Standards of Cover

Mount Laurel Fire District #1

May 2023

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Summary of Tables and Figures

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Section 1 - Description of Community Served

ORGANIZATION

The Mount Laurel Fire Department (MLFD) was created by ordinance of the Township Council in 1953. Although formally created, the fire department truly existed in name only and for some administrative responsibilities until the creation of the Mount Laurel Fire District No.1 by the Township Council in 1983. It was at that point that the department took a singular shape.

Before that, two separate volunteer fire companies provided fire protection services. Masonville Fire Company #1 was founded in 1913 and has been located since that time on a parcel of land that the Haines family donated at 105 Masonville-Centerton Road in the Masonville section of the township. The Masonville section consisted of the eastern half of the township. Fellowship Fire Company #2 was founded in 1943 with a single pumper provided by the Masonville Fire Company #1. Art Mason initially held the title of Chief for both fire companies during the initial creation of Fellowship Company #2. The first Fellowship Fire Company #2 Fire Station 362 was originally located at 1 Oregon Avenue. In 1953, a new fire station was built diagonally across the street at 3824 Church Road on land that was donated by the township's first police chief, Anthony Panarella. The Fellowship section consisted of the western half of the township.

In 1973, with a construction boom of residential property in the center core of the township, Fellowship Fire Company #2 built a two-bay drive-thru sub-station known as the Birchfield Fire Station 363 located at 71 Elbo Lane. This station housed an engine and a brush truck. In 1994, the Church Road station 362 was razed and replaced with a new, three-bay drive-thru, 10,000 square-foot facility. Also, in 1994, the fire department acquired a vacant office/warehouse flex building located at 69 Elbo Lane immediately adjacent to Birchfield Station 363. This building was converted to suit the needs of the fire district. Presently, this property houses the administrative offices of the fire commissioners, fire chief, and the bureau of fire prevention along with other ancillary areas serving the needs of the department.

For many years, funding for the two fire companies was provided by the town council and through vigorous fundraising activities conducted by the volunteer members. Mail-in donations, oyster suppers, chicken barbecues, car washes, hoagie sales, bingo, and hall rentals are some examples of fundraiser activities and sources of income. These activities provided enough revenue to afford only the basic necessities for operating the apparatus and buildings. Only small amounts could be spent on new/used apparatus, training courses, firefighting equipment, and basic personal protective firefighting gear for its members. By 1983, the burden of trying to provide quality fire protection through these types of fundraising efforts became too great. The members of both fire companies along with concerned citizens petitioned the town council to create the Fire District as a separate taxing authority having the specific responsibility for funding fire protection services. The town council took action by creating the Mount Laurel Fire District No. 1.

The MLFD's first employee, the fire marshal, was appointed in 1984 and the Bureau of Fire

Prevention was formally organized in 1985. That was followed by the appointment of the department's first career firefighters in 1986. Following the growing demands of the department, a full-time business administrator was appointed in 1988. The fire department continued to grow in size and responsibilities which necessitated the need for a full-time career chief. This resulted in the formal reorganization of the two fire companies into one department having two divisions. Division 1 comprises the eastern side of the township and is serviced by the Masonville fire station. Division 2 comprises the western side of the township and is serviced by the Fellowship and Birchfield fire stations.

The operations of the fire department are supervised by a chief of department. The chief of department is a career position and reports to the BOFC. Reporting to the Chief of Department are two deputy fire chiefs. The deputy fire chief of operations oversees all aspects of preparing for and responding to emergency incidents. The financial and business matters of the fire district are handled by the deputy fire chief of administration.

The training division is staffed with a captain who coordinates the training of personnel. The training captain reports to the deputy fire chief of administration.

A duty battalion fire chief is assigned to station 363 and is responsible for providing command and control activities on emergency scenes. Additionally, the duty battalion fire chief is responsible for the daily activities and assignments of career personnel. Line personnel consists of 45 career firefighters and a varying number of active volunteer firefighters which hovers around 25. Career personnel working in the fire stations do so in 24-hour shifts. Additionally, volunteer staffing consists of a combination of in-house duty crews and call back to supplement the career personnel. The combination of volunteer and career on-duty staffing allows for more efficient response times while calling back volunteers provides additional personnel to provide depth for emergency operations sustainability.

Our standard of coverage consists of the following staffing:

- ☐ Station 361 (Masonville) – staffed 24/7
- ☐ Station 362 (Fellowship) – staffed 24/7
- ☐ Station 363 (Birchfield) – staffed 24/7
    - ☐ Volunteer duty crew weeknights 1800 - 0600 hours

A company is manned at a minimum by a supervisor referred to as a company officer and three firefighters. Staffing numbers vary based on volunteer availability and career schedules.

The Bureau of Fire Prevention (BOFP) is supervised by a fire marshal. The BOFP employs an assistant fire marshal, two full-time and one part-time civilian fire inspector. Most of the career personnel are certified fire inspectors who conduct fire inspections on behalf of the BOFP. The fire marshal reports to the deputy chief of operations.

The BOFP is the local enforcing agency for the township and has the statutory responsibility to enforce the New Jersey Uniform Fire Code. Fire inspectors conduct annual inspections of all businesses and buildings within Mount Laurel Township which exceed 5,500 inspection tasks per year. Fire inspectors also inspect for permit issuance and compliance, and investigate all complaints registered with the bureau regarding possible violations of the fire code. The fire marshal is responsible for conducting and documenting all origin and cause fire investigations.

The BOFP also conducts inspections under the New Jersey Uniform Fire Code which requires a certificate of smoke and carbon monoxide alarm compliance in dwelling units before any change in ownership or occupancy.

FIRE DISTRICT AND TOWNSHIP GOVERNMENT

The Mount Laurel Fire District No. 1 (Fire District) operates under N.J.S.A. Title 40A and is governed by five fire commissioners (BOFC) who are elected to staggered three-year terms. There is a chairperson, treasurer, clerk, and two at-large commissioners. The fire district conducts an annual election each year during the general election in November for the election of fire commissioner(s) and other applicable statutory requirements.

Mount Laurel Township is operated under a Mayor and Council format. There is a mayor, a deputy mayor, and three at-large council seats. The mayor and council are elected to staggered four-year terms during general elections in November.

Although separate government entities, the Fire District and Township work closely together to ensure that township officials are informed on fire operations.

MLFD FINANCIAL MANAGEMENT

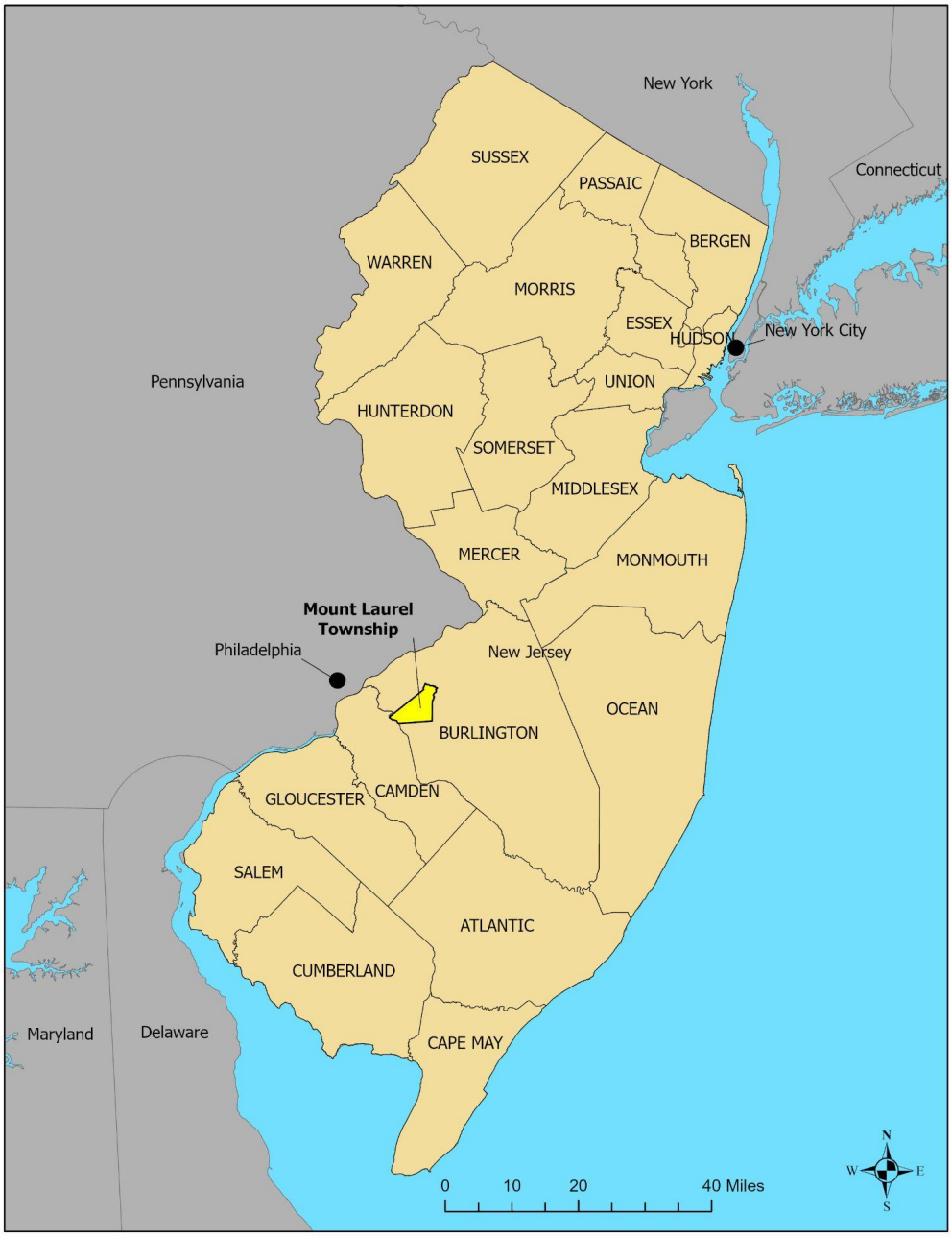
The MLFD operates on a calendar year budget cycle; January 1 to December 31. The chief of department and the business manager prepare the annual budget with input from the deputy chiefs of operations and administration, unit leaders, battalion chiefs, and station captains. The budget is introduced to the BOFC in the fall of each year for revision and/or approval. The approved budget is submitted to the NJ Division of Local Government Services (DLGS) for approval. Once approved by the DLGS the BOFC sets a public hearing date in November of each year for public comment. The BOFC will then adopt the budget after the public hearing.

The township's tax assessor collects the fire tax on behalf of the fire district and disperses quarterly tax payments to the fire district on February 1st (25%), May 1st (25%), August 1st (25%), and December 1st (25%). The fire tax is the primary revenue funding source for the fire district (91%) followed by miscellaneous revenue (7%) and reserves (2%). The current bond rating for the fire district is AA. The fire district uses budgeting techniques such as line item budgeting, and multi-year budgeting projections, with a focus on sustainability and maintaining quality of services.

MOUNT LAUREL TOWNSHIP LOCATION

Mount Laurel township is located in Burlington County New Jersey, seven miles southeast of the city of Philadelphia, Pennsylvania. Mount Laurel township is the 12th largest municipality in Burlington County. The total area of the township is 21.98 square miles of which 21.08 is land and 0.9 is water.

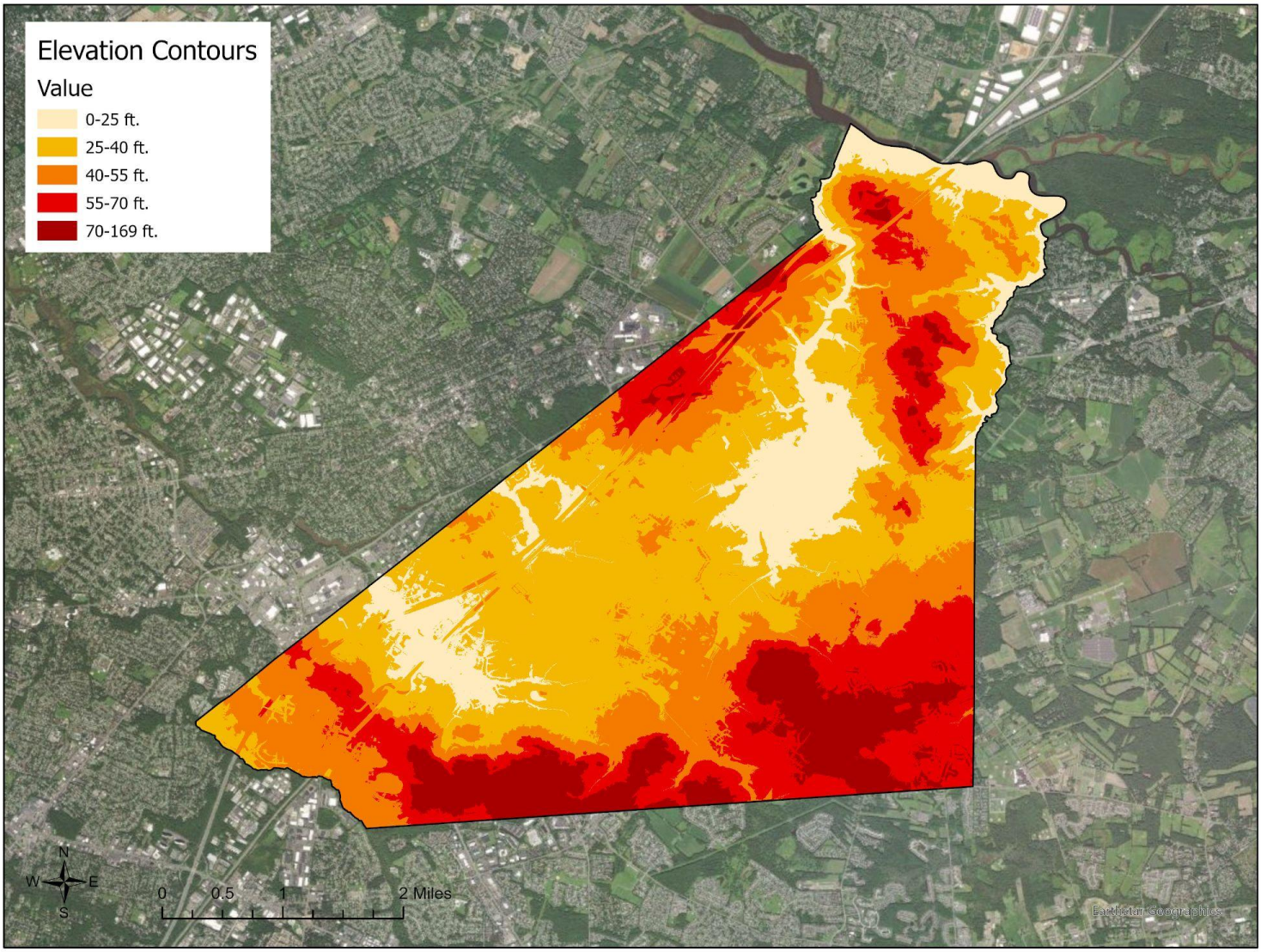
Figure: Geographic Location



MOUNT LAUREL TOPOGRAPHY

The land area is generally flat with a slight elevation rise in the southeastern quadrant of the township and a low-lying area in one residential subdivision that is prone to flooding during severe rain storms. There are 27 public parks in addition to a portion of the Rancocas State Park which lies in the northeastern section of the community along the Rancocas Creek and its tributaries. There is a 27-hole public golf course and approximately 1,362 acres of land that have been designated as green acres. Mount Laurel has several state and county roads along many feeder roads that allow for emergency vehicles the access required to respond expeditiously throughout the township. Conrail operates a rail system that passes through Mount Laurel connecting an industrial yard in neighboring municipalities to the statewide rail network. This portion of rail affects emergency vehicle access for a brief time once in the morning and again in the evening.

Figure: Topography



CLIMATE

The weather a community experiences can have an impact on the fire department's ability to respond. Extreme weather, although rare, does occur in our region. Mount Laurel is considered to have a humid subtropical climate with an average precipitation of 48.25 inches. Winters are categorized as cool/cold and summer as hot and humid. Crippling low temperatures and severe winter storms resulting in heavy snowfalls and power outages do occur, however, not for long periods. Thunderstorms with strong winds along with significant rain events will happen during the spring, summer, and fall months and often cause fallen trees and power outages. Recent storms such as Hurricane Irene (2011), Superstorm Sandy (2012), and Hurricane Ida (2021) resulted in damage within our community.

Table: 2021 - Average Temperature and Precipitation

2021 - Average Temperature and Precipitation													
Month		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high	°F	47	45	67	74	83	85	86	87	79	74	61	56
	°C	8	7	19	23	29	30	30	31	26	23	16	14
Average low	°F	24	26	32	37	50	63	67	70	63	54	39	33
	°C	-4	-3	0	3	10	17	20	21	17	12	4	0
Average dew point	°F	23	24	30	38	46	62	66	67	60	55	33	32
	°C	-5	-4	-1	3	8	17	19	20	15	13	1	0
Average precipitation	In.	0.05	0.14	0.14	0.12	0.1	0.08	0.22	0.2	0.15	0.15	0.02	0.05
	mm.	1.27	3.56	3.56	3.05	2.54	2.03	5.59	5.08	3.81	3.81	0.51	1.27

Source: Weather Underground

Table: 2021 - Average Wind

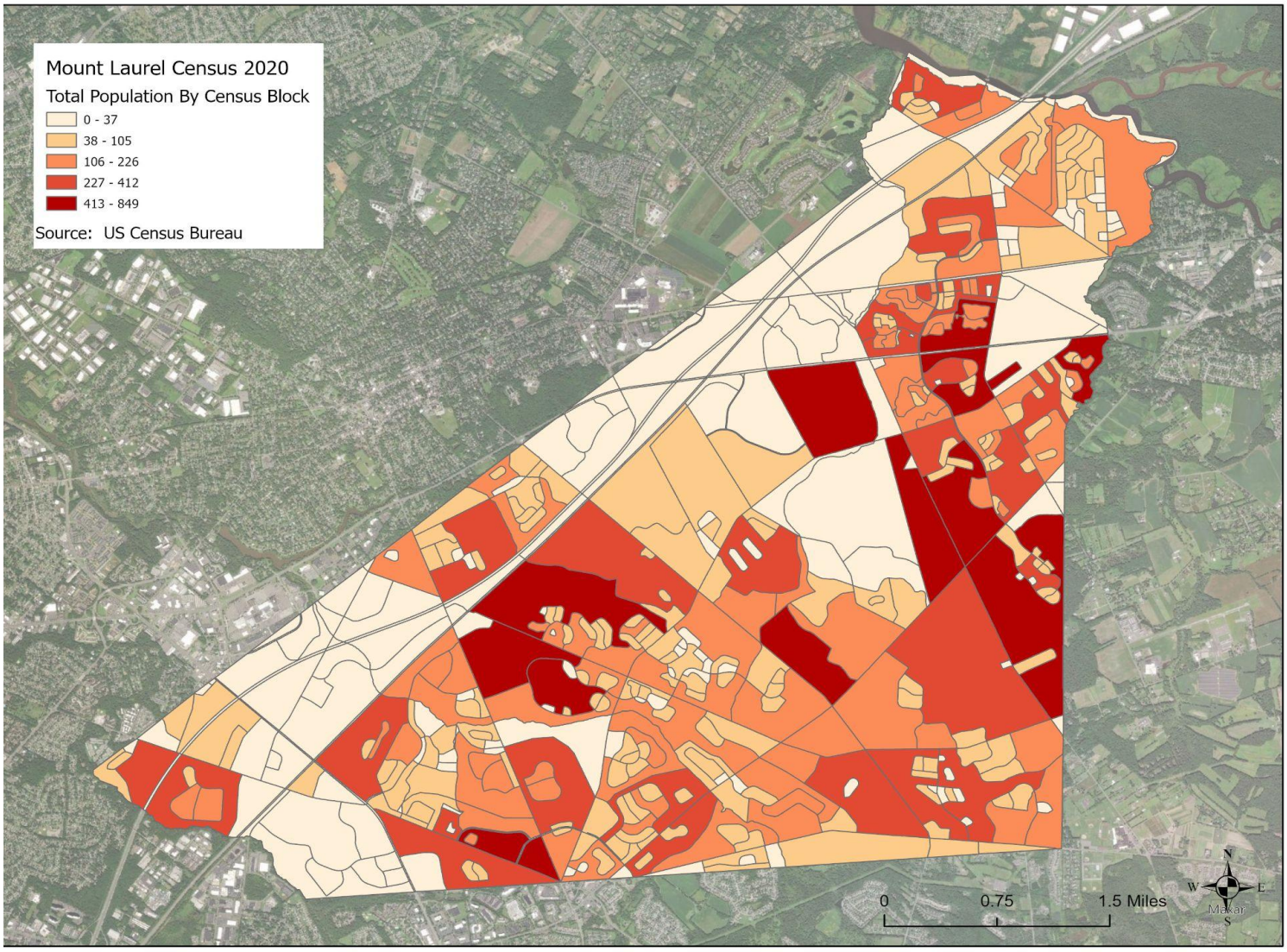
2021 - Average Wind													
Month		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max sustained wind	mph	31	28	39	38	29	36	31	29	26	30	26	30
	knot	27	24	34	33	25	31	27	25	23	26	23	26
Average sustained wind	mph	10	10	10	10	9	8	8	7	8	8	8	7
	knot	8	8	9	9	8	7	7	6	7	7	7	6
Max gust wind	mph	43	37	48	52	39	48	43	44	35	40	45	49
	knot	37	32	42	45	34	42	37	38	30	35	39	43
Average gust wind	mph	4	3	5	6	3	2	1	1	3	3	3	2
	knot	4	3	5	5	3	1	1	1	2	2	3	2

Source: Weather Underground

POPULATION

Mount Laurel is approximately 89% developed with residential and commercial properties. The current population of Mount Laurel is 44,633 which is based on the 2020 census compared to 41,864 from the 2010 census. The average family size is 2.98 persons, median age is 43.3 and the population over 65 is 8,033. The population density is 1,930 people per square mile with 17,494 housing units.

Figure: Census (2020)



Section 2 - Review of Services Provided

DEPARTMENT OVERVIEW

The MLFD is an all-hazards trained department, responding to fire, medical, hazardous materials, and technical rescue emergencies. All emergency and non-emergency services are developed, maintained, and provided by highly trained professionals dedicated to quality service delivery. The MLFD is a combination fire department with personnel composed of both career and volunteer firefighters.

The MLFD responds to emergencies from three fire stations operating one engine company and two quint companies. It also operates a technical rescue team, a 4,000-gallon firefighting AR-AFFF foam tender, and has several marine units. To carry out its mission effectively, the MLFD is organized into four divisions: administration, operations, fire prevention and public education, and training and safety. The MLFD also partners with Mount Laurel Township's Office of Emergency Management in staffing and coordinating emergency management functions for the township.

- Administration - provides direction and policy, human resources, financial management, and facility and fleet maintenance. This division also supports the department through logistics by procuring and distributing supplies, apparatus, and equipment to all personnel and facilities. Administration is also responsible for all aspects of information technology as it relates to administration and emergency response.

- Operations - is responsible for the protection of lives, property, and the environment by responding to fire, EMS, and all-hazards emergencies. It further performs pre-fire planning inspections and public education programs to increase fire and life safety awareness and community risk reduction

- Training and Safety - coordinates and/or provides all-hazards and continuing education training for fire inspector and EMS certifications to ensure members are competently trained in the skills required for MLFD to deliver high-quality emergency services throughout our community. Furthermore, this division works to prevent or reduce injuries and/or occupational exposures, while enhancing the overall health and wellness of our personnel.

- Fire Prevention and Public Education - promotes public safety by administering fire codes and standards, conducting commercial building inspections, enforcing compliance with code requirements, and conducting fire investigations. It provides public education on fire and life safety practices to all public schools in Mount Laurel through the use of social media, live presentations, and community outreach programs throughout the year. In the future, efforts will be focused on a more formal community risk reduction program.

SERVICES PROVIDED

The MLFD provides a variety of services, including fire suppression, first responder emergency medical service, and technical rescue services (entrapment extrication, high-angle rescue, initial trench rescue, and confined space rescue). The MLFD is a member of the Burlington County Urban Search and Rescue (USAR) team aiding in the provision of technical rescue services to Burlington County and deployment throughout the state as needed. The following figure provides basic information on each of the department's core services, its general resource capability, and information regarding staff resources.

Table: Core Emergency Services Summary

Service	General Resource/Asset Capability	Basic Staffing Capability per Shift
Fire Suppression	Two staffed Quints One staffed Engine One Command unit Additional automatic and mutual aid engines, aerials, and support units available	Minimum of 13 suppression-trained personnel per day Additional volunteer and automatic/mutual aid firefighters available Four minimum per apparatus one minimum on command unit
Vehicle Extrication	One rescue is equipped with hydraulic rescue tools, hand tools, airbags, cutting saws, and stabilization cribbing. Additionally, all first-out apparatus carries a complement of hydraulic rescue tools.	Firefighters receive extensive training in basic and advanced vehicle extrication tactics.
High-Angle Rescue	One rescue company equipped with rescue rope, software, and all associated hardware.	All personnel assigned are trained to the operations level. Four personnel per shift trained to the technician level in rope rescue.
Trench and Structural Collapse Rescue	One rescue company with pneumatic shoring jacks, sheeting, cribbing, limited lumber, and hand tools for initial stabilization.	All personnel assigned are trained to the operations level. Four personnel per shift trained to the technician level in trench and collapse rescue.
Confined Space Rescue	One rescue company equipped with a tripod, SABA, communications set, air monitoring equipment, ventilation, basket stretchers, and rope rescue gear	All personnel assigned are trained to the operations level. Four personnel per shift trained to the technician level in confined space rescue.

ASSETS AND RESOURCES

FIRE STATIONS

Fire stations play an integral role in the delivery of emergency services for several reasons. A station's location will dictate, to a large degree, response times to emergencies. The MLFD maintains three staffed stations 24/7/365. The stations are adequately equipped with personnel, apparatus, and equipment. Historically MLFD station locations have been positioned in strategic locations to keep up with the growth of the township and to best serve the community.

STATION 361 (Masonville)

Fire Station 361 is located at 105 Masonville Road and houses Quint 3614, Foam 36, Brush Truck 3616, a 16' v-hull rescue boat, and a 12' inflatable rescue boat. As the first-due company on the east side of town, its response area has the most residential population compared to other locals in town. It covers such areas as the Centerton Square Shopping Center, the Rowan College at Burlington County (RCBC) campus, Roosevelt Paper Company, the 4N Service Plaza on the NJ Turnpike, a portion of the Rancocas State Park and Rancocas Creek, and many multiple dwelling structures consisting of townhomes and condominiums. This station provides automatic mutual aid to Willingboro, Hainesport, Moorestown, Westampton, Mount Holly, Lumberton, and Eastampton.

STATION 362 (Fellowship)

Fire Station 362 is located at 3824 Church Road and houses Quint 3624 and Rescue 3639. Being situated near the Route 73 corridor, this company's local primarily consists of hotels/motels, a mix of commercial structures including office buildings, car dealerships, restaurants, and residential properties. This location provides easy access to both Interstate 295 and the New Jersey Turnpike (I-95). This company provides automatic mutual aid to Cherry Hill, Maple Shade, Moorestown, and Lenola.

Furthermore, Rescue 3639 carries an array of equipment designed for various types of technical rescue events, such as; motor vehicle accidents, building collapse, trench rescue, high-angle rescue, and confined-space rescue. Personnel assigned to this station rely on their training to ensure they are proficient with all the additional equipment and ready for any type of rescue scenario that may come their way. Rescue 3639 provides automatic aid to the Burlington County Urban Search and Rescue (USAR) team.

