
**COMPREHENSIVE EMS STUDY WITH RECOMMENDATIONS
FOR A REGIONAL COUNTY-BASED EMS SYSTEM
MASTER PLAN FOR OCEAN COUNTY, NEW JERSEY**



December 2024

Prepared for: Ocean County Board of Commissioners

Barbara Jo Crea, Director

Gary Quinn, Deputy Director

Virgina E. Haines

John P. Kelly

Frank Sadeghi

Michael Mastronardy, Sheriff

Consultant Report Prepared By

RB Emergency
Consulting LLC

Table of Contents

Key Findings	3
Executive Summary	4
Consulting Team	5
Key Factors That Influence Data & Analytical Outcome.....	7
Study Methodology	10
Comprehensive Study of Current EMS System	10
Comprehensive EMS Analysis.....	16
Zone 1	18
Zone 2	30
Zone 3	40
Zone 4	48
Zone 5	56
Mutual Aid	65
Response Time	80
Ocean County Communication Center Analysis	81
Recommended Deployment Model.....	84
Job Descriptions	88
Response Guidelines, Staffing Shortages, Wages	104
Grants	105
Finance	112
Billing	112
Service Fees	113
Billing Models	115
Budget	116
Vehicles, Equipment, Communications, & Facilities	117
Capital Expenses	118
Operational Expenses	119
Salary Guide.....	120
Year 1-5 Forecast	127
Conclusion	129

Key Findings & Recommendations

- Ocean County does not have a well-defined and cohesive EMS system. It has multiple independent EMS agencies, several of which are operated by townships, volunteer agencies, combination agencies, and third-party services. There are no common system elements among these agencies.
- The Board of County Commissioners and elected officials in the impacted townships and municipalities should demand and implement changes in policies that will require the closest available ambulance to respond to every 9-1-1 call in Ocean County where an ambulance is needed.
- EMS Agencies in Ocean County do not record, collect, or provide the necessary data to document operational and clinical effectiveness and facilitate system performance benchmarking.
- The Ocean County Commissioners should assume responsibility for long-term, system-development discussions in concert with elected officials in municipalities. Respectful interagency cooperation should be required.

Education

- Development of a County-Based EMT Training Program. Utilizing State Funding, contracts with current Ocean County EMS Programs, Ocean County Vocational School, and Federal Grant Programs, the County should offer EMT Basic Training to all community residents free of charge. This process will increase the number of available certified EMS providers to respond and work within Ocean County.
- Explore methods to expand access to initial and continuing emergency medical responder training and CEUs (continuing education units) required to maintain EMS certifications.

System

- Development of county-based Emergency Medical Services to assist current Ocean County EMS Organizations with primary and mutual aid ambulance response.
- An Ocean County EMS Organization should deploy a dynamic deployment model, utilizing aspects of system status management to provide strategic ambulance deployment throughout the county, which will be detailed in upcoming sections.
- Develop a coalition with career and volunteer agencies to assist in developing 911 protocols and mutual aid agreements.
- Develop a working group of all County EMS Agencies to determine EMT response time standards for each community. This group should examine existing data and determine future response time goals.
- Ocean County should provide a county-wide Medical Director to all organizations operating inside the County. This will allow for the standardization of medical protocols, patient treatment, quality control, and quality improvement of EMS in the County.
- Explore shared service agreements with municipalities for primary ambulance response.
- Quarterly 9-1-1 performance metrics should be reported to the Ocean County Commissioner overseeing Public Safety.
- Develop a program and identify resources to improve community awareness of the EMS system and promote involvement in volunteer agencies.

Communications

- Complete a Market Evaluation of staffing requirements versus the current salary market. Based on current research on the telecommunicator market, adjustments should be made.

- Develop a strategic plan for education, training, and career development to maintain employee growth and satisfaction.
- All EMS Services operating in the County should be fully integrated into the 911/dispatch system for activation and performance measurement. This should include automatic vehicle locaters (AVL) for better ambulance deployment and assistance with mutual aid response.
- The Ocean County 911 Communications Center and all dispatch centers should examine response time performance criteria of simultaneous ambulance responses. Capturing this information will enhance staffing analytics for future deployment models.
- Development of Ocean County Communications' policy and procedures based on the International Academy of Emergency Dispatch (IAED) advanced medical priority dispatch system.
- Develop and implement dispatch-based software to assist in staging and deployment of county-based ambulances and reduce response times.

