

# Lower Gwynedd Comprehensive Plan

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## Environmental Sustainability & Infrastructure

April 15, 2024

Claire Warner, Senior Community Planner



# What is sustainability?

- Ecological Sustainability
  - Waste reduction
  - Energy use
  - Heat islands
  - Tree canopy coverage
  - Watershed and floodplain protection.
- Sustainable communities = physical and mental health

# Natural Features

- Geology
  - Influences the natural resources, such as topography, soil, hydrology, and vegetation
  - Impacts water storage and impact the use of wells
- Soils and steep slopes both influence the development suitability of an area
- Waterways, floodplains

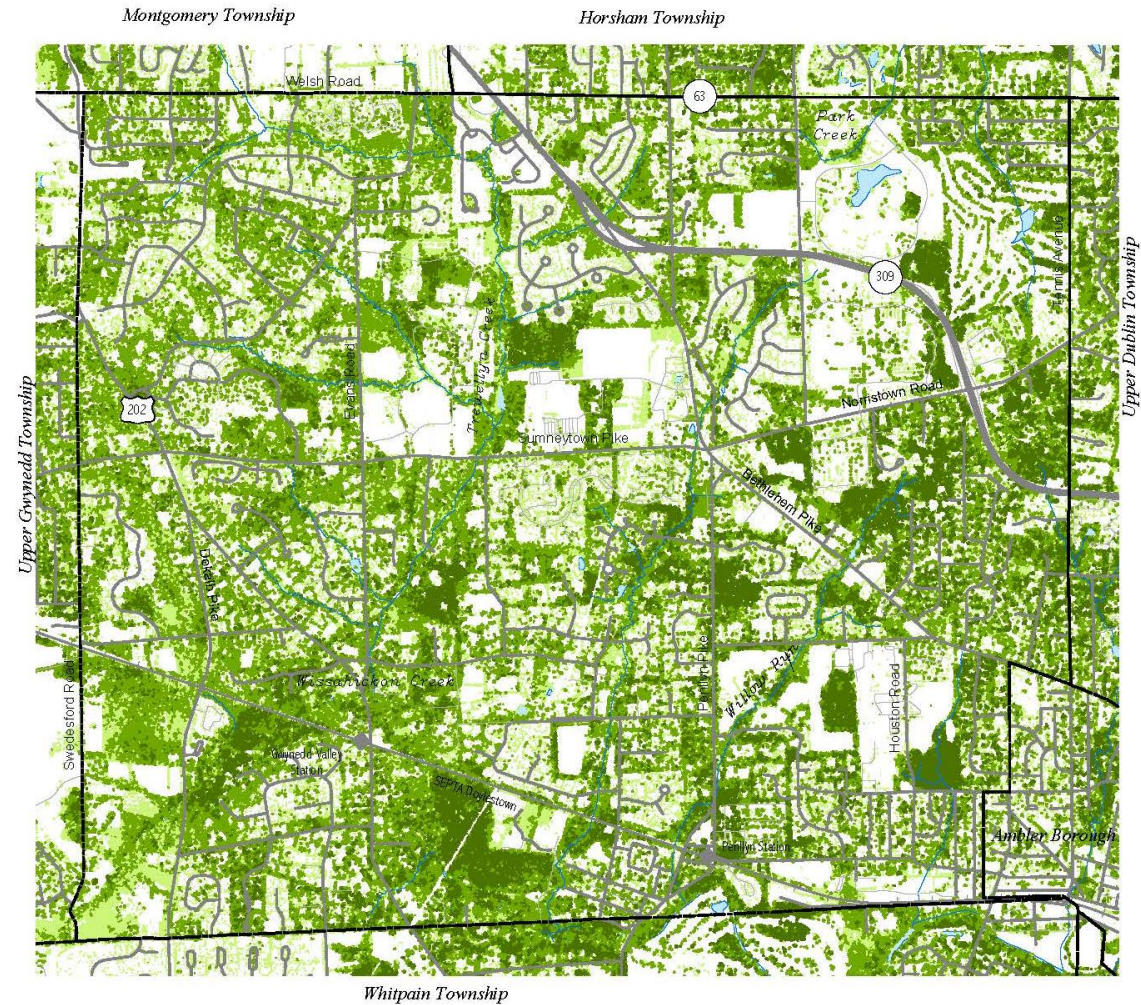


# Tree Canopy Coverage

- Social and environmental benefits
  - Air quality
  - Surface temperature
  - Appearance of a street or neighborhood