STATION 363 / HEADQUARTERS (Birchfield)

Fire Station 363 is located at 69 Elbo Lane and adjoins the MLFD Headquarters. It houses Engine 3631, Engine 3632, Ladder 3635, and Battalion 3603. As the first-due company to the center of town, its response area consists of mixed residential and commercial occupancies. It covers such areas as the Holiday Village retirement communities, Ramblewood Country Club, Buckeye Partners petroleum storage facility, and various commercial warehouse facilities.

Battalion 3603 is housed in this station and is the shift commander for the on-duty platoon. The shift commander is responsible for overseeing the day-to-day operations of the department and assumes incident management/command on all significant emergencies.

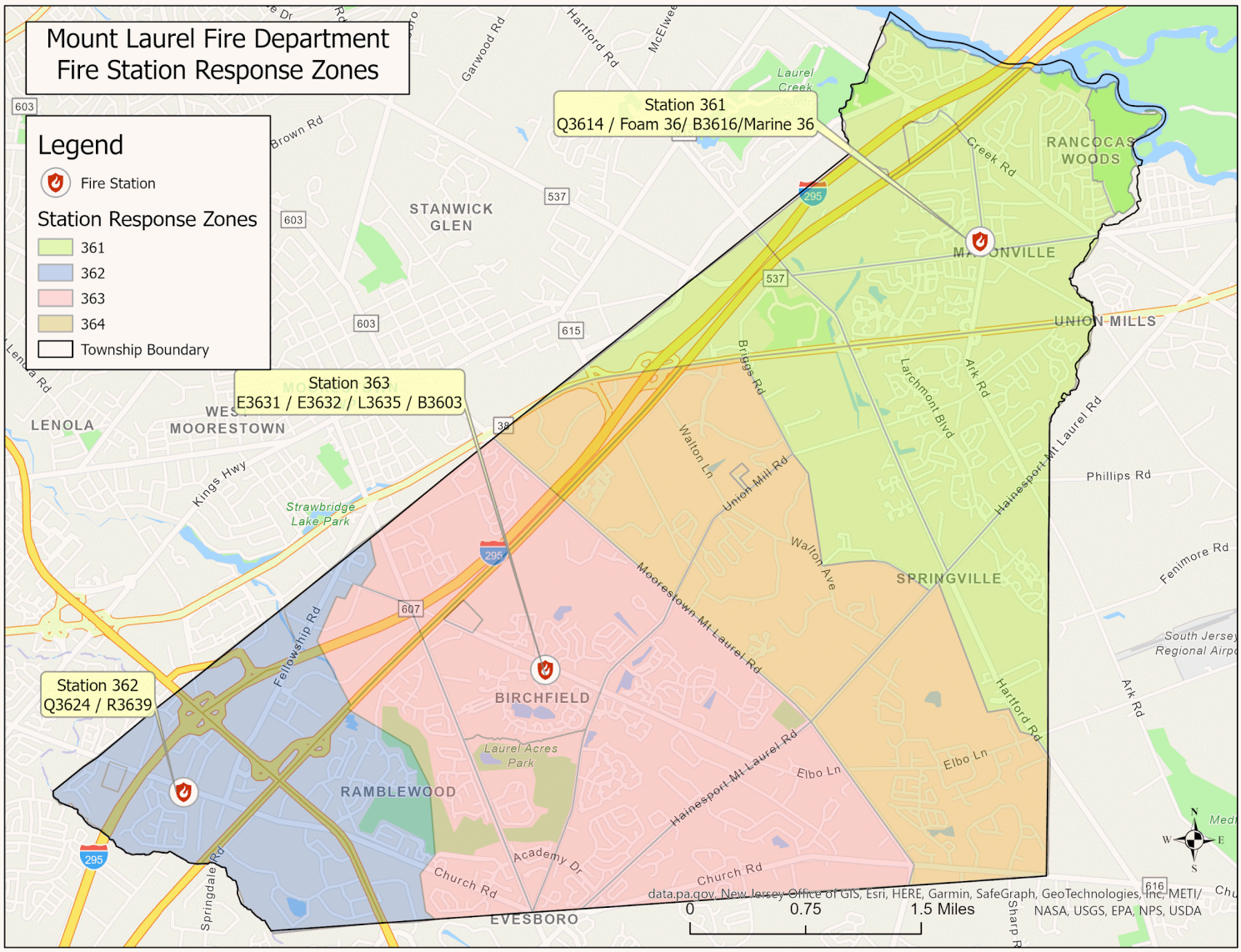
This company provides automatic mutual aid to Evesham and Moorestown.

FUTURE STATION 364

The department has recognized a lag in response times in the southeastern section of Mount Laurel and has been closely monitoring the area for growth and service demands in anticipation of a formal needs assessment to determine the viability of constructing a new emergency services facility to include a fire station. While this local is considered to be the most sparsely populated in the town, it has been subject to recent residential development. In addition to residential properties, this area includes a local walking trail system and two elementary schools. Additionally, the Lenape Regional High School and a small regional airport are both less than one mile from our municipal border. While fire hydrants are being added as development occurs, this area presents some water delivery problems for the MLFD. In this area, approximately 76 structures (0.3%) are further than 1000’ from their closest fire hydrant. Most of the structures are located on Hartford Road between Hainesport-Mount Laurel Road and Elbo Lane.

The following exhibit represents the location of MLFD stations and fire response locals.

FIGURE: CURRENT FACILITY DEPLOYMENT



APPARATUS

The MLFD maintains an appropriate fleet of apparatus, light duty vehicles, reserve, and specialty vehicles which are vital in supporting quality service delivery to the community. The following figure lists the apparatus assigned to each of the three fire stations. All special operations vehicles are staffed by firefighting personnel assigned to their respective stations.

Table: MLFD Fleet Assignments

MOUNT LAUREL FIRE DEPARTMENT				
FLEET ASSIGNMENTS				
APPARATUS/UNIT #	**YEAR**	**MAKE**	**TYPE**	**STATION ASSIGNMENT**
FRONT LINE APPARATUS				
3614	2020	Ferrara Inferno HD-77	Quint	361
3624	2020	Ferrara Inferno HD-77	Quint	362
3631	2020	Ferrara Cinder	Engine	363
3632	2012	KME	Engine	363
3635	2001	E-One 95'	Ladder Tower	363
3639	2012	KME Severe Service	Rescue	362
RESERVE FIRE APPARATUS/VEHICLES				
3611	2001	E-One Cyclone II	Engine	Reserve
3615	2013	KME RM Severe Service 103'	Ladder	Reserve
3603	2009	Ford Expedition XLT	SUV	Reserve
LIGHT DUTY SUPPORT VEHICLES				
BC 3603	2019	Chevy Tahoe	SUV	363
Safety 3606	2012	Ford Explorer	SUV	Training
3618	2009	Ford Expedition XLT	SUV	361
3628	2010	Ford Escape	SUV	362
3638	2016	Ford F-250 4x4	Pick-up Truck	363
SHOP 36	2016	Ford F-250 4x4	Utility Truck	MM
SPECIAL APPARATUS				
Foam 36	2013	KME Custom / Mack Granite	Tender	361
3617	2022	Ford F-350	Brush Truck	361
Marine 361A	1995	16' Mirrocraft Aggressor (25 HP Mercury outboard motor)	Boat	361
Marine 361B	2016	Zodiac Cadet FR360 (9.9 HP Mercury outboard motor)	Boat	361
Marine 361C	2023	INMAR SAR 430	Boat	361
Marine 362	2023	INMAR SAR 430	Boat	362

BUREAU OF FIRE PREVENTION				
FI361	2022	Nissan Leaf	Sedan	BOFP
FI362	2022	Nissan Leaf	Sedan	BOFP
FI363	2022	Nissan Leaf	Sedan	BOFP
FM361	2012	Ford Explorer	SUV	BOFP
FM36	2021	Ford F-250 (Super Cab)	Pick-up Truck	BOFP
STAFF VEHICLES				
3600	2019	Chevy Tahoe	Command	HQ
3601	2023	Chevy Tahoe	Command	HQ
3602	2023	Chevy Tahoe	Command	HQ

The MLFD uses several types of apparatus as shown in the figure above. The department's apparatus are kept in a state of readiness, are properly equipped, and are maintained by an internal maintenance shop that is staffed by a full-time Emergency Vehicle Technician certified mechanic.

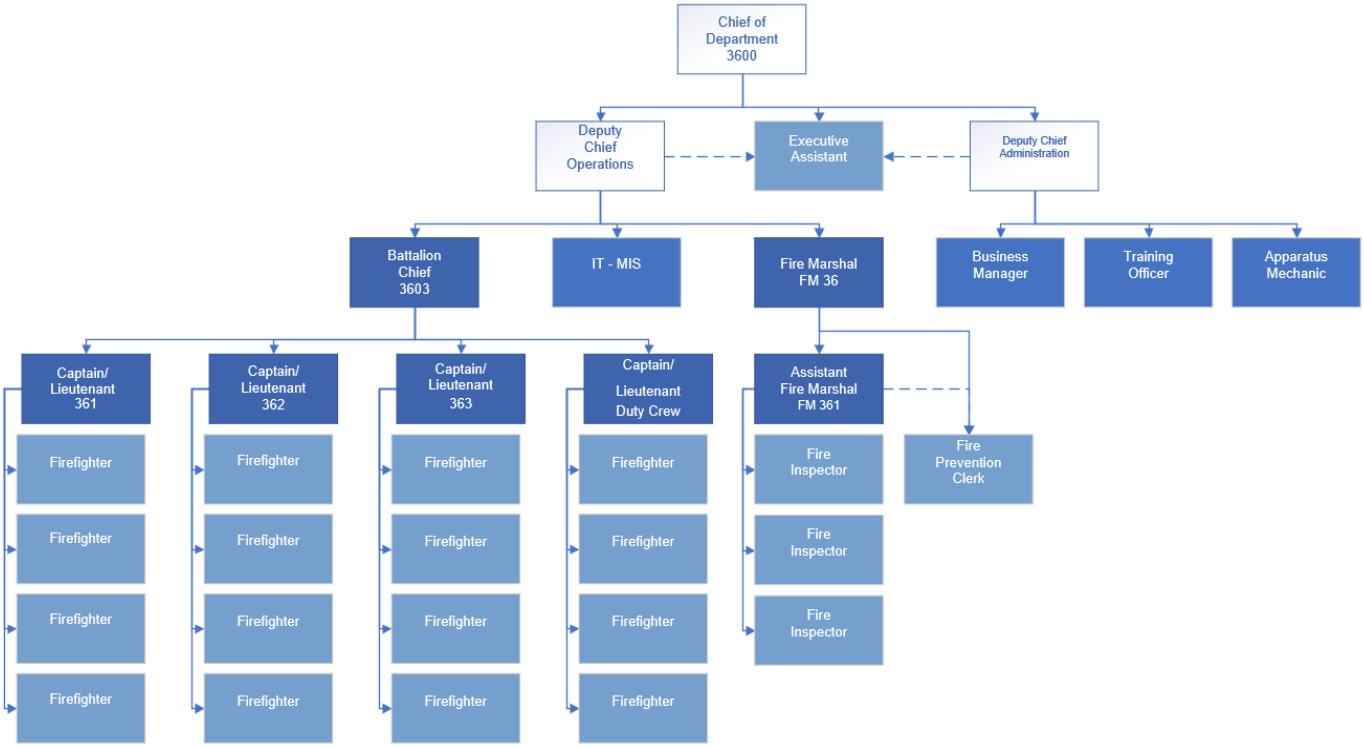
STAFFING INFORMATION

Effective fire and emergency service organizations must provide adequate staffing in four key areas: emergency response services, administration, risk mitigation (prevention), and support. Key support functions include personnel training and development, logistics services, and records management.

ORGANIZATIONAL STRUCTURE

The MLFD is organized in the typical top-down hierarchy. The chain of command is identified with common roles for a department of this size. The MLFD has three stations that house emergency response resources. The department's administrative office is co-located with station 363 on Elbo Lane. The department's multiple facilities and its three-shift, 24-hour per-day, seven-days-per-week operational schedule create various internal communications and management challenges. The department's organizational chart is functional and primary roles are well identified to properly manage the operations of the department.

Figure: MLFD Organizational Structure



Presently, the MLFD is authorized for 62 career and 40 volunteer positions. The MLFD's volunteer duty crew program is currently staffed by 25 members with 15 vacant positions. The department is continually recruiting new volunteers to staff and maintain all vacant duty crew positions Monday through Friday. Volunteer callback is utilized to supplement career personnel during the weekends.

ADMINISTRATION AND SUPPORT STAFF

One of the primary responsibilities of a department's administration and support staff is to ensure that the organization's operational elements have the ability and means to accomplish their service delivery responsibilities. Without sufficient oversight, planning, documentation, training, and maintenance, the department's operational entities will struggle to perform their duties well. Like any other part of a fire department, administrative and support functions require appropriate resources to function efficiently.

There are approximately 100 individuals involved in delivering or supporting response services to Mount Laurel Township. The MLFD uses full-time, part-time, and volunteer staffing to carry out its functions. All administrative and support staff are career personnel. The department's primary management team includes the chief of department, two (2) deputy fire chiefs, three (3) battalion fire chiefs, a fire marshal, and a business manager.

MANAGEMENT, ADMINISTRATION, AND SUPPORT PERSONNEL BY POSITION

Table: Management, Administrative, and Support Positions

Position	Number
Chief of Department	1
Deputy Fire Chiefs	2
Fire Marshal / Assistant FM	2
Training Captain	1
Fire Inspectors	3
Business Manager	1
Mechanic	1
IT Manager	1
Administrative Clerks	2
Total	**14**

EMERGENCY SERVICES STAFF

Providing quality emergency services to our community requires a sufficient number of competently-trained emergency responders, proper fire service apparatus, and firefighting/rescue equipment. These are essential elements in responding to, mitigating, and reducing emergency incidents. The following figure shows emergency personnel by rank.

EMERGENCY RESPONSE PERSONNEL BY RANK

Table: Response Personnel Positions

Position	Career	Volunteer
Battalion Fire Chiefs	3	0
Captains	3	1
Lieutenants	6	4
Firefighters	36	25
Total	**78**	

Regardless of the raw number of personnel available, the actual number of emergency responders the agency can deliver to an emergency is critical. This almost always relates to the actual number of emergency responders available for immediate deployment. The MLFD staffing model provides 24/7/365 on-duty staffing of one (1) battalion fire chief, three (3) company officers, and twelve (12) firefighters.

METHODOLOGY FOR INCIDENT STAFFING

This document will analyze how well the MLFD dedicates resources to incidents within its primary service area. This data is important and can be an indicator for the department as to the effectiveness of its delivery model. The MLFD references methodology as recommended by NFPA 1710, Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments when determining adequate staffing levels for fire department operations.

It is also true that for larger more complex incidents, the MLFD typically operates with one or more neighboring fire departments to provide fire protection and life safety services through a coordinated regional response system of mutual and automatic aid agreements. This is particularly true for large structure fires, high-risk incidents, and periods of high incident activity where there is an increased need for resources and personnel which exceed MLFD capabilities.

The typical response to a reported structure fire in Mount Laurel is three (3) engines, two (2) quints, one (1) rapid intervention team (RIT), and a chief officer. This assignment is further upgraded upon the issuance of an “all hands” declaration by the incident commander which prompts the dispatch of additional resources to support fire suppression operations and the backfilling of Mount Laurel fire stations with mutual aid resources to maintain a level of fire protection within the Township.

Section 3 - Review of Community Expectations

The ultimate goal of any emergency service delivery system is to provide sufficient resources (personnel, apparatus, and equipment) to the scene of an emergency in time to take effective action to minimize the impacts of the emergency. This need applies to fires, medical emergencies, and any other emergency to which the fire department responds. Incident priorities for the fire service are life safety, incident stabilization, and property and environmental conservation. Obtaining and understanding the desires and expectations of community stakeholders is an important first step. The MLFD is committed to incorporating the needs and expectations of residents and policymakers in the service delivery planning process.

The primary responsibility of the Board of Fire Commissioners (BOFC) is to evaluate the service delivery model and ensure it is sufficient, based on the recommendation of the Office of the Fire Chief. The BOFC and the command staff routinely discuss service delivery and expectations. While not listed, this document takes into consideration the community's feedback offered during open public meetings, on social media, and during any number of community events. Meetings between the chief of department and township manager serve as an opportunity for feedback from the Mount Laurel township council. Service delivery is routinely discussed during monthly command staff meetings attended by Mount Laurel Emergency Medical Services, Mount Laurel Police Department, and Mount Laurel Office of Emergency Management. We strive to build relationships with our community partners to enhance interoperability to improve our services and the quality of life for our community.

The MLFD performed an internal needs assessment of our members to solicit feedback through a SWOT analysis. A SWOT analysis solicits input on organizational strengths, weaknesses, opportunities, and threats. All members including the BOFC and labor representatives were afforded the opportunity to provide feedback. Twenty-eight (28) total responses were received and were grouped as follows:

- chief/fire marshal (chief officers, fire marshal, and assistant fire marshal) = 4
- captain/lieutenant = 9
- firefighter (career and volunteer) = 12
- support staff (fire inspectors and administrative staff) = 2
- other = 1

The following outlines the respondents years of service:

- 0-5 years = 15%
- 5-10 years = 12%
- 10-15 years = 12%
- 15-20 years = 19%
- 20-25 years = 31%
- >25 years = 12%

The results of the completed SWOT analysis were broken down by category. Each of the participants' ideas was included, even if the idea was a stand-alone or duplicate. Below are the results:

- Strengths – 109
- Weaknesses – 106
- Opportunities – 91
- Threats – 107

The table below summarizes the results from the SWOT Analysis:

Table: SWOT Analysis Results

STRENGTHS	WEAKNESSES	OPPORTUNITY	THREATS
Facilities, Apparatus & Equipment	Training Delivery	Recruitment & Retention (Career & Volunteer)	Economic Climate
Deployment & Personnel	Professional Development & Succession Planning	Health & Safety Trend Analysis	Rapid Upward Mobility of Personnel following Senior Staff Retirements
Customer Service	Workload Distribution/Time Management	Relationships – Marketing & Social Media	Alternative Fuel Issues
Relationships: Fire, EMS, Police, OEM, Township Government	Community Risk Reduction, Planning & Outreach	Outreach Programs: Fire Safety Training, Community Meetings	Increased Call Volume
Organization Structure, Policies & Leadership	Organizational Vision	Organizational Growth: Personnel, Technology, & Training	Dwindling Volunteerism

Section 4 - Overview of Community Risk Assessment

This section analyzes certain categorical risks that are present within Mount Laurel Township that potentially threaten the people and businesses within the community and that can create response demands for MLFD. Identifying these risks aid in determining resource deployment to effectively respond to likely emergencies.

GENERAL RISK ASSESSMENT

The fire service assesses the relative risk of properties based on a number of factors. Properties with high fire and life risks often require greater numbers of personnel and apparatus to effectively mitigate a fire emergency. Staffing and deployment decisions should be made with consideration of the level of risk within geographic sub-areas of a community.

The risk level is defined as follows by the Center for Public Safety Excellence (CPSE):

- **Low risk** – Minor incidents involving fires in detached garages, small sheds, vehicle fires, rubbish fires, and small vegetation fires.

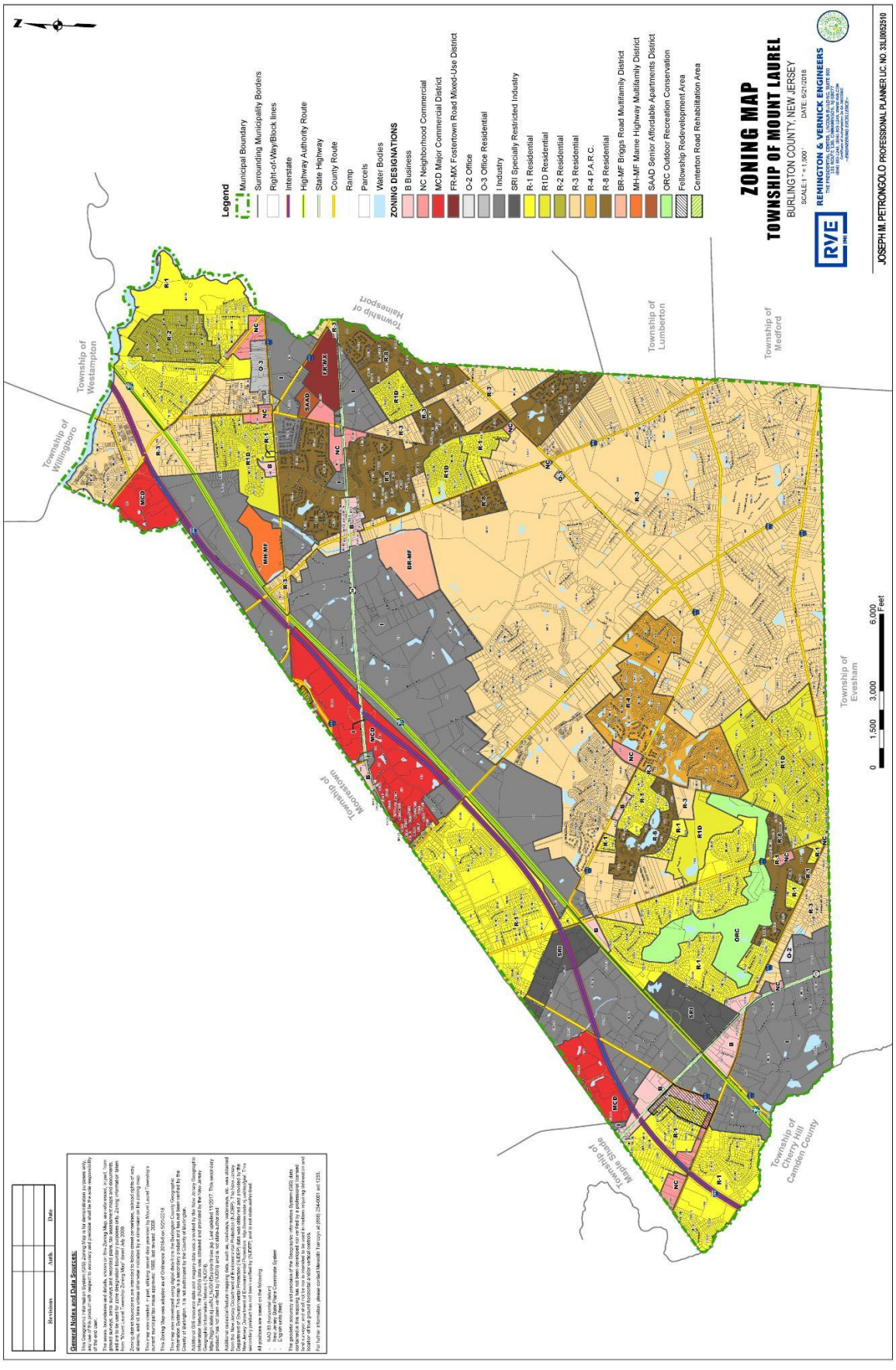
- **Moderate risk** – Moderate risk incidents involving fires in single-family dwellings, multi-family dwellings, small/medium apartment/condominiums (<39 units), and small commercial occupancies (<10,000 square feet).

- **High risk** – High-risk incidents involving fires in office buildings, low/mid-rise hotels, schools, large shopping centers, large occupancy units (40+ units), large commercial buildings (>10,000 square feet), senior citizen housing, and skilled nursing facilities.

- **Special risk** – Incidents involving high-rise buildings, movie studio sound stages, hazardous materials storage/processing facilities, and hospitals.

The community's general risk assessment has been developed based on intended land use within the Township's boundaries. These uses are described on the township's zoning map. The following figures translate these land uses into categories of relative fire and life risk.

Figure: Mount Laurel Zoning Map



GEOGRAPHIC AND WEATHER-RELATED RISKS

The weather a community experiences can impact the fire department's ability to respond. Snow, ice, and other conditions can slow response. Major storms can create emergency situations that can overwhelm local emergency response forces.

Extreme weather, though rare, does occur. Thunderstorms, strong wind storms, and significant rain events happen frequently in the summer months. Short-term flooding can occur and is recognized by floodplain maps and 100-year storm maps. Snowfall is experienced annually, but typically not in amounts more than a few inches at a time. While infrequent, crippling low temperatures and severe winter storms do occur. Mount Laurel has a humid subtropical climate, with cool to cold winters and hot, humid summers. The Atlantic hurricane season lasts from June 1st to November 30th. New Jersey's tropical storm activity is typically between August and late October.

