9,000		0.91
	Specialty Retail				10,000	25	465	688		0.00
HC	Lot 6 Lehigh Valley West	Site 2	90	72	Multiple Use	1,408	11,263	171,776	90	0.00
HC	Lot 7 Lehigh Valley West				Multiple Use	230	1,587	28,060		0.00
LI	Route 100 Logistics (Warehousing)				160,000	107	298	5,867		0.00
LI	Remaining Unproposed LI Lots (37.5541 acres)				654,342	1,454	1,139	79,975		0.00

Zoning	Anticipated Development/Development Type	Opportunity Site Number	Lands Available for Development	LAD Minus Road, SWM & Utility Deductions	Development Potential (Commercia/Industrial SF/ Housing Units)[2]	Projected Population or Jobs Generated[1]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost	Acres of Parkland Required[5]
HC	Gasoline/Service with Convenience Market	Site 3	13	10	5,585	10	8,042	681	0	0.00
HC	High-Turnover (Sit-Down) Restaurant				7,000	47	785	5,800		0.00
HC/R3	Pharmacy/Drugstore with Drive-Through				9,656	24	1,054	1,178		0.00
HC	Auto Parts and Service Center				5,581	14	91	681		0.00
HC	Day Care Ceter				10,400	21	495	2,500		0.00
HC	Gasoline/Service with Convenience Market				4,133	10	5,952	504		0.00
HC	Drive-in-Bank				3,000	10	300	366		0.00
NC	Shopping Center	Site 4	11	9	39,000	98	1,472	4,758	0	0.00
	Empty Lot (used same ratio as proposed dev)				21,433	54	809	2,615		0.00
LI	General Office Building	Site 5	9	7	120,000	400	1,535	11,000		0.00
	Restaurant				10,000	67	636	5,800		0.00
LI	Penske Project	Site 6	28	22	17,300	38	559	2,114	0	0.00
	Site 6 Second Lot				289,754	644	504	35,414		0.00
NC	Lot 1 Shopping Center (Sunflower)	Site 7	91	73	42,800	107	1,838	5,222	91	0.00
NC	Lot 1 Supermarket (Sunflower)				66,800	167	6,830	8,150		0.00
NC	Lot 1 High Turnover Restaurant (Sunflower)				7,000	47	892	5,800		0.00
NC	Lot 1 Bank (Sunflower)				5,000	17	1,234	458		0.00
R5	Lot 2 (R5-Apartment)				427	1,281	3,126	128,100		12.94
LIL	Lot 3 (Development in South Whitehall)				15% of ADT	220	209	6,041		0.00
LIL	Lot 4 (General Office Building)				157,281	524	1,532	14,417		0.00
LIL	Lot 5 (General Office Building)				441,523	1,472	4,300	40,473		0.00
LI	Corporate Headquarters Building (Air Products)	Site 8	47	38	2011 employees	2,011	4,645	55,303	47	0.00
LI	Hotel				200	16	2,446	43,600		0.00
R5	Apartments (Mid-Rise)				100	300	543	30,000		3.03
R5	Apartments (Low-Rise)				50	150	337	15,000		1.52
LI	High-Turnover (Sit-Down) Restaurant				16,000	107	1,795	5,800		0.00
R5	Shopping Center				29,520	74	1,114	3,601		0.00

Zoning	Anticipated Development/Development Type	Opportunity Site Number	Lands Available for Development	LAD Minus Road, SWM & Utility Deductions	Development Potential (Commercia/Industrial SF/ Housing Units)[2]	Projected Population or Jobs Generated[1]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost	Acres of Parkland Required[5]
HC	Hotel (Somerset)	Site 9	39	38	100	8	817	21,800	0	0.00
	Supermarket (Somerset)				35,000	88	3,220	4,270		0.00
	Convenience Market w/Gas Pumps (Somerset)				12 pumps	10	5,860	681		0.00
	Health/Fitness Club (Somerset)				4,500	9	133	600		0.00
	Medical-Dental Office Building (Somerset)				3,000	10	94	360		0.00
	Hair Salon (Somerset)				1,500	4	32	2,400		0.00
	High-Turnover (Sit-Down) Restaurant (Somerset)				5,000	33	572	5,800		0.00
	Fast-Food Restaurant w/ Drive-Thru (Somerset)				1,500	10	967	5,800		0.00
		TOTAL	**562**	**456**	**4,183,608**	**12,495**	**81,929**	**907,203**	**462**	**25.06**
NOTES:	Refer to Opportunity Sites Map for location of Opportunity Site number.					827 Housing Units	2,481 Population			

[1] Used a average family size of 3.0 Job generation used employment factors by land use tyep - Source Montgomery County.