## Lower Gwynedd Township Montgomery County, Pennsylvania



**Tree Canopy**  
■ Less than 20 feet  
■ 20-40 feet  
■ Greater than 40 feet

Source: U.S. Department of Agriculture & University of Vermont, 2010

202 U.S. Route  
309 Pennsylvania Route

Montgomery  
County  
Planning  
Commission

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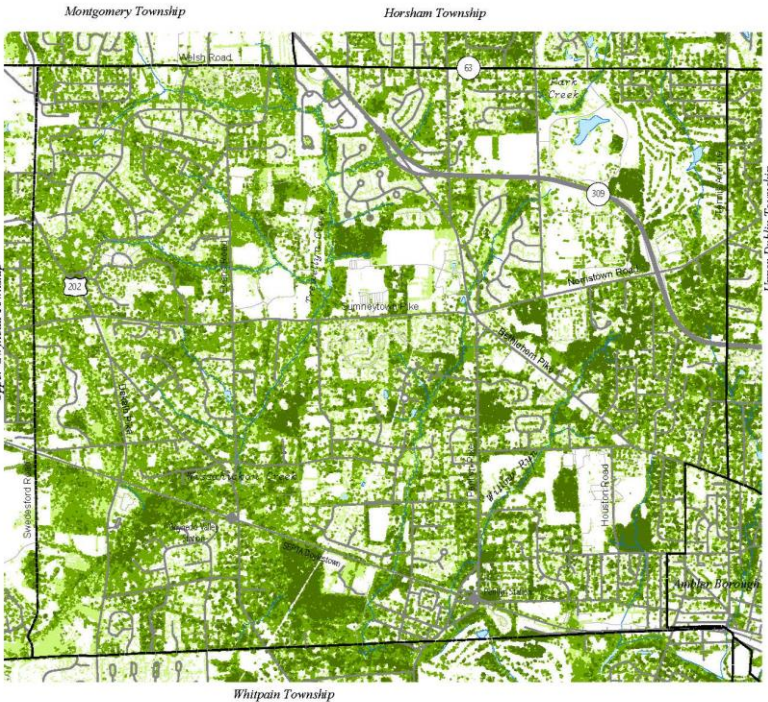
0 0.125 0.25 0.5 0.75 1 Miles