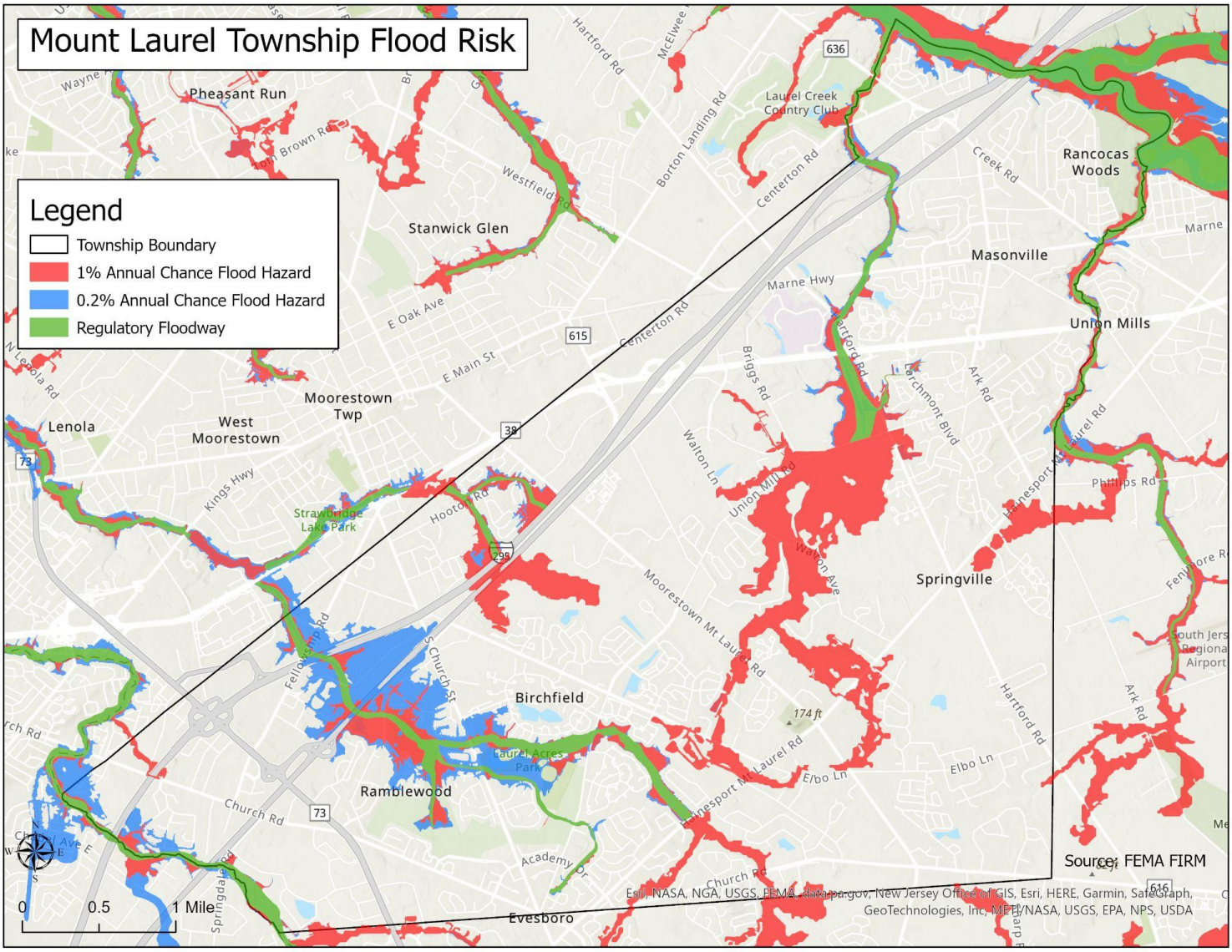
Weather-Related Risks

Risk	Frequency
Tornadoes	Low
Flooding	Low
Snow/Blizzard Conditions	Moderate/High
Freezing Temperatures	Moderate/High
Heat/Humidity	Moderate/High
Thunderstorms	Moderate
Tropical Systems	Low/Moderate
Earthquake	Low

2021 Average Temperature and Precipitation

2021 - Average Temperature and Precipitation													
Month		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high	°F	47	45	67	74	83	85	86	87	79	74	61	56
	°C	8	7	19	23	29	30	30	31	26	23	16	14
Average low	°F	24	26	32	37	50	63	67	70	63	54	39	33
	°C	-4	-3	0	3	10	17	20	21	17	12	4	0
Average dew point	°F	23	24	30	38	46	62	66	67	60	55	33	32
	°C	-5	-4	-1	3	8	17	19	20	15	13	1	0
Average precipitation	In.	0.05	0.14	0.14	0.12	0.1	0.08	0.22	0.2	0.15	0.15	0.02	0.05
	mm.	1.27	3.56	3.56	3.05	2.54	2.03	5.59	5.08	3.81	3.81	0.51	1.27

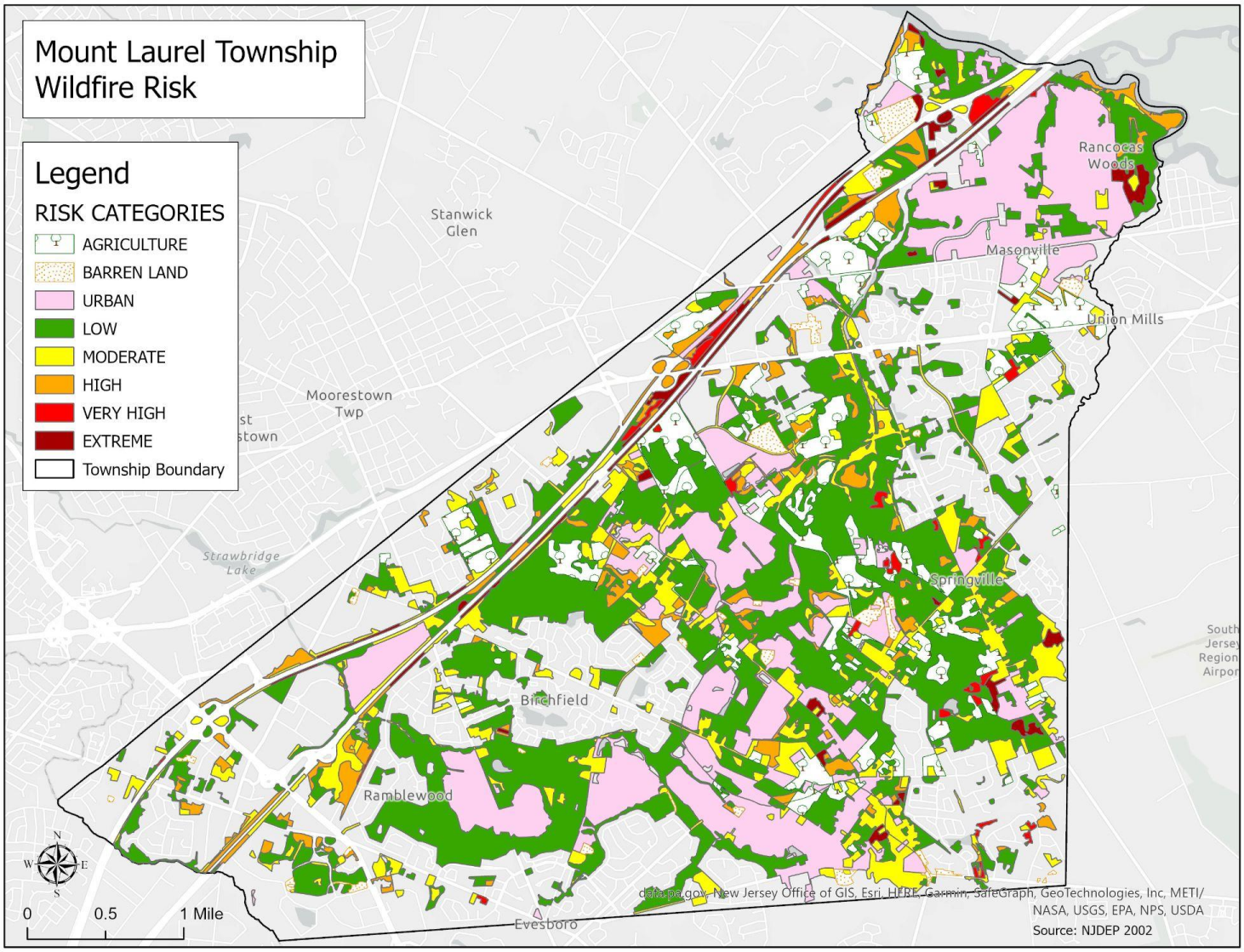
Figure: Mount Laurel Flood Risk



WILDFIRE ASSESSMENT

Mount Laurel's climate, vegetation, topography, and the extent to which the community has developed make wildland fires a low risk to most of the community. Brush fires occur primarily in parkland or vacant lots. However, there are several areas of concern within the township where wooded areas border developed parcels of land. The Rancocas State Park is made up of a little more than 100 acres of wooded area and heavy brush that sit between residential properties and the Rancocas Creek. There are several hundred acres of wooded area and open fields that are bordered by Hartford Road, Union Mill Road, Moorestown-Mount Laurel Road, and Hainesport-Mount Laurel Road. There are approximately 1,000 acres of wooded area that border the NJ Turnpike behind the Stonegate neighborhood off Elbo Lane. Small pockets of wooded areas make up natural barriers between neighborhoods and commercial development throughout the township. The MLFD is prepared to handle small to moderate-sized fires. Mutual aid from surrounding fire departments and the NJ Forest Fire Service would be used to combat large or deep-seated fires requiring extensive resources.

Figure: Mount Laurel Wildfire Risk



GEOGRAPHIC/GEOLOGICAL RISK

Certain geographic and geologic risks create situations that threaten the community, or are physical barriers to street connectivity for emergency service response. There is an extremely low risk of geologic activity in southern NJ. When it has happened in the past, geologic activity has not been damaging in Mount Laurel Township.

TRANSPORTATION RISKS

Transportation corridors provide necessary access and egress for the area. These take the form of roads, limited-access highways, and railways. The configuration of transportation systems can also affect the response capability of emergency services. As of April 2023, the township had a total of 277.1 miles of roadways, of which 186.4 miles (67.3%) are maintained by the municipality or are private roadways, 35.5 miles (12.8%) by Burlington County, 36.2 miles (13.1%) by the New Jersey Department of Transportation, 19.0 miles (6.9%) by the New Jersey Turnpike Authority.

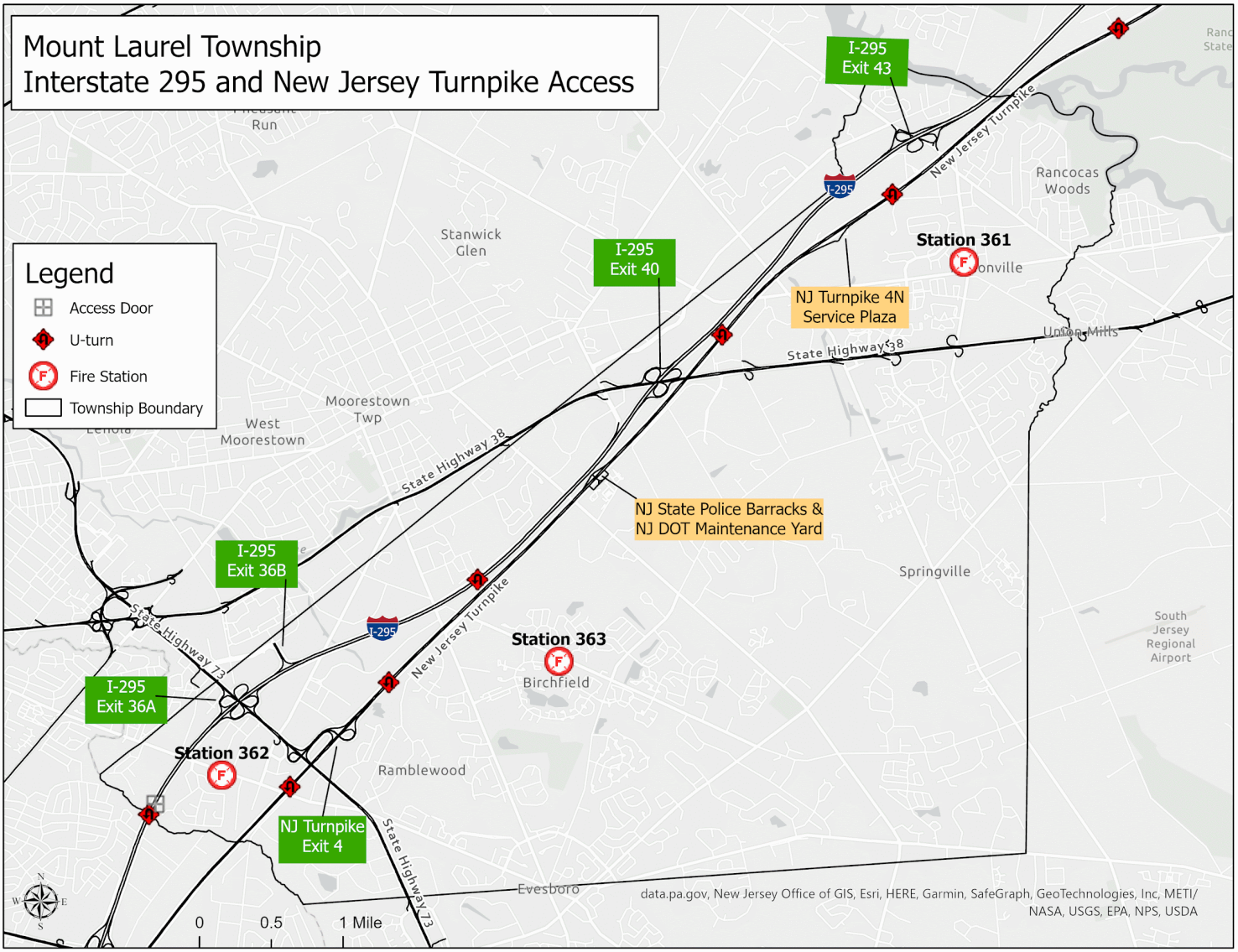
ROADS

The New Jersey Turnpike (NJTP) is a private limited-access highway that runs through the township. Interchange 4 is located on Route 73 near Fellowship Road in Mount Laurel. Other NJTP assets which are in Mount Laurel include the NJ State Police Moorestown Barracks and the NJ Department of Transportation maintenance yard (mile marker 37.0) which have a street address of 200 Mount Laurel Road. The James Fenimore Cooper 4N Service Plaza (mile marker 39.3) services the northbound travel lanes and has a street address of 5 Hartford Road.

Interstate 295 is also a limited-access highway that is nearly parallel to the NJTP. There are three entrances/exits in Mount Laurel (Exits 36, 40, 43) serving Interstate 295 available for emergency response vehicles and the general public. They are located at Route 73 (mile marker 36), Route 38 (mile marker 40), and Creek Road (mile marker 43). Both highways run north and south. There are limited if any crossovers until the next exit.

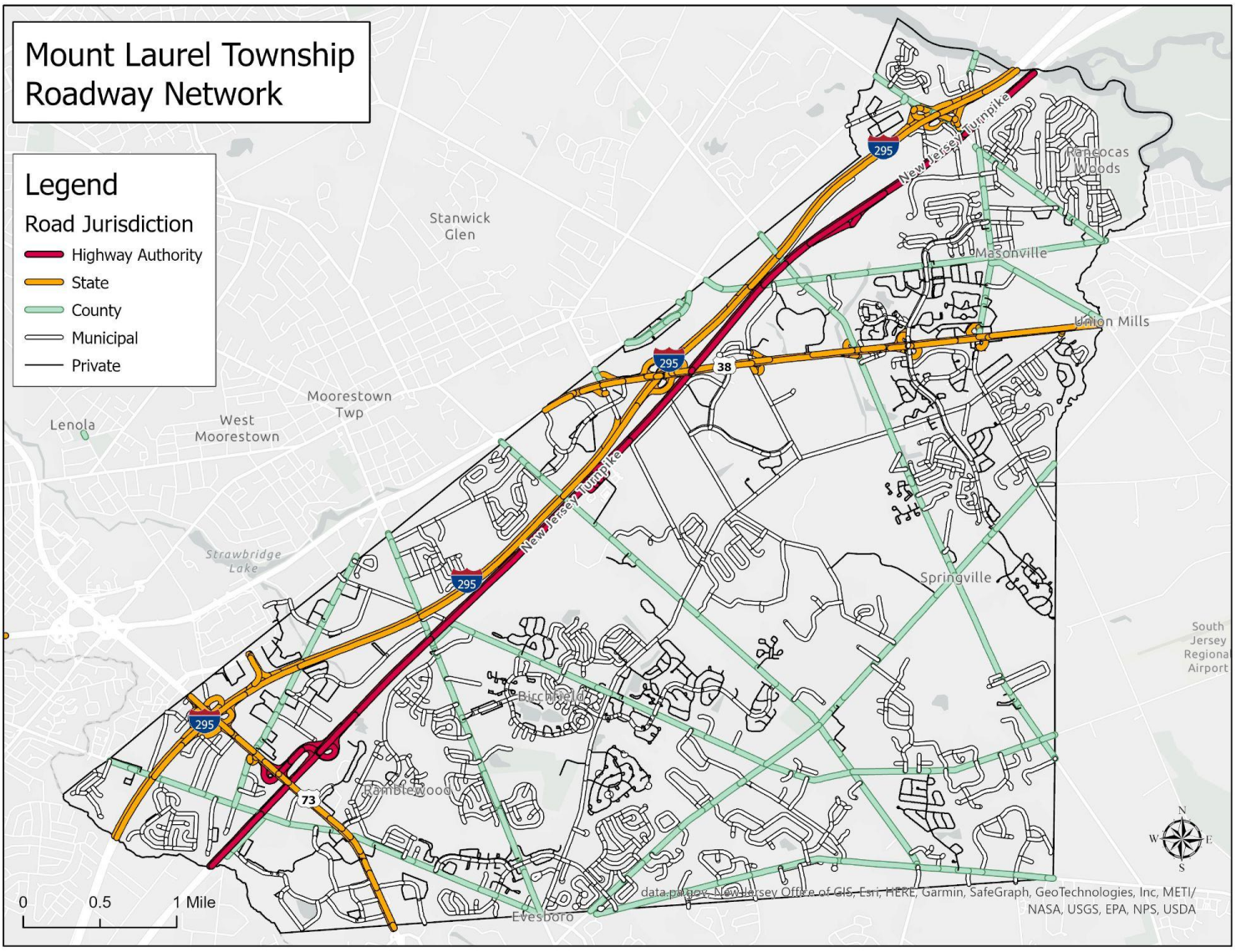
The Township's street system is sufficiently gridded for the major roads in the town; however, the secondary roads are often winding neighborhood and development pathways. The following map page illustrates the north-south limited access highways within the township.

Figure: Interstate 295 and New Jersey Turnpike Access



Some traffic signals along county and township roadways within the service area are equipped with traffic signal preemption equipment. This equipment provides a GPS satellite link to traffic signals causing them to change to allow the flow of traffic to aid in the movement of approaching emergency vehicles resulting in improved response time performance advantage as well as improved safety for motorists. Roadways with such equipment include South Church Street and Marne Highway. Efforts are being made to expand this equipment as traffic signals are added or upgraded but those efforts require coordination and financial support.

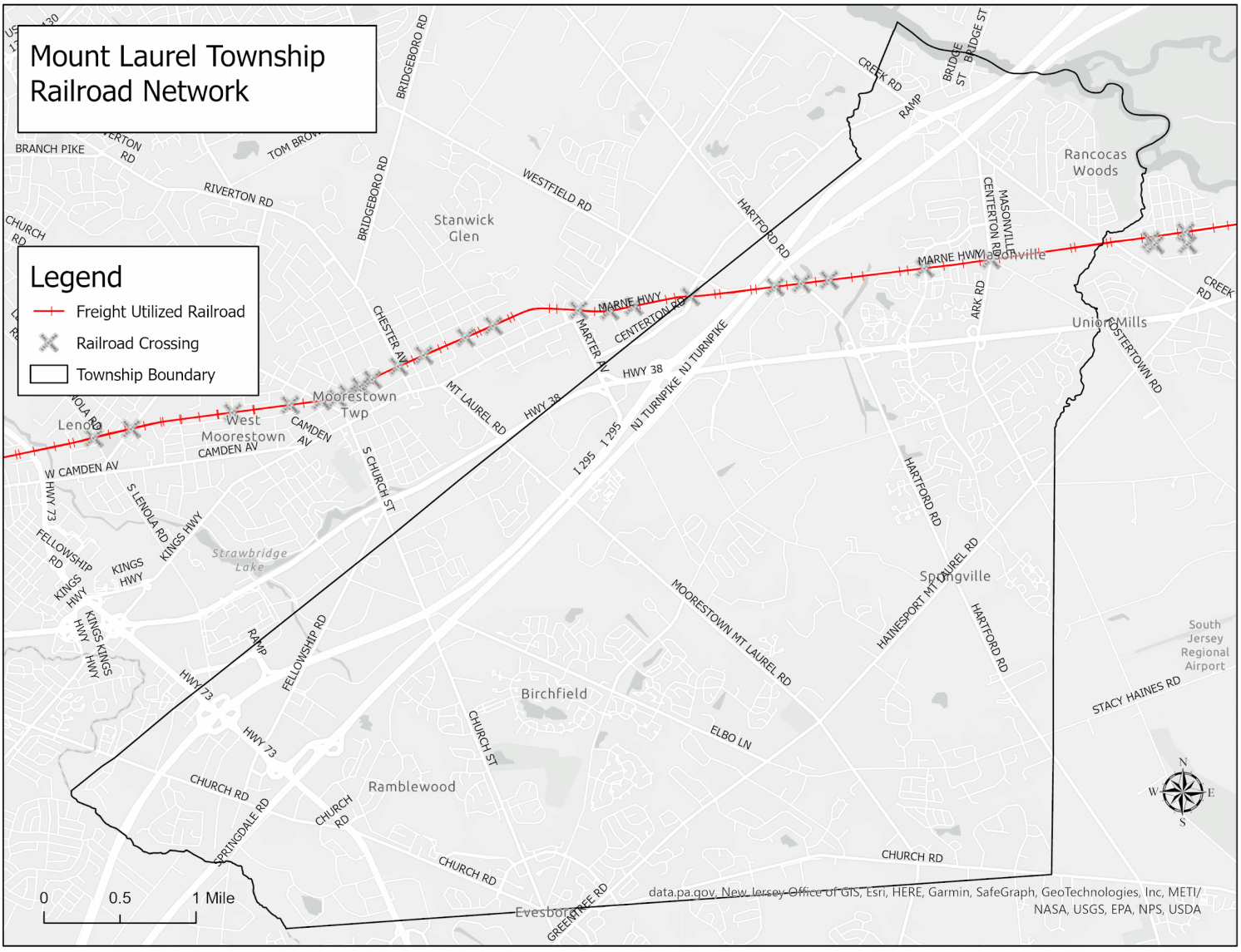
Figure: Mount Laurel Roadway Network



RAILROADS

Mount Laurel has one rail line that passes through the township which parallels Marne Highway. The line is known as the Pemberton Industrial Line and is operated by Conrail Corporation. The line transports materials between Mount Holly and Pennsauken with a stop at the Roosevelt Paper Company located at 1 Roosevelt Blvd in Mount Laurel Township. It also stops at an industrial supplier of telephone poles in Hainesport Township. The railroad has six grade-level crossings within the township. Hazards associated with this rail network would include accidents involving the train, fires either involving the locomotive or car commodities, or brush fires generated by sparks from the rail car's wheels.

Figure: Mount Laurel Railroad Network

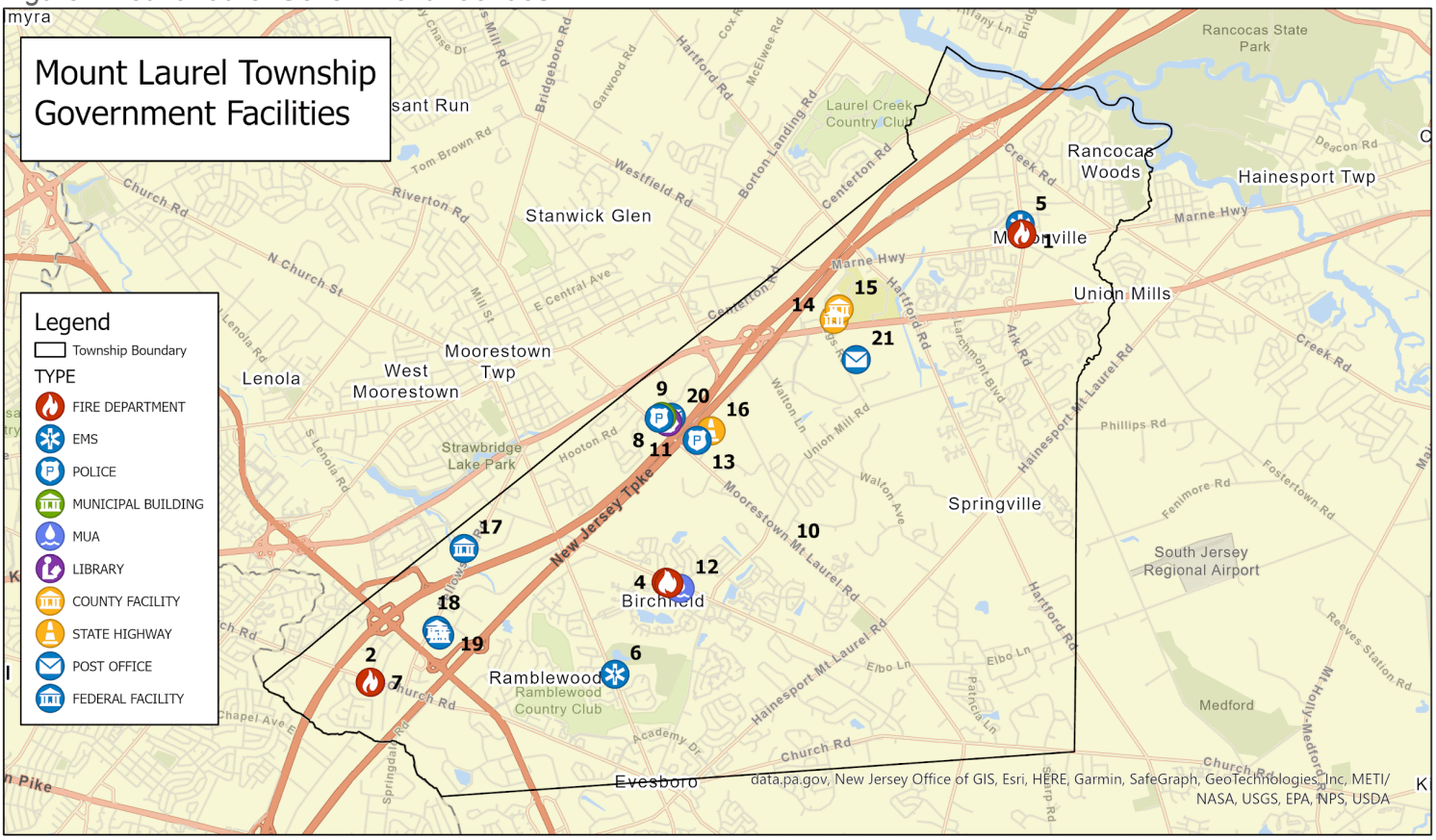


BUILDING ASSETS PROTECTED

GOVERNMENT BUILDINGS

There are a variety of government buildings in Mount Laurel that are key in providing critical services to the community in times of disaster. The following figure shows the locations of the notable government buildings.

Figure: Mount Laurel Government Facilities



ID	Description
1	MLFD Station 361
2	MLFD Station 362
3	MLFD Station 363
4	Fire Department Headquarters
5	EMS Station 369
6	EMS Station 368
7	EMS Station 367

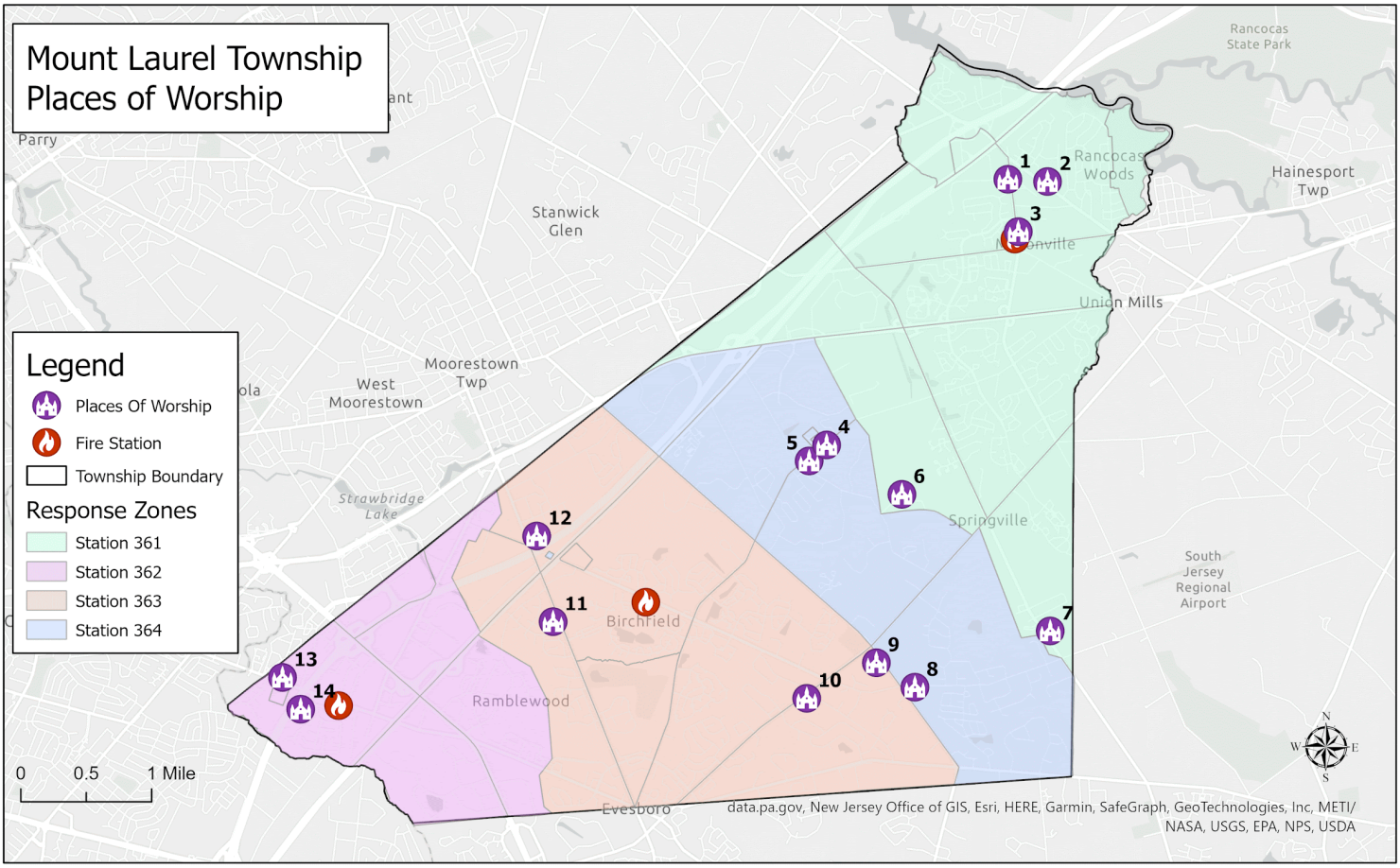
ID	Description
8	Police
9	Municipal Center
10	School Administration
11	Library
12	MUA
13	NJ State Police
14	County Engineering

ID	Description
15	County Highway
16	NJ DOT Maintenance Yard
17	DOD Facility
18	Federal Immigration & Social Security Services
19	Federal Immigration & Social Security Services
20	Post Office
21	Postal Distribution Facility

PLACES OF WORSHIP

Numerous buildings lie within Mount Laurel in which people gather for entertainment, worship, and such. These facilities present additional risk, primarily for mass casualty incidents. Fire, criminal mischief, and potential terrorism could result in an incident requiring significant emergency services resources. The following figure shows the locations of congregational facilities.

