

FIRE STATION LOCATION ANALYSIS

Upper Gwynedd Township
Montgomery County, PA
December 2022



Governor's Center for Local Government Services

Robert Hedden, MS, CFOD,
MIFireE, CFPS



Table of Contents

<u>Executive Summary</u>	1
<u>Methodology</u>	3
<u>Municipal Overview</u>	4
<u>Existing Fire Station</u>	9
<u>Run Data</u>	11
<u>Mapping Analysis</u>	18
<u>Location Recommendation</u>	30

Executive Summary

1. Initiation

In 2022, the Pennsylvania Department of Community & Economic Development (DCED) began a project to assess the existing and proposed fire station locations as requested by Upper Gwynedd Twp.

2. Purpose

Municipalities should periodically review the fire services that they are responsible to deliver under the municipal laws of the Commonwealth. The purpose should be to make sure that fire protection is being delivered in a competent, prompt, professional manner with the needed resources, operational efficiencies, and management and that citizens expectations are met.

This assessment is intended to provide the municipalities with an overview of fire protection to ensure that they can evaluate these findings to provide services effectively and efficiently to the residents of both municipalities.

3. Process Used in the Study

To understand and evaluate these issues, the principal approaches utilized in this study included the following:

- Meetings and Road Tours with the Municipal Officials of Upper Gwynedd.
- Site visit to the Fire Station and interactions with available members.
- Interaction via email and phone to conduct follow ups.
- Promulgation of general questionnaires and data collection. This was based on the scope of services that was requested by Upper Gwynedd from the Center for Local Government Services (CLGS). It was then distributed to the parties providing Fire Protection to the Township. The documents were returned and used to gain further insight to the services provided.
- Methodology as noted.

4. Overview

Upper Gwynedd Municipal Officials and Upper Gwynedd Fire Department (UGFD). asked that the following be analyzed:

- Evaluation of current fire station location at 660 Garfield Ave.
- Evaluation of 3 additional proposed fire station locations.
 - Allentown Rd. & Sumneytown Rd. West Corner. Parcel 560000112003
 - Allentown Rd. & Sumneytown Rd. East Corner. Parcel 560008317105
 - 1671 West Point Pike. Parcel 560002557006

5. Observations

Although the core of this report is evaluation of the topics above, given the contemporary issues confronting the Pennsylvania Fire Service at large, due diligence requires to recommend that Upper Gwynedd Township should consider communicating with neighboring municipalities to see if there is an interest in exploring regionalization of Fire Protection before investing in any fire station planning and construction related activity.

6. Recommendations

Major Recommendations	
1	Upper Gwynedd Township should consider communicating with neighboring municipalities to see if there is an interest in exploring regionalization of Fire Protection before investing in any fire station related planning and construction activity. Consult the Intergovernmental Cooperation Handbook published by the Pennsylvania Department of Community & Economic Development regarding sharing of Fire Services.
2	Disregard the West Point Pike location as it lies in the FEMA Floodplain
3	Evaluation of each of the proposed locations based upon the noted methodologies reveals that the optimum site for a fire station would be the <u>West</u> Corner of Allentown Road and Sumneytown Pike. This 11.8-acre location, also noted as Parcel 560000112003, is zoned R-1, this would require either a Zoning Map Amendment by the Upper Gwynedd Commissioners or Use Variance by the Zoning Hearing Board. The location is optimum as a nearly centrally located location for response efficiency and geographical coverage. The size of the parcel will allow for design, planning and construction of a contemporary fire station for the future needs and demands of the community of Upper Gwynedd.

Methodology

Methods used to evaluate the optimum location out of the 4 proposed by the municipality and the fire department included:

- **Site visit to each location**
- **Analysis of parcel zoning.**
- **NFPA 1720 4.3.2 Staffing and Response Time**

Demand Zone ^a	Demographics	Minimum Staff to Respond ^b	Response Time (minutes) ^c	Meets Objective (%)
Urban area	>1000 people/mi ²	15	9	90
Suburban area	500–1000 people/mi ²	10	10	80
Rural area	<500 people/mi ²	6	14	80
Remote area	Travel distance ≥ 8 mi	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90

^aA jurisdiction can have more than one demand zone.

^bMinimum staffing includes members responding from the AHJs department and automatic aid

^cResponse time begins upon completion of the dispatch notification and ends at the time interval shown in the table.

- Upper Gwynedd, with 2,112 persons per sq. mile, falls into the Urban Demand Zone.
- Evaluation of response time specifics, with UGFD provided data, shows compliance in that specific area as noted in the response time analysis. The objective percentage could not be analyzed with data provided.
- Staffing, on the face of it, does not comply, as there was no ability to analyze this area under table note b.
- **Insurance Services Organization (ISO) Criteria for Deployment Analysis of Companies:** To reduce property damage from a fire, firefighters need to get to the scene quickly. Therefore, ISO evaluates the deployment of fire stations in each community.
For full credit in the Fire Suppression Rating Schedule (FSRS), the fire protection area with residential and commercial properties should have a first-due engine company within 1.5 road miles and a ladder service company within 2.5 road miles.
- **Location Radius Analysis:** Radius Analysis of 1, 2- and 3-mile increments.
- **Service Demand by Geography/Box Areas:** This evaluation could not be made, as the UGFD did not have a complete data set.

Municipal Overview

Upper Gwynedd Township, Montgomery County PA

Upper Gwynedd Township is a township in Montgomery County, Pennsylvania. The population was 17,107. North Wales Borough is surrounded by Upper Gwynedd Township on all sides, and many homes and businesses with North Wales addresses are actually in Upper Gwynedd. Many properties with Lansdale addresses are in Upper Gwynedd as well. It is part of the North Penn Valley region that is centered around the Borough of Lansdale.

Gwynedd was founded in 1698 by Welsh Quakers. The township was then split into Lower Gwynedd and Upper Gwynedd in 1891. The name Gwynedd means "Fair Land" in Welsh.

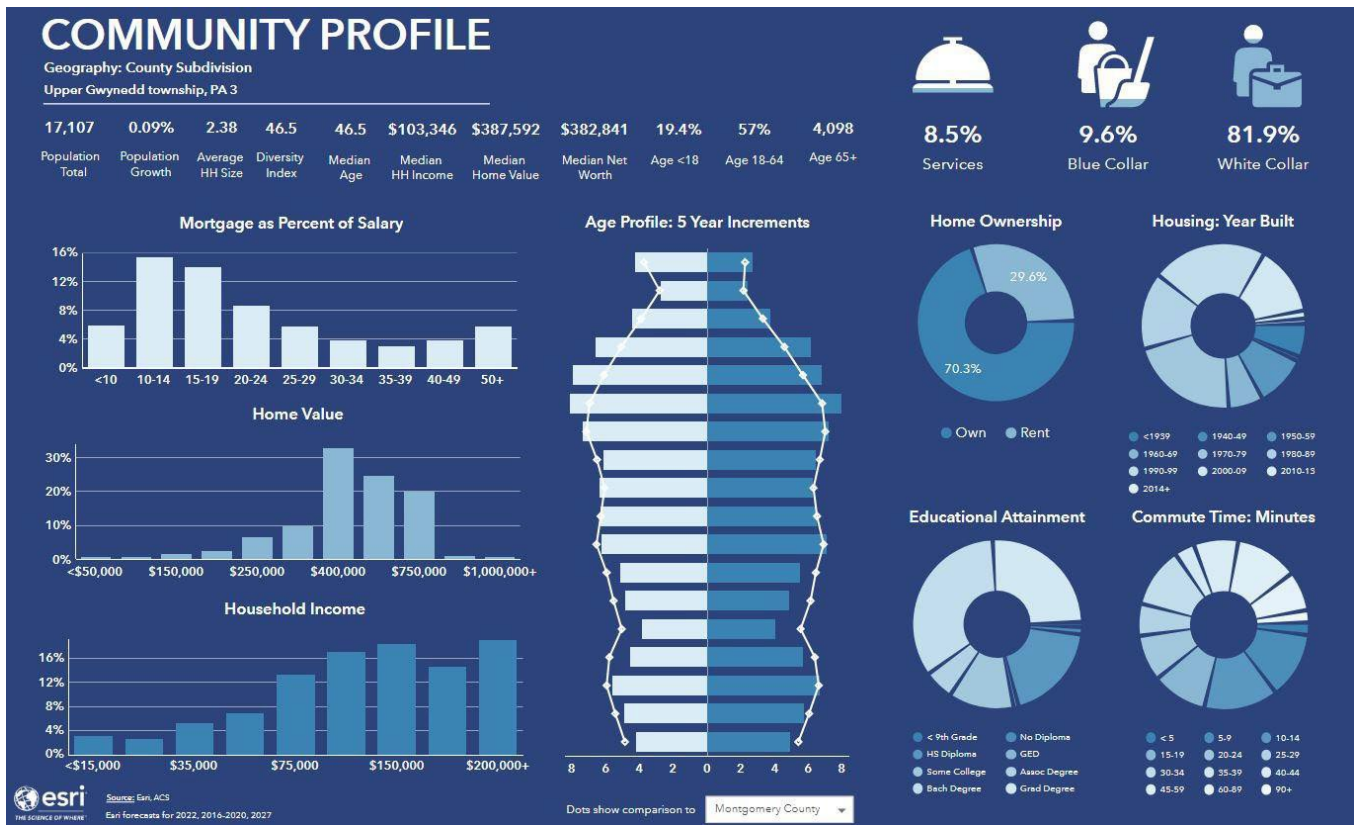
The township is so named because it was originally settled largely by migrants from Gwynedd and other parts of North Wales in the 17th and 18th centuries. For several generations the main language used in the township was Welsh.

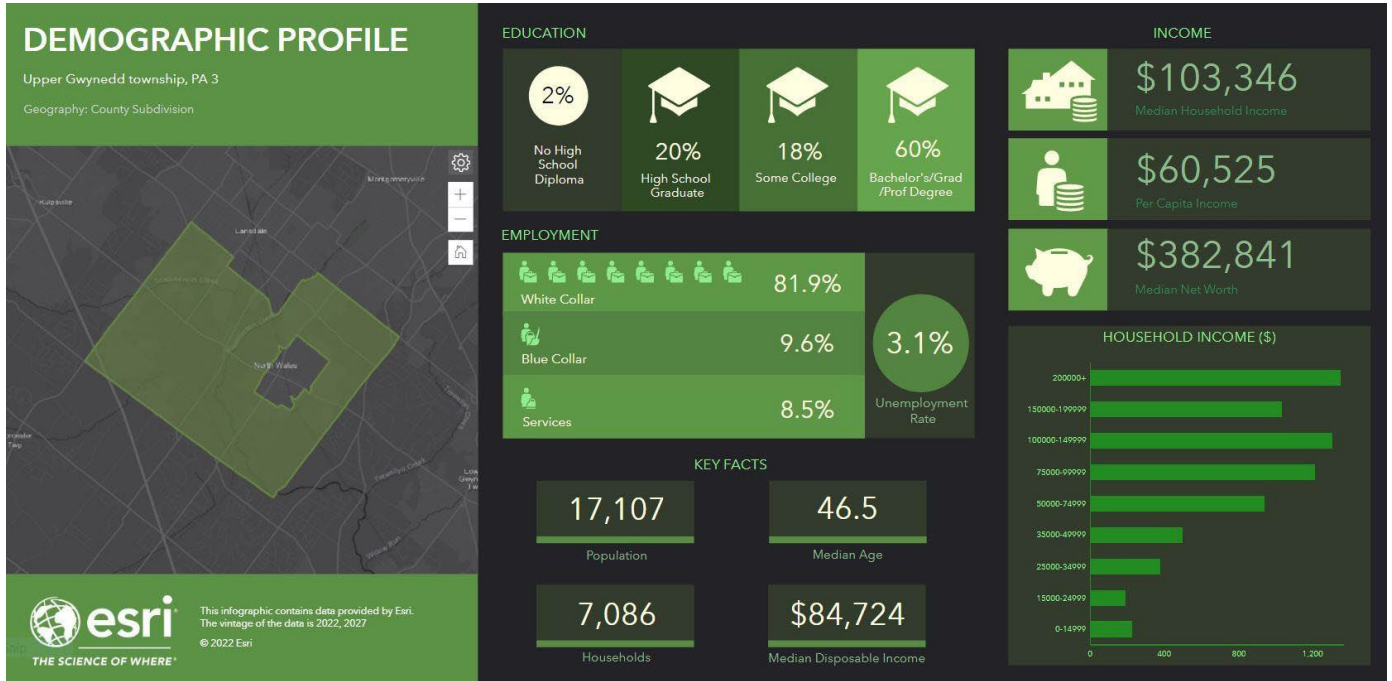
According to the United States Census Bureau, the township has a total area of 8.1 square miles (21.1 km²), all of it land. It is in the Schuylkill watershed and is drained by the Towamencin and Wissahickon Creeks. Its villages include Gwynedd Heights, Gwynedd Square, and West Point.