Executive Summary

Project Introduction

In April of 2024, Ocean County posted a Request for Qualifications (RFQ) and, subsequently, a Request for Proposal (RFP) for a comprehensive county-wide Emergency Medical Services study to be conducted. RB Emergency Consulting, LLC was awarded the project.

On May 23, 2024, the initial meeting occurred at the Ocean County Administration Building on Hooper Avenue in Toms River. Commissioner Gary Quinn, the initiator of this inaugural project, was in attendance. Also in attendance was the County Administrator, Michael Fiure; the Department of Management and Budget and Assistant Administrator, Director Tristin (TJ) Collins; the Director of the Fire & EMS Center, Brian Gabriel; the Ocean County EMS Coordinator, Robert Contrares; along with Lisa Parker senior consultant for RB Emergency Consulting, LLC and CEO and owner of RB Emergency Consulting LLC, Robert Baran.

During this meeting, Commissioner Quinn's unwavering commitment to the project was evident. He articulated the existence of identifiable EMS gaps in service throughout Ocean County and his plan to bring the results of this study back to the Board of Commissioners for immediate review and implementation. Commissioner Quinn's words, "If one life is saved, it's all worth it," seemed to resonate with the attendees, underscoring his deep concern for the residents of Ocean County. He also emphasized the situation's urgency and his desire to expedite the report. Commissioner Quinn said that the Planning Department's current population numbers have increased since the 2020 census, and he believed the number to be closer to 700,000 for the county, which provided a vital reference point for the pending data analytics necessary for this project.

Administrator Fiure asked about estimated startup costs and the number of ambulances that might be required for a project of this scale. Robert Baran advised the committee members that it would be more than the arbitrary number of three ambulances suggested by the committee for a startup project of this scope. Considering the current population and amount of land coverage, three ambulances would not be sufficient. However, any further recommendations would be premature, as all recommendations will be data-driven and based on best practices, including recommendations regarding the number of ambulances. Very generic numbers were discussed for the cost of an outfitted ambulance, potential capital outlay, and competitive salaries.

The philosophy behind "hard" vs "soft billing" was also addressed, and the committee recommended moving forward with soft billing for the purpose of this study. For Clarification, soft billing is an

administrative practice of billing the patient's insurance and accepting that payment but not "balance billing" the patient for the remainder of the bill that the insurance company has not paid.

"Hard" billing is a term commonly used when the provider bills the insurance company, accepts payment, and then bills the patient for the remaining "balance" of the bill not paid by the insurance company, hence the term "balance billing." The billing agency often uses a collection agency to secure all monies owed from the patient. Again, the committee has elected to base the billing model on a soft billing practice, and for good reason. Commissioner Quinn did not want taxpayers to be burdened with additional bills due to calling for an ambulance during a critical time in their lives. He wanted patients to utilize pre-hospital transport without concern of financial worry.

After the meeting, RB Emergency Consulting, LLC was given full access to all county employees for interviews and all necessary data available to complete a comprehensive study of this magnitude. The RB Emergency Consulting firm has reviewed the detailed proposal and recognizes the importance of this project. The team will present a timely, well-prepared, and implementable process with recommendations that meet all the best practice benchmarks for providing an EMS service to the Ocean County Community.

The firm, RB Emergency Consulting, is uniquely qualified to provide expertise in all areas of EMS consulting. All team members possess the rare and invaluable hands-on experience of building EMS departments from the ground up, which will be demonstrated throughout this report. The report will be evidence-based, accurate, based on best practices, timely, and fully implementable, reflecting our team's deep understanding and commitment to the project.

We appreciate the stakeholders' selection and confidence in RB Emergency Consulting, LLC, and we look forward to presenting you with the final report.

RB Emergency Consulting LLC

RB Emergency Consulting LLC is a New Jersey-based firm that provides high-quality police, fire, and emergency medical services; dispatch and emergency management consulting; project management; purchasing agent services; assistance with staffing and hiring; promoting and training; and other related organizational and professional consulting services as needed.