Figure: Places of Worship



ID	Description
1	Calvary Bible Church
2	New Covenant Presbyterian Church
3	Masonville/Rancocas United Methodist Church
4	Heritage Baptist Church
5	Grace Presbyterian Church

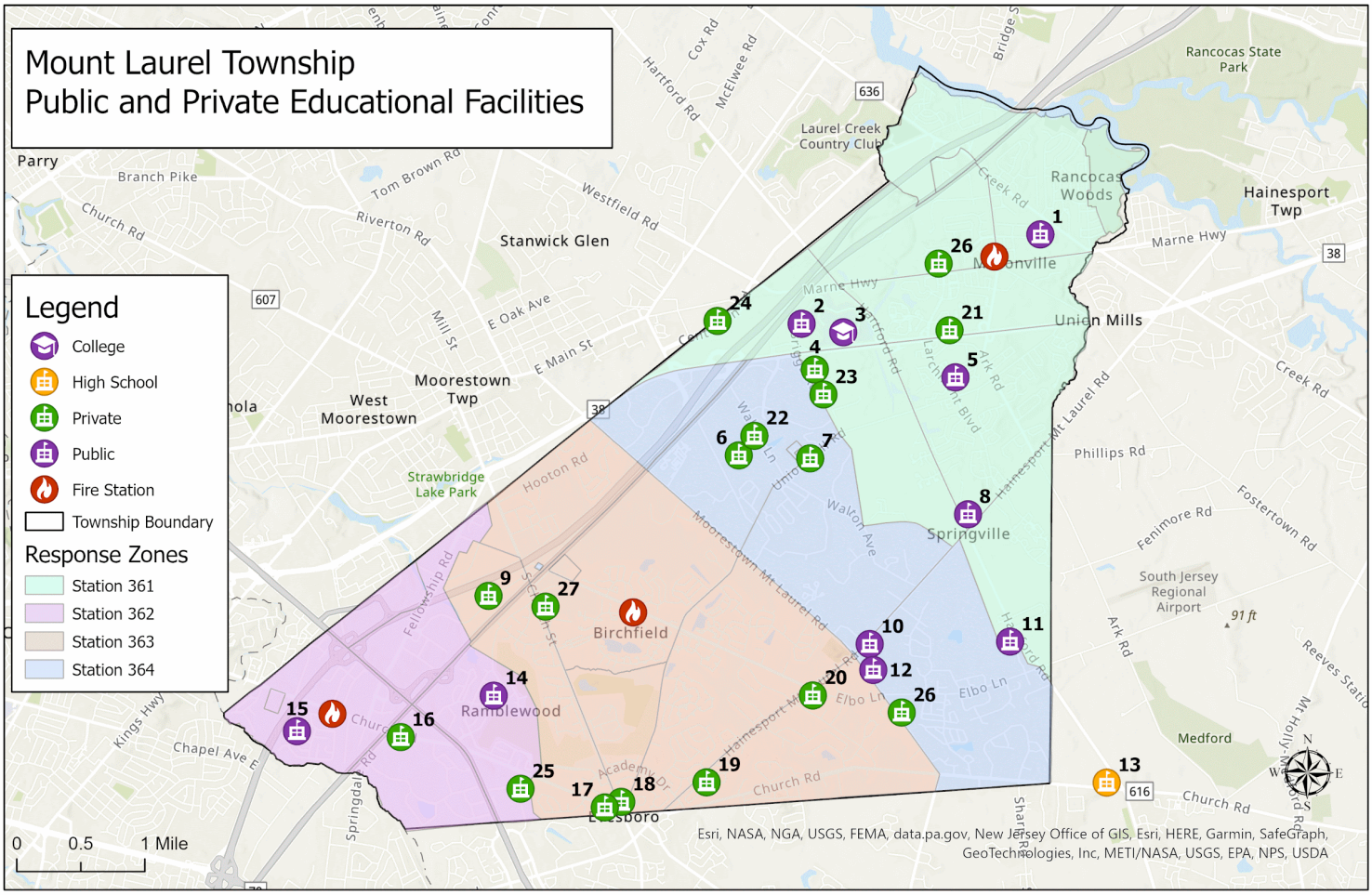
ID	Description
6	St John Neumann Roman Catholic Church
7	The Church of Jesus Christ
8	Jacobs Chapel AME Church
9	Cornerstone Church
10	Fellowship Community Church

ID	Description
11	Grace Bible Church
12	New Life Church of Philadelphia
13	Evergreen Presbyterian Church
14	Korean Bethel Presbyterian Church

SCHOOLS/DAY CARE

The MLFD protects 19 primary and secondary schools within the township. In addition, Rowan College of Burlington County campus, one middle school, seven elementary schools, and various other private schools. While Lenape High School sits just outside of Mount Laurel Township's boundary, the majority of its 1,900 students come from Mount Laurel.

Figure: Public and Private Educational Facilities



ID	Description
1	Fleetwood Elementary
2	Burlington County Special Services School
3	Rowan College at Burlington County
4	Goddard School
5	Larchmont Elementary
6	Bancroft School

ID	Description
7	Heritage Baptist Church Academy
8	Hartford Upper Elementary
9	Durand Academy
10	Hillside Elementary
11	Springville Elementary
12	Harrington Middle

ID	Description
13	Lenape High School
14	Parkway Elementary
15	Countryside Elementary
16	Laurel Tree Academy
17	Lightbridge Academy
18	Apple Monessori School

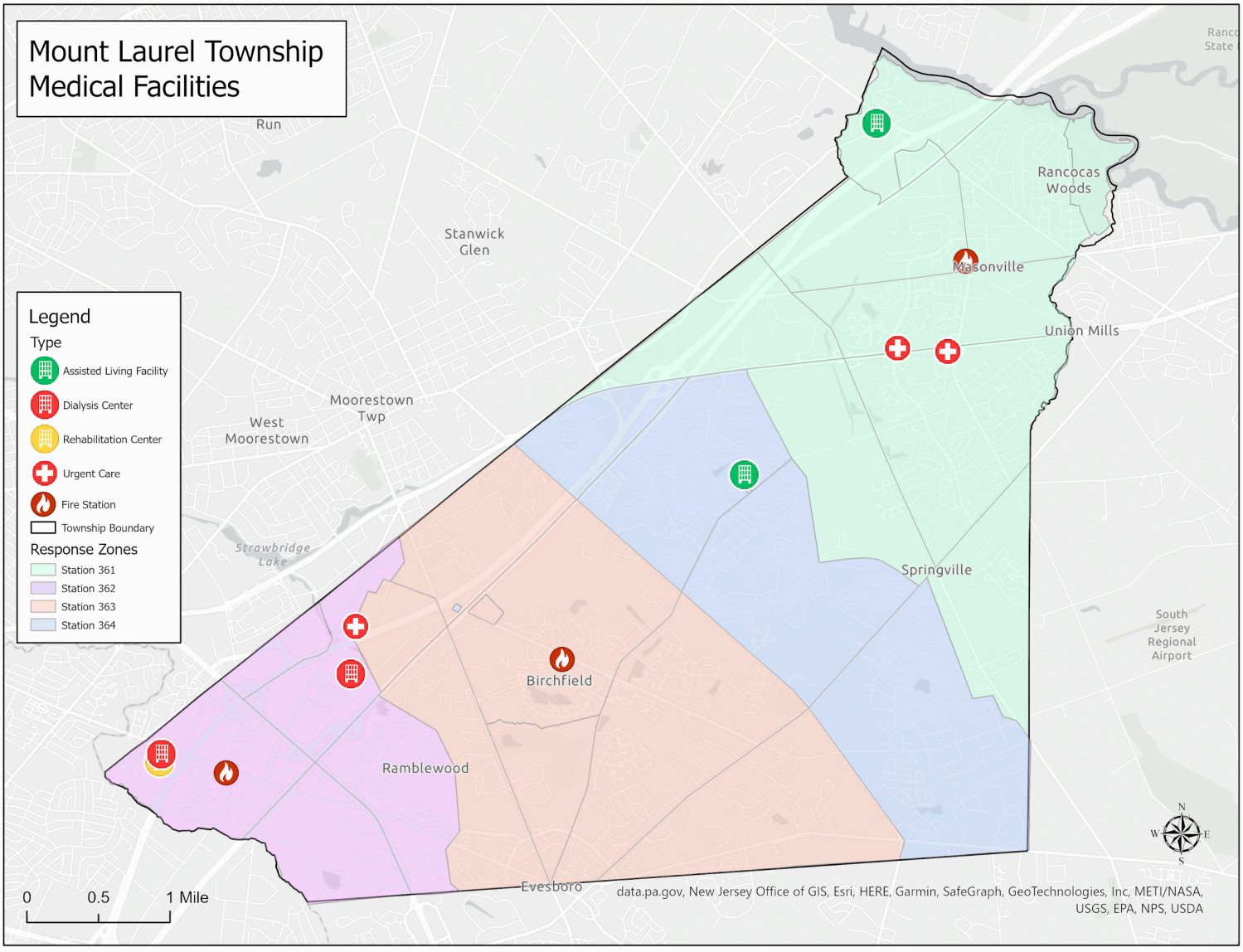
ID	Description
19	Schoolhouse Nursery and Kindergarten
20	Adath Emanuel Day Care
21	Bright Beginnings Daycare
22	Creme de la Creme Preschool
23	Just Children Daycare
24	YMCA of Burlington County

ID	Description
25	Just Children Daycare
26	Kindercare Learning Center
26	Little Darlings Child Care
27	Learning Experience

MEDICAL CARE FACILITIES

Mount Laurel Township is home to several important medical care facilities that offer skilled nursing, assisted living, urgent care, and other in-patient care services. These facilities present a unique life safety risk in that they house people who are likely of limited mobility or are non-ambulatory. Evacuation of patients requires additional emergency response resources and well-trained facility staff. The following figure shows the location of many of these important community resources and care facilities.

Figure: Medical Facilities



CRITICAL INFRASTRUCTURE

This section will discuss in general terms the critical infrastructure which is present within the Township. This infrastructure is vital to the safety and quality of life of those who rely on services.

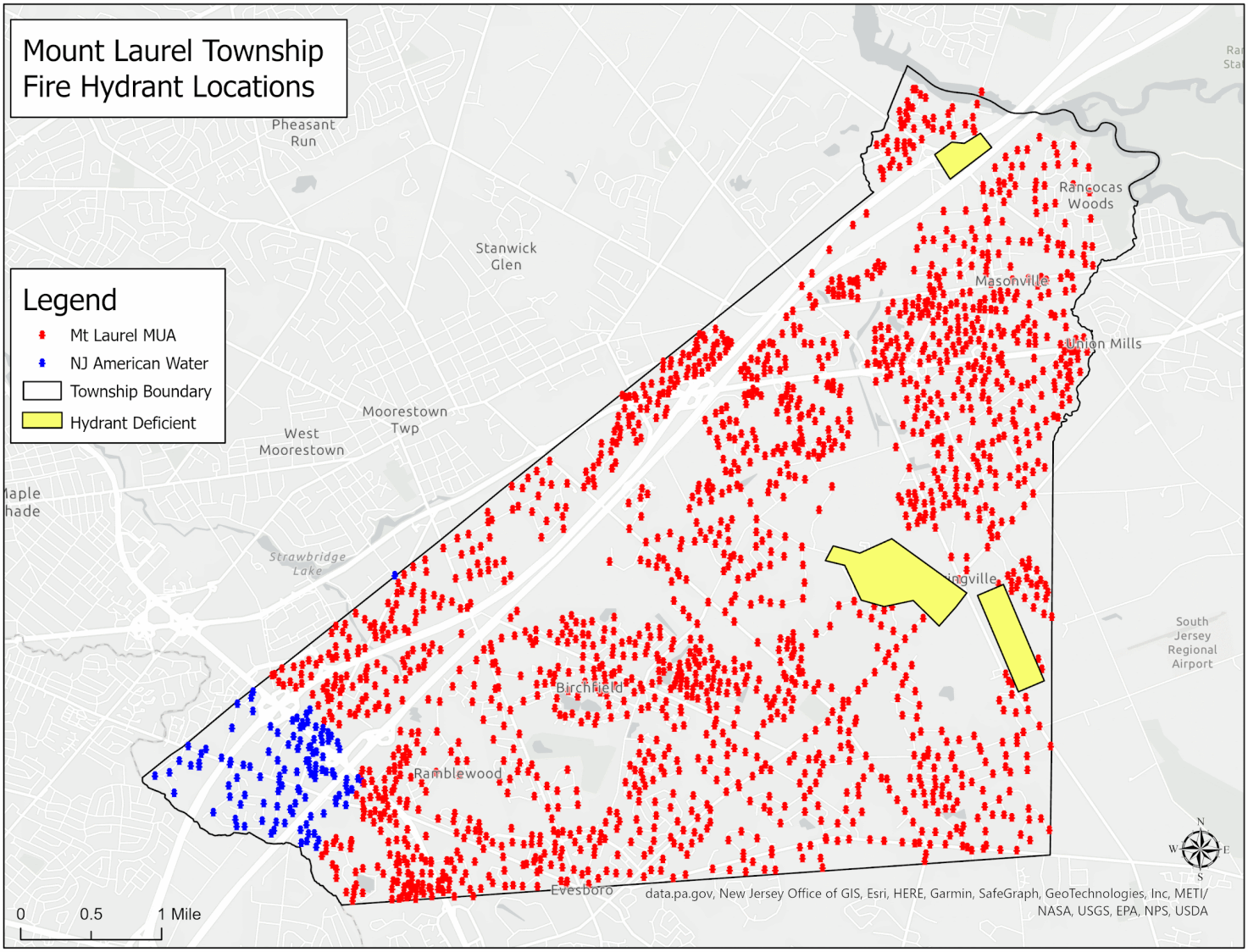
WATER SUPPLY

Water service delivery is a fundamental resource that supports fire department operations. Sufficient storage, distribution, and access to this valuable firefighting resource through well-distributed fire hydrants is key to mitigating fire and other types of incidents.

Firefighting water service from fire hydrants is available throughout the township. There are two water delivery systems servicing the township. The majority of the township is serviced by Mount Laurel Municipal Utilities Authority and the remainder is serviced by the New Jersey American Water Company. Mt Laurel MUA supplies 94% of the fire hydrants and New Jersey American Water supplies the remaining 6%.

Hydrants are spaced within 1,000 feet for the majority of the grid and the system requirements meet firefighting needs. However, three areas have been identified by the fire department which should be evaluated for future fire hydrant installation projects: Orchard Way, Hartford Road between Hainesport-Mount Laurel Road and Foxcroft Way, and the Saint John Neumann Church/Mount Laurel Township property on Walton Avenue. These areas represent approximately 0.36 square miles affecting 53 structures. Public fire hydrants are maintained regularly by the service area water companies. Fire hydrants on private commercial properties are the responsibility of the landowner to maintain.

Figure: Fire Hydrant Locations



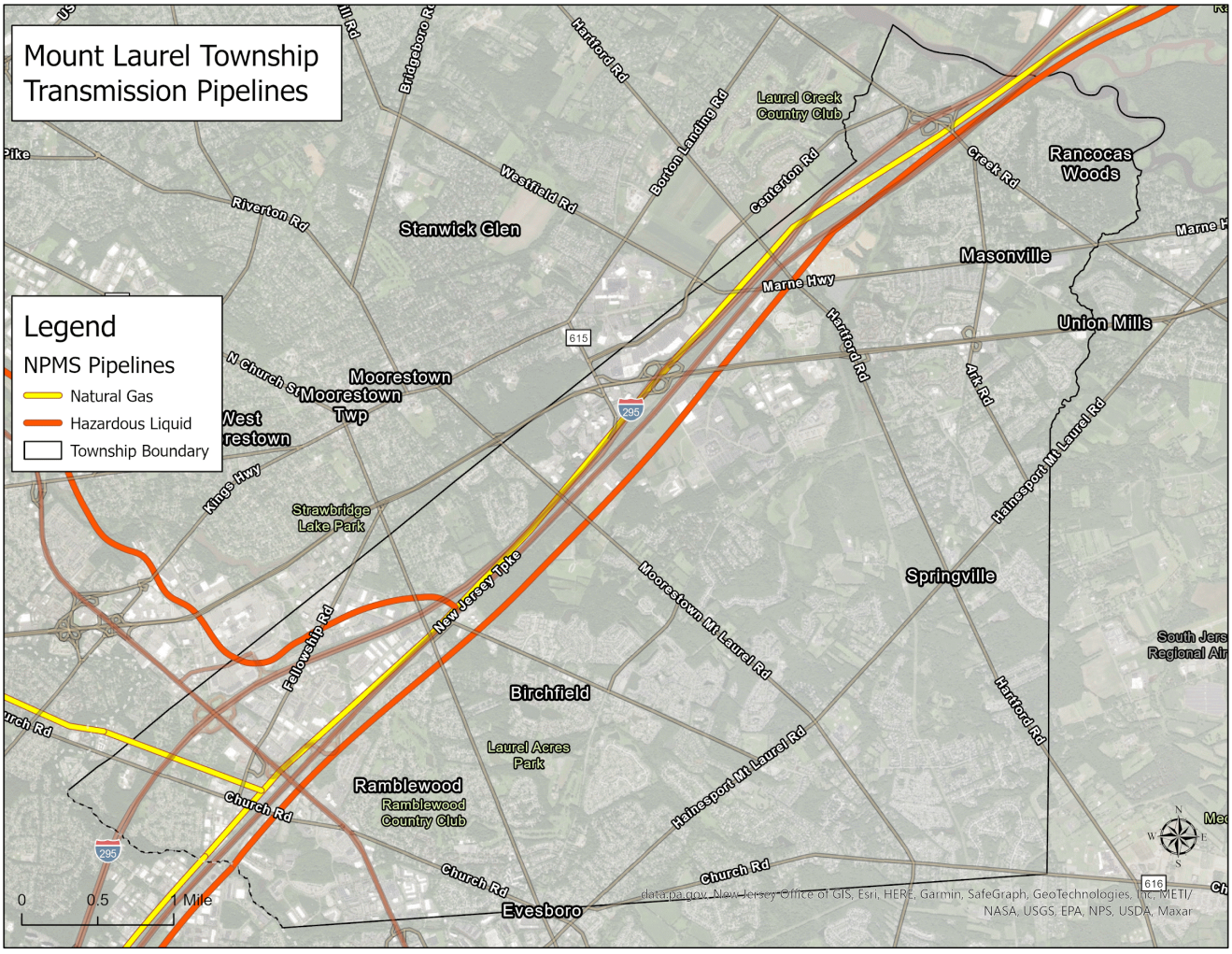
COMMUNICATIONS

Emergency communication centers and the associated transmitting and receiving equipment are essential facilities for emergency response. The Burlington County Communications Center serves as the 911 primary public safety answering point (PSAP). This communications center provides for the receipt of 911 calls for help, dispatching of fire and other emergency responders, and provides critical support to incident management. Mount Laurel's Office of Emergency Management operates an emergency operations center that is also a critical communication and OEM asset for Police, Fire, EMS, and Township Offices.

PIPELINES

There are two flammable/combustible liquid pipelines and one transcontinental natural gas pipeline under high pressure that pass through the Township. These pipelines, though well protected, if ruptured could cause an emergency of considerable significance. The flammable/combustible liquid pipelines carry products such as fuel oil, gasoline, kerosene, toluene, and xylene. The transcontinental natural gas pipeline carries natural gas from the southern states to northern New Jersey and New York. The following figure shows the pipeline routes as they pass through the Township.

Figure: Transmission Pipelines



The pipelines are properly marked and the right of ways are inspected regularly by their companies. Several commercial and residential properties are within close proximity to the pipeline's right of way which would pose a risk if there were a pipeline event. Emergency manuals are maintained in each of the emergency response vehicles. The companies are all proactive in providing up-to-date emergency response information to first responders.

STRUCTURAL RISKS

The protection of property in most cases refers to a building and its contents. This has been one of the core tenets of the mission of the fire department since its inception. Certain buildings, their contents, functions, and size present a greater firefighting challenge and require special equipment, operations, and training.

Risk assessment:

- High frequency/moderate risk (single-family dwelling)
- High frequency/high risk (mercantile/high rise)
- Low frequency/low risk (detached garage)
- Low frequency/high risk (hospital/nursing home)

BUILDING RISK ASSESSMENT

Commercial buildings within the township were assessed for risk by a risk assessment tool developed by the Center for Public Safety Excellence (CPSE). The buildings were assessed with the following factors:

Life hazard, Construction Class Occupancy Type, Number of Stories, & Square footage

An analysis was conducted using a geographic information system (GIS) and mapping. The percentage of structural risk assessment categories is as follows:

Total structure count = 24,626

Category 1 (Low):	3,225 (13.10%)
Category 2 (Moderate):	20,422 (82.93%)
Category 3 (High):	945 (3.84%)
Category 4 (Special):	34 (0.14%)