[2]Development potential supplied by UMT / KCE based upon developmen plans and development interests.

[3] AADT = 9.44 factor used for Low and Low to Medium Density and AADT = 7.32 used for Medium and Medium to High Density
Reference - AADT factors utilized from the ITE 10th Edition Trip Generation Manual - ADT provided by KCE from Traffic Impact Studies

[4]Applied national standard of 80-100 gallons a day per person--used 100 gallons/day for residential uses. Non-Residential uses other standard water usage for various use types.

[5]Applied National Park & Recreation Association park metrics - 10.1 acres per 1,000 population.

Table 6: Non-Residential Potential Development

Non-Residential Potential Development									
Zoning	Anticipated Development/Development Name	LU Classification(s)	Lands Available for Development (LAD)	LAD Minus Road, SWM & Utility Deductions	Development Potential (Commercial/ Industrial SF)1	Projected Jobs Generated[2]	Projected ADT[3]	Projected GPD Water Usage[4]	Acres of Farmland Lost
HC	Lands Inside of the Act 537 Service Area	Commercial	9	7	315,775	789	1,547	169,450	9
LI	Lands Inside of the Act 537 Service Area	Industrial	92	74	1,282,406	855	2,154	47,535	83
LIL	Lands Inside of the Act 537 Service Area	Industrial	11	9	153,331	102	258	5,683	11
		TOTAL	**112**	**89**	**1,751,513**	**1,747**	**3,959**	**222,668**	**103**

NOTES:
[1]Warehouse - For purpose of calculating SF and number of workers/SF one story was used.
[2]Projected jobs for warehouse development - 1,500 SF of wareshouse space/worker.
[3]ITE Daily Trips per land use code used and averaged based upon ADTs for Opportunity Sites.
[4]NC - Assumes specialty retail to calculate trips and 122 gallons of water consumption / 1,000 Sq. Ft. and Assumes 55.6 GPD of water consumption per warehouse worker.

Implications of Build-Out

- UMT is nearly built-out inside the Urban Growth Boundary (UGB)/Act 537 Sewer Service Area. Approximately 18.28% of lands are available for development.
- Land use decisions with respect to remaining lands inside the UGB should consider flexibility in zoning and rezoning to allow for mixed use development with more high-density residential uses mixed with a range of commercial retail and service uses.
- Long-term, land immediately adjacent to the UGB should selectively be considered for rezoning to support additional mixed-use development.
- A significant amount of land has been zoned and developed for industrial uses including a range of heavy, general, and light industrial uses including warehouse and logistic center uses. Remaining lands for industrial development or already developed industrial land ripe for redevelopment should be targeted for industrial use.
- Residential land use and lands zoned for additional residential development have the greatest impact on public schools and public services (e.g. cost of emergency services, schools, park and recreation facilities, bicycle/pedestrian facilities, etc.) potentially requiring the increase in taxes over time.
- Warehouse and logistic center land use and commercial uses have a significant impact on traffic and impacts on roadway safety and condition as well as need for additional roadway infrastructure investments (public and private).
- Build-out under current zoning should evaluate in greater detail impacts on drinking water, stormwater, and sanitary sewer system.
- Water supply and sanitary sewer capacity will limit and dictate the timing of development as well as determine the level of developer investments in public infrastructure and facilities to support development proposals.
- Traffic congestion and accessibility will affect potential development in UMT. Commercial businesses will not locate along congested roadways with low visibility as well as traffic congestion at some point will impede warehouse/logistic center development (time is money for this industry).
- Traffic congestion will impede the resale of existing residential properties as well as impeded the occupancy of new residential developments.