RB Emergency Consulting staff have serviced the needs of agencies in Ocean County and all over the state of New Jersey. RB Emergency Consulting staff remain very active with several public safety and government-related organizations, including the National EMS Management Association, American Ambulance Association, New Jersey Emergency Management Association, National Emergency Management Association, National Association of Emergency Medical Technicians, American Heart Association, International Association of Fire Chiefs, International Association of Police Chiefs, New Jersey State Police Chiefs Association, and New Jersey Department of Health. Robert Baran also holds the position of adjunct faculty member for the National Association of Emergency Medical Technicians.

The RB Emergency Consulting LLC's mission statement is "To provide the highest quality, independent professional public safety consulting, project management, and services by utilizing best practices and industry-standard recommendations to our clients." We accomplish this mission by providing our team of professionals who are committed to addressing our clients' needs. RB Emergency Consultants' staff are active public safety practitioners who understand our client's issues, challenges, standards, and responsibilities and have provided proven methods to improve efficiency and effectiveness.

All RB Emergency Consulting staff possess in-depth knowledge of all relevant aspects of emergency services, which includes administration operations, communications as a core function, organizational leadership, labor relations, economic concerns, industry standards, and contemporary policy development. This knowledge allows us to provide our clients with an intellectual and objective analysis of the information received. This information is then presented in an easily understood format, allowing our clients

to make knowledgeable and informed decisions.

Project progress is measured against an established work plan, timetables, budget, and list of deliverables. Project methodology includes scheduled meetings, calls, and emails to discuss progress and new or unexpected issues. The work plans are focused, coordinated, and logical. Project team members are also available throughout the project's duration.

Professional Summary of Qualification and Experience:

Robert K. Baran, MS, MICP, owner of RB Emergency Consulting, LLC.

Director Baran has an extensive background in Public Safety. For the last twenty years, he has served in roles for municipal and private-based Emergency Medical Services and municipal-based fire organizations. He has also served in staff, management, and executive leadership roles in Fire and EMS.

Director Baran has been employed by the Manchester Township Division of Emergency Services since 2019 as the Township's first Director of Emergency Services. As the Director of Emergency Services, he developed and implemented the Division's Emergency Medical Services program through all aspects of implementing a new municipal EMS system. Director Baran continues to oversee all operational and administrative functions of the Division's Emergency Medical Services and Municipal Fire Department. The department is staffed with over 75 employees and handles an average of 15,000 calls for service yearly while serving a coverage area of 82 square miles.

Director Baran has been involved with emergency services for over 20 years, starting his career as an EMT. Then, in 2008, he became a New Jersey Mobile Intensive Care Paramedic for Jersey City Medical Center and Emergency Services Supervisor for Atlantic Mobile Health and later served as an EMS Operations Supervisor for Cooper University Hospital in Camden, the first paramedic program started in the State of New Jersey in the last 20 years. While at Cooper, Director Baran played a significant role in the program's startup, developing operational and clinical policies and procedures. He regularly provided operational oversight for Advance Life Support units (ALS) and Basic Life Support units (BLS) while managing the department's logistics. Director Baran is still an active licensed Paramedic in New Jersey.

Director Baran also serves as a career Fire Captain for a metropolitan city and holds many certifications in fire suppression, instruction, marine operations, and technical rescue disciplines.

Director Baran holds a bachelor's degree from George Washington University in EMS Leadership & Administration, a master's degree from Arizona State University in Public Safety Leadership Administration, and a Doctor of Business Administration from Walden University.

Chief Lisa D. Parker – (Ret) - MSA and owner of The Harper-Parker Group Consulting LLC.

Chief Lisa Parker has over thirty years of exemplary public service, with fifteen years of executive-level leadership experience. She recently retired as the Chief of Police & Public Safety Director, overseeing the Manchester Police Department, EMS Division, Career Fire Department, and three volunteer Fire companies with over 200 employees and volunteers. She was responsible for developing and implementing the Division's Emergency Medical Services program through all aspects of implementing a new municipal-based EMS system and the subsequent development and implementation of the municipal-based Career Fire Department. She also had administrative oversight of both newly created municipal-based services.