Figure: Structure Heat Map

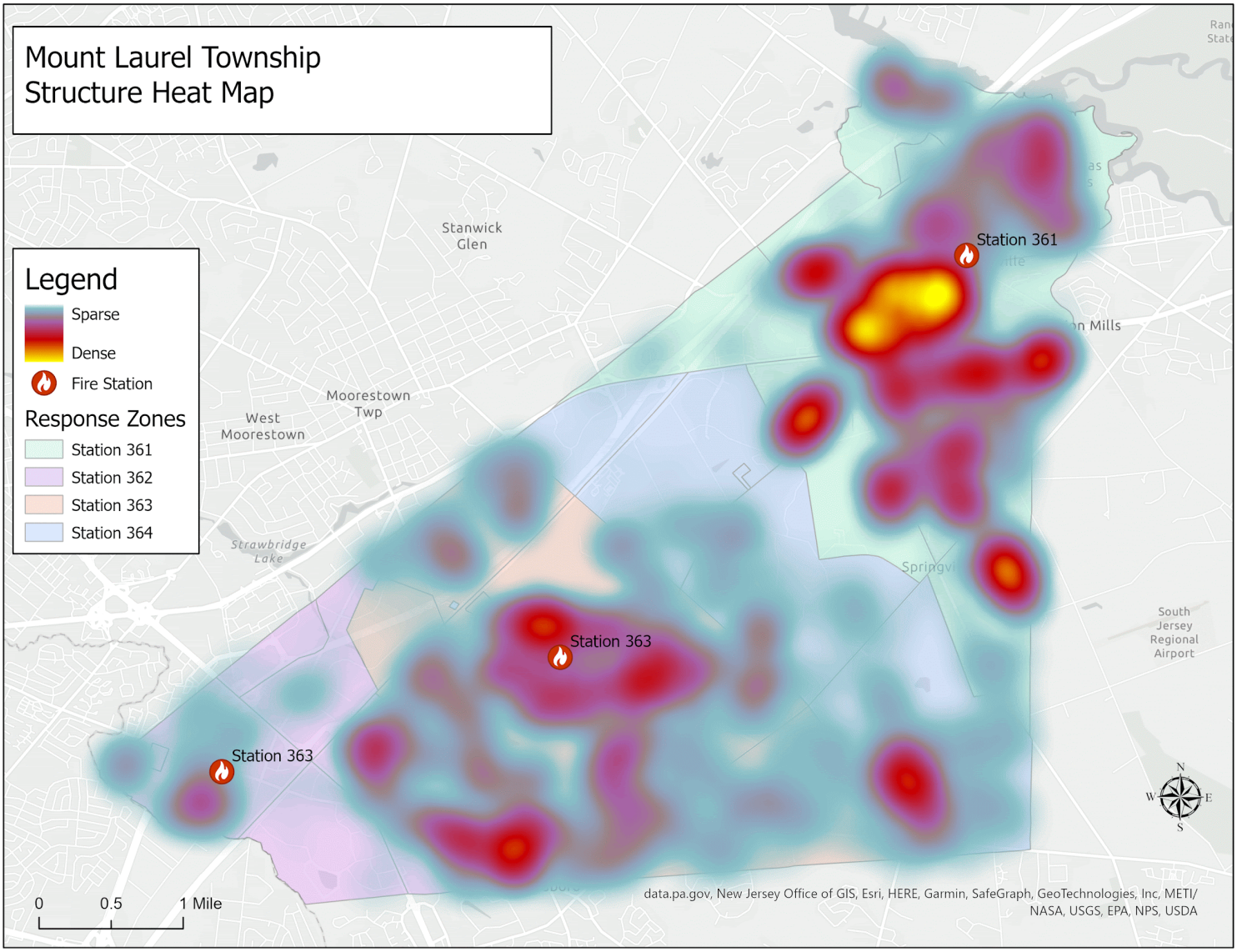


Figure: Low Risk Structure Heat Map

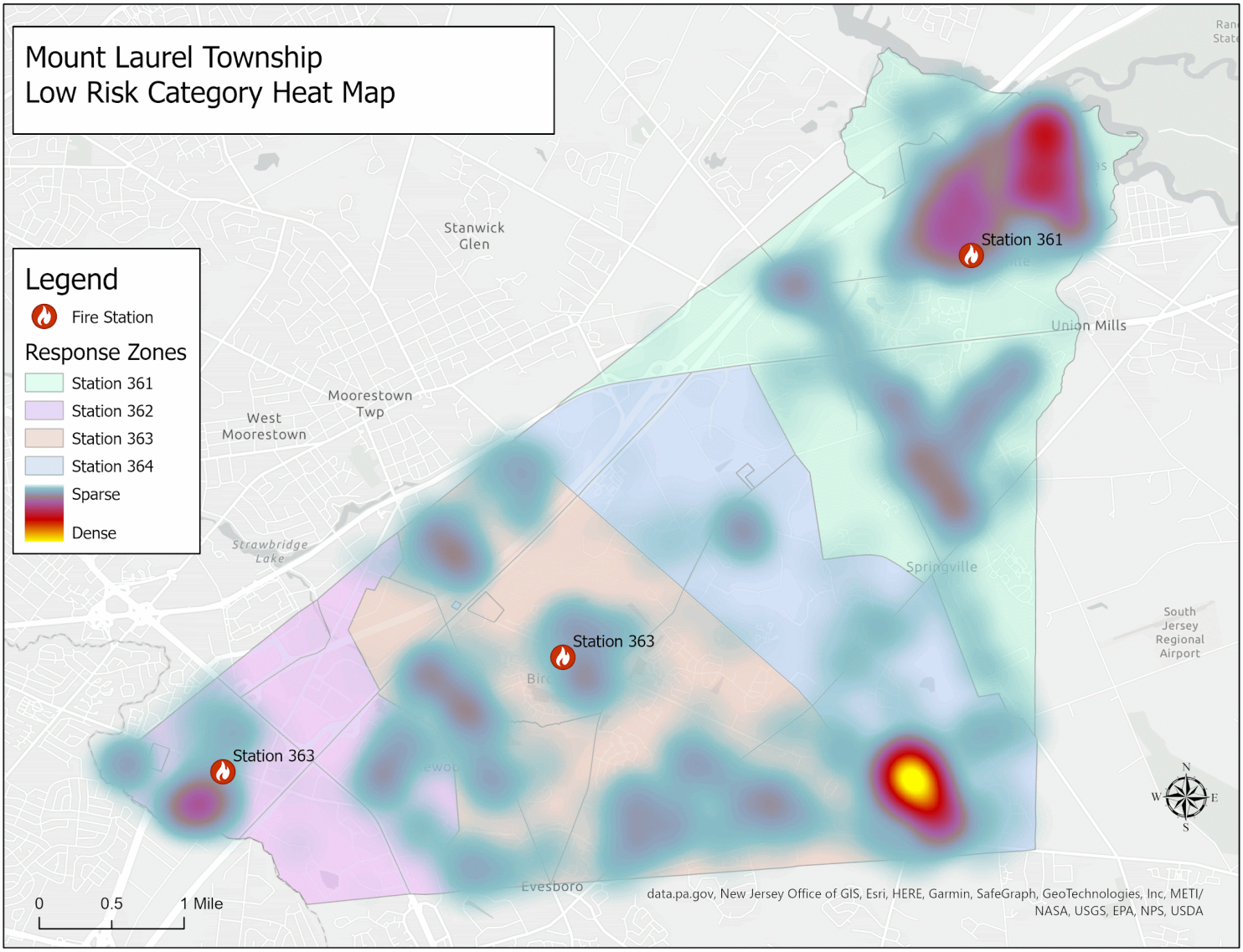


Figure: Moderate Risk Structure Heat Map

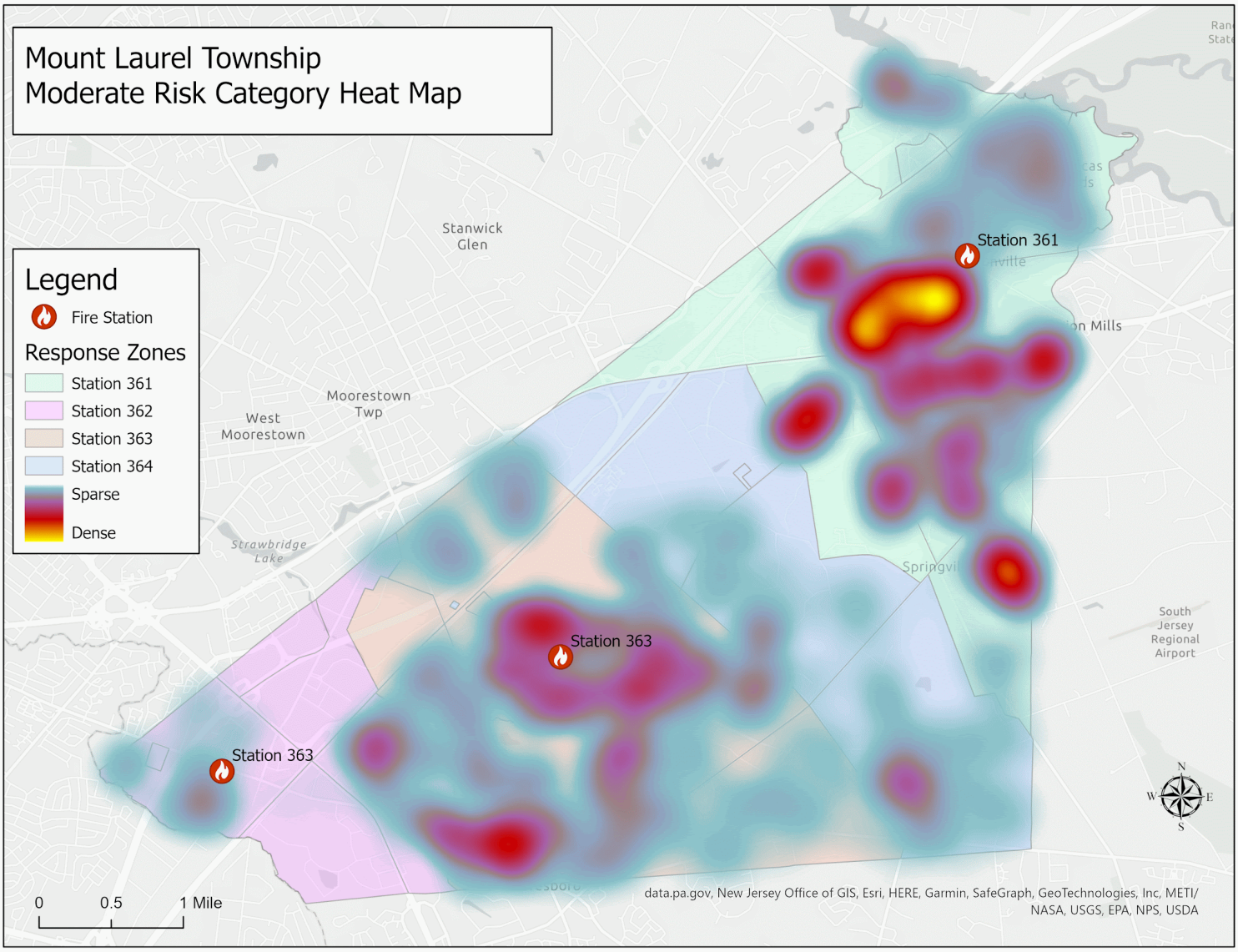
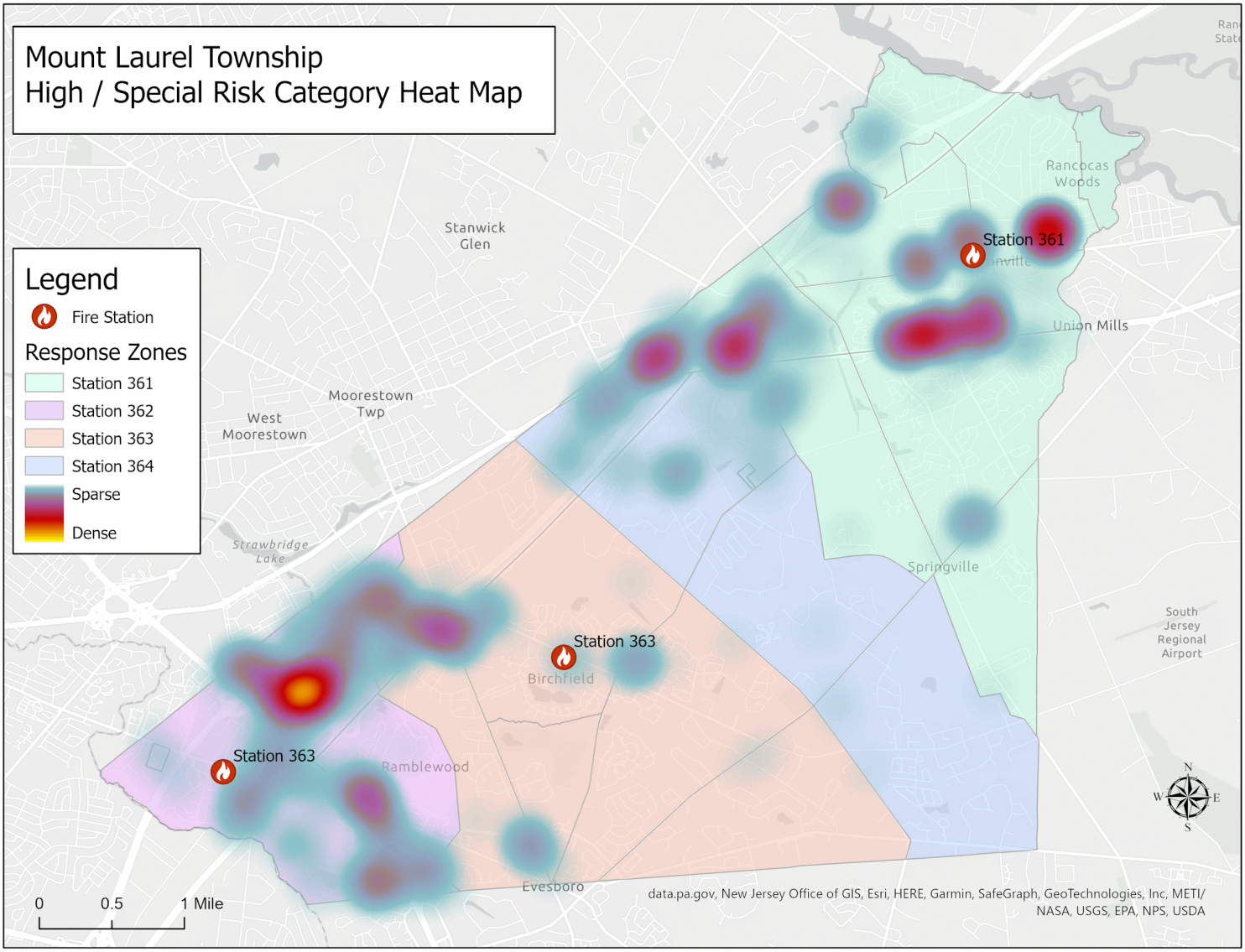


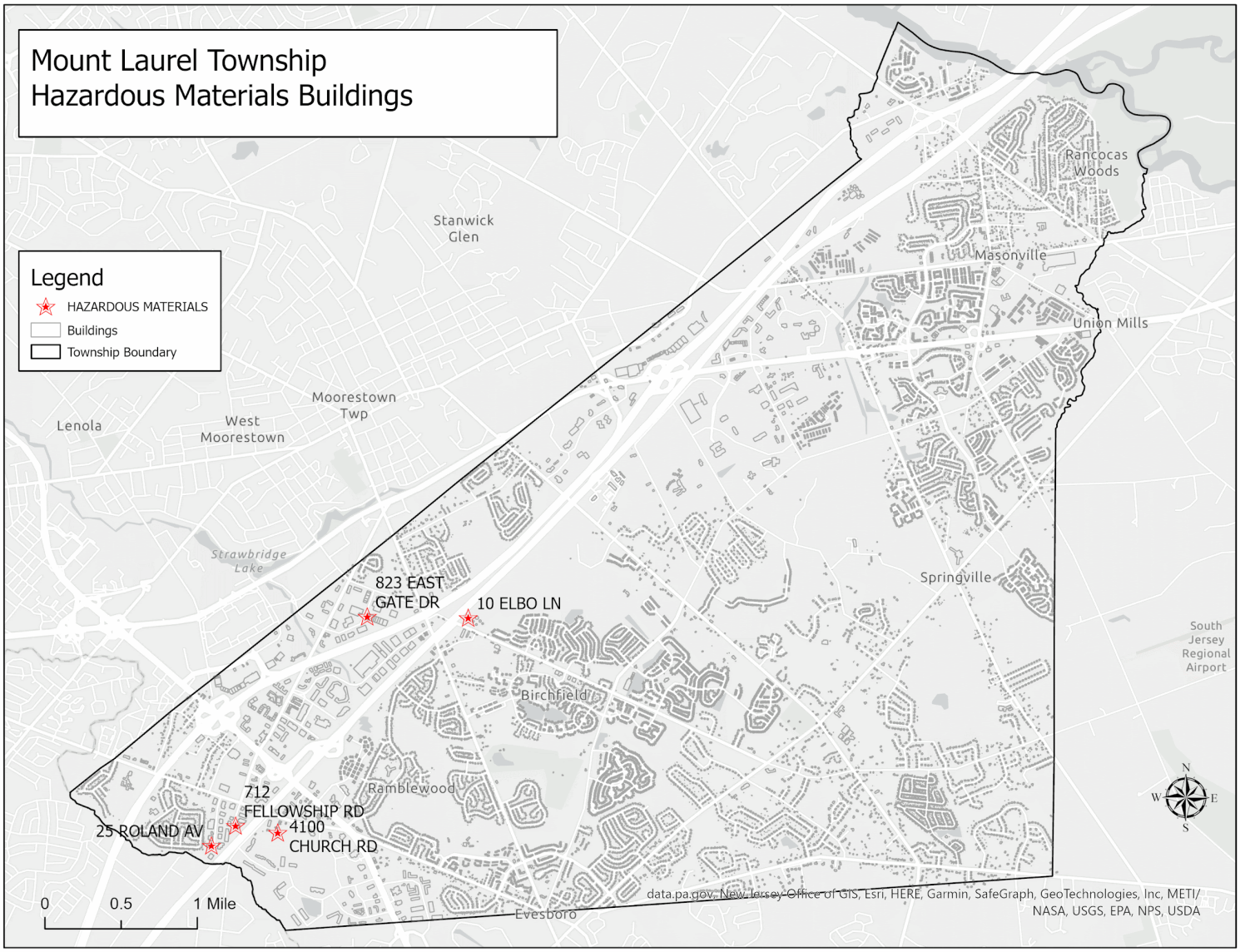
Figure: High/Special Risk Structure Heat Map



HAZARDOUS MATERIALS

Buildings containing hazardous materials can create a dangerous environment for the community as well as the firefighters during a spill or fire event. Special equipment, protective clothing, and sensors, along with specialized training, are necessary to successfully mitigate a hazardous materials incident. Facilities with bulk hazardous materials in Mount Laurel are Buckeye Partners petroleum storage (10 Elbo Ln), PPG Aerospace (823 East Gate Dr), Whittle & Mutch (712 Fellowship Rd), Seeton Turf (25 Roland Ave), and Republic Services (4100 Church Rd).

Figure: Hazardous Materials Buildings



MULTI-STORIED BUILDINGS

Buildings more than three stories in height pose a special risk in an emergency. Fire on higher floors may require an aerial fire truck to be able to deliver water into a building that does not have standpipe systems. For victims trapped on higher floors, a ladder truck may be their only option for escape. The majority of buildings with more than three stories are located on the west side of the township.

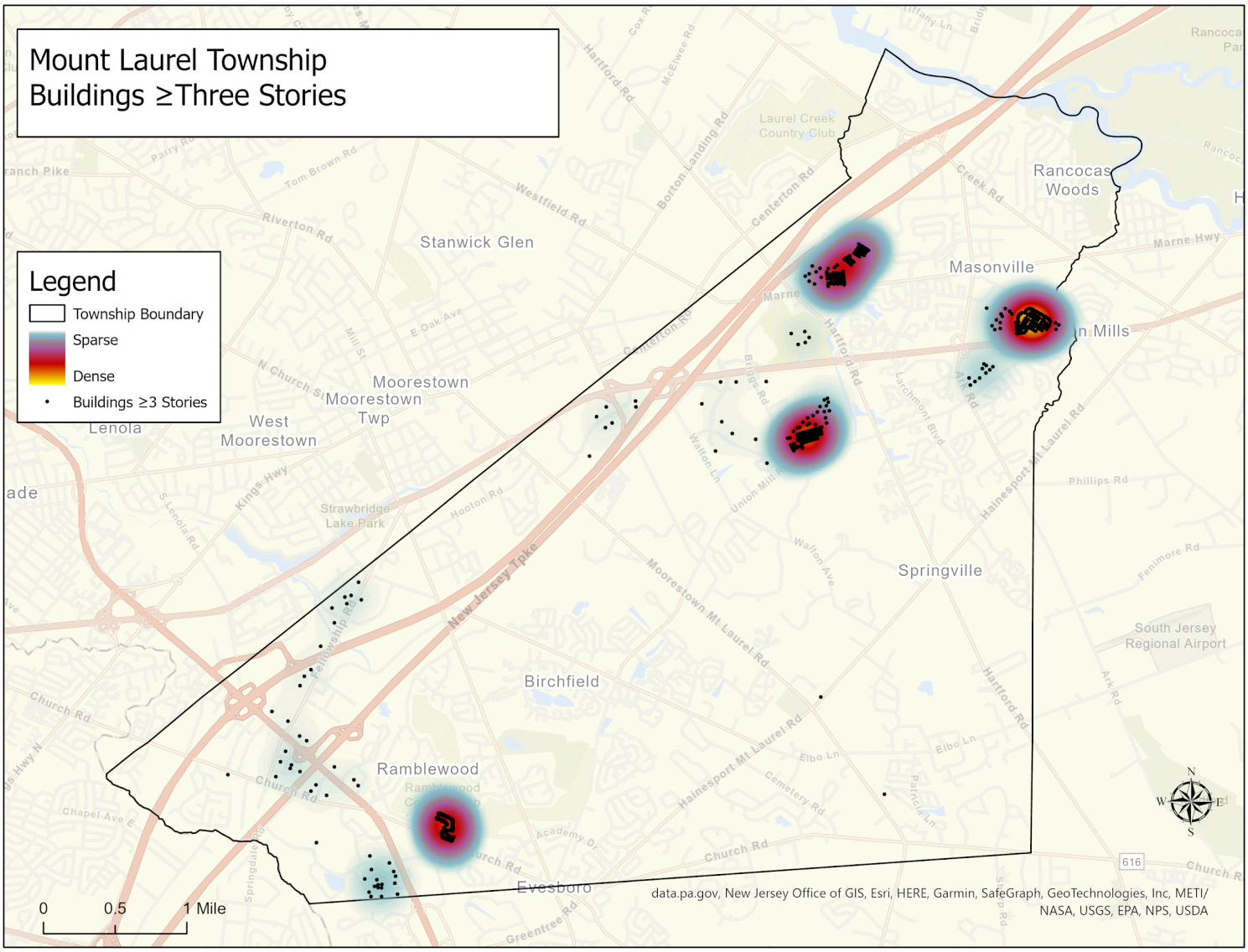
Buildings six or more floors in height also present challenges to the fire department. Most aerial ladder trucks cannot reach beyond the fifth or sixth floor. Thus, rescue and firefighting activities must be conducted from the interior stairwells. This requires additional personnel to transport equipment up to higher floors. The MLFD utilizes standard operating guidelines that have been developed through years of research and development to respond to the additional hazards of high-rise buildings.

Built-in fire protection (fire sprinklers) provides significant benefits to a building's fire resistance. Modern building codes require fire suppression systems in many buildings. In many communities, developers, and builders are given "credit" for built-in protection by allowing narrower streets, longer cul-de-sacs, larger buildings, and/or smaller water mains for new residential developments. While built-in fire protection should significantly reduce the spread of fire, it may not extinguish the fire. Firefighters still need to complete the extinguishment and perform ventilation, overhaul, and salvage operations.

Photo: 503 Fellowship Road


Photo: Midlantic Drive

Figure: High Hazard Buildings



TERRORISM

Mount Laurel is a potential target for terrorism. Most of the previously categorized risks in the community are targets for such activity. In addition, Mount Laurel is close to a large metropolitan city, which has a greater risk of terrorism. The MLFD may either be impacted by the consequence of a terrorist act in the region or be asked to support the region in the aftermath of such an event. The fire department needs to be vigilant in its training and preparedness should one or more coordinated acts of terror occur locally or within the region.

POPULATION AND DEVELOPMENT GROWTH

CURRENT POPULATION INFORMATION

The township's population grew following World War 2 and continued to increase until the 1990s. Today, the municipality's population is stable; however, with redevelopment generally occurring in adaptive reuses of commercial and industrial areas, the population is expected to continue to increase with further demands placed on emergency services.

Figure: Population

Mount Laurel Population	
1940	2,189
1950	2,817
1960	5,249
1970	11,221
1980	17,614
1990	30,270
2000	40,221
2010	41,864
2020	44,643
Source: NJ.gov/labor	

FUTURE DEVELOPMENT

Mount Laurel Township's master plan was adopted on April 20, 2006, and a subsequent reexamination and amendment was adopted on September 29, 2017. These documents are available on Mount Laurel Township's website. As anticipated in these documents, Mount Laurel Township continues to see residential and commercial growth.

The Fellowship Redevelopment Area

This area is bounded by Route 73, Fellowship Road, Church Road, and Beaver Avenue as well as along Route 73 from Beaver Avenue to Interstate 295. The plan identifies three areas within this boundary, each having its own emphasis, as suggested by permitted uses and bulk standards. Lifetime Fitness and Walmart fall within these areas and have been developed. Additional plans are being considered for the remaining area which would bring the redevelopment goal closer to completion.

Haddon Point Development

The property known as the "ARI" property in the master plan is currently being developed into a residential housing community that will be known as Haddon Point. Located along Route 38 between Fostertown Road and Ark Road, once finished, this community will consist of 394 apartments and 206 townhouse units and will be known as Haddon Point.

The Gables

The Gables development is a residential housing community situated along Marne Highway between Hartford Road and Larchmont Boulevard. Once complete, this community will consist of 330 apartments and 90 townhome units.

D·R·HORTON
America's Builder

THE GABLES AT MOUNT LAUREL
MOUNT LAUREL, NJ

Ark Road Senior Community

This age-restricted affordable housing community for low-income seniors is currently being developed on land situated on Hovtech Boulevard. Once complete, it will consist of 184 apartment units and a community center.

Senior Living Facility

A senior living facility is currently being planned for the parcel located at 1017 South Church Street. This facility will consist of 195 making up independent living, assisted living, and memory care.

Laurel Green Apartments Expansion

An expansion project is being planned for the Laurel Green apartments located on Ark Road. Four additional buildings will be constructed adding 108 residential apartments to the complex.

Warehouse Construction

Three warehouse facilities are currently being planned.

- A cold storage facility is being planned for the parcel located at 907 Pleasant Valley Avenue and will total 214,665 square feet.
- A warehouse is being planned for the parcel located on Gaither Drive. If approved, four office buildings will be razed and will be replaced by the 437,262-square-foot warehouse.

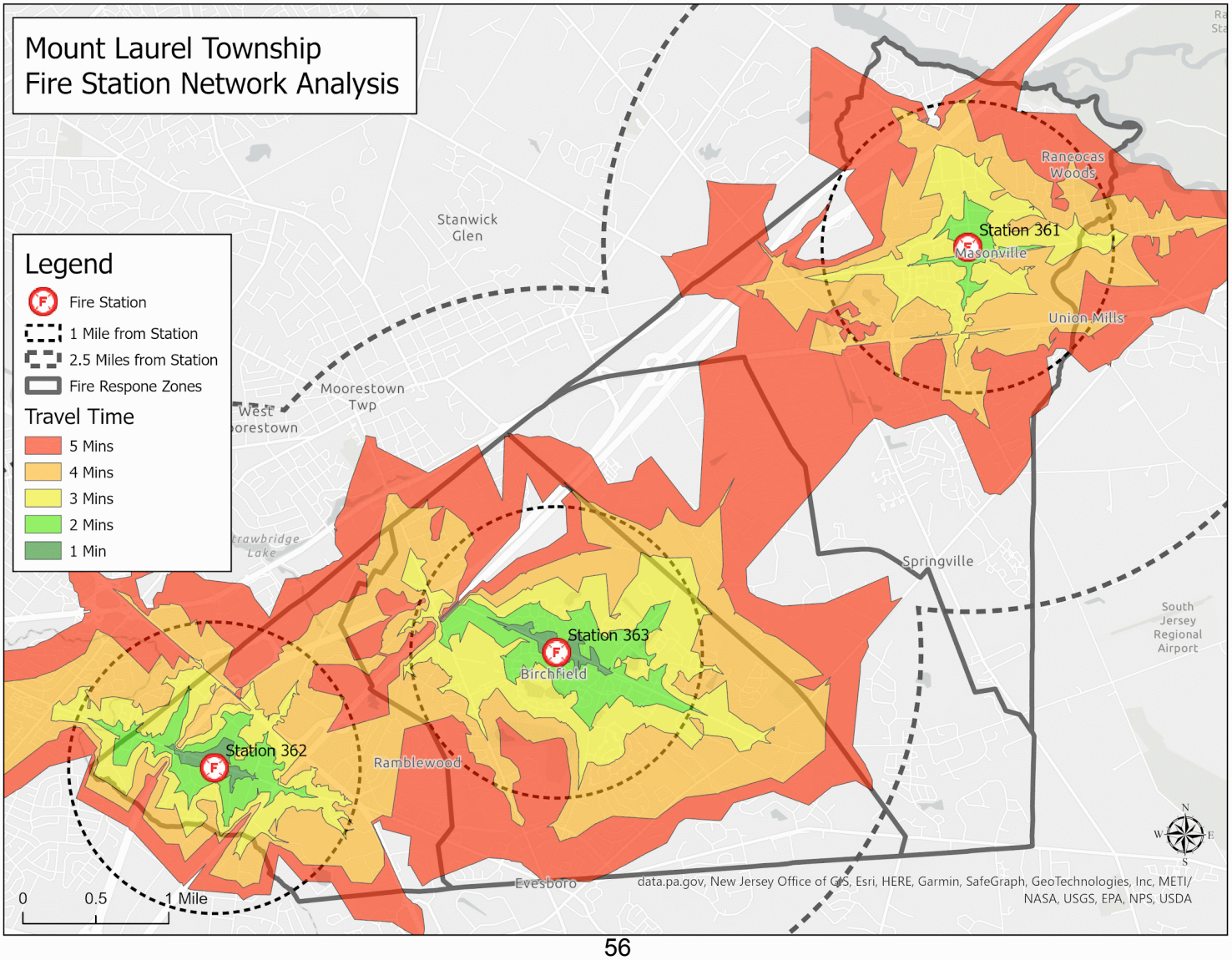
- A warehouse is being planned for the parcel located at 2001 Briggs Road. This 1,384,986-square-foot facility will be situated between Briggs Road and Bishops Gate Boulevard.

FIRE DEPARTMENT PLANNING EFFORTS

The MLFD constantly evaluates community growth by maintaining an active role with Mount Laurel Township's Community Development Office. The following maps depict planning efforts on behalf of the MLFD to ensure resources are located to maximize the efficiency and effectiveness of service delivery and maintain community outreach through risk reduction programs.

Increased development in the southeast section of the township has led to a need to re-evaluate our level of service in that area. Internal discussions regarding the expansion of coverage to satisfy the growing needs are ongoing.

Figure: Fire Station Network Analysis



CRITICAL TASKING AND EFFECTIVE RESPONSE FORCE

Critical tasks are those activities that must be conducted promptly by firefighters during emergency incidents to control the situation. The MLFD is responsible for assuring that responding companies are capable of performing all of the described tasks in a prompt, efficient, and safe manner. The National Fire Protection Agency (NFPA) delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach, and advocacy; to help save lives and reduce loss. NFPA is recognized as an industry standard that we aspire to meet.

Using NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 edition), effective response force characteristics for the MLFD's typical incident types and their associated risks were developed. Low risk fires are handled with a single resource. Moderate risk structure fires are single-family dwellings with no additional known hazards, high risk/special risk buildings are those which pose an increased life risk for multiple occupants such as high rises, hospitals, nursing homes, and covered malls.

The MLFD uses a tiered dispatch system and the following charts reflect initial dispatch assignments. Upon the arrival of the first company, additional resources are committed to the assignment according to first-due reporting. The MLFD has developed the following critical task analyses for various incident types. Further, it has defined, based on current unit staffing levels, the number and types of apparatus needed to deliver sufficient numbers of personnel to meet the critical tasking identified. The MLFD's review of the critical task analysis concludes that all are in keeping with industry standards and provide the minimum number of personnel needed for effective incident operations.