Basemap prepared May 2023



# Built environment impacts surface temperatures

Lower Gwynedd Township  
Montgomery County, Pennsylvania

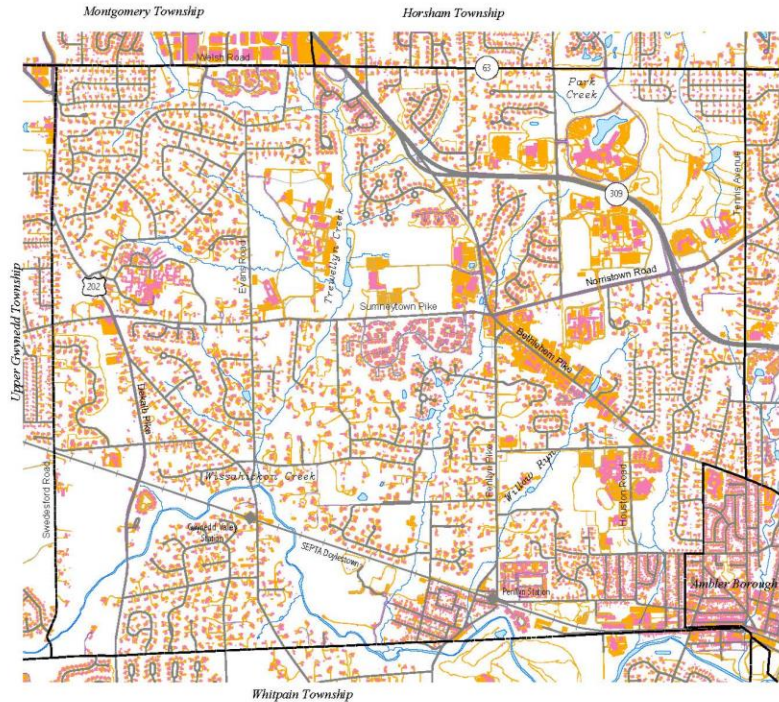


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Source: U.S. Department of Agriculture & University of Vermont, 2010



Lower Gwynedd Township  
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## Impervious Coverage

- Building
- Other
- Road

Source: Philadelphia Electric Company, 2010



Lower Gwynedd Township  
Montgomery County, Pennsylvania



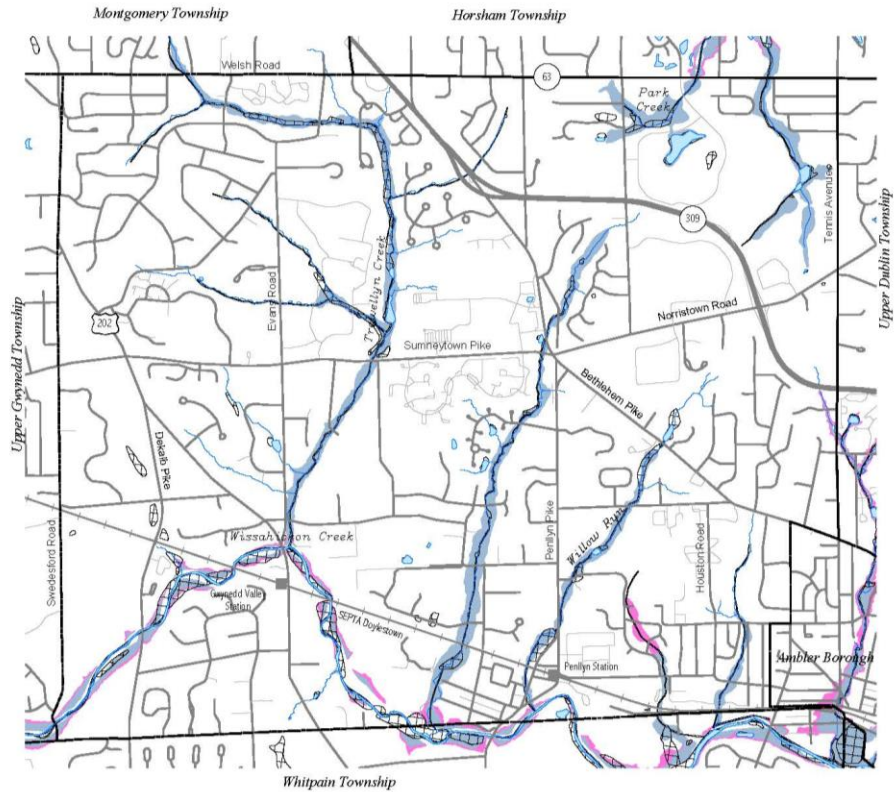
## Surface Temperature




- 75.547150 - 81.170500
- 81.170501 - 84.492748
- 84.492749 - 87.673102
- 87.673103 - 91.637618
- 91.637619 - 106.657488