Neighboring municipalities

- Lansdale (north)
- Montgomery Township (east)
- Lower Gwynedd Township (southeast)
- Whitpain Township (south)
- Worcester Township (west)
- Towamencin Township (northwest)
- North Wales Borough is an enclave of Upper Gwynedd Township

Community Profile Info via ESRI





POPULATION TRENDS AND KEY INDICATORS

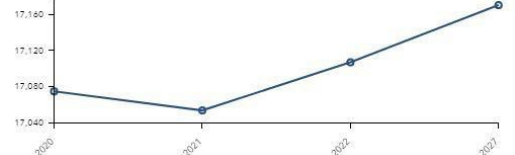
Upper Gwynedd township, PA 3
Geography: County Subdivision

17,107	7,086	2.38	46.5	\$103,346	\$387,592	174	115	47
Population	Households	Avg Size Household	Median Age	Median Household Income	Median Home Value	Wealth Index	Housing Affordability	Diversity Index

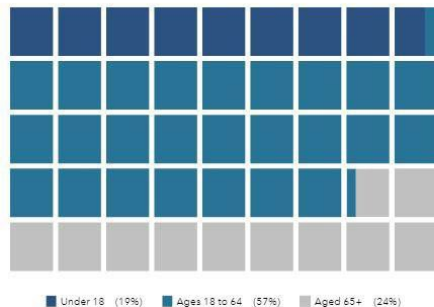
MORTGAGE INDICATORS



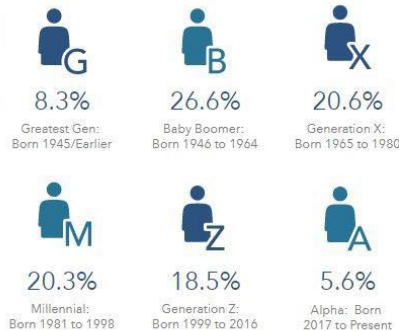
Historical Trends: Population



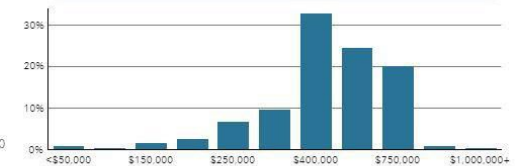
POPULATION BY AGE



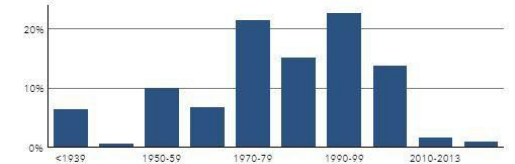
POPULATION BY GENERATION



Home Value

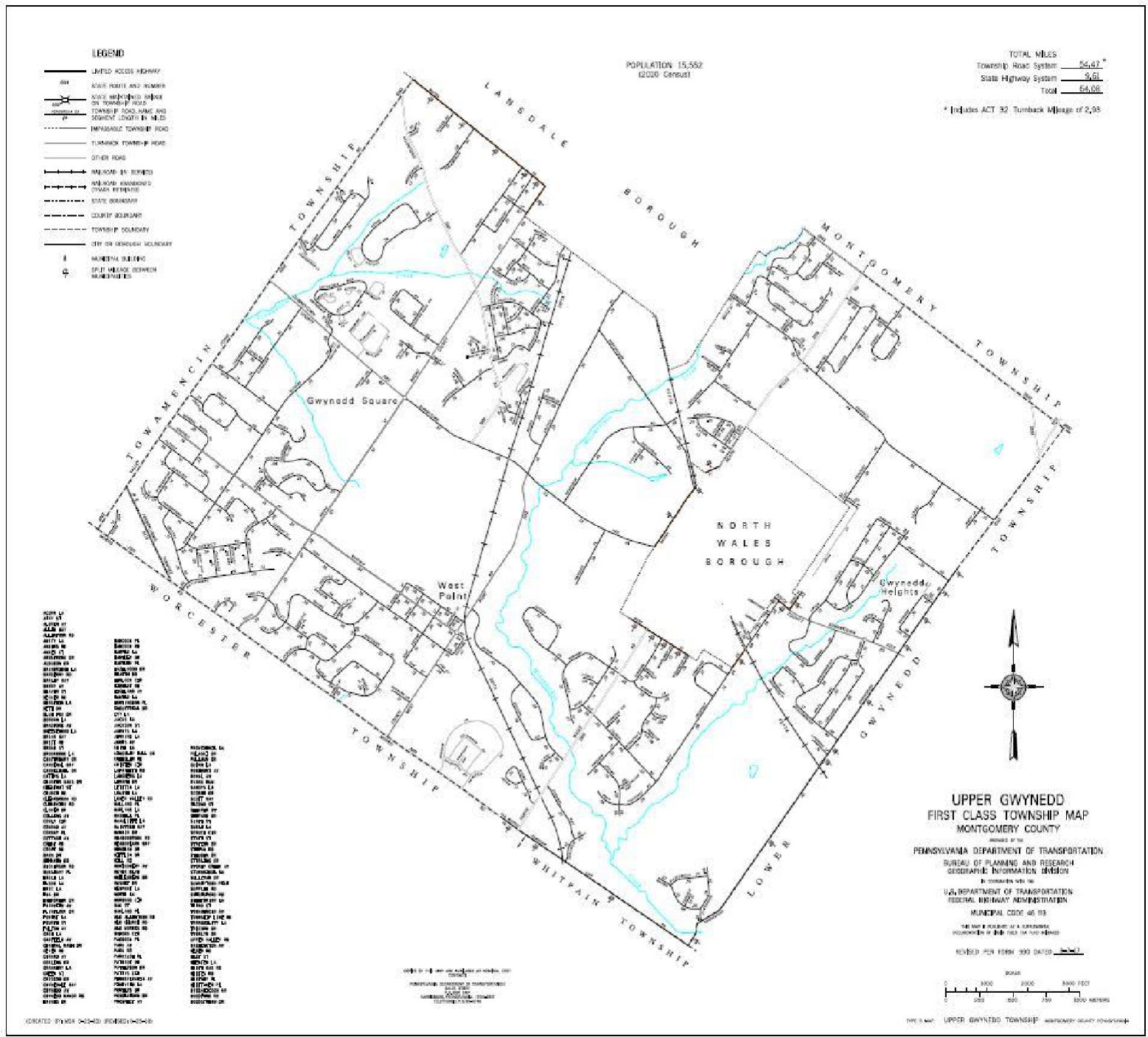


Housing: Year Built

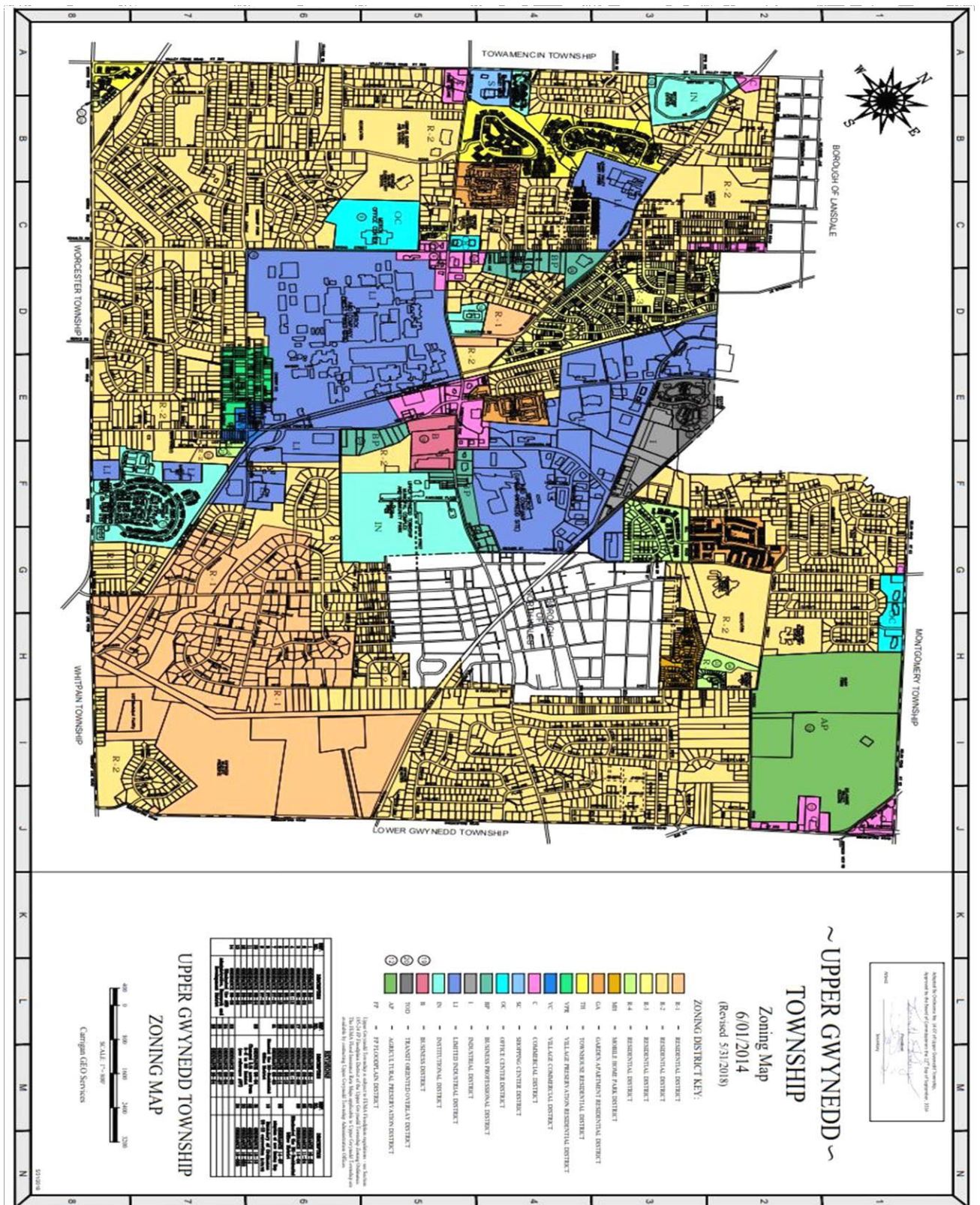


esri THE SCIENCE OF WHERE®
This infographic contains data provided by Esri, Esri-U.S. BLS, ACS
The vintage of the data is 2022, 2016-2020 © 2022 Esri