Structure Fires

Table: Fire - Low Risk ERF

Task	Number of Personnel
Command/Safety	1
Pump Operations	1
Attack Line	2
Total	**4**

Table: Fire - Moderate Risk ERF (Single Family and Small Buildings)

Task	Number of Personnel
Command/Safety	1
Attack Line	2
Pump Operator	1
Back-up Line	2
Search and Rescue	4
RIT	2
Outside Vent	1
Total	**13**

Fire – High Risk/Special Risk ERF

Task	Number of Personnel
Command	1
Safety Officer	1
Attack Line	2
Exposure Line	2
Pump Operator	1
Back-up Line	2
Search and Rescue	4
Ventilation	2
RIT	6
Total	**21**

Technical Rescue

Technical rescue incidents of high and special risk are a part of the Burlington County Urban Search and Rescue assignment matrix. Except for motor vehicle accidents, the Burlington County US&R team is dispatched for all technical rescue incidents that occur in Mount Laurel Township through the county's mutual aid agreement.

Technical Rescue - Low Risk ERF

Task	Number of Personnel
Command/Safety	1
Rescue Team	3
Total	**4**

Motor Vehicle Accident (Non-Trapped) – Low Risk ERF

Task	Number of Personnel
Patient Care	1
Documentation	1
Total	**2**

Motor Vehicle Accident (Entrapment) – Moderate Risk ERF

Task	Number of Personnel
Command/Safety	2
Patient Care	2
Extrication	4
Pump Operator/Suppression Line	2
Vehicle Stabilization	3
Total	**13**

Technical Rescue – Water – Moderate Risk ERF

Task	Number of Personnel
Command/Safety	2
Rescue Team	4
Backup Team	4
Rope Tender	2
Total	**12**

Technical Rescue – Rope – Moderate Risk ERF

Task	Number of Personnel
Command/Safety	2
Rescue Team	4
Backup/support team	3
Ground Support	3
Edge Person	1
Total	**13**

Technical Rescue – Confined Space – Moderate Risk ERF

Task	Number of Personnel
Command/Safety	2
Rescue Team	4
Backup/support team	4
Support	3
Total	**13**

Technical Rescue – Trench– Moderate Risk ERF

Task	Number of Personnel
Command/Safety	2
Rescue Team	4
Backup/support team	4
Shoring	3
Total	**13**

*Technical Rescue – High/Special Risk ERF**

Task	Number of Personnel
Command/Safety	2
Rescue Team	8
Backup/support team	8
Support	5
Total Staffing Provided	**23**

*Includes initial dispatched units from MLFD.

Additional rescue teams are included in the initial dispatch for high-risk events or USAR deployment.

Emergency Medical Service

Emergency Medical Aid BLS Call – Low Risk ERF

Task	Number of Personnel
Patient Care	1
Documentation	1
Total	**2**

Emergency Medical Aid ALS Call – Moderate Risk ERF

Task	Number of Personnel
Patient Care	1
Documentation	1
ALS Unit	2
Total	**4**

Major Medical Response (MCI) – High/Special Risk ERF

Task	Number of Personnel
Incident Command	1
Safety	1
Triage	2
Treatment Manager	1
Patient Care	12
Transportation Manager	1
Total	**18**

ALARM ASSIGNMENTS

To ensure sufficient personnel and apparatus are dispatched to an emergency event, the following is the minimum number of apparatus and personnel that should be sent on the first alarm or initial dispatch to the type of emergency noted. For the following charts, the words engine and quint are synonymous. The company requirement reflects the minimum manning standards utilized by the MLFD on a 24-hour basis. In using the minimum standards for the alarm assignments the MLFD is assured that the number of personnel will be attainable for every response regardless of any outside influence. There are times when staffing is above the stated levels, according to schedules, time, and day of the week. “Total Staffing needed” is the

number identified in the critical tasking analysis above. BLS is provided to all fire calls but is not listed below as fire apparatus do not primarily provide EMS at fire incidents. BLS and ALS are not included in the fire staffing requirements as they are given their staffing charts as noted.

Fire - Low Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Engine or Ladder	1	4
Total Staffing Required		**4**
Total Staffing Provided		**4**

Fire – Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Ladder	1	4
Engine	2	8
Battalion Chief	1	1
Total Staffing Required		**13**
Total Staffing Provided		**13**

Fire – High/Special Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Ladder	2	8
Engine	3	12
Battalion Chief	1	1
Total Staffing Required		**21**
Total Staffing Provided		**21**

Hazardous Materials – Low Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Engine or Ladder	1	4
Total Staffing Required		**4**
Total Staffing Provided		**4**

Hazardous Materials – Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Haz-Mat	1	4
Ladder or Engine	1	4
Battalion Chief	1	1
Rescue	1	4
Total Staffing Required		**13**
Total Staffing Provided		**13**

*Hazardous Materials – High/Special Risk Minimum Personnel**

Unit Type	Number of Units	Total Personnel
Haz-Mat	1	4
Ladder or Engine	3	12
Battalion Chief	1	1
Rescue	1	4
Ambulance	1	2
Total Staffing Required		**23**
Total Staffing Provided		**23**

*High and Special Risk hazardous materials incidents are augmented by the Burlington County Hazardous Materials Team.

Technical Rescue Low Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Ladder or Engine	1	4
Total Staffing Required		**4**
Total Staffing Provided		**4**

Technical Rescue – Water – Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Engine or Ladder	2	8
Rescue	1	4
Battalion Chief	1	1
Total Staffing Required		**13**
Total Staffing Provided		**13**

Technical Rescue – Rope – Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Rescue	1	4
Engine or Ladder	2	8
Battalion Chief	1	1
Total Staffing Required		**13**
Total Staffing Provided		**13**

Technical Rescue – Confined Space – Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Rescue	1	4
Engine or Ladder	2	8
Battalion Chief	1	1
Total Staffing Required		**13**
Total Staffing Provided		**13**

Technical Rescue - Trench - Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Rescue	1	4
Engine or Ladder	2	8
Battalion Chief	1	1
Total Staffing Required		**13**
Total Staffing Provided		**13**

Technical Rescue – High/Special Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
Squad Engine	1	4
Ladder or Engine	3	12
Battalion Chief	1	1
Rescue	1	4
Ambulance	1	2
Total Staffing Required		**23**
Total Staffing Provided		**23**

Major Medical calls for service (Special Risks) are augmented with the Burlington County EMS Task Force. ALS is not provided by the MLFD. A hospital-based ALS is provided.

Emergency Medical Service – Low Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
BLS Unit	1	2
Total Staffing Required		**2**
Total Staffing Provided		**2**

Emergency Medical Service - Moderate Risk Minimum Personnel

Unit Type	Number of Units	Total Personnel
BLS Unit	1	2
ALS Unit (Third Party)	1	2
Total Staffing Required		**4**
Total Staffing Provided		**4**

Emergency Medical Service - High/Special Risk (Multiple Patients) Minimum Personnel

Unit Type	Number of Units	Total Personnel
Battalion Chief and EMS	2	2
BLS	2	4
Engine or Ladder	3	12
Total Staffing Required		**18**
Total Staffing Provided		**18**

Augmented with Burlington County EMS Task Force.

Motor Vehicle Accident (Non-Trapped) Minimum Personnel

Unit Type	Number of Units	Total Personnel
Engine or Ladder	1	4
BLS Unit	1	2
Total Staffing Required		**6**
Total Staffing Provided		**6**

Fire apparatus assigned for Traffic Incident Management protocol for blocking and scene safety.

Motor Vehicle Accident (Trapped) Minimum Personnel

Unit Type	Number of Units	Total Personnel
Engine or Ladder	1	4
Rescue	1	4
BLS Unit	1	2
EMS Supervisor	1	1
Battalion Chief	1	1
Total Staffing Required		**12**
Total Staffing Provided		**12**

Distribution Factors

The standards of cover for the MLFD has been derived from, and specifically influenced from two factors: the distribution of resources and the concentration of resources in the community. Distribution is the specific location for resources (stations) and their corresponding effectiveness according to the first due response area. It is the ultimate goal to ensure stations are located to ensure timely response to all calls for service within the boundaries of Mount Laurel Township. Acceptable first-due response times are a good indicator of the effective distribution of stations. This is measured through a comparative analysis of pre-determined benchmarks and actual response times.

Concentration Factors

Concentration factors are also evaluated to ensure the responding units are effective and efficient as a whole. This is measured through effective response force data analysis according to a comparison of real-time responses to the benchmarks provided. While distribution factors measure the location of stations, concentration factors are a measurement of the overall number of stations.

Reliability Factors

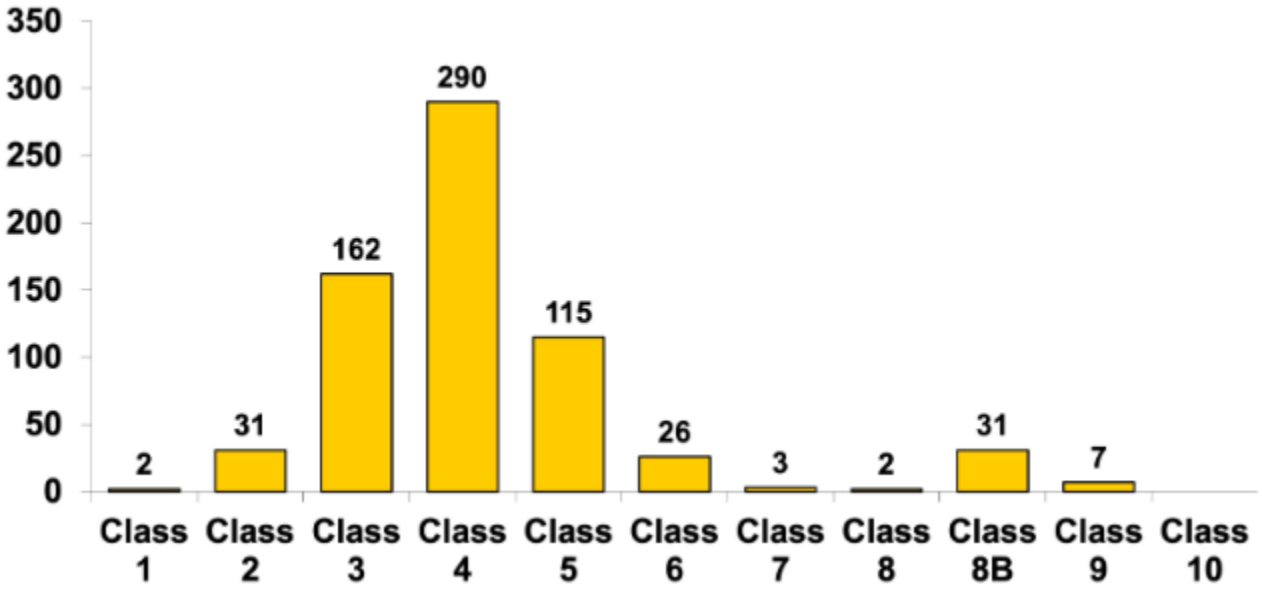
Reliability factors are the balance between distribution and concentration. It is the responsibility of the MLFD to ensure that the workload is evenly distributed between the stations and corresponding employees. If one station is overtaxed, the result is another station is not being effectively utilized. Evaluation of historic system workload plays a key role in the reliability of station and unit efficiency.

Comparability

Comparability is the ability to compare the performance of an agency to one of the similar characteristics. The MLFD achieves this through the use of standards such as the Verisk (formerly known as the Insurance Services Office) and the National Fire Protection Association (NFPA).

Verisk's Community Hazard Mitigation team actively works with fire departments, building departments, water suppliers, and municipalities to develop a public protection classification (PPC) in order to attain their ultimate goal of safer communities. This process aids fire departments nationally in planning and budgeting for facilities, equipment, and training. Communities with a better PPC score realize lower fire insurance rates. MLFD is currently rated as a Class 3.

Figure: NJ PPC Classifications



Source: Verisk

Before a full response performance analysis is conducted, it is important to examine the level of workload (service demand) that a fire department experiences. Higher service demands can strain the resources of a department and be detrimental to response time performance.

The following figures show response zones and workload for three previous calendar years for response zones associated with the New Jersey Turnpike and Interstate 295.

Figure: Highway Response Zones

Figure: New Jersey Turnpike Incidents by Zone by Year

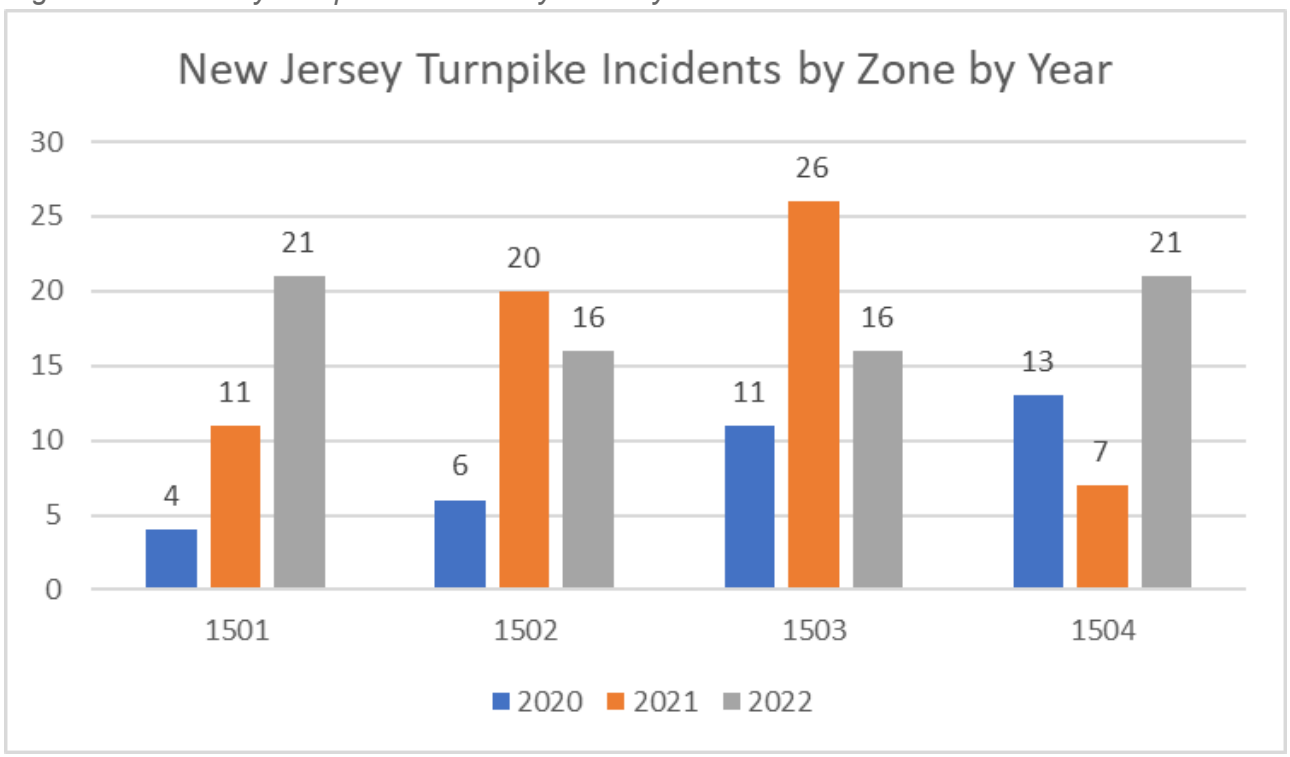
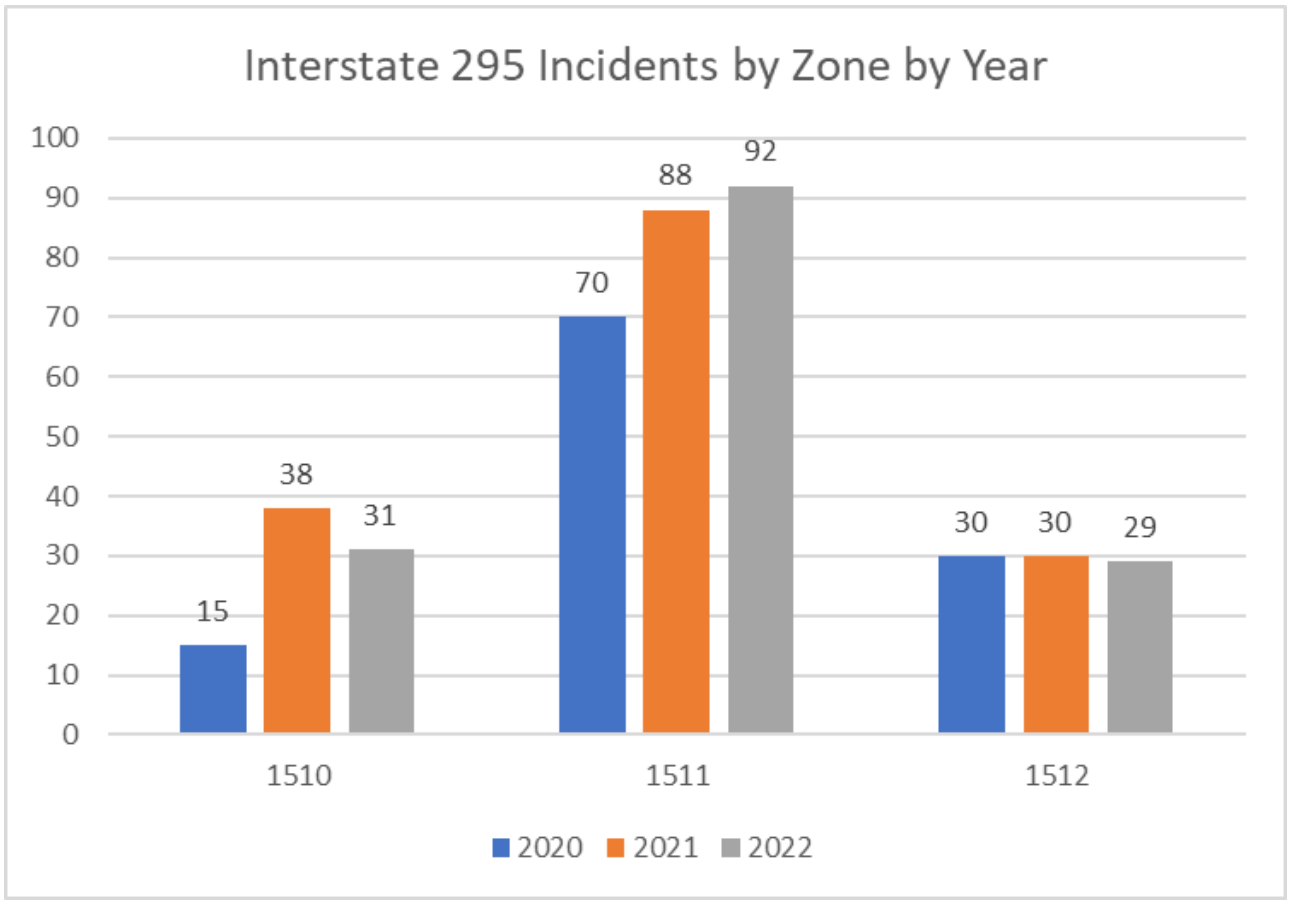


Figure: Interstate 295 Incidents by Zone by Year



The following figures show fire response zones and workload for three previous calendar years in Mount Laurel Township excluding the New Jersey Turnpike and Interstate 295.