Source: U.S. Department of Agriculture & University of Vermont, 2010



# Water Resources: Floodplains, Wetlands, & Riparian Corridors in Lower Gwynedd



-  Wetlands
-  500 Year Floodplain
-  100 Year Floodplain

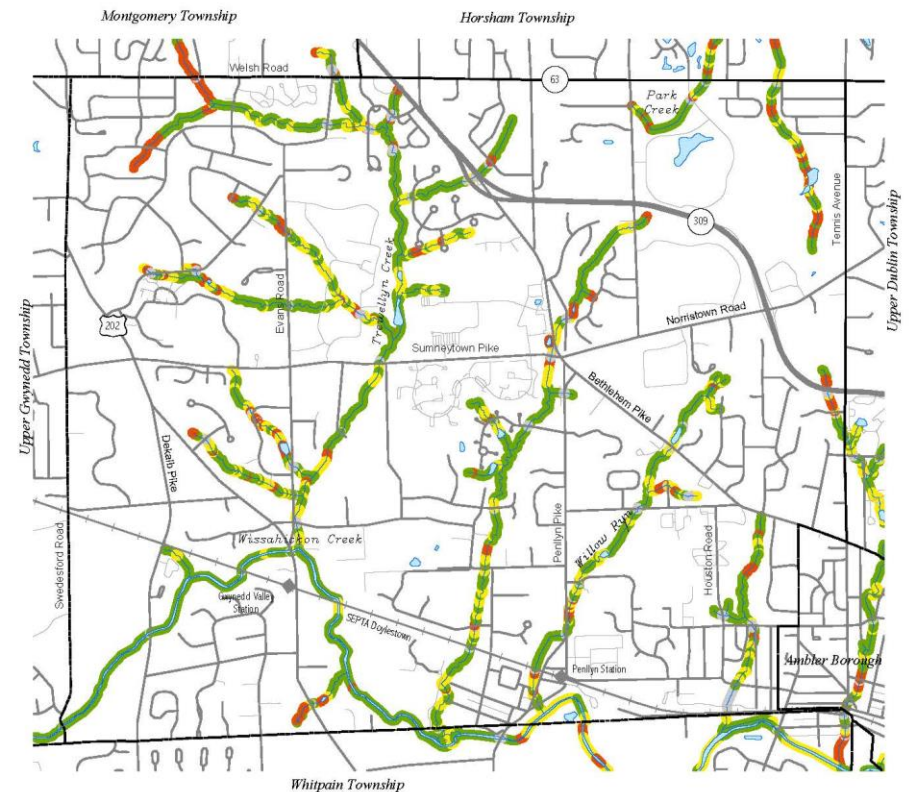
Wetland Source: U.S. Department of the Interior, Office of Biological Services for the National Wetlands Inventory.





Floodplain Source: Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study for Lower Gwynedd Township, 2015


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 Base map prepared May 2023

This map is based on aerial photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.



- Riparian Buffer**
  -  No Buffer
  -  Half Buffer
  -  Full Buffer
  -  Culvert Areas
- Source: Montgomery County Planning Commission, 2010