Upper Gwynedd Street Map



Upper Gwynedd Zoning Map



Existing Fire Station



Upper Gwynedd Fire Department

660 Garfield Avenue Lansdale PA 19446

Leased/Owned owned

Bldg. Owner Fire Department

Year Built/Renovations 1942/1963/1972/1997

Outstanding Mortgage	no	
Other Bldg. Debt	none	
Parking Lot Capacity	64	
Apparatus Bay Capacity	4	
Day Room	Y/N yes	Sq. Foot 1200
Bunk Room	yes x2	100/each
Locker Room/Showers	yes	4 showers
# of Restrooms	3	
Sprinkler/Fire Alarm	FA	
Kitchen	yes	300
Administrative Office	yes	150
Command Office	yes	400
Meeting/Training Room	yes	2736
Gym/Workout Space	yes	400
SCBA Compressor	yes	
Turnout Gear Storage	yes	400
Turnout Gear Washer/Dryer	yes	
Engineers Room	yes	300
Emergency Generator	no	
Storage	yes	300
Wireless/Cable	yes	
Social Hall	yes	2736
Total Square Footage		11,669
Annual Operating Costs		\$ 335,000.00
Cost per square foot		\$28.70

Existing Fire Station Details

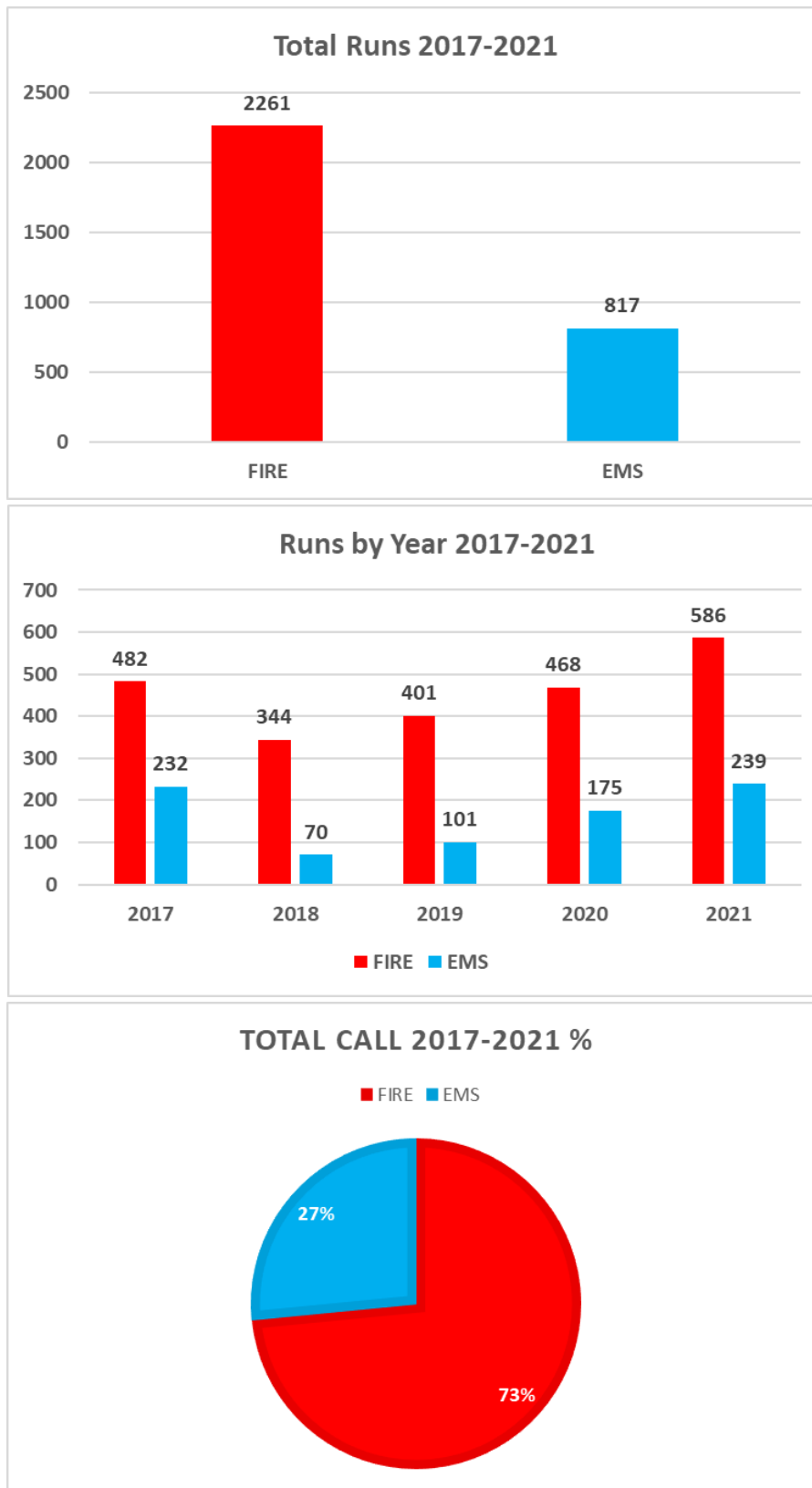
In-person observations of Station 80 show that it appears to be well-maintained considering its age of specific facilities. In addition to the station visits, the company was given a Facility Questionnaire to fill out. Both reveal that the facility, while not originally designed for modern fire station amenities, the UGFD has attempted to integrate them to the best of their abilities.

The current fire station has sleeping facilities to utilize “duty crews” during overnight hours. The usage of the duty crew concept allows for volunteer to improve turnout times and total response times as the initial response crews are located at the station when the call for service is dispatched.

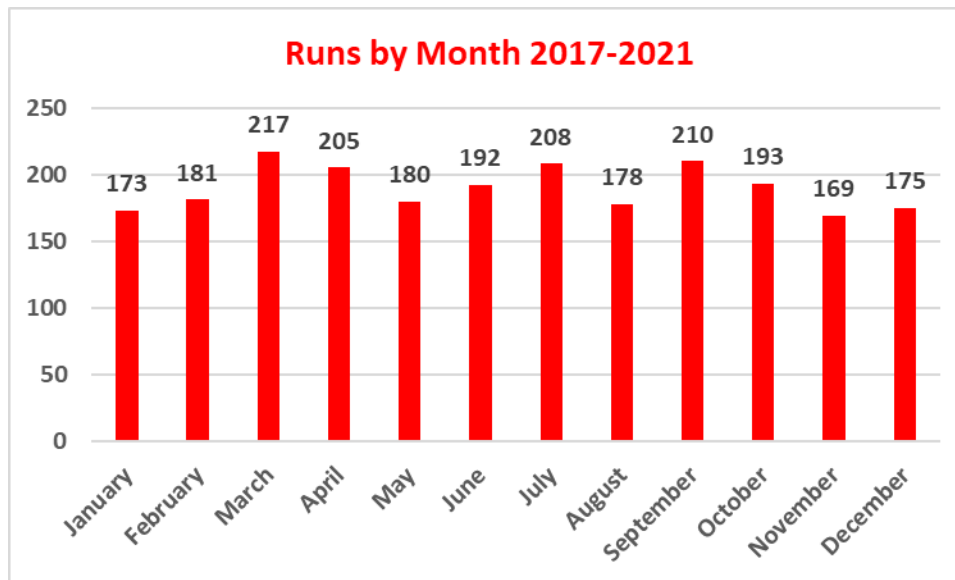
The location of the current fire station reveals Station 80 was founded in the long-established Village of West Point, as residents saw the need for community fire protection in the early 20th Century.

When this organization was established, there was no consideration of response times, as it is evaluated contemporarily. The response to the fire calls in the volunteer fire service also has to account for the response from the individual homes of the volunteers to the fire station.

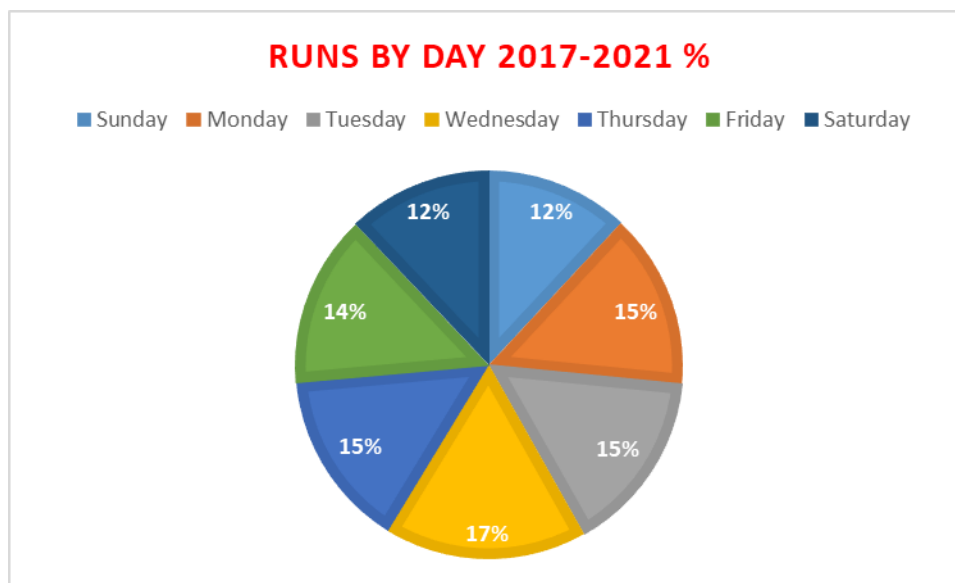
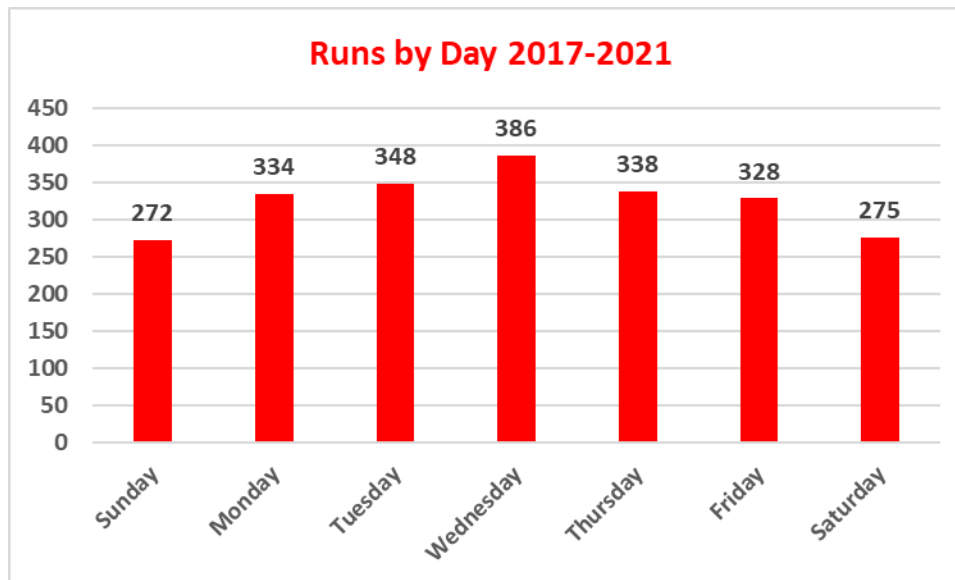
Run Data