Figure: Fire Station Response Zones

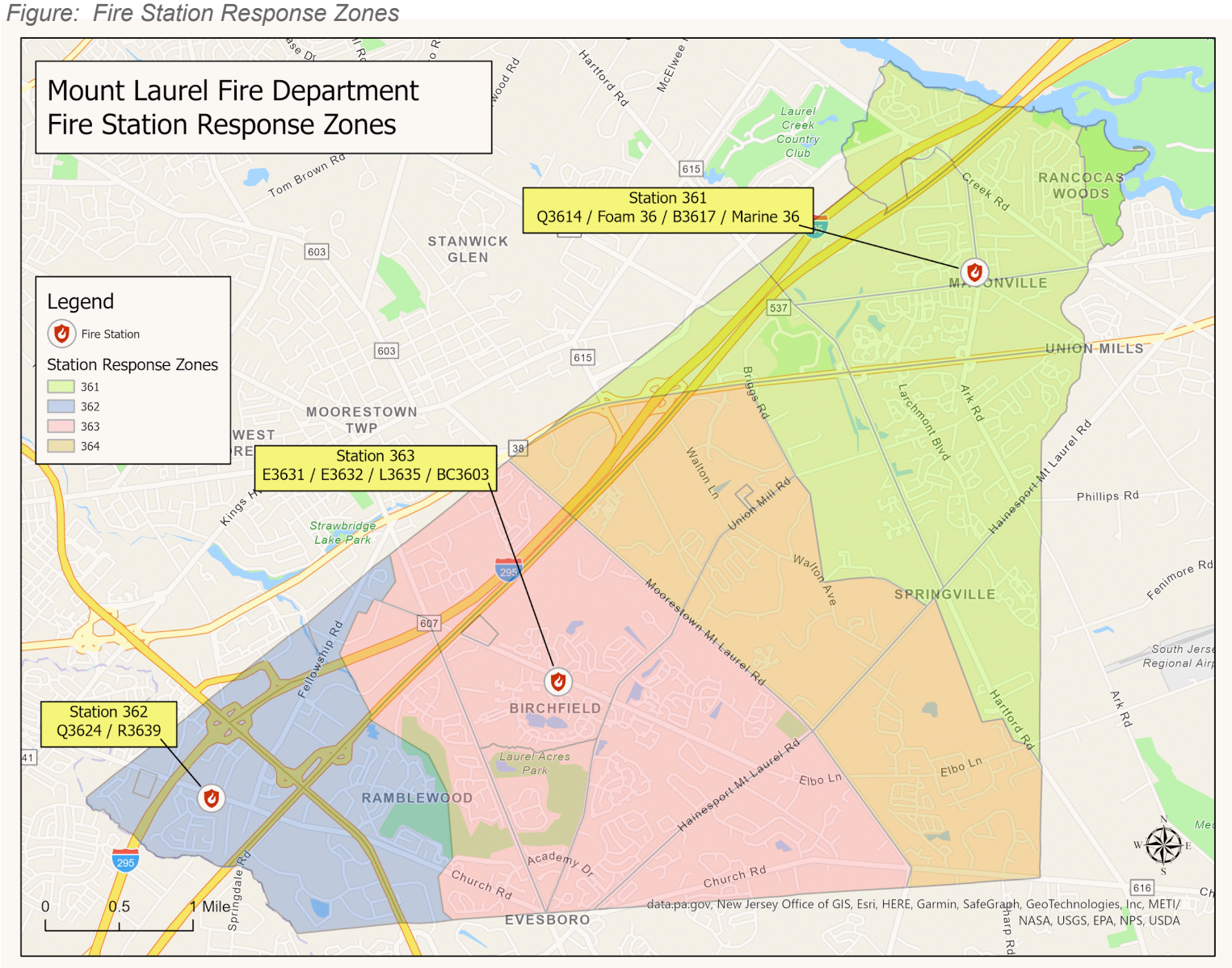


Figure: 361 Response Zone Incidents by Zone by Year

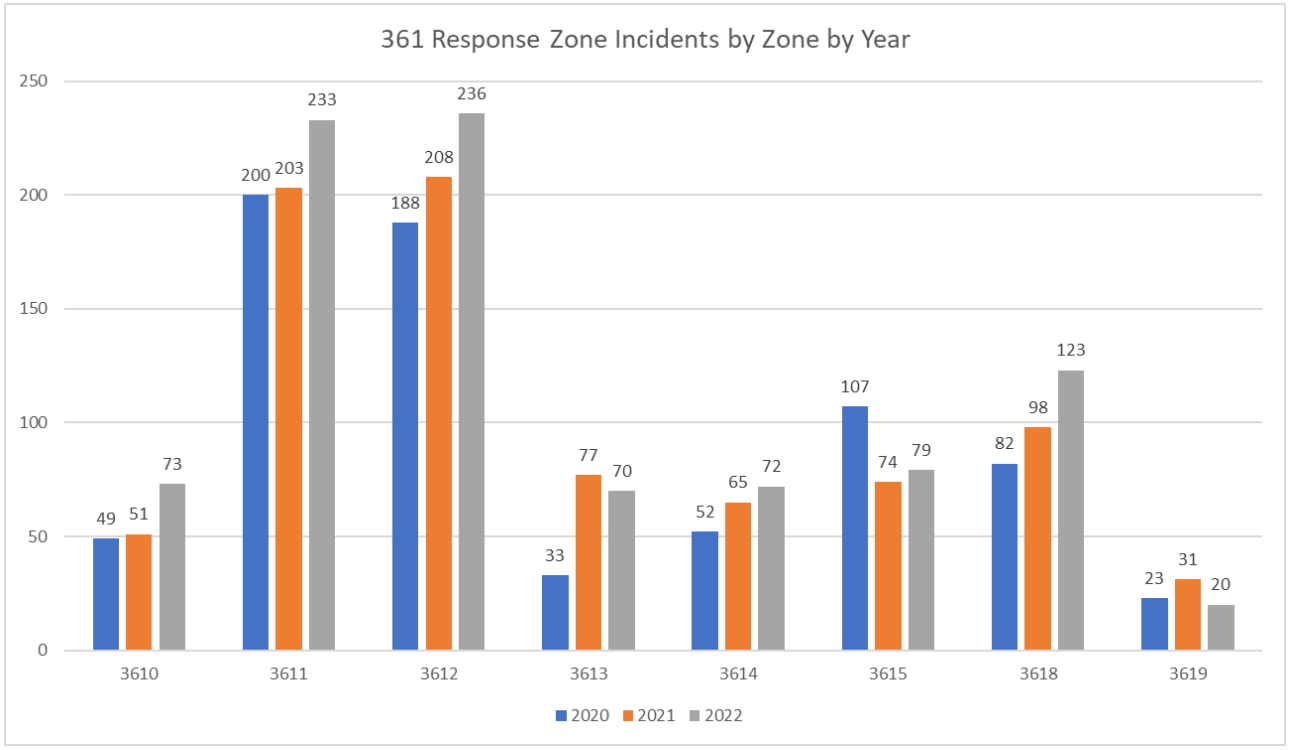


Figure: 362 Response Zone Incidents by Zone by Year

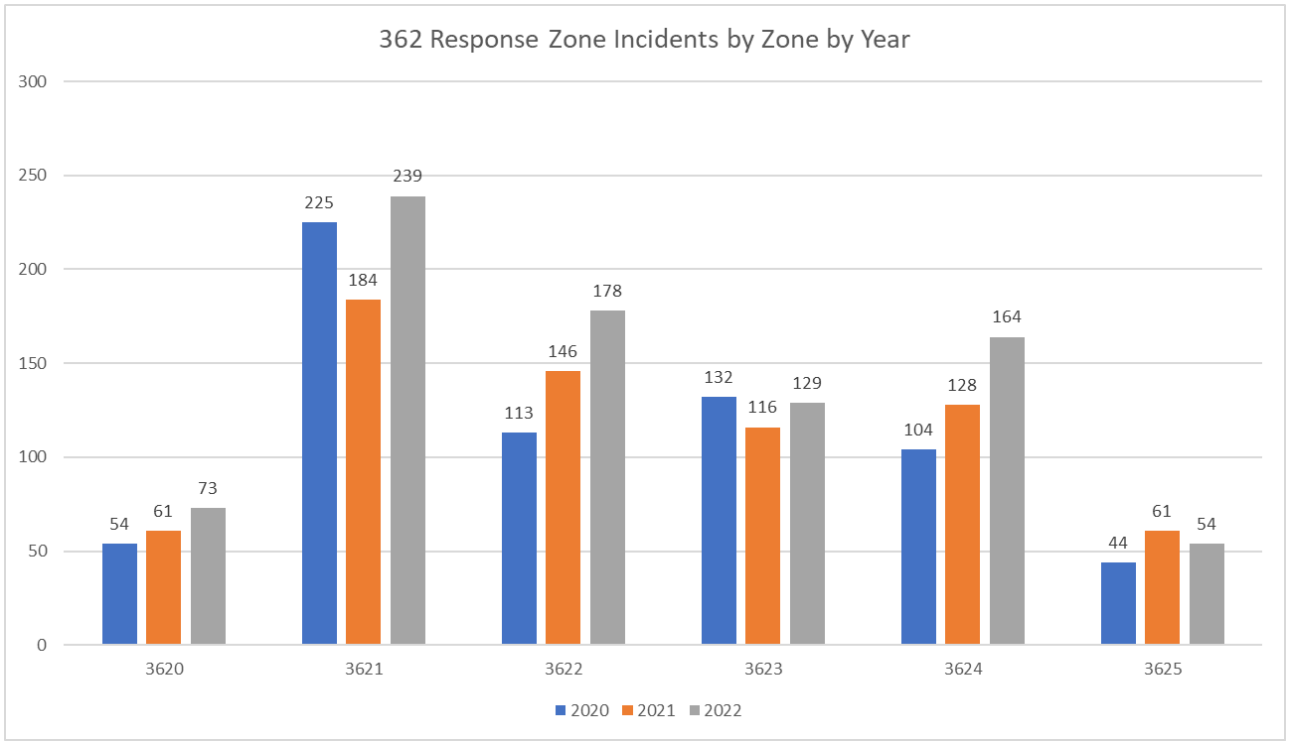


Figure: 363 Response Zone Incidents by Zone by Year

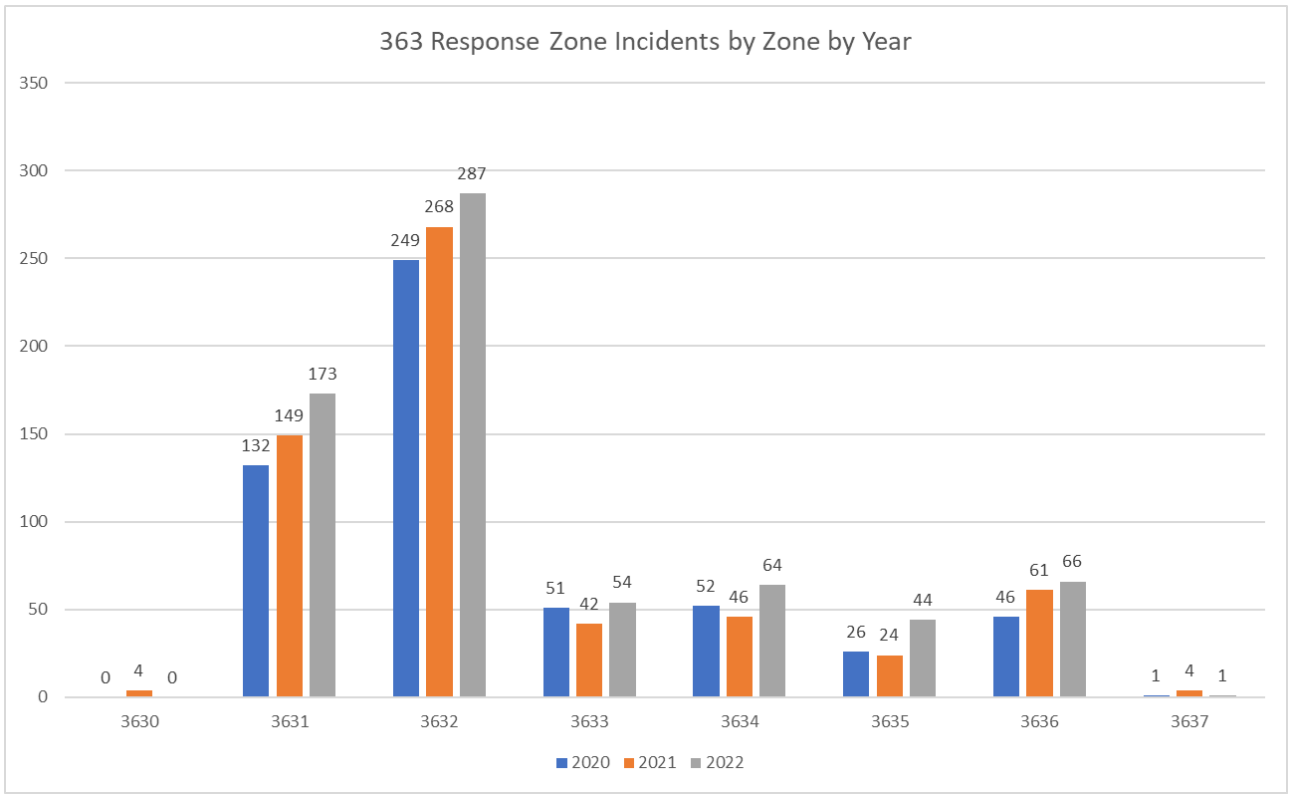
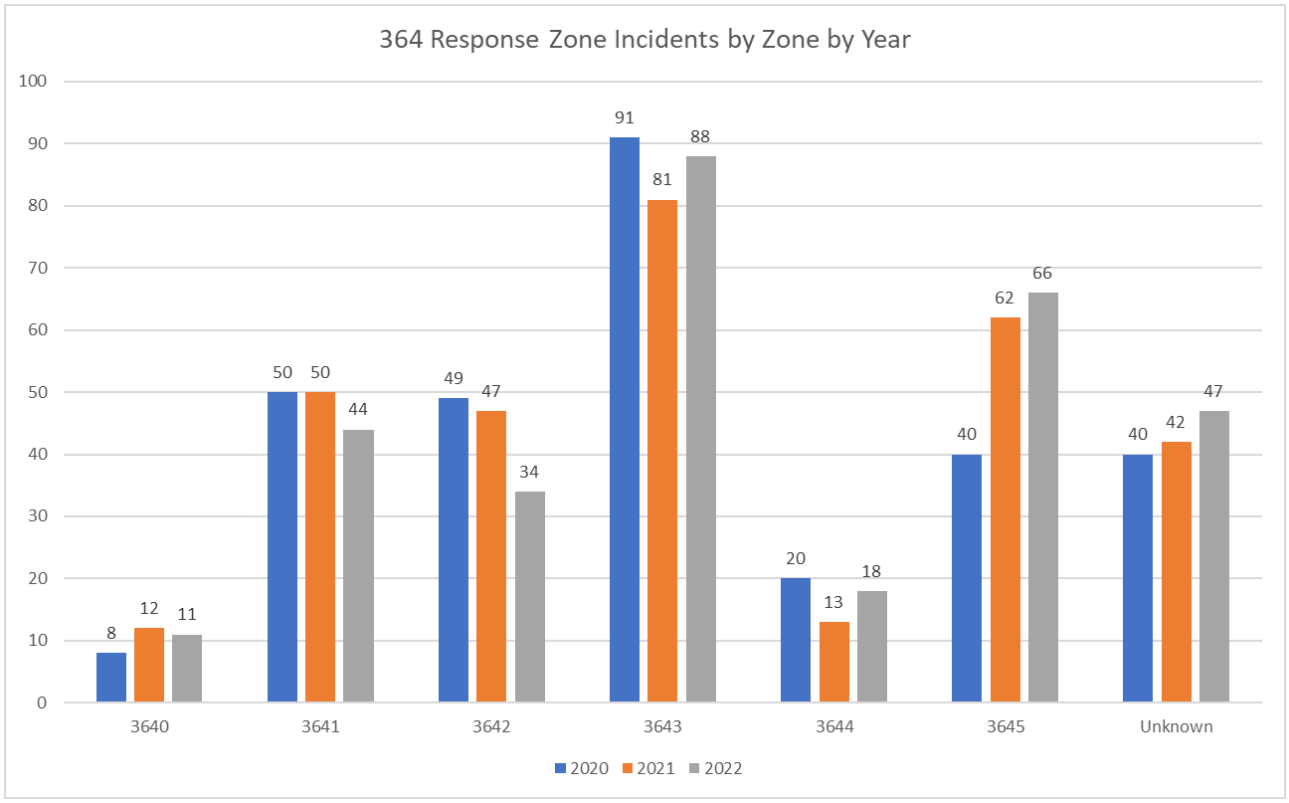
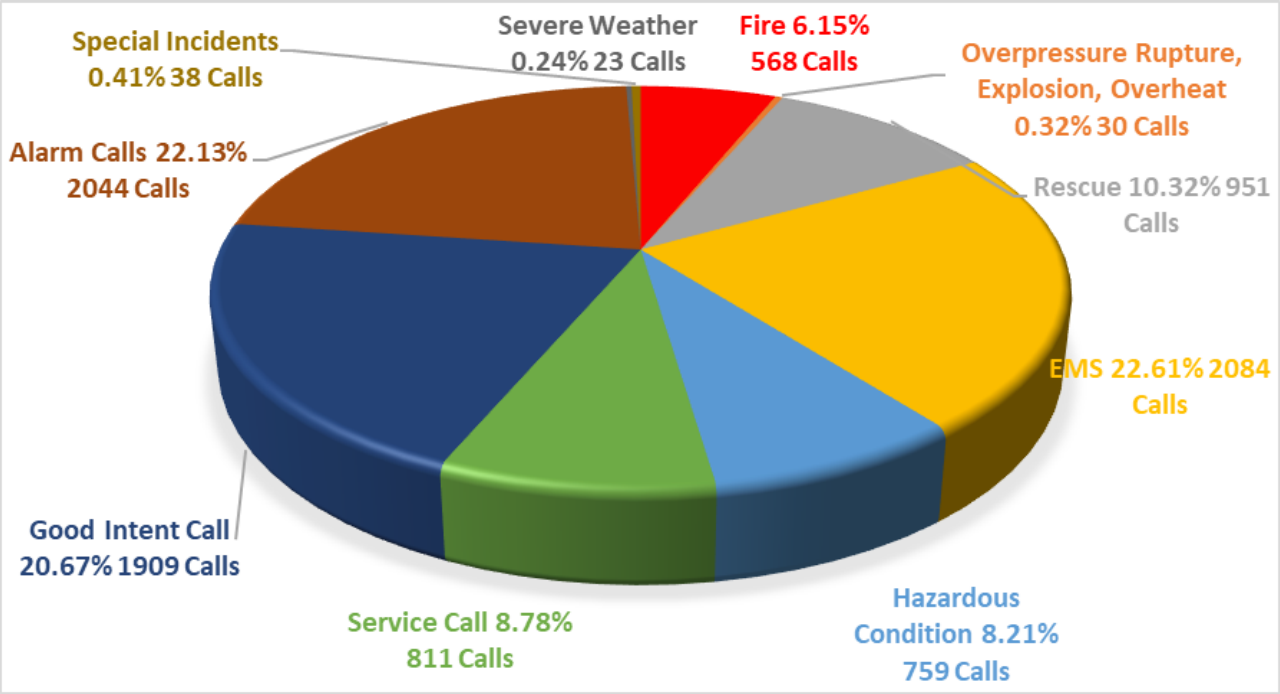


Figure: 364 Response Zone Incidents by Zone by Year



The following figure shows all fire responses by type of incident found for the time period January 1, 2020, through December 31, 2022 (3-year study period).

Figure: System Workload by Type of Incident



TEMPORAL ANALYSIS

A review of incidents by time of occurrence reveals much about response demand. The following figures show how activity and demand change for the MLFD based on various measures of time. The following figures show response activity for the study period by time of day, by month, and by day of week. This analysis shows a trend of incidents starting at 0700 hrs (7:00 AM) and peaking at 1400 hrs (2:00 PM) and then gradually decreasing until midnight.

Figure: Fire Responses by Hour and Day

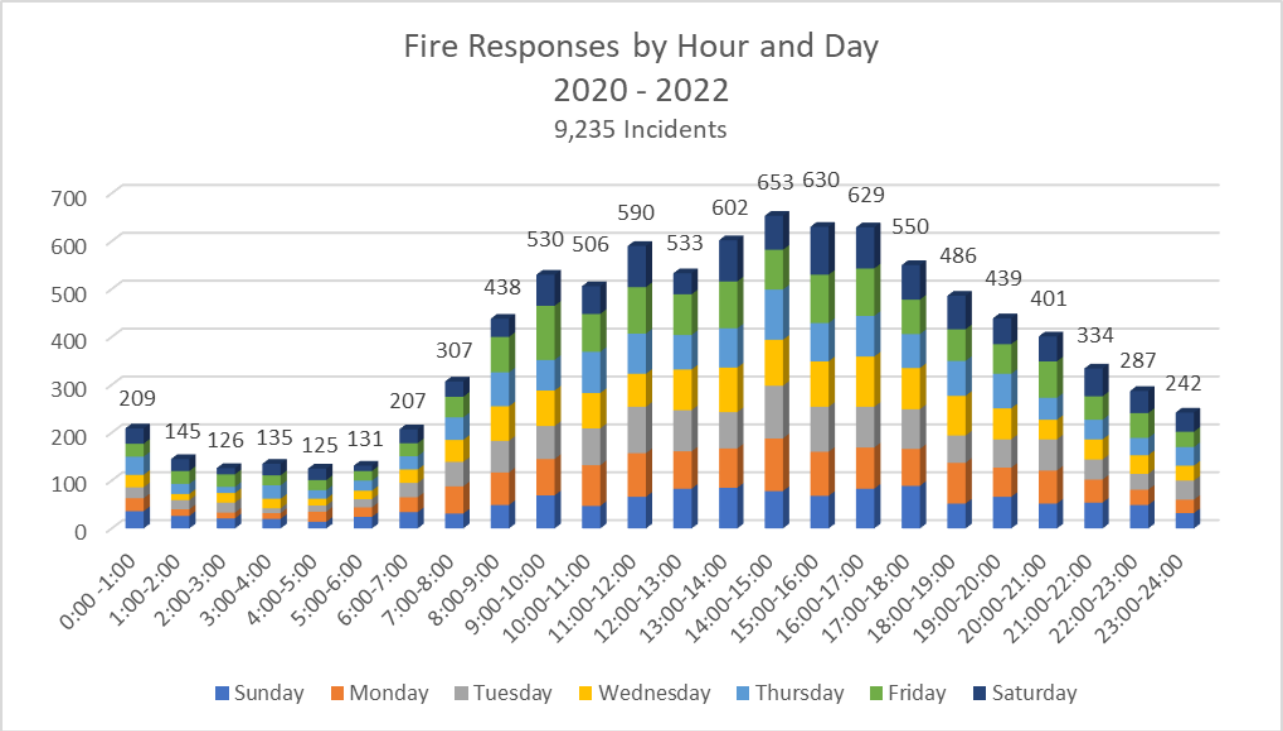


Figure: Daily Workload

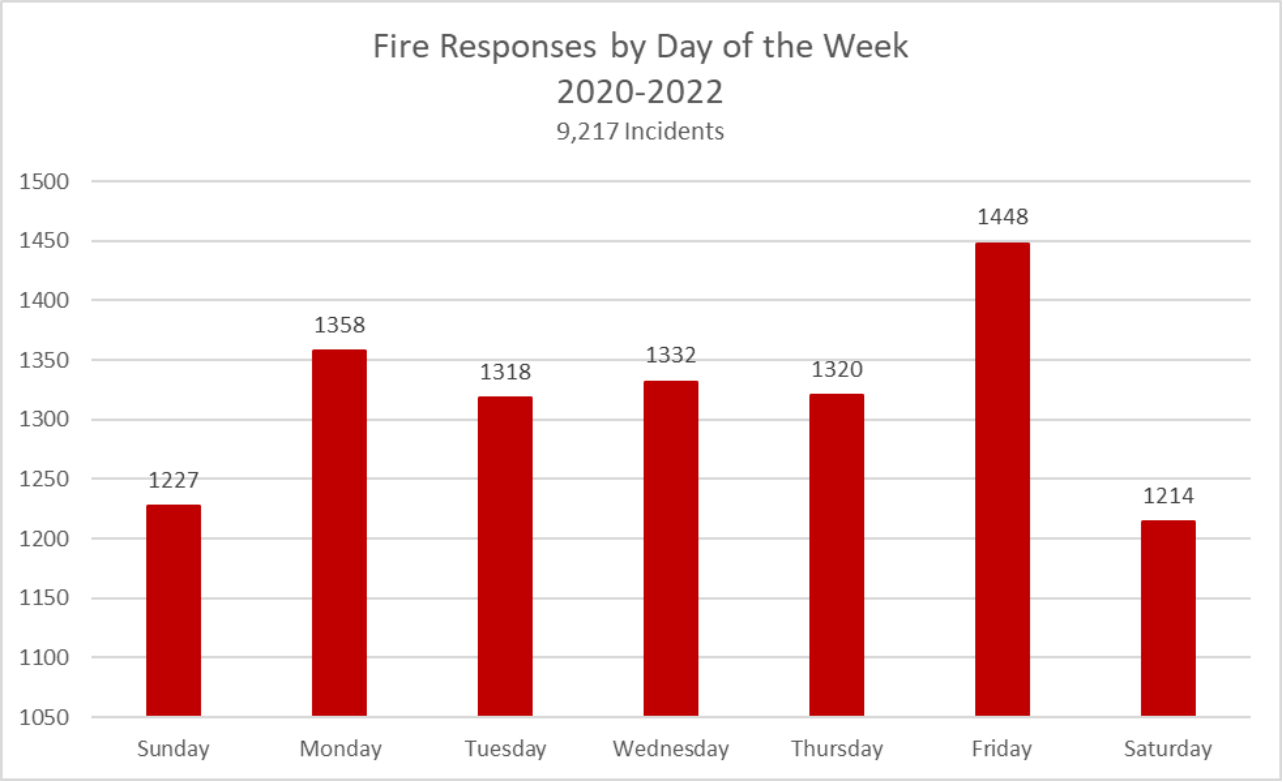
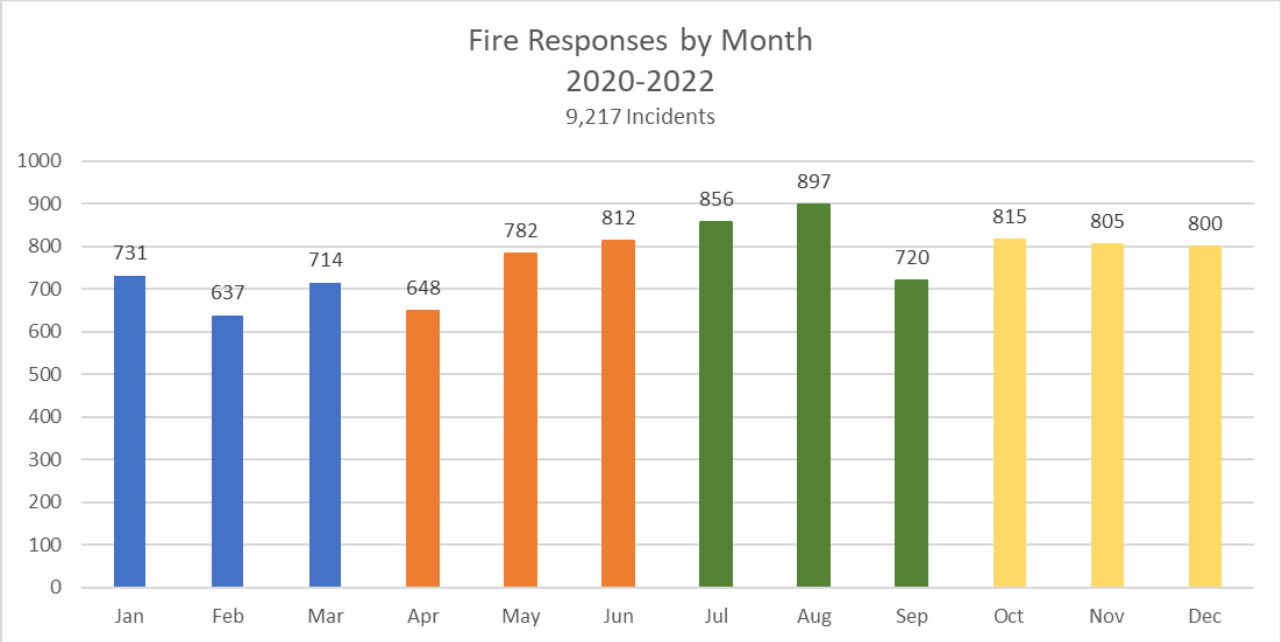


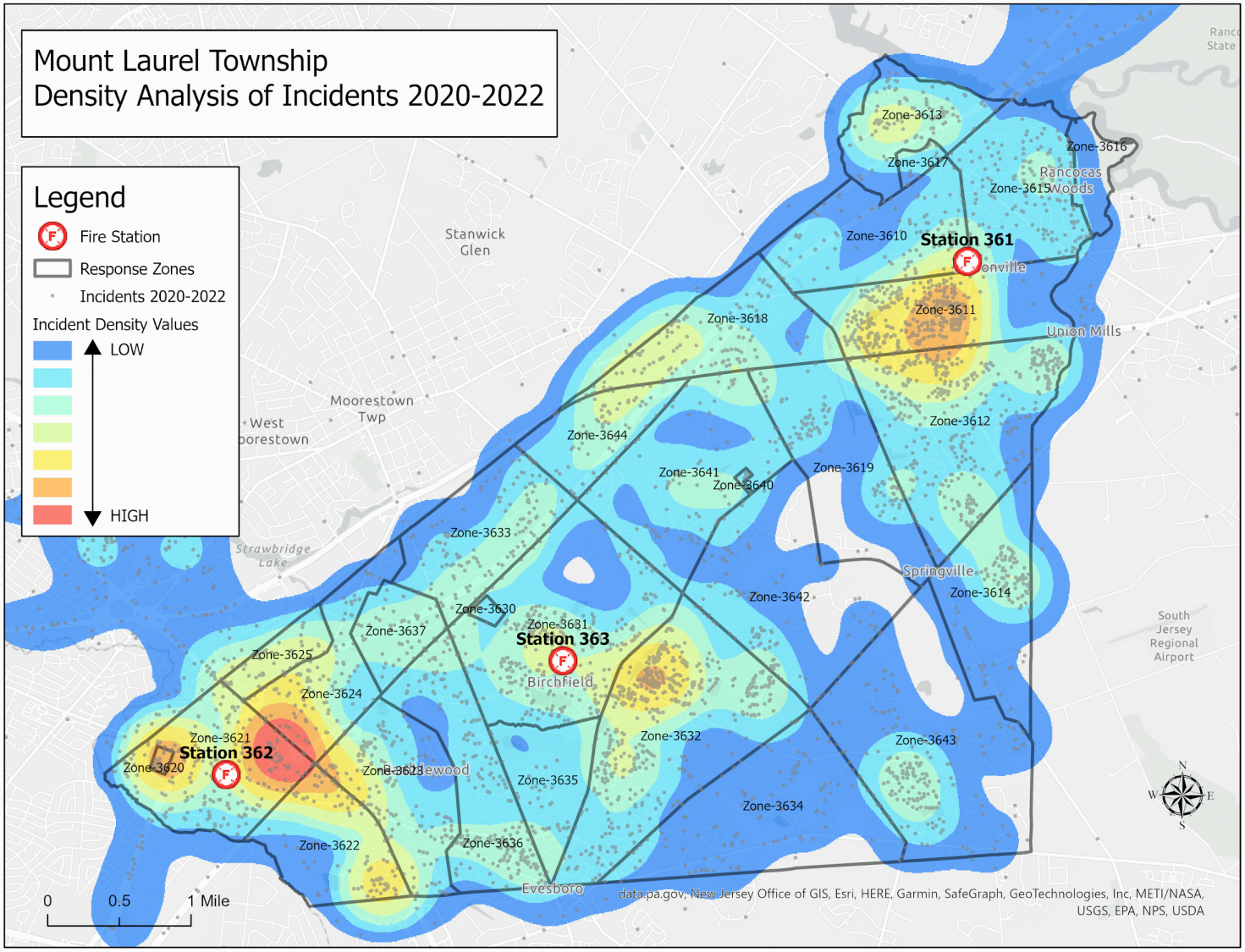
Figure: Monthly Workload



SPATIAL ANALYSIS – FIRE RESPONSE ZONES

In addition to the temporal analysis of the current service demand, it is useful to examine the geographic distribution of service demand. The following figure series indicates the distribution of emergency incidents in Mount Laurel during the study period from Stations 361, 362, and 363. The spatial analysis provided reflects the workload as distributed between stations.

Figure: Density Analysis of Incidents



The amount of time a given unit is committed to an incident is also an important workload factor. The following figure illustrates the average time each unit was committed to an incident from initial dispatch until it cleared the scene.