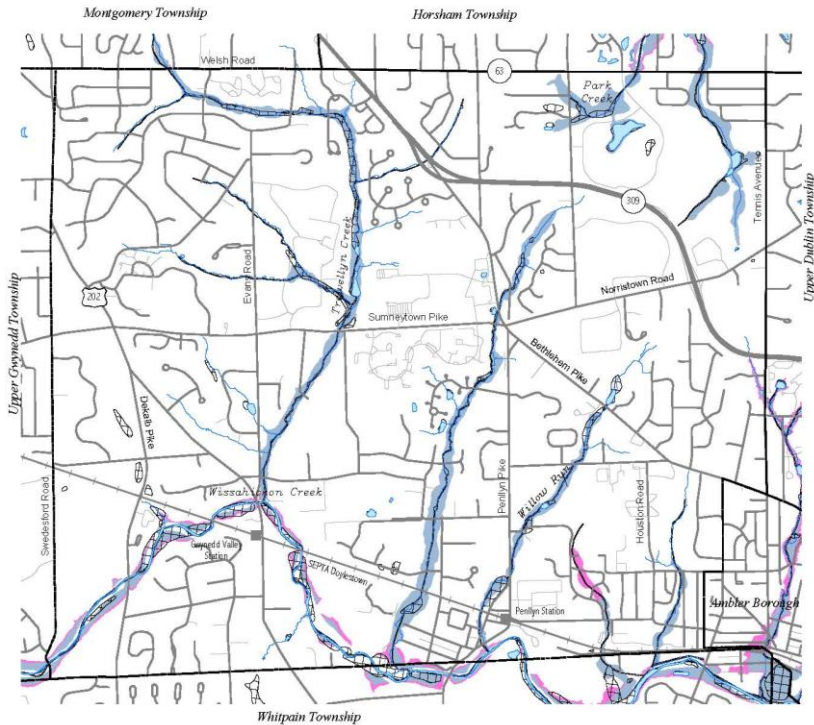

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# Waterway Protection

Lower Gwynedd Township  
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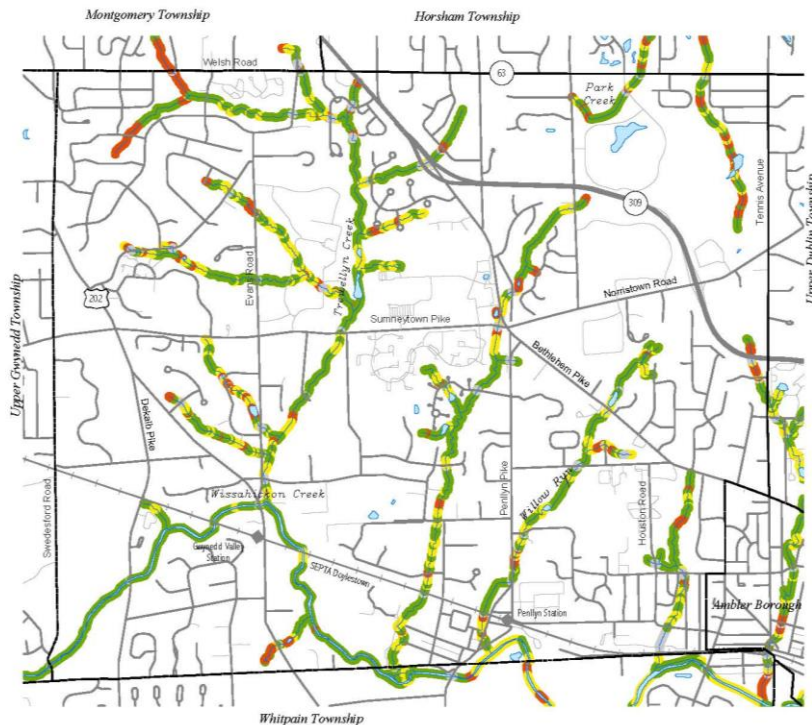
- Wetlands
- 500 Year Floodplain
- 100 Year Floodplain

Wetland Source: U.S. Department of the Interior, Office of Biological Services for the National Wetlands Inventory.  
Floodplain Source: Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study for Lower Gwynedd Township, 2015