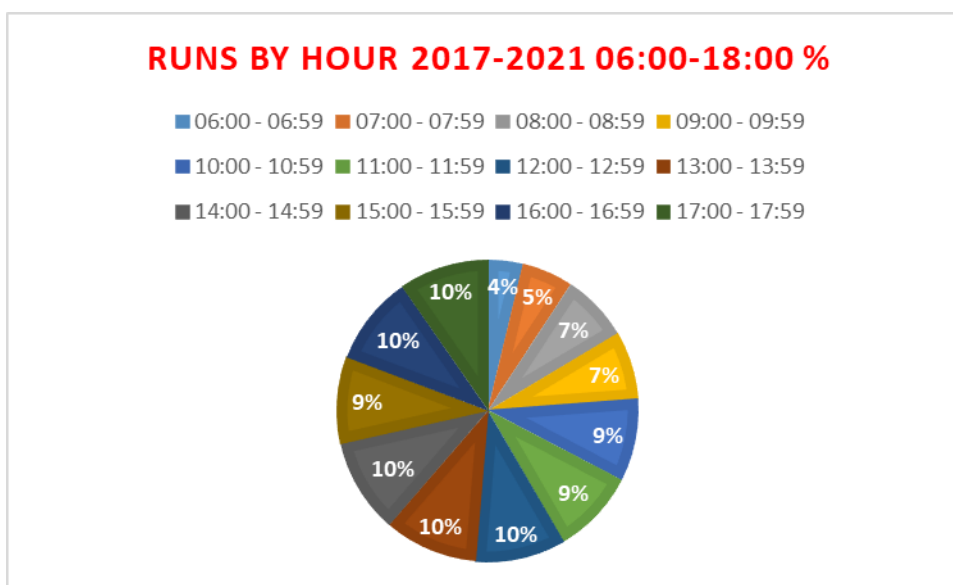
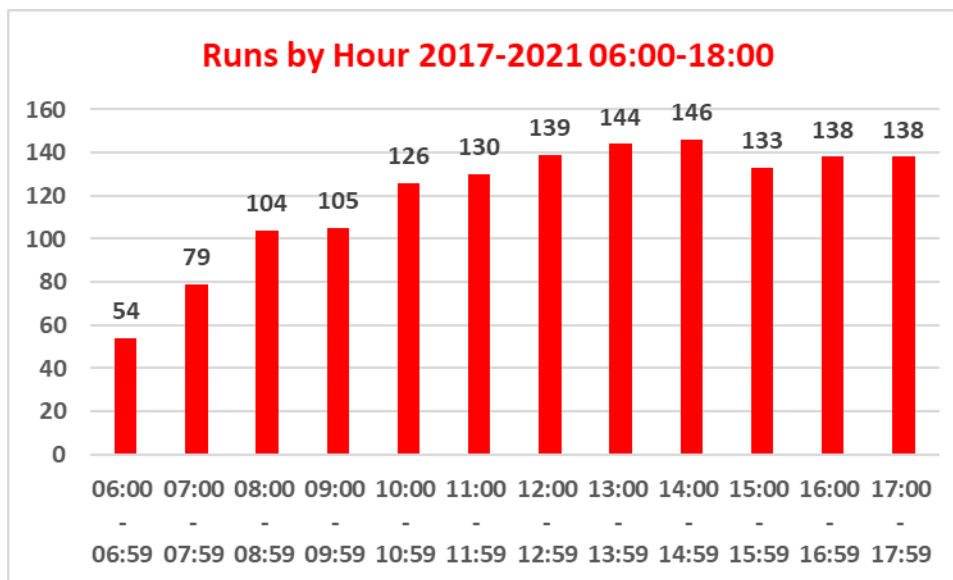
Busiest Year: Fire 586 Runs 2021/ EMS 239 Runs 2021



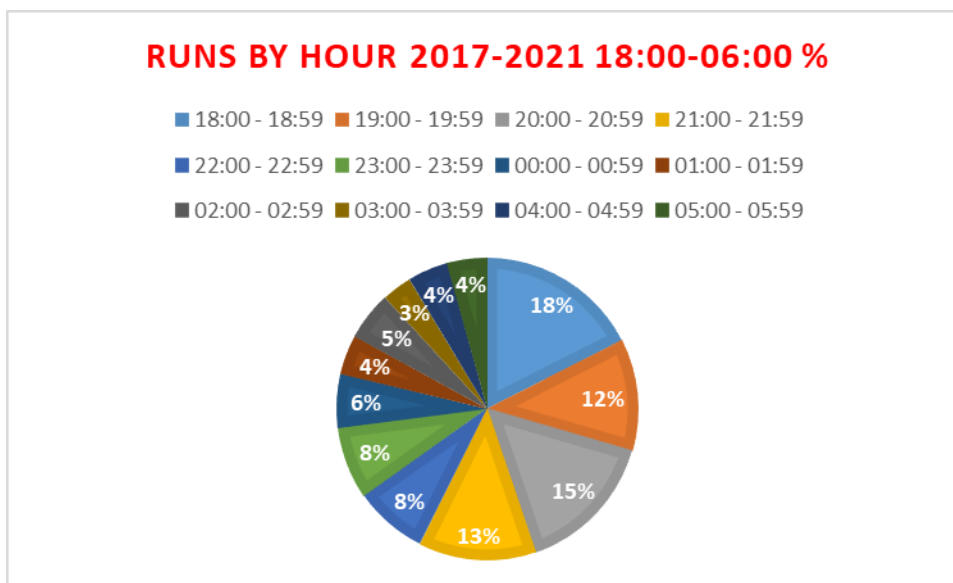
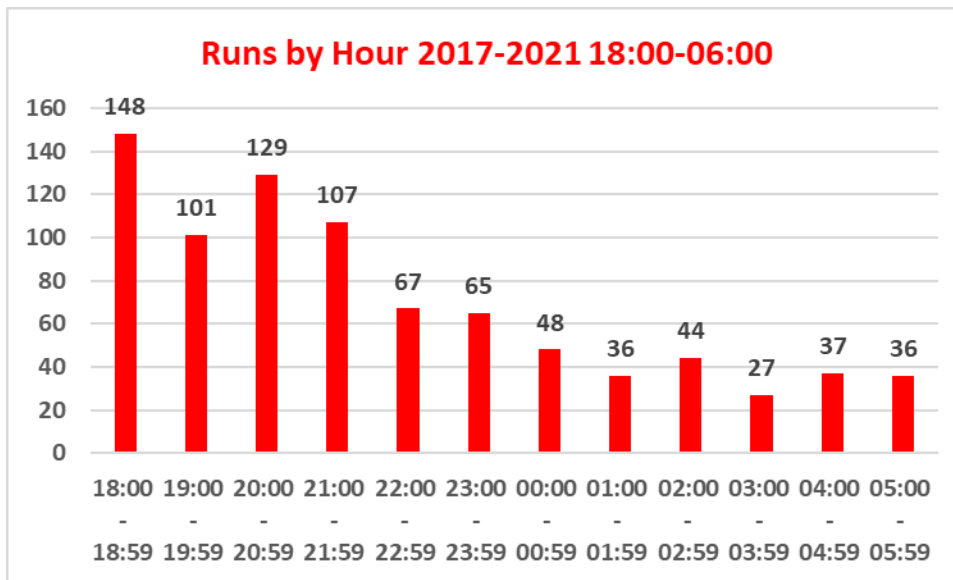
Busiest Month: March: 217 Runs



Busiest Day: Wednesday: 386 Runs



Busiest Hour 06:00-18:00: 14:00: 146 Runs



Busiest Hour 18:00-06:00: 18:00: 148 Runs

Staffing**2020**

NUMBER OF PEOPLE		
ON APPARATUS	NOT ON APPARATUS	TOTAL
4.6	3.0	7.6

2021

NUMBER OF PEOPLE		
ON APPARATUS	NOT ON APPARATUS	TOTAL
4.6	1.8	6.4

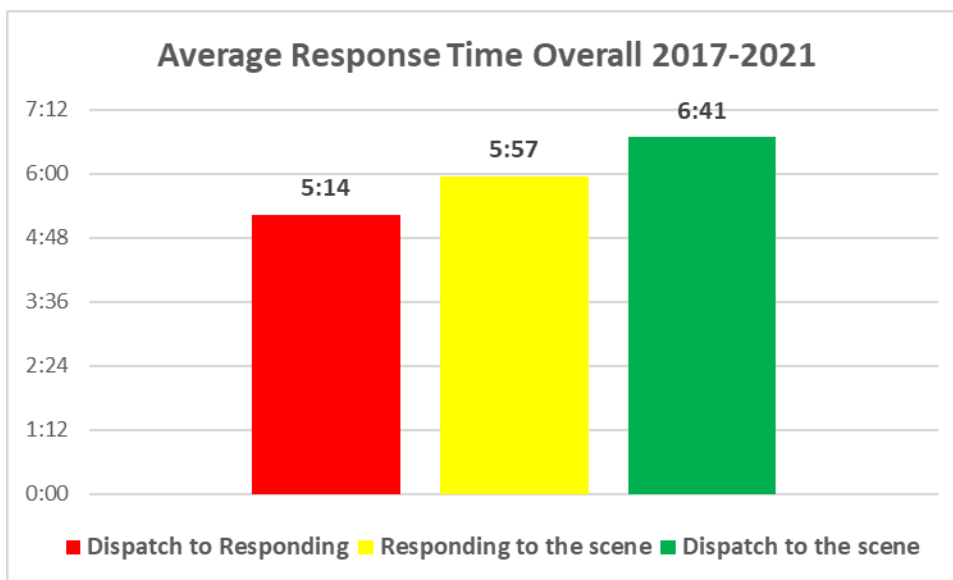
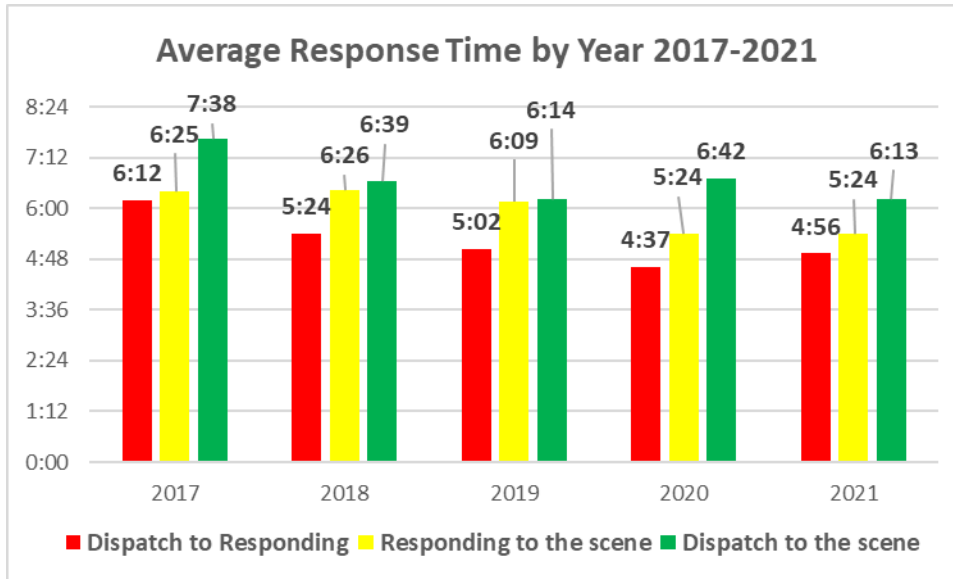
2022 * January through November

NUMBER OF PEOPLE		
ON APPARATUS	NOT ON APPARATUS	TOTAL
4.7	2.3	6.9

2020-2022 Average

NUMBER OF PEOPLE		
ON APPARATUS	NOT ON APPARATUS	TOTAL
4.6	2.3	6.9

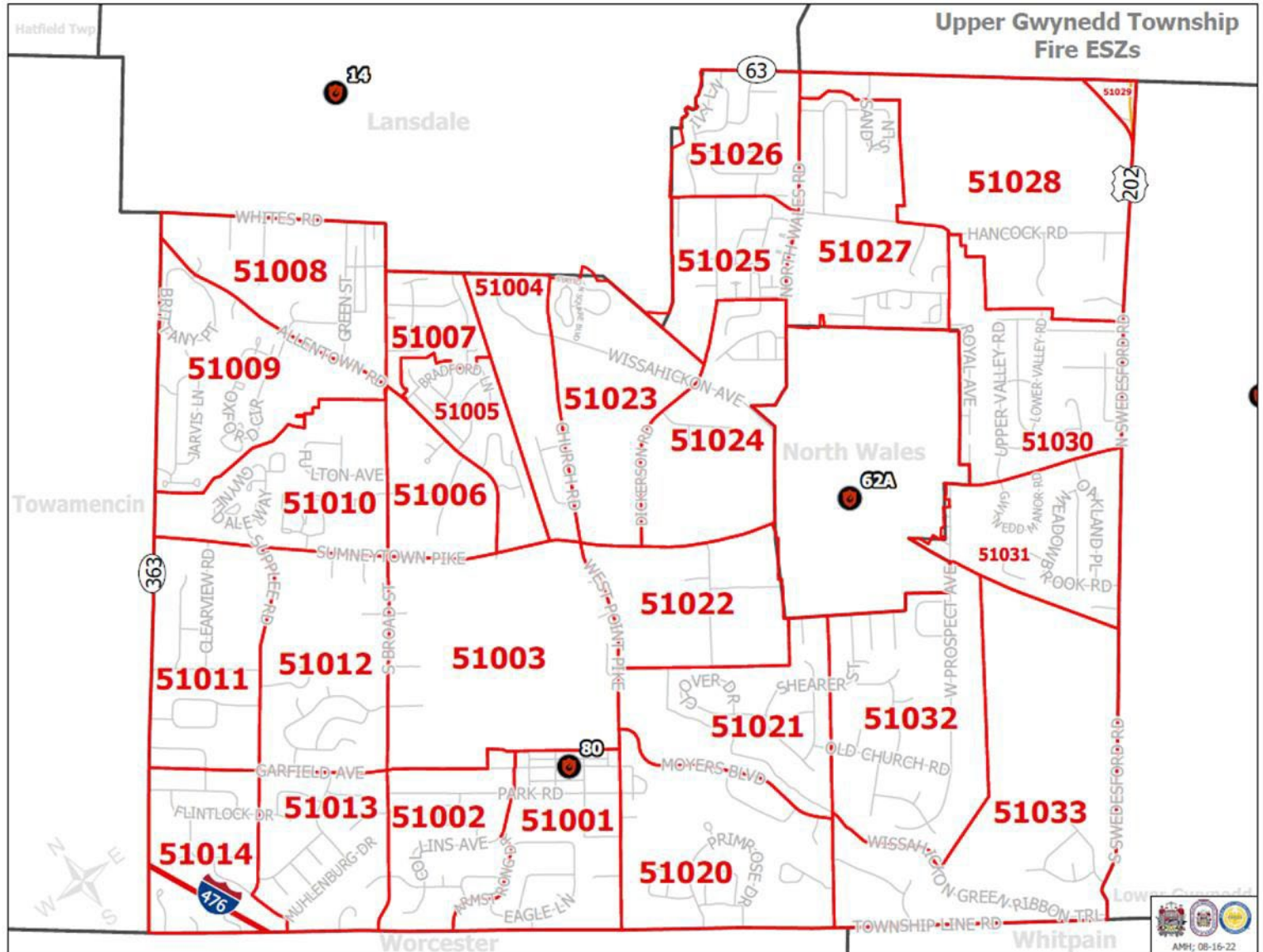
Response Times



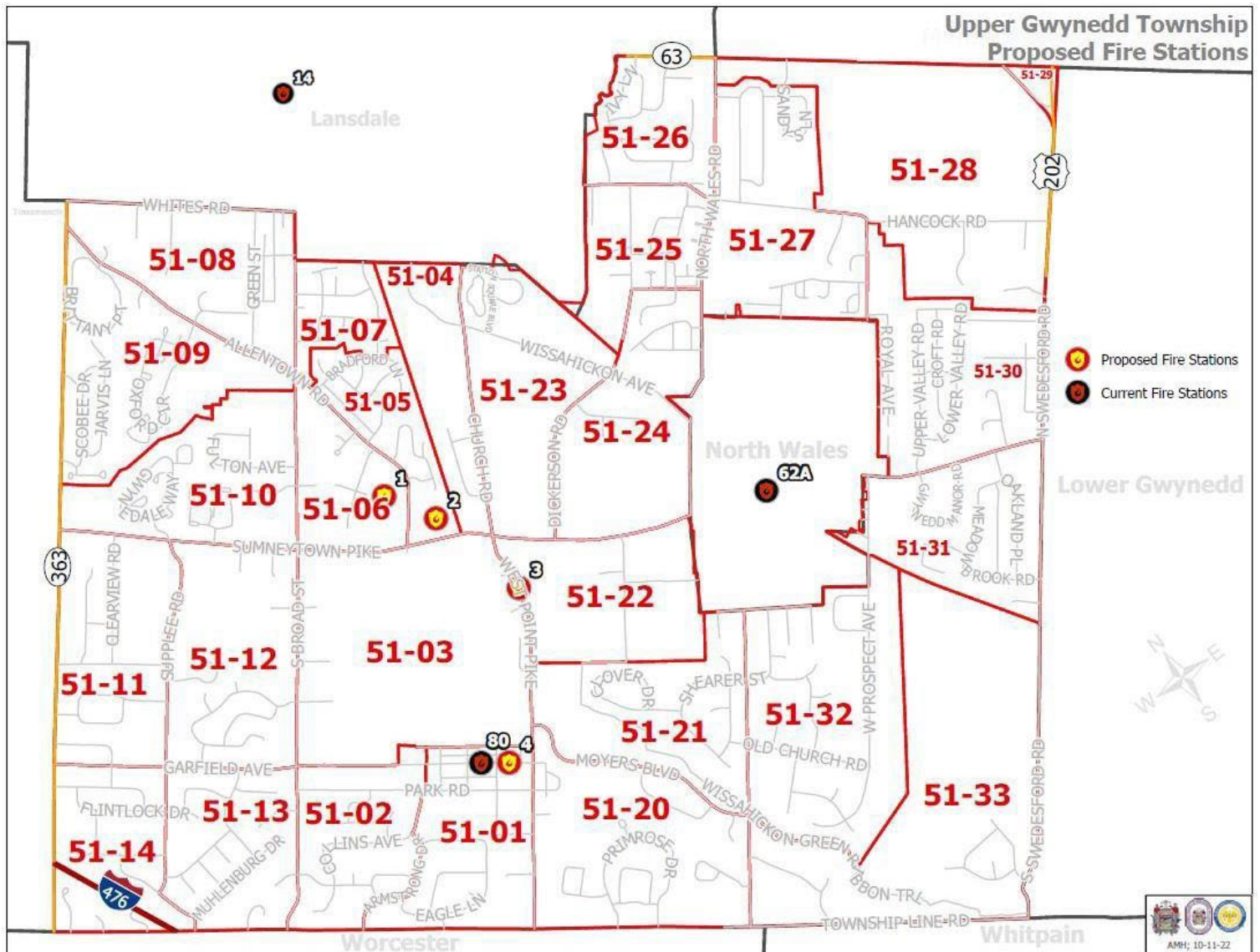
*** Montgomery County Fire Radio policy is to acknowledge and time stamp response upon the markup of any fire department vehicle, which initially, is most likely a Chiefs vehicle and not dispatched fire apparatus.**

Mapping Analysis

Upper Gwynedd FD Box Map



Upper Gwynedd FD Box Map with proposed locations



1. Overview of Allentown and Sumnetytown Pike West Corner

Owner - Merck & Co. Inc. Zoning District: R-1. Parcel 560000112003. Size: 11.8 Acres

Distance from: North Penn Vol. Fire Co. Station 62 – 1.2 Miles. Fairmount Fire Co. Station 14 – 1.8 Miles

2. Overview of Allentown and Sumnetytown Pike East Corner

Owner - Merck & Co. Inc. Zoning District: R-1. Parcel 560008317105. Size: 3.81 Acres

Distance from: North Penn Vol. Fire Co. Station 62 – 1.2 Miles. Fairmount Fire Co. Station 14 – 1.8 Miles

3. Overview of 1671 West Point Pike

Owner - Dean C. Mazzotta. Zoning District: BP. **This property is in the FEMA Floodplain**

Distance from: North Penn Vol. Fire Co. Station 62 – 1.3 Miles. Fairmount Fire Co. Station 14 – 2.5 Miles

4. Overview of 660 Garfield Avenue

Owner - Upper Gwynedd Fire Dept. Zoning District: Village Preservation Residential. Parcel 560002557006 Size: 67 Acres

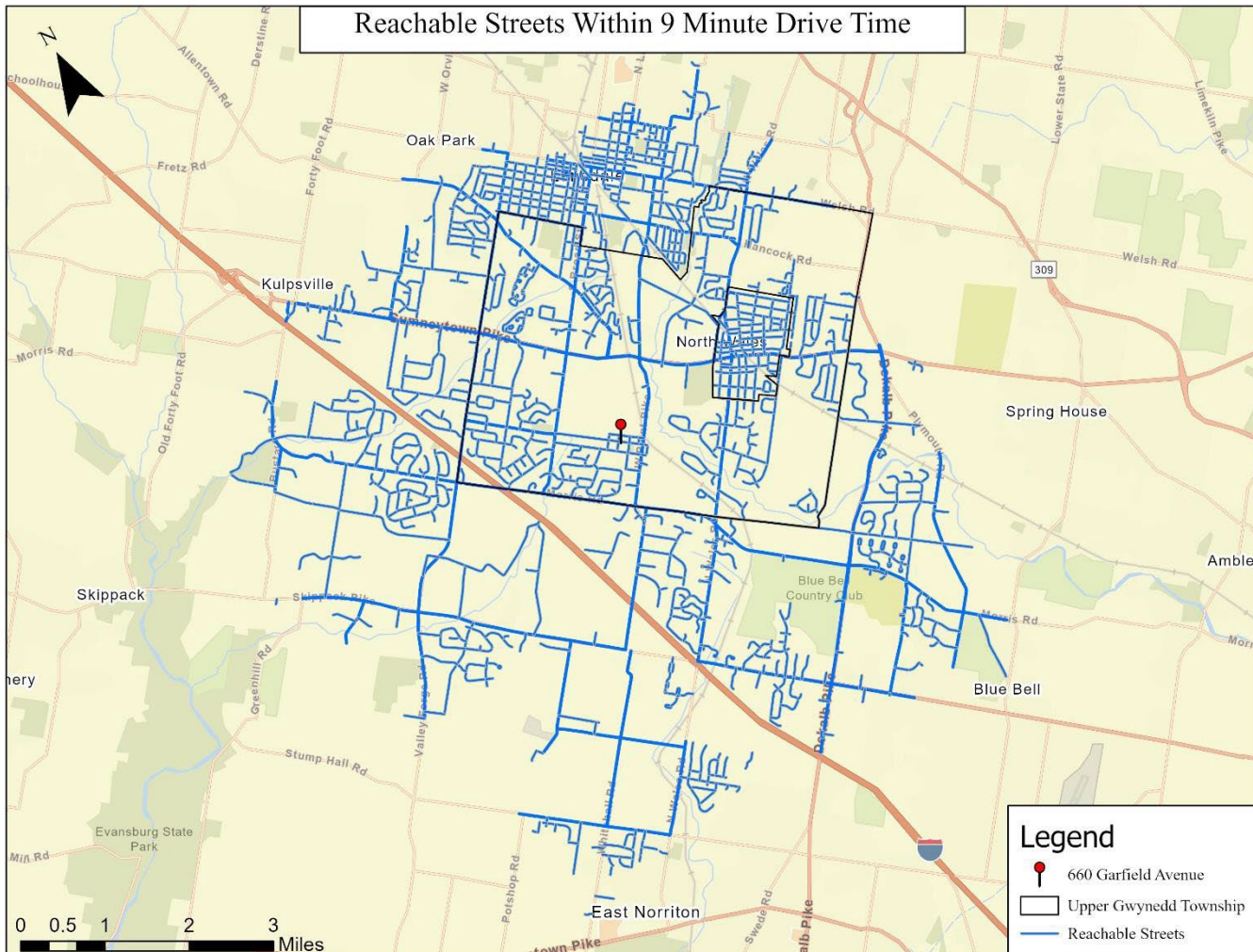
Distance from: North Penn Vol. Fire Co. Station 62 – 1.9 Miles. Fairmount Fire Co. Station 14 – 3 Miles