Chief Parker specializes in building and leading successful first responder teams, utilizing in-depth collaboration, and empowering employee-focused goal-setting while applying progressive and creative think tank approaches to problem-solving. Chief Parker has served and is experienced in all positions within the Police Department, including Division Patrol Commander, Public Information Officer, and Commander

of the Office of Professional Standards. She is experienced in preparing and managing multi-million dollar budgets, capital projects, pre-employment hiring qualification standards and successful interviewing, policy development and risk management assessment, career development mentorship, successful leadership techniques, employment law, contracts, internal affairs, and disciplinary procedures.

She was Chief of Police & Public Safety Director for six years before retiring in July 2021. Chief Parker's background is rich in educational leadership as a graduate of the FBI National Academy, the highest level of executive leadership training. She also served as an instructor for the New Jersey State Chiefs of Police Command & Leadership program based on the West Point Academy Leadership Program. Chief Parker was also a guest speaker for Fox & Friends Law Enforcement Panel on many occasions.

Chief Parker holds an M.S.A. degree in Administration from Central Michigan University, a Bachelor of Science degree in Criminal Justice from Stockton University, Accredited Chiefs Certification from the New Jersey State Chiefs of Police, Executive Leadership for Public Safety Personnel certification from Fairleigh Dickinson University, and FBI LEEDA Trilogy certification in Supervision, Command, and Executive Leadership training.

New Programs and Divisions created under her command include Building a new pre-hospital care EMS Division and a career fire department from the ground up. Created a high school opiate awareness program (#NotEvenOnce) which is taught throughout N.J., developed a comprehensive School Safety and Security Assessment Plan yearly for all six district schools, created a new K-9 Unit, created a Narcotics Enforcement Team (N.E.T.), created a Chaplaincy Program, started the Townships First Youth Range and Safety Program, created a Mentoring the First Line Supervisor Program for new sergeants, and a comprehensive Field Training Program for new officers.

Key Factors That Influence Data and Analytical Outcomes

A study on EMS that includes volunteer staffing models must address the elephant in the room and the impact many agencies face. Where have all of the volunteers gone? What is the cause of the decline? The answer to this question varies and does not seem as concrete as one would think. What we do know is that the September 11, 2001, terrorist attack triggered a civic duty calling that spiked volunteerism, which peaked in 2008 and has been on a steady decline, according to an EMS 1 article titled, The Five Myths about EMT Shortages (Magee, 2020). This decline in volunteerism has hit the EMS community hard. Once, first aid squads were run solely by dedicated volunteers in most New Jersey communities. Their selfless service was a testament to their commitment to public service. Now, many communities struggle to have two certified EMTs on board an ambulance for pre-hospital transport. Worst yet, many squads have just closed their doors due to a lack of volunteers and/or funding to maintain a once costly but now cost-prohibitive, predominately donations-based first aid squad and building.

In December 2023, a New Jersey task force was created to address the dwindling numbers of volunteer first responders. According to a new state-commissioned report, the task force found that "New Jersey has a growing shortage of volunteer firefighters and other first responders, a trend that could eventually force municipalities to pay emergency workers at taxpayer expense to ensure public safety." (Hankins, 2023) This trend is not limited to the borders of New Jersey; it has been documented nationally and is felt in all areas of volunteerism.

The decline in volunteerism was a preexisting issue, but the COVID-19 pandemic exacerbated this issue, particularly for EMS. At the height of the pandemic, volunteer numbers sharply declined, with some local squads even shutting down due to a lack of volunteers. The media's emphasis on the increased risk to the senior population led to at-risk volunteers making the prudent decision to suspend or terminate their commitments. Unfortunately, some of these volunteers never returned to their roles.

Although some studies show a steady increase in volunteerism, the areas of interest have shifted away from volunteering at local first aid squads to working in “education, youth, and social, and community activism.” (Magee, 2020). This shift in interests does not reflect a lack of concern for public safety but rather a sign of the volunteers' changing priorities and needs. Understanding this shift is crucial in developing effective strategies to address the volunteer shortage in EMS.

Some states have recommended the requirements for testing and that the follow-up continuing education credits be lessened. Most EMTs understand the need for higher standards and continuing education units, CEUs, similar to other professions in the field of patient care, like paramedics and nurses. It's never a good idea to reduce qualifications when a person is medically responsible for their patient's care, particularly in a world where liability lawsuits are a dime a dozen. Professionalism and qualifications should only increase in the medical field as new and better patient treatment methods become available.