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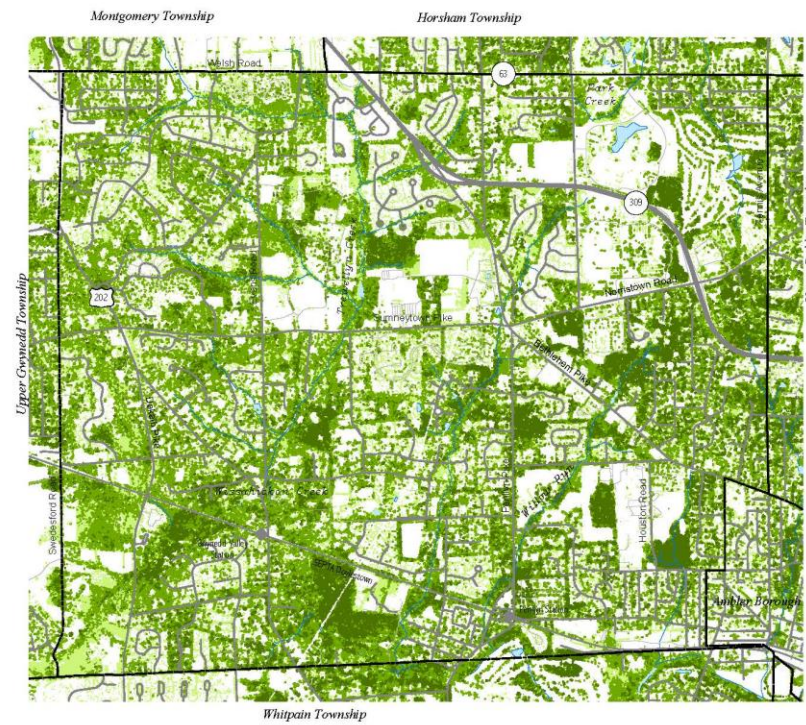
- No Buffer
- Half Buffer
- Full Buffer
- Culvert Areas

Source: Montgomery County Planning Commission, 2010

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## Tree Canopy

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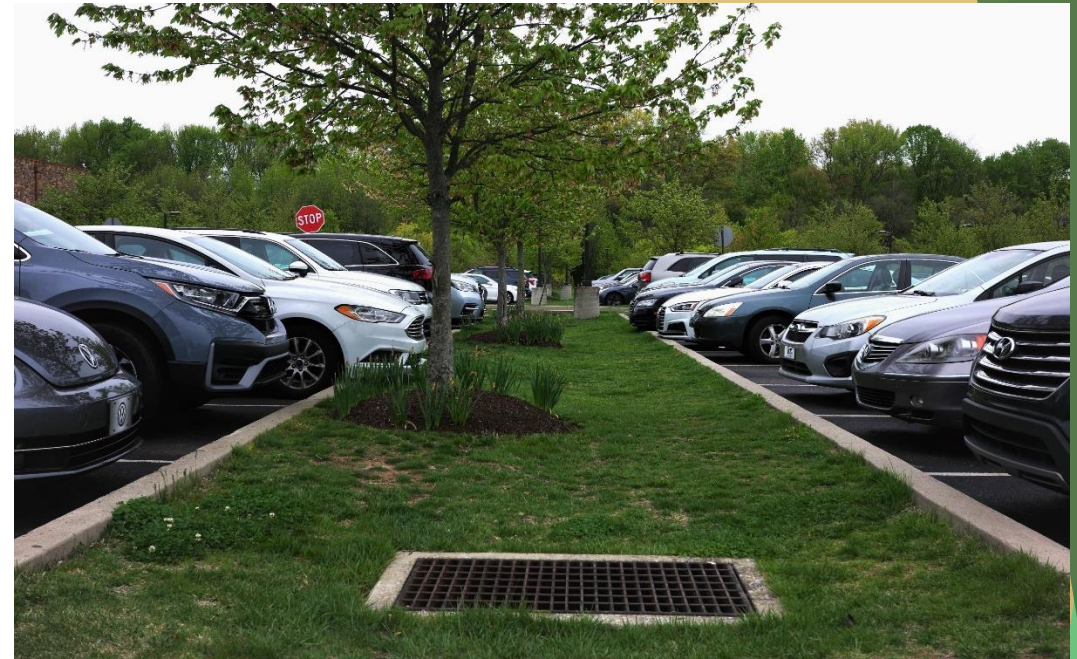
Source: U.S. Department of Agriculture & University of Vermont, 2010