Response Coverage Maps

Existing Fire Station Location & Response Coverage Maps

660 Garfield Avenue

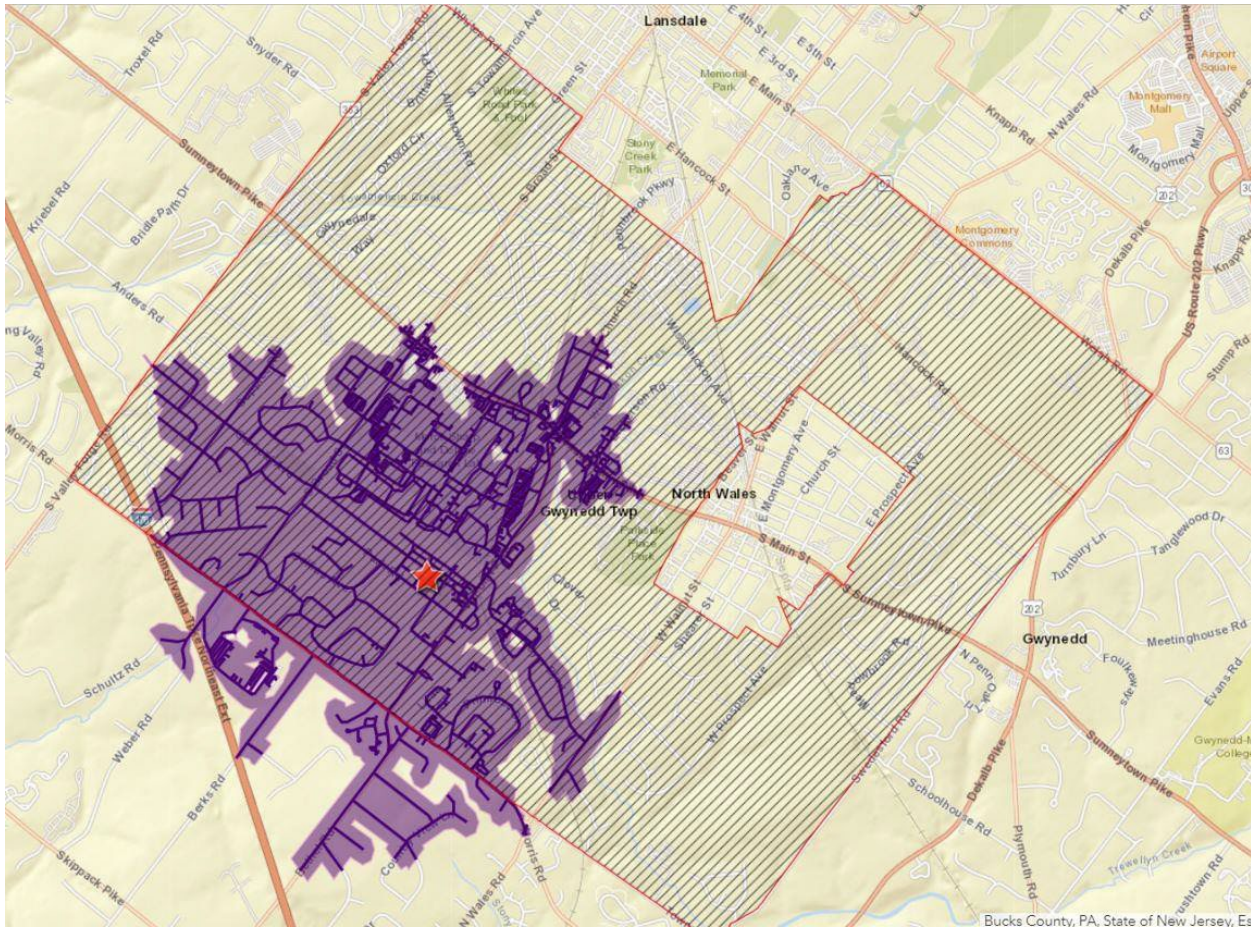
NFPA 1720 9 Minute Response – Reachable Streets



Existing Fire Station Location & Response Coverage Maps

660 Garfield Avenue

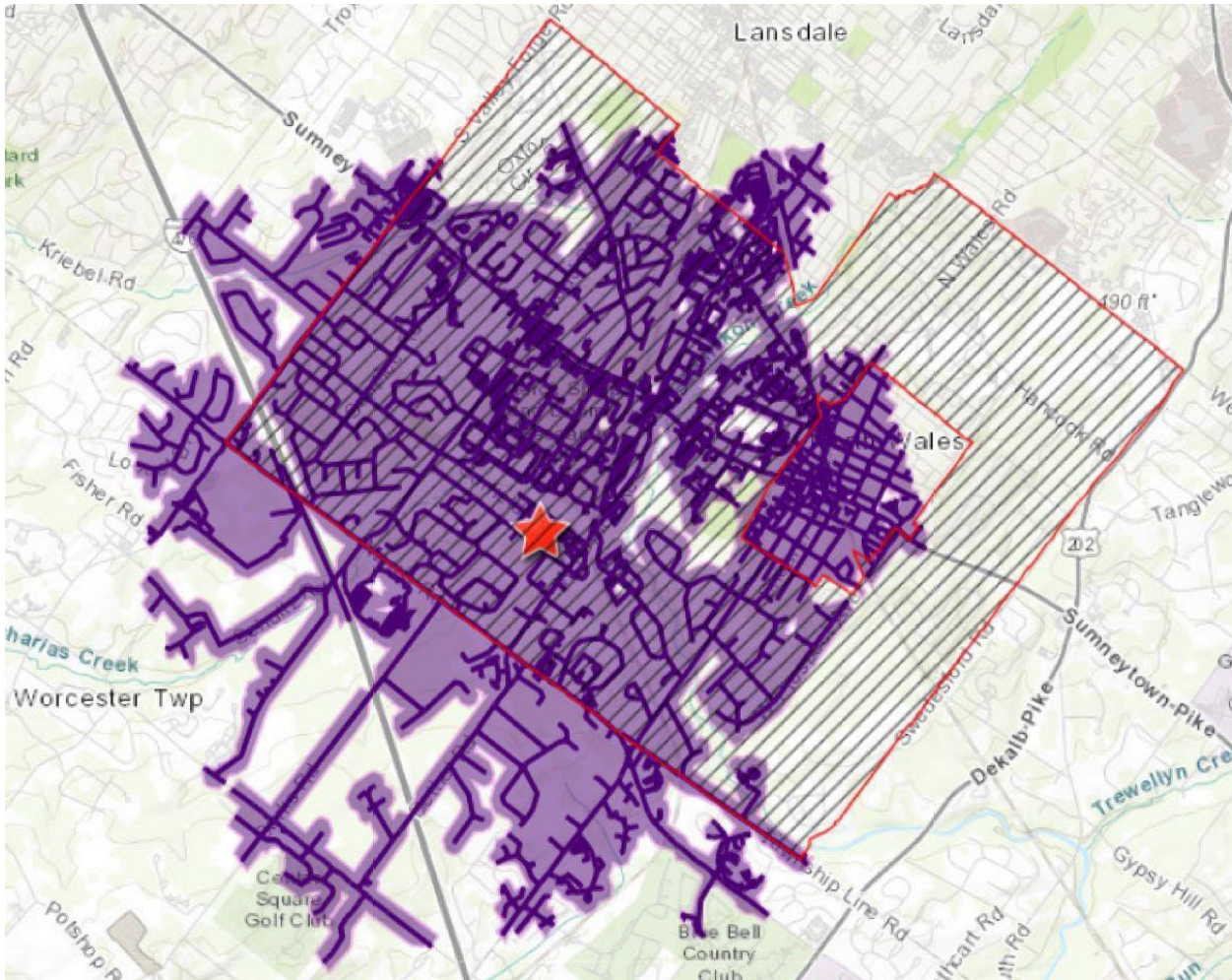
ISO 1.5 Miles Engine Company - Reachable Streets



Existing Fire Station Location & Response Coverage Maps

660 Garfield Avenue

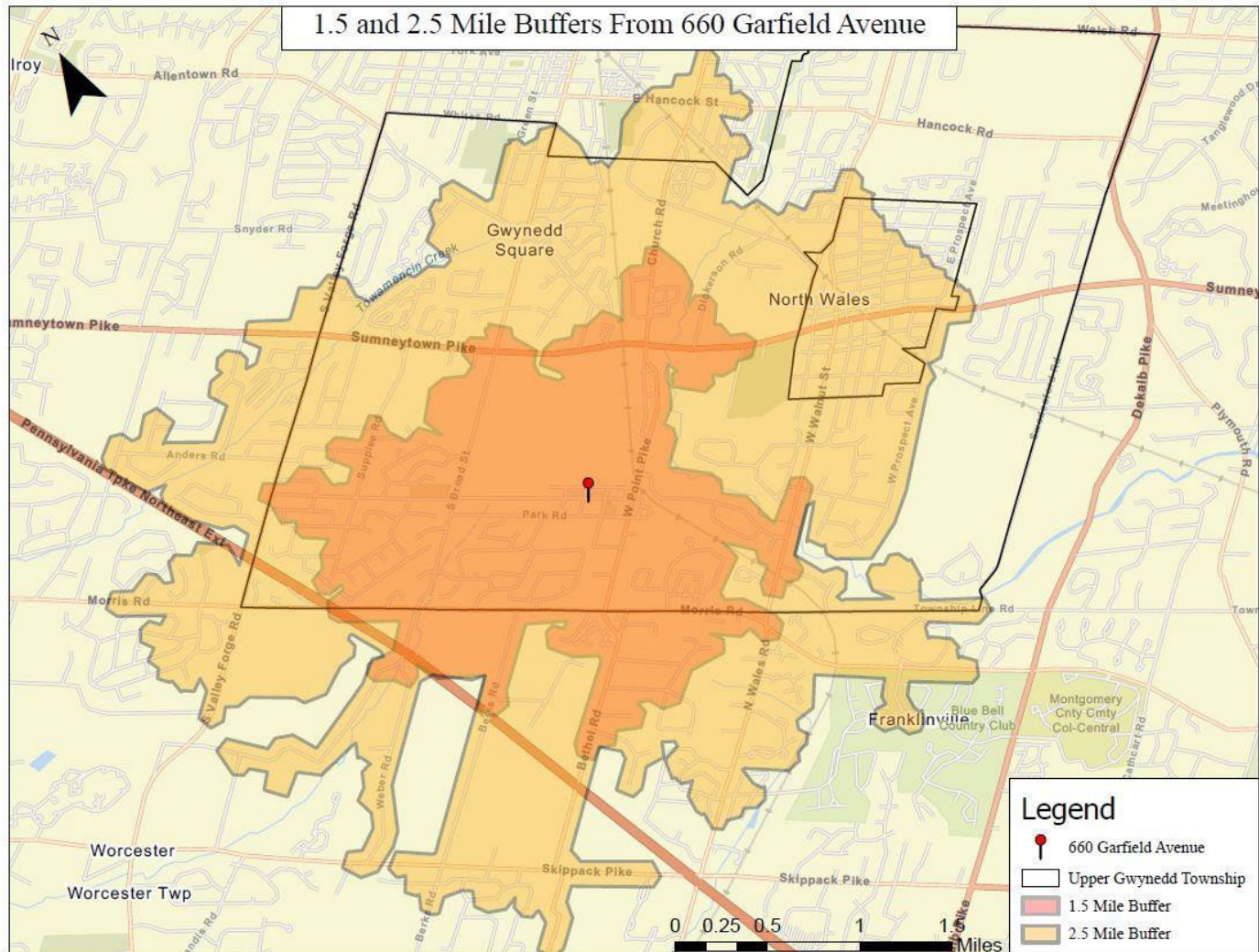
ISO 2.5 Miles Ladder Company - Reachable Streets