Summary of Quantifiable Impacts

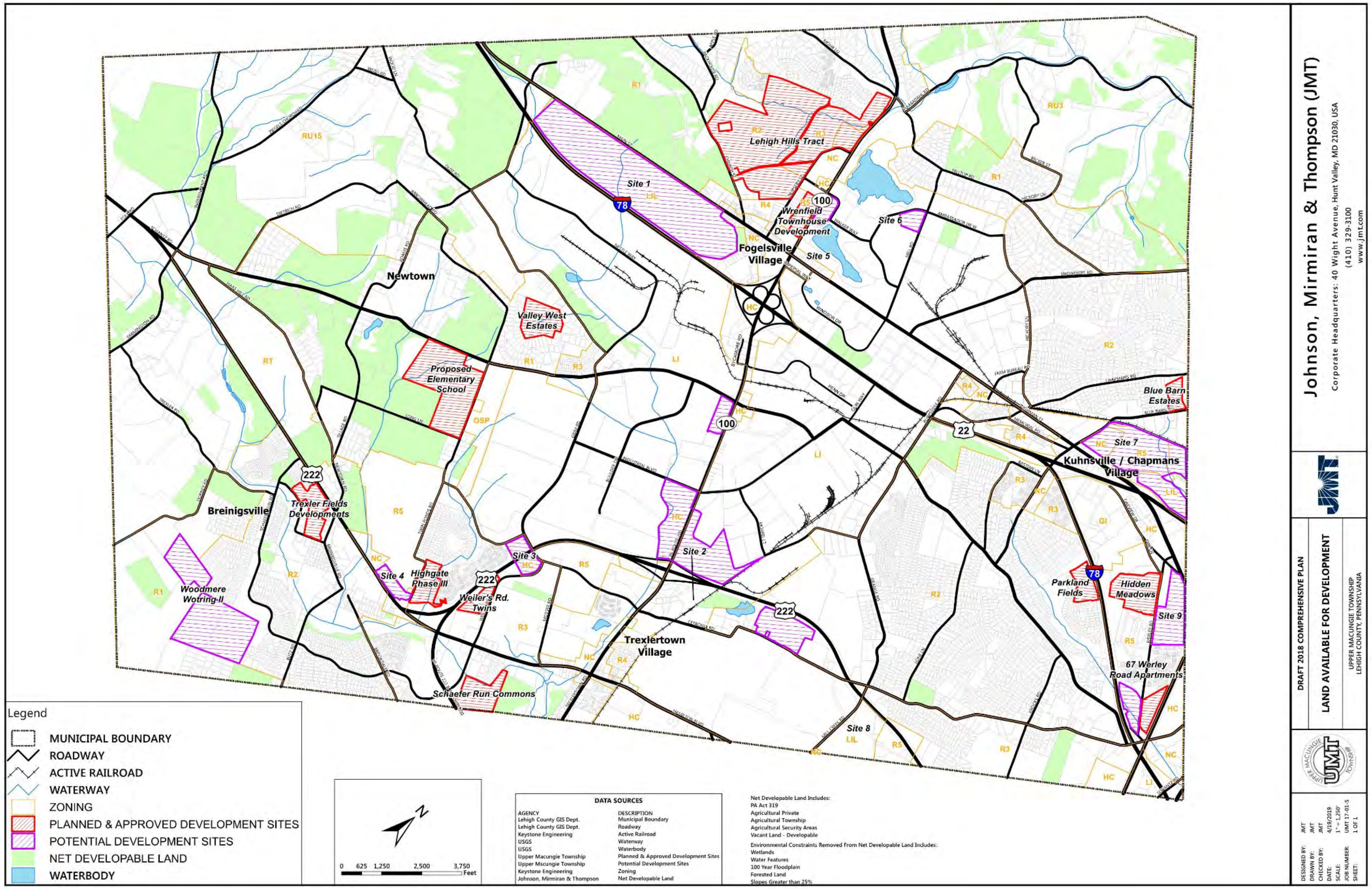
- Increase in population by 12,863 people for total of projected population of 36,747.*
- Approximately 3,066 acres (18.8% of lands within the Township) of developable land.
- Approximately 111,223 additional trips – 35,038 residential trips and 76,185 commercial/industrial trips.
- Addition of 14,242 jobs.
- Potential loss of approximately 2,800 acres of agricultural land and open space.
- Demand for additional park and recreation land based upon population increase is 130 acres.

**Note – Projected population is based upon addition housing units and average household size.*

Recommendations

- Allocate resources to conduct a detailed Cost of Services Analysis to determine appropriate changes in zoning moving forward to impact the timing of additional development.
- Consider extending the Open Space Preservation District outside of the UGB to protect natural resources and to preserve future rights-of-way for trails and regional connections. The density allowed would consider the use of on-lot sewage systems and on-lot wells.
- Discuss the feasibility and ramifications of restricting warehouse/logistic center development to the existing footprint of development.
- Partner with the development community to foster desired development patterns for new development and redevelopment opportunities as described in the Community Character and Design section of the plan that would result in mixed-use campus style development inside the UGB.
- Preserve at least 1,500 acres of agricultural land and open space outside of the UGB by 2040. Currently, the Township has permanently preserved 932 acres of farmland and is on track to preserve a total of 1,089 acres of farmland by 2021.
- Adopt an Official Map to show the expansion of infrastructure and reservation of public lands and rights-of-way to support future development.

Map 1: Lands Available for Development



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