Figure: Average Time Committed to an Incident by First Due Unit

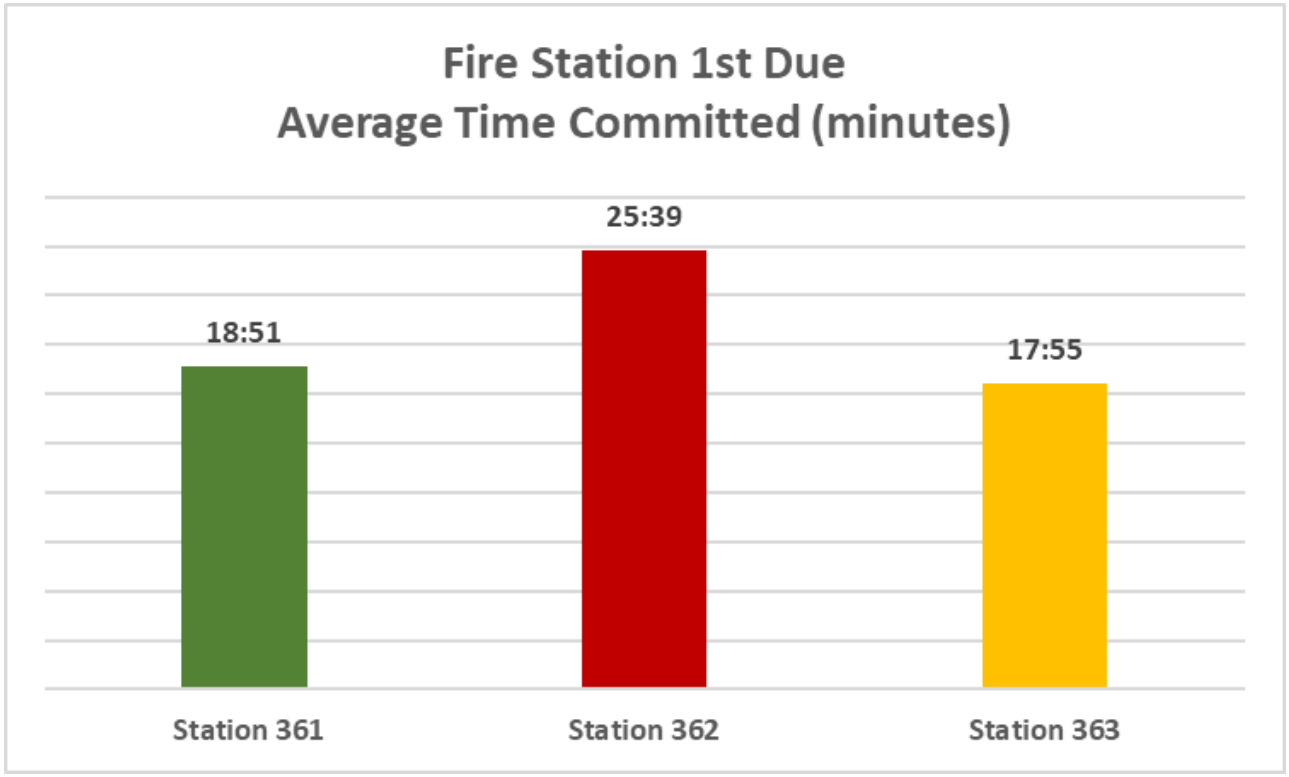
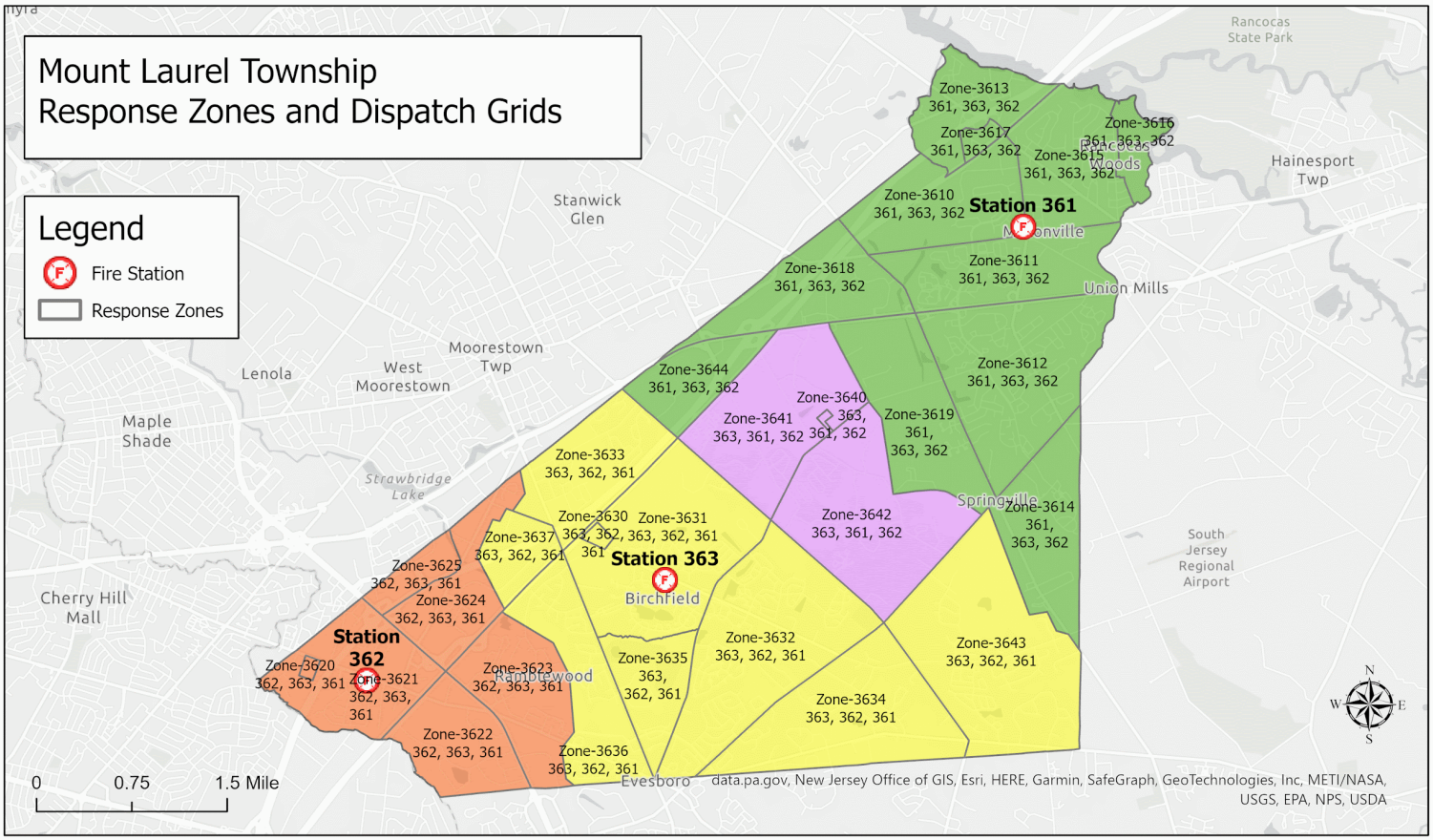


Figure: Response Zones and Dispatch Grids



Zone	First Due	Second Due	Third Due
3610	361	363	362
3611	361	363	362
3612	361	363	362
3613	361	363	362
3614	361	363	362
3615	361	363	362
3616	361	363	362
3617	361	363	362

Zone	First Due	Second Due	Third Due
3618	361	363	362
3619	361	363	362
3644	361	363	362
3620	362	363	361
3621	362	363	361
3622	362	363	361
3623	362	363	361
3624	362	363	361

Zone	First Due	Second Due	Third Due
3625	362	363	361
3640	363	361	362
3641	363	361	362
3642	363	361	362
3630	363	362	361
3631	363	362	361
3632	363	362	361
3633	363	362	361

Zone	First Due	Second Due	Third Due
3634	363	362	361
3635	363	362	361
3636	363	362	361
3637	363	362	361
3643	363	362	361

CRITICAL TASKING AND ALARM ASSIGNMENTS

The MLFD service area is classified as an urban environment according to the Commission on Fire Accreditation International (CFAI) and as such, contains an elevated number, density, and distribution of risk. In preparing for response to emergency incidents, consideration must be given to possessing the appropriate resources to effectively mitigate the incidents that have the highest potential to negatively impact the community. As the actual or potential risk increases, the need for higher numbers of personnel and apparatus also increases. With each type of incident and corresponding risk, specific critical tasks need to be accomplished and certain numbers and types of apparatus should be dispatched. This section considers the community's identified risks and illustrates the number of personnel that is necessary to accomplish critical tasks in an emergency. Incident priorities are life safety, incident stabilization, and conservation of the environment and property.

Tasks to support incident priorities must be performed at a fire and can be broken down into two key components: life safety and fire suppression. Life safety tasks are based on the number of building occupants and their location, status, and ability to take self-preservation action. Life safety-related tasks involve the search, rescue, and evacuation of victims. The fire suppression component involves delivering sufficient water to extinguish the fire and create an environment within the building that allows entry by firefighters.

The number and types of tasks that need simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the commanding officer must prioritize the tasks and assign resources as appropriate.

The critical tasks are:

- Incident Command
- Scene safety
- Search and rescue
- Water supply
- Pump operations
- Fire attack
- Ventilation
- Backup/rapid intervention crew

Critical task analysis also applies to non-fire type emergencies including medical, technical rescue, and hazardous materials emergencies. In some cases, simultaneous tasks must be completed to effectively control an emergency. The following figure illustrates the emergency incident staffing recommendations of the CFAI.

The following definitions apply to the figure:

- **Low risk** – Minor incidents involving small fires such as automobiles, a backyard shed, brush (fire flow less than 250 gallons per minute), a single patient with a non-life threatening medical emergency, minor motor vehicle accidents, and small fuel spills.

- **Moderate risk** – Moderate risk incidents involving fires in single-family dwellings and equivalently sized commercial office properties, larger vehicles (fire flow between 250 gallons per minute to 1,000 gallons per minute), life-threatening medical emergencies, hazardous materials emergencies requiring specialized skills and equipment, rescues involving specialized skills and equipment, and medium-sized brush fires.

- **High risk** – High risk incidents involving fires in highrise buildings, nursing homes, larger commercial properties (fire flows more than 1,000 gallons per minute), multiple patient medical incidents, major releases of hazardous materials, high risk rescues such as high angle, trench and confined space, and larger brush fires.

Figure 50: Staffing Recommendations Based on Risk

Incident Type	High Risk	Moderate Risk	Low Risk
Structure Fire	21	14	4
Emergency Medical Service	18	4	2
Rescue	23	13	4
Hazardous Materials	23	13	4

Incident data for the period January 1, 2020, through December 31, 2022 (study period) was evaluated in detail to determine MLFD's current performance. Data was obtained from Burlington County Public Safety's Computer-Aided Dispatch software (CAD). Only incidents that were dispatched as Priority 1 Incidents are included in the analysis. Priority 1 incidents involve emergencies to which the fire department responded using warning lights and sirens. The MLFD also responds to incidents considered non-emergent and does so without the use of lights and sirens for the safety of our personnel and the general public as outlined in Standard Operating Guideline #02-207.

Areas of higher fire risk require greater numbers of personnel and apparatus to effectively mitigate emergencies. Areas with a higher incident activity require additional response units to ensure a reliable response.

The Center for Public Safety Excellence (CPSE) helps high-performing fire departments in their efforts to continuously improve. Their mission is to lead the fire and emergency service to excellence through the continuous quality improvement process of accreditation, credentialing, and education. The Commission on Fire Accreditation International (CFAI) is a group of fire service professionals who operate as part of the CPSE and assist agencies with a self-assessment process using nationally recognized standards and best practices.

Most communities contain areas with different population densities and property risks allowing the community's policymakers to specify different response performance objectives by geographic area.

The CFAI defines the categories as:

- **Metropolitan**—Geography with populations of over 200,000 people in total and/or a population density of over 3,000 people per square mile. These areas are distinguished by mid-rise and high-rise buildings, often interspersed with smaller structures.

- **Urban**—Geography with a population of over 30,000 people and/or a population density of over 2,000 people per square mile.

- **Suburban**—Geography with a population of 10,000 to 29,999 and/or a population density of between 1,000 and 2,000 people per square mile.

- **Rural**—Geography with a total population of less than 10,000 people or with a population density of less than 1,000 people per square mile.

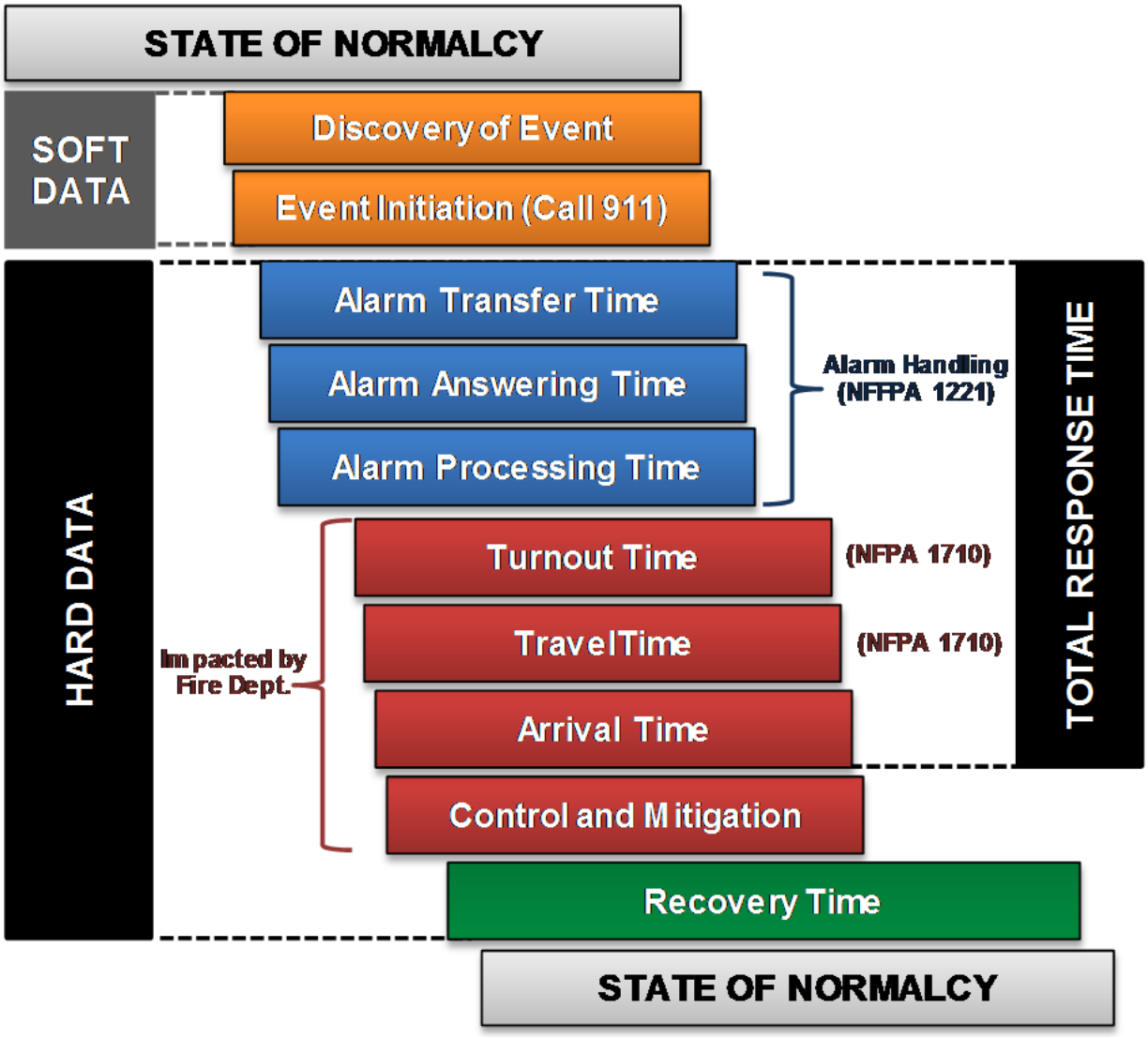
- **Wilderness/Frontier/Undeveloped**—Geography that is both rural and not readily accessible by a publicly or privately maintained road.

Based on population density, Mount Laurel Township is considered urban by the CFAI having a total population of over 30,000 and a population density of over 2,000 people per square mile.

CASCADE OF EVENTS

Each event begins with a change in what is considered normal. At the point in time when the event initiates the clock or cascade of events begins until the state of normal is returned. To assemble the needed assets at an emergency scene efficiently and timely, assets need to be properly distributed as well as concentrated within the community. Enough assets, including emergency communications operators, are needed to handle the volume of alarms. Each time stamp included in the cascade of events allows the agency the opportunity to assess and benchmark its performance. Most data points in the cascade are monitored within the CAD system. While human intervention is required for all hard data calculations, the data that is collected can be considered accurate and valid. The following sections assess each hard data point monitored on the cascade of events.

Figure: Emergency Notification Cascade of Events



Each phase of the incident response sequence was evaluated to determine current performance. This allows an analysis of each phase to determine where opportunities might exist for improvement. Current performance is compared to MLFD's response performance objectives and the response performance goals recommended in this document. Following MLFD's performance objectives and in keeping with NFPA standard 1710, all response time elements are reported at the 90th percentile. Percentile (fractile) reporting is a methodology by which response times are sorted from least to greatest, and a line is drawn at a certain percentage of the calls to determine the percentile. The point at which the "line" crosses the 90th percentile is the percentile time performance. Thus, 90% of the times were at or less than the result. Only 10% were longer. While the benchmark goals are a reflection of NFPA 1710, the baseline acceptable deviation is as recommended by Commission on Fire Accreditation International (CFAI) in the Fire and Emergency Services Self-Assessment Manual 9th Edition (FESSAM).

DETECTION

The detection of a fire or other emergency may occur immediately if someone happens to be present, or if an automatic system is functioning. Otherwise, detection may be delayed, sometimes for a considerable period. The period for this phase begins with the inception of the emergency and ends when the emergency is detected. It is largely outside the control of the fire department and not a part of the event sequence that is reliably measurable.

CALL PROCESSING (ALARM HANDLING)

Today most emergency incidents are reported by telephone to the 911 Public Safety Answering Point (PSAP) or Automated Secure Alarm Protocol (ASAP). Call takers must quickly elicit accurate information through a structured interrogation of the caller. This phase typically begins when the 911 call is answered at the dispatch center and ends when response personnel are notified of the emergency. This phase is labeled "call processing time." The MLFD does not have direct control of call processing that is performed by the Burlington County Communications Center.

> ***Best Practice Benchmark*** - MLFD's current NFPA 1710 performance benchmark for call processing time is within 60 seconds, 90% of the time. The MLFD does influence this time as we are dispatched from a remote location by the Burlington County Communications Center. Further, limitations between the CAD software and fire reporting software have prevented the accurate tracking of such information. Collaborations between Burlington County Communications Center and the incident reporting software vendor to capture this information for every incident have been implemented as of April 21, 2023.

TURNOUT TIME

Turnout time is the first of the response phases controllable by the fire department. This phase begins at the notification of an emergency in progress by the dispatch center and ends when personnel and apparatus begin movement toward the incident location. Personnel must don appropriate equipment, assemble on the response vehicle, and begin travel to the incident. Good training and proper fire station design can minimize the time required for this step.

> ***Best Practice Benchmark*** - NFPA 1710's performance benchmark for turnout time is within 80 seconds, 90% of the time
>
> *MLFD Benchmark* - MLFD's current performance benchmark goal for turnout time for priority 1 incidents is within 1 minute 30 seconds 90% of the time. The actual baseline performance of the MLFD in reference to core services for the period January 1, 2020 - December 31, 2022, was 3 minutes 18 seconds[1]

TRAVEL TIME

Travel time is typically the longest of the response phases. The distance between the fire department station and the location of the emergency influences total response time the most. The quality and connectivity of streets, traffic, driver training, geography, and environmental conditions are also factors. This phase begins with initial apparatus movement towards the incident location and ends when response personnel and apparatus arrive at the emergency's location. The MLFD's response performance goal, four minutes is allowed for travel time to priority 1 incidents as per NFPA 1710.

> ***Best Practice Benchmark*** - NFPA 1710's performance benchmark for travel time of the first unit is within 4 minutes 90% of the time from receipt of alarm from the dispatch center.
>
> *MLFD Benchmark* - The MLFD's performance benchmark goal for first due travel time is within 5 minutes 12 seconds 90% of the time from turnout to the arrival of the unit on scene. The actual performance of the MLFD in reference to core services for the period January 1, 2020 - December 31, 2022, was 8 minutes 42 seconds[2].

The MLFD's response times for incidents outside of fire response are subject to several outside influences.

1. The times used for non-emergent responses are reflective of a reduced speed response policy. This policy directs the response posture to not utilize lights and sirens for certain types of incidents (i.e. residential alarm activations with reported prolonged activation times,

[1] Turnout times in excess of 5 minutes were considered outliers and removed from the dataset prior to analysis.
[2] Travel times in excess of 30 minutes were considered outliers and removed from the dataset prior to analysis.

assist police, and investigative calls).

2. It is known that delays sometimes exist between the time that the apparatus communicates its response via radio to the communications center and the time in which the operator notes their time in the CAD.

CONCENTRATION AND CURRENT EFFECTIVE RESPONSE FORCE CAPABILITY ANALYSIS

Effective Response Force (ERF) is the number of personnel and apparatus required to be present on the scene of an emergency incident to perform the critical tasks in such a manner to effectively mitigate the incident without unnecessary loss of life and/or property. The ERF is specific to each type of incident and is based on the critical tasks that must be performed. Structure fires are used as the primary risk category for this analysis as these present the most frequent type of incidents requiring multiple response units and greater numbers of firefighters assigned to the incident. MLFD currently dispatches two engines, one ladder, and one Battalion Chief to all reported structure fires.

Best Practice Benchmark - NFPA 1710's performance benchmark for the assembling of an effective response force for moderate risk incidents is within 8 minutes and for high risk incidents is within 10 minutes and 10 seconds 90% of the time from receipt of alarm from the dispatch center.

MLFD Benchmark **-** For moderate risk incidents, MLFD shall assemble an ERF consisting of personnel sufficient to effectively mitigate the incident based on risk within 10 minutes 30 seconds **from the time of dispatch**, 90% of the time. The actual performance of the MLFD for the period January 1, 2020 - December 31, 2022, was 11 minutes and 27 seconds.

Actual baseline performance that occurred within the Township of Mount Laurel during the study period is as follows:

FIGURE: EFFECTIVE RESPONSE FORCE – FIREFIGHTERS – MODERATE RISK

Table: ERF Capability Timeline

Structure Fires		Benchmark Goals at 90th Percentile	MLFD Benchmark Goals at 90th Percentile	2020 - 2022	2020	2021	2022
Turnout Time	1st Unit	1:20	1:30	3:43	3:52	3:41	3:36
Travel Time	1st Unit	4:00	5:12	6:52	6:34	6:51	7:32
	ERF	8:00	10:24	11:27	11:16	11:10	11:57

CALL CONCURRENCY AND RELIABILITY

When evaluating the effectiveness of any resource deployment plan, it is necessary to evaluate the workload of the individual companies to determine to what extent their availability for dispatch is affecting the response time performance. In simplest terms, a response unit cannot make it to an incident across the street from its station in four minutes if it is unavailable to be dispatched to that incident because it is committed to another call.

CONCURRENCY

One way to look at resource workload is to examine the number of times multiple incidents happen within the same time frame. Incidents during 2020, 2021, and 2022 were examined to determine the frequency of concurrent calls within the MLFD service area. This is important because concurrent calls can stretch available resources and extend response times. It was determined that an additional ambulance was needed during peak response times.

Table: Number of Simultaneous Calls by Fire Local

Year	Station 361	Station 362	Station 363
2020	139	124	173
2021	115	119	186
2022	162	184	198
Totals	**416**	**427**	**557**

Section 7 - Compliance Methodology

This component describes the MLFD's ongoing effort to provide analysis and evaluation of the adopted Standards of Cover.

History

At the inception of a re-evaluation process the MLFD began the process of developing a formal Standard of Cover document. Like many other agencies, the organization was well aware of the strengths and shortcomings of the service provision. The key difference was that it was never documented in one place for the whole organization to review, and most importantly, the customer did not have the opportunity to review it. With the completion of this document and the ongoing process of continual evaluation of service delivery, the department can ensure continual improvement in matters pertaining to response to calls for service.

Methodology

The methodology used by the organization is intended to be established methods provided in the Commission on Fire Accreditation International (CFAI) Fire and Emergency Services Self-Assessment Manual 9Th Edition (FESSAM).

Compliance Team

The MLFD has embraced the self-improvement model as presented by CFAI. The Office of the Fire Chief has the ultimate responsibility to report all findings to the governing body of the Board of Fire Commissioners who represent the public as elected officials. The Office of the Fire Chief, leveraging resources of the department will continue to work closely to improve upon the process.

Performance Evaluation

In the development of the Standards of Cover document, the developers were able to extract data from several sources. The Firehouse records management system (RMS) used by Burlington County Communications Center is the first level of data management. It is important to note that apparatus incident times are entered by telecommunicators following radio transmissions. The accuracy of these times are subject to factors such as the availability of open air and the timeliness with which the telecommunicator completes the CAD entry. All calls for service of fire apparatus are recorded via the CAD system into the Firehouse RMS. MLFD personnel complete the report with information from the scene. This information is then stored in the RMS.

Reports are generated and evaluated by the personnel and placed into summary charts and graphs as provided in the Standard of Cover document. This process has revealed some shortcomings in the expeditious delivery of emergency services.

Due to limitations in the software, call processing times are unable to be easily determined. Although this falls outside the direct responsibility of the fire department, methods to capture such data have been implemented making it available for future analysis. Analysis has shown that turnout times have room for improvement. The MLFD will begin to take steps to monitor and improve turnout times.

Risk Assessment

The MLFD risk assessment process is mainly driven by the pre-incident planning that companies complete in the field. Pre-incident planning provides vital information about a specific occupancy which includes the construction type, building components/features, suppression and detection systems, and any special hazards. Preplans are available on tablets located in MLFD apparatus and command vehicles

Improvement Strategy

The MLFD is in the process of developing a 2023-2025 Strategic Plan that contains goals for the organization. This plan is a fluid document and will be reviewed every year. The progress of ongoing initiatives is reported monthly to the chief and the governing body of the Board of Fire Commissioners. The addition of the Standards of Cover will enhance the continuous improvement efforts and assist in the development of all planning and budget preparation documents. Upon completion, the Standards of Cover will be published alongside the Strategic Plan on the MLFD website (mlfd.org).

Section 8 - Overall Evaluation and Recommendations

OVERALL EVALUATION

This MLFD Standards of Cover is based on the CFAI Standards of Cover 5th Edition, requiring the completion of an intensive analysis of all aspects of the MLFD deployment and staffing practices. An analysis of workload, historical performance, evaluation of risk, and validation response was completed. The analysis relied on the experience of staff officers and their historical perspective combined with historical incident data captured by both the dispatch center and the County's records management system. The Description of Community Served section provided a general overview of the organization, including governance, lines of authority, finance, and capital and human resources, as well as an overview of the service area including population and geography served. The Review of Services Provided section detailed a brief overview of the core services the organization provides based on general resource/asset capability and basic staffing complements.

An overview of community risk was provided to describe the risks MLFD is charged with protecting.

Geospatial characteristics, topographic and weather risks, transportation network risks, physical assets, and critical infrastructure were reviewed. As a factor of risk, community populations and demographics are evaluated against historic and projected service demand. Population and service demand, over the past decade, has increased. Evaluating risk using advanced geographic information systems (GIS) provided an increased understanding of community risk factors, which can lead to an improved deployment policy. During the analysis of service level objectives, critical tasking assignments were completed for incident types ranging from a basic medical emergency to a high risk structure fire. Critical tasking required a review of on-scene staffing capability to mitigate the effects of an emergency. These tasks ultimately determine the resource allocation necessary to achieve a successful operation. The results of the analysis indicate that a moderate risk structure fire required 13 personnel, including command and assistants. The Review of Historical System Performance evaluated each component of the emergency incident sequence. Total response time included several components such as turnout and travel. Beyond the response time of the initial arriving units, the additional components of concentration and the effective response force, reliability, and call concurrency were evaluated. Based on the analysis and considering community expectations, recommendations are offered to improve the delivery of fire and emergency services to the MLFD. It is not expected that all will be implemented in the short term. Some may wait until economic conditions allow their implementation. However, all the recommendations offered chart a course to improve capability and service.

CONCLUSION AND RECOMMENDATIONS

Just as a strategic plan is a fluid document that requires the organization to constantly look at the current and future levels of service it provides to the community served, the Standards of Cover is not a one-time document that sits on the shelf once it is completed. This document must evolve as the community evolves and changes to ensure that the fire department is meeting the challenges that it faces in the community. This document becomes a resource for current and future leaders of the organization to plan effectively while keeping the department functioning in a forward, positive direction.

This document will be presented to the Board of Fire Commissioners of Mount Laurel Fire District No. 1 and the Mayor of Mount Laurel township to establish a coordinated understanding of the fire department's operations, services, vision, and goals.

By preparing this study as a representation of the organization, it allowed those participating in developing the document to have a better understanding of what the fire department has done to get where it is, demonstrate how the department operates, have a say in preparing the organization for what the future may hold and create a document that projects to the community who we are and what we do.

The MLFD will continue to invest in and leverage partnerships with GIS resources to improve our abilities to map and evaluate data. This alone will afford the fire department to build the next generation of our Standards of Cover document. This completed body of work will set the baseline for the department to continue to evaluate and monitor itself in the following areas:

- Change in Community Demographics
- Response Times to Structural Fires to Limit Property Damage to the Area of Origin
- Staffing and Resource Levels to Meet the Service Demand of the Community
- Community Risk Assessment
- Financial Management of Revenue and Operating Expenses
- Strengths and Weaknesses of the Organization
- Training and Skill Levels to allow our Personnel to Work Safely and Effectively
- Community Interaction with Residents and Business Leaders

Analysis of response statistical data is the cornerstone of performance improvement. We have realized that certain segments of the response data remain outside the department's control. The time between the receipt of the 911 call and the dispatch of MLFD resources, identified as "call processing time", is under the exclusive control of the Burlington County Communications Center Public Safety Answering Point (PSAP), and will require attention and coordination by all parties involved in the response to realize the improvement that we seek. The department will continue to work with our partners at the PSAP to improve the call processing times. The findings of this report have triggered a mechanism within the records management software to analyze call processing at Burlington County Communications Center.

It is also recognized that turnout times need to improve. Personnel will be made aware of the shortfall, and be educated about the importance, and the MLFD will continually monitor to work towards improving turnout times.

As the department prepares to create a strategic plan and a roadmap for its future, this Standards of Cover document will supply important information that will be useful in its development.

The ultimate goal of the MLFD is to “Improve the Quality of Life” in Mount Laurel. It is our mission to “Serve”. We will do this by empowering our people, being innovative and relevant, working together with community partners, and soliciting feedback from both internal and external stakeholders to ensure that we are meeting their expectations. Total quality management with a focus on organizational development is our desire.