Existing Fire Station Location & Response Coverage Maps

660 Garfield Avenue

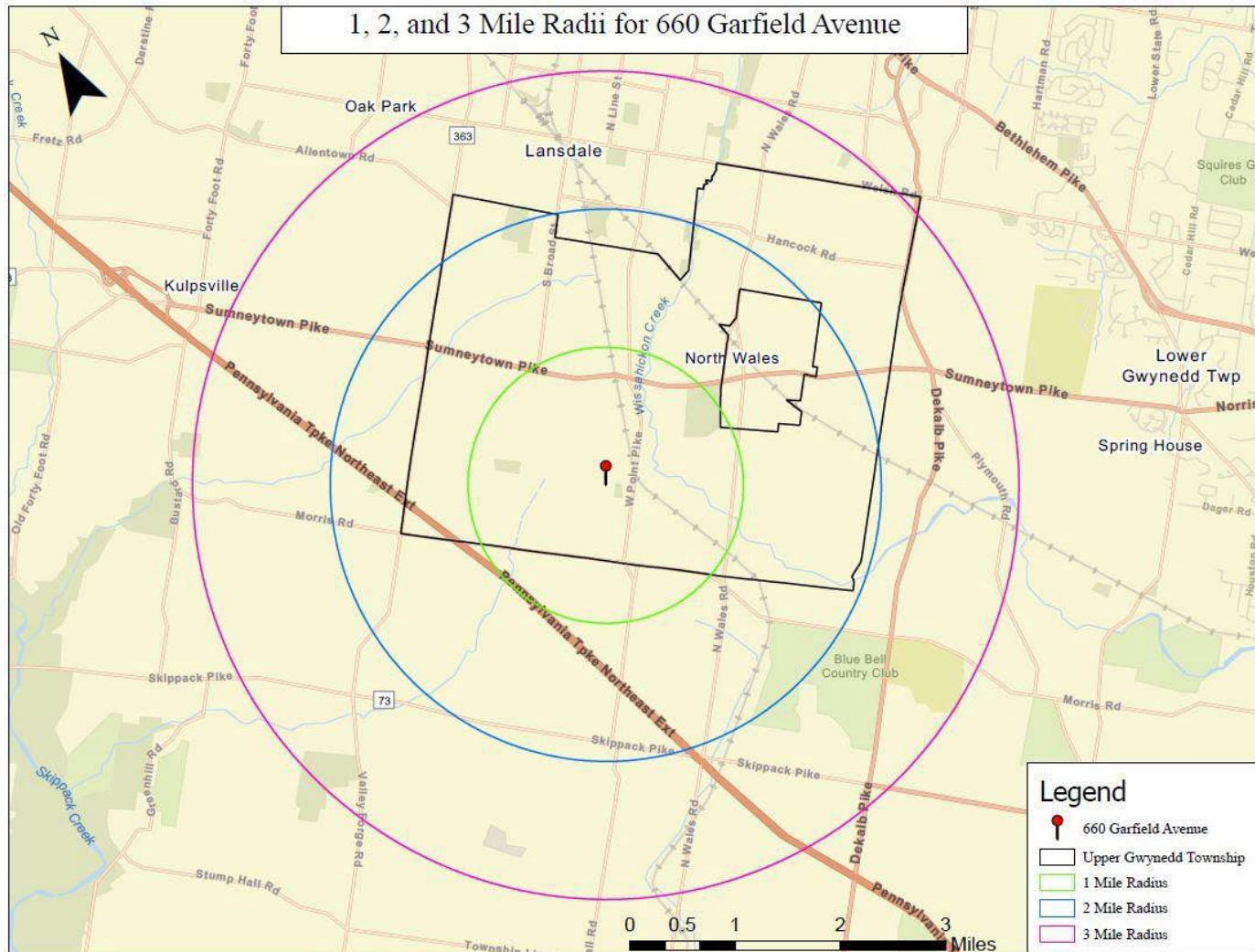
ISO 1.5 Mile Engine Company & 2.5 Miles Ladder Company - Overview



Existing Fire Station Location & Response Coverage Maps

660 Garfield Avenue

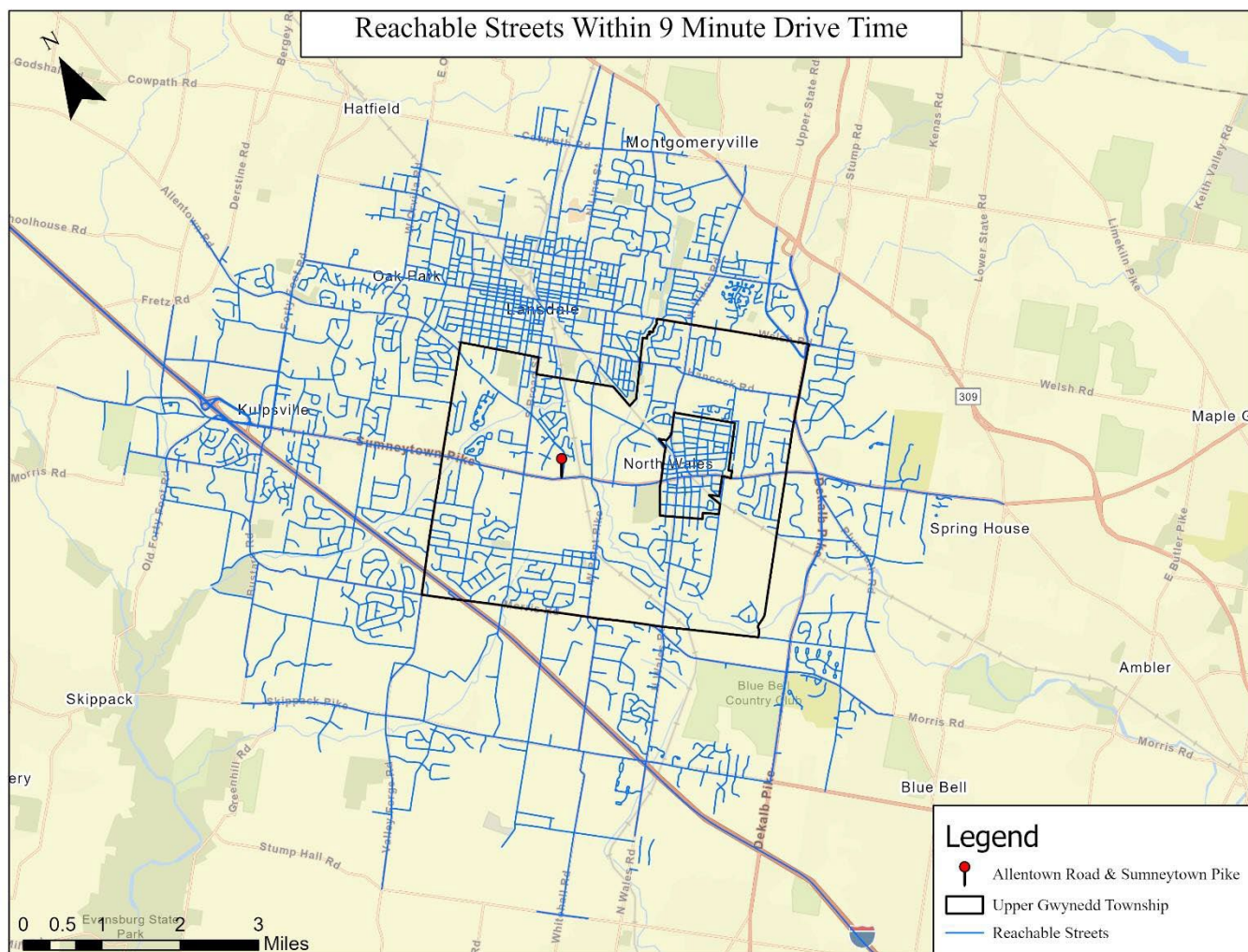
1-2-3 Mile Radius



Proposed Fire Station Location

Allentown Road and Sumneytown Pike. East and West Corners

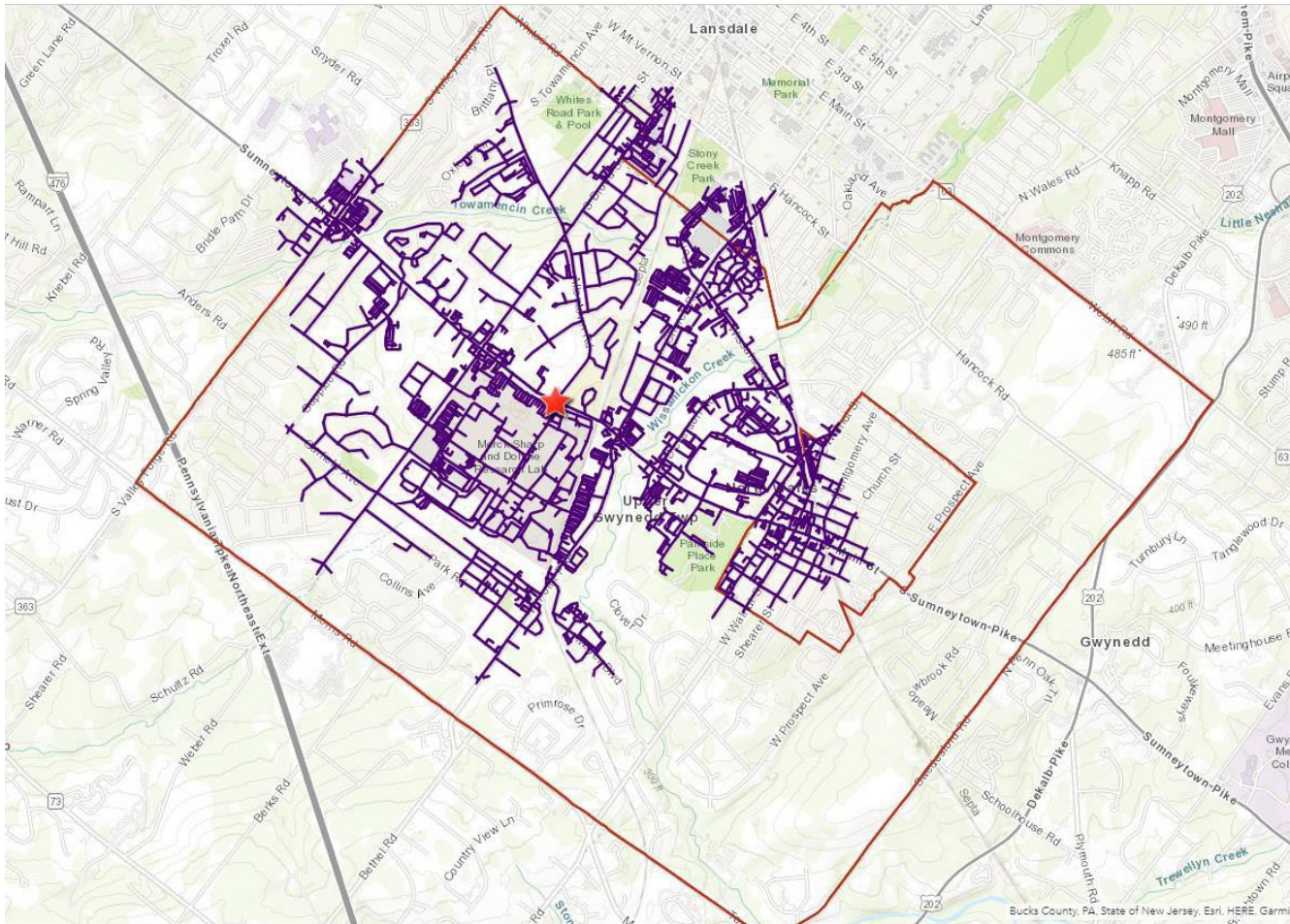
NFPA 1720 9 Minute Response – Reachable Streets



Proposed Fire Station Location

Allentown Road and Sumneytown Pike. East and West Corners

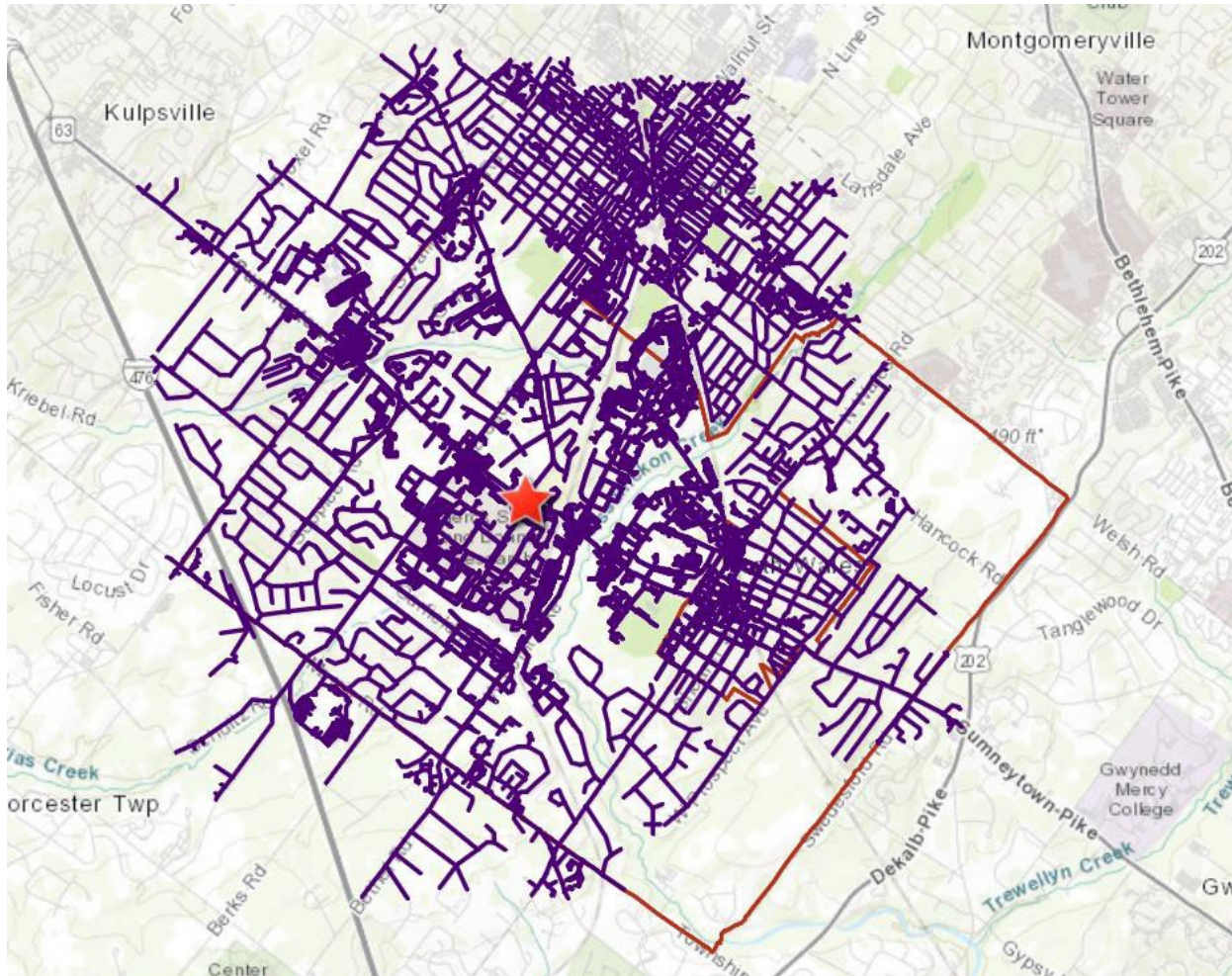
ISO Engine Company 1.5 Miles



Proposed Fire Station Location

Allentown Road and Sumneytown Pike. East and West Corners

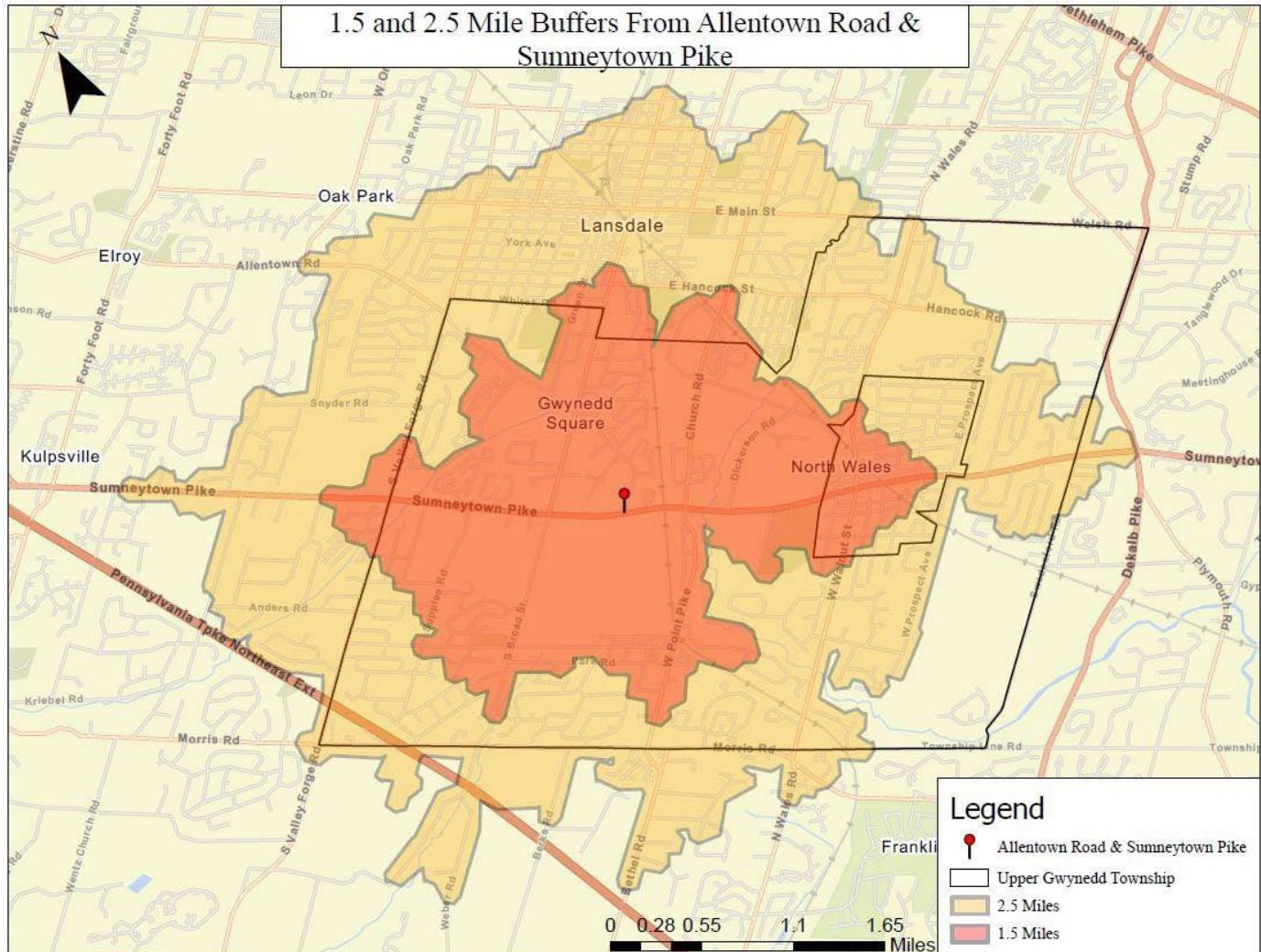
ISO Ladder Company 2.5 Miles



Proposed Fire Station Location

Allentown Road and Sumneytown Pike. East and West Corners.

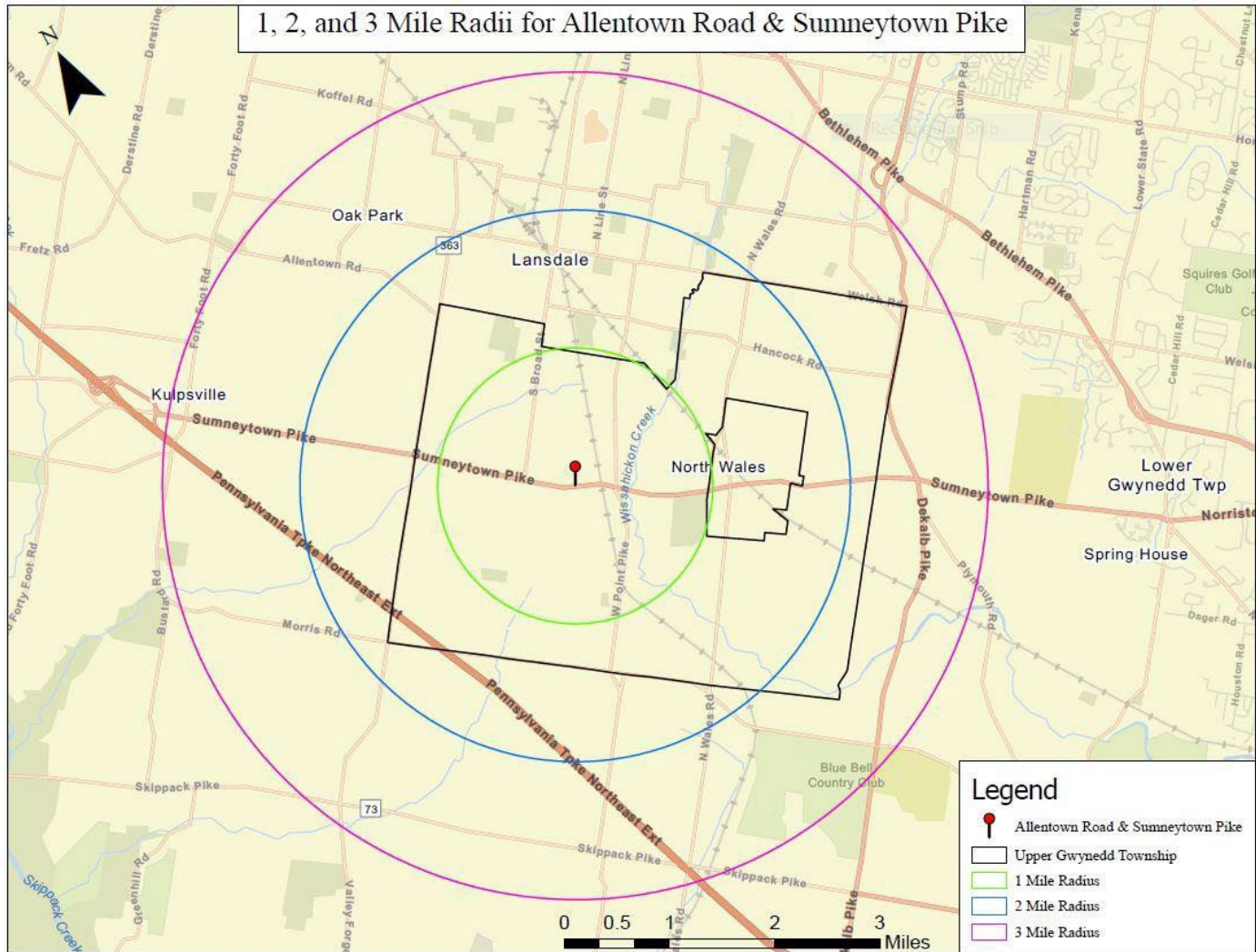
ISO 1.5 Mile Engine Company & 2.5 Miles Ladder Company - Overview



Proposed Fire Station Location

Allentown Road and Sumneytown Pike. East and West Corner

1-2-3 Mile Radius



Location Recommendation

Evaluation of each of the proposed locations based upon the noted methodologies reveals that the optimum site for a fire station would be the West Corner of Allentown Road and Sumneytown Pike. This 11.8-acre location, also noted as Parcel 560000112003, is zoned R-1, this would require either a Zoning Map Amendment by the Upper Gwynedd Commissioners or Use Variance by the Zoning Hearing Board. The location is optimum as a nearly centrally located location for response efficiency and geographical coverage. The size of the parcel will allow for design, planning and construction of a contemporary fire station for the future fire protection needs and demands of the community of Upper Gwynedd.