EMT staffing is not just affected by a lack of volunteers; paid EMTs, also called career EMTs, are also experiencing a shortage. Pay and job satisfaction are generally listed as the top two reasons for this phenomenon, with job burnout as another. As a rule, taxpayers like to know that volunteers run their local EMS squads. There are several reasons besides the obvious, such as cost-effectiveness and lower tax burden on the residents. It's also comforting to know that the person caring for the patient is doing so because they have a deep concern for humanity. This is often true; some people are selfless and innately want to do good for others. There is, however, a wave of change in the United States, where all states have experienced declining volunteerism, specifically in the field of EMS.

Pay and job stratification are the top reasons for the declining number of career EMTs. Salary and benefits are essential to career EMTs, and with volunteer First Aid Squads declining in number, taxpayers now must pay for what was once a free service. Paradigm changes for taxpayers and the governing bodies that have oversight must occur to bring EMS salaries, benefits, and retirement plans up to current industry standards. The value of what was once free must now be calculated into a competitive wage for the EMT service. This seems to be the point of contention as EMTs do not enjoy the same salary and contract benefits, in many cases, as their first responder counterparts, police and fire. Despite the fact that they have overlapping responsibilities to their communities.

Unfortunately, the trend towards offering minimal stipends for on-call response or pay-per-call has created another class of EMTs who work for lower wages. The idea that stipends and small incremental increases in an already lower pay scale will attract new people or retain members within an agency is unsustainable. Not to mention the fact it could violate state and federal employment laws.

Although New Jersey has never classified EMTs as “essential personnel” like their first responder counterparts, during COVID-19, they proved how brave, dedicated, valuable, and essential they were and continue to be today. These professionals worked under stressful conditions and often as volunteers or for a wage far below their worth. Many volunteer squads had shut down, ran with minimal staffing, and struggled to stay operational.

As national television news channels broadcasted the shocking mounting number of COVID-19 dead bodies, some of which had to be stored in outside refrigeration boxes meant for food storage because the morgues were full, EMTs still bravely went into known COVID-19-rich homes to tend to the sick, regardless of the unknown risks at the time. Some patients they tended to were literally deathly ill with COVID-19, and many EMTs did contract the virus, some fatally. If ever there was a time to include EMTs as essential personnel, it was then, but the need continues to mount and only increases with time and urgency.

When high levels of stress rank among the top reasons for declining volunteer and career EMTs, it's natural to draw a nexus between COVID-19 and the stress EMTs must have felt and continue to feel due to the job-related stress that comes with dealing with sick and injured patients on a daily basis. “EMS clinicians tend

to experience high levels of acute and chronic stress, high rates of depression and substance abuse, and higher risk of suicide than the general public. Research shows that burnout levels increase with the years of EMS experience and tend to be higher among clinicians who work shifts lasting 12-24 hours. To meet the mental and behavioral health needs of EMS clinicians, several states provide access to mental health resources.” (Substance Abuse & Mental Health Services Administration, 2020).

In New Jersey, the governor has mandated that all police officers attend resiliency training, and specially trained police officers, called resiliency police officers or RPOs, must be available at every police department. Resiliency programs and employee assistant programs should be available and, at times, and under certain circumstances, mandatory for all first responders, including EMS first responders. Taking an active role in the mental and physical health of all first responders is a good step in the right direction toward employee retention and resiliency.

With a lack of job satisfaction and stress listed as the top reasons why EMTs leave the field, all EMS services are experiencing workforce shortages. The call volume remains unchanged even when fewer EMTs are on a shift, career, or volunteer. The EMTs working during staffing shortages will respond to more calls, and over time, this has proven to contribute to burnout and poor job satisfaction negatively. EMS work shortages create a vicious cycle when left unaddressed. When EMS positions cannot be filled to meet staffing needs, the remaining EMTs shoulder the load. This, in turn, causes job burnout and job dissatisfaction, causing EMTs to leave the field. This is the vicious cycle every agency should avoid.