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# Wissahickon Watershed

- Water Quality Improvement Plan
  - Implementing projects to help protect waterways and improve water quality of Wissahickon Creek
- Stormwater management
  - MS4 program requires municipalities to incorporate minimum control measures into stormwater management programs to reduce contamination



*Green parking lot design*



*Rain garden*



# Climate Change Vulnerability & Resiliency

## MONTGOMERY COUNTY CLIMATE CHANGE POTENTIAL VULNERABILITY ANALYSIS



Climate Change Potential Impact

Factor 1: Heat Risk

Factor 2: Flood Risk

Factor 3: Socio-economic Risk

Deeper Dive

Climate

### Climate Change Potential Vulnerability Analysis

Climate change is affecting the residents of Montgomery County. From record heat to intense storms, such as Hurricane Ida in 2021, Montgomery County is experiencing the impacts of climate change. Scientific studies show that our region will become increasingly hotter, and we will experience more intense and frequent storm events. Understanding the populations, places, and infrastructure that may be affected is critical for our communities as they adapt and become more resilient to climate change. To assist our stakeholders in gaining a better understanding of climate change and its effects, the Montgomery County Planning Commission (MCPC) has created the *Montgomery County Climate Change Potential Vulnerability Analysis*.

The *Montgomery County Climate Change Potential Vulnerability Analysis* is the county's latest effort to address climate change. In 2007, Montgomery County completed [Greenprint for Montgomery County: Climate Change Action Plan](#), a comprehensive greenhouse gas inventory along with a set of broad recommendations for action. The Montgomery County Commissioners formed the Greenhouse Gas Reduction Task Force and embraced a range of short- and mid-term greenhouse gas reduction targets. In 2015, the topic of sustainability and climate change was incorporated into the county comprehensive plan, [Montco 2040: A Shared Vision](#). The county commissioners passed a resolution setting revised climate action goals in 2019. Most recently, the county partnered with Montgomery County municipalities to work on a Montgomery County Regional Climate Action Plan that will address the challenges highlighted in the *Montgomery County Climate Change Potential Vulnerability Analysis*.

The *Montgomery County Climate Change Potential Vulnerability Analysis* is an online tool that allows users to learn more about climate change and explore the county to learn about the impacts of increased heat and storm events. The *analysis* identifies areas of the county that are particularly vulnerable to the effects of climate change relative to the rest of the county. The assessment combines readily accessible information on sociodemographic, health factors, and critical