According to (Magee, 2020). published in EMS 1

“For volunteer EMS and fire departments, successful recruitment, retention, and ultimately, organizational survival will depend on two key elements:

1. Embracing a diverse and multigenerational workforce who want to effect change, not forcing everyone to fit in with the way you’ve always done things.
2. A commitment to cultivating an emotionally intelligent culture that is engaging and rewarding to the current membership and appealing and accommodating to today’s new breed of volunteers.”

I would submit that this applies to both volunteer and career EMS agencies.

In summary, regardless of why recruiting and retaining credentialed EMTs is challenging, the issues remain an essential focal point when developing a strategic plan for a new county-wide system. Staff shortages and recruitment issues cannot be ignored, and measures must be taken to attract qualified personnel to operate a successful EMS Division. To be operationally sound, it is essential, an EMS Division must be fully staffed with a workforce that can support the projected initiatives, strategic planning that considers all the current and relevant issues and plans for future sustainability.

From all of the informal interviews and research, it appears the following is critical for EMT employee retention:

- Full-time status with a contract that supports:
 - Pay comparable to their law enforcement officer (LEO) first responder counterparts
 - Pension plan comparable to LEO
 - Benefits package comparable to LEO
 - Assistance with continuing education units CEUs and academic goals
 - Similar paid time off as first responder counterparts (vacation and holidays)
 - Updated equipment and facilities
 - Positive working environment with opportunities to grow
 - Access to paid mental health and Employee Assistance Counseling options

Study Methodology

This report was developed through the combination of direct data analysis, stakeholder feedback, independent research, and professional industry insight concerning the Ocean County EMS System, Ocean County EMS Coordinators, Ocean County Sheriff's Department, Ocean County Commissioners, and Ocean County Administration. This report began with receiving extensive documents and information from the abovementioned stakeholders. This data included the past years' worth of response times from Ocean County Sheriff's Communication 911 Center, the Ocean County EMS Coordinator, and self-dispatching agencies who utilize their communication centers, to include all EMS responses in the county, as well as internal policies, procedures, reports, and other documents.

Initial site work was conducted through June and July of 2024. Interviews and meetings were held with various Ocean County Public Safety and County Administration stakeholders. Through these meetings and the tangible data that RB Emergency Consulting obtained, this report was generated to benchmark current Ocean County EMS operations against national EMS standards while identifying critical issues in the county. RB Emergency Consulting utilized this data to develop recommendations for Ocean County to create a county-based Emergency Services Division to operate as a stand-alone EMS response and training organization.

Comprehensive Study of Current EMS System

Ocean County History & Demographics

Ocean County, New Jersey, was established on February 15, 1850, acquiring Little Egg Harbor Township in 1891. The county is conveniently situated on the Jersey shore and derives its name from the Atlantic Ocean it borders. Ocean County is uniquely located approximately 50 minutes from Philadelphia, 90 minutes from New York City, and 30 minutes from Atlantic City. This convenient proximity to three major cities while enjoying the Atlantic Ocean's benefits is why so many are drawn to the area. This may also be why the 2020 United States Census ranked Ocean County as the fastest-growing county in New Jersey and the sixth-most populous county out of the twenty-one counties in the state.

Since the 2010 census, Ocean County's population has been growing at a rate faster than that of the United States as a whole. "The United States Census Bureau's Population Estimates Program estimated a 2023 population of 659,197, an increase of 21,968 (+3.4%) from the 2020 decennial census." The popularity and interest many have for the Ocean County area contributes to the continual increase in population, mainly when the growth rate is higher than the national average. The strain this increase has put on the Emergency Medical System, which is already experiencing record staffing shortages and nationwide reported decreases in volunteerism, has been felt by most agencies tasked with providing pre-hospital care. Several EMS agencies have shut down over the last few years, causing higher call volumes for the remaining agencies.

Additionally, according to the U.S. Census Bureau's 2020 report, Ocean County consists of 914.84 square miles, making it the largest county in New Jersey, with Burlington County coming in second with 628.29 square miles. The mere land area of just over 914 square miles has allowed for extensive new development, contributing to an unprecedented population growth for Ocean County. With this development comes the approximately 39,000 miles of public roadway managed by state, county, municipal, and toll road authorities, according to the New Jersey Department of Transportation. The utilization of mass transit is not as common for those who reside or visit the Ocean County area as it is in more urban areas. As such, vehicular