Montgomery County

2022  
Hazard  
Mitigation  
Plan



Montgomery County, Pennsylvania

# Infrastructure and Energy EVs in Lower Gwynedd



## Block Group ID: 420912012031

Municipality Containing This Block Group:  
**Lower Gwynedd Township**

### Block Group Demographics Summary

Population	1,968
Households	714
Jobs	2,055

### Block Group Vehicular Summary

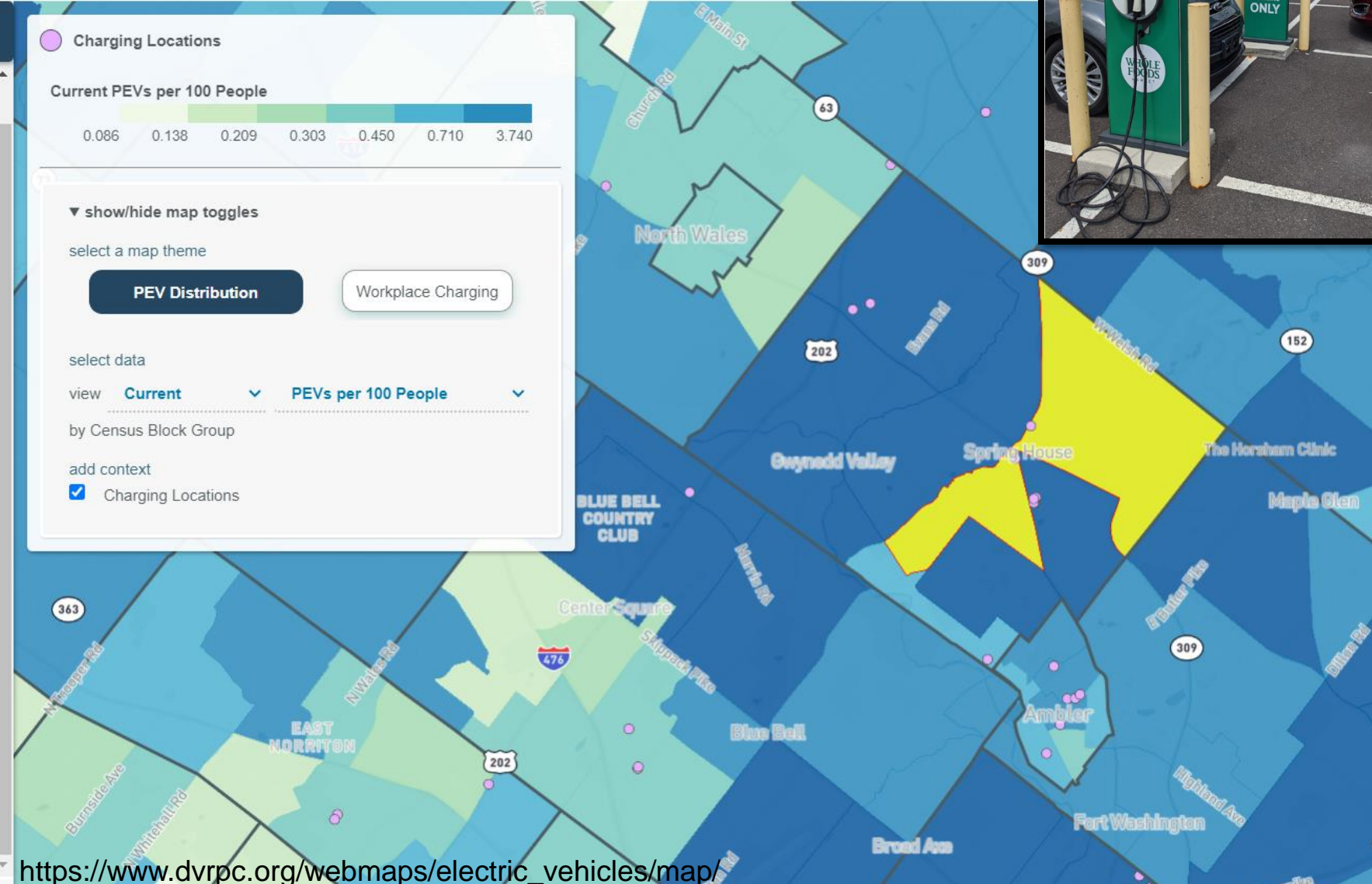
Passenger Vehicles	1,275
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### Plug-in Electric Vehicle Distribution

	Current	Projected
Number of Plug-In Electric Vehicles (PEVs)	24	308
% of Passenger Vehicles That Are PEVs	1.90%	24.19%
Number of PEVs per 100 People	1.2	15.7
Number of PEVs per 100 Housing Unit	3.4	43.2
Number of PEVs per Sq. Mi.	10.4	131.9

### Workplace Charging Demand

	Free	Paid
kWh of Demand per Sq. Mi.	117.42	81.33
Charing Events per Sq. Mi.	17.00	11.40
kWh of Demand per Job	0.134	0.093
Charing Events per Job	0.019	0.019



# What sustainability issues/topics are most important for Lower Gwynedd?

- Ecological Sustainability
  - Reducing heat island effect
  - Increasing tree canopy coverage
  - Watershed and floodplain protection.
  - Improved renewable energy sources
  - Limiting waste
- Social Sustainability
  - Health and well-being

# Coming up...

## Topics

Bethlehem Pike Focus Area

Historic resources

Future Land Use

## Meeting dates

Monday, June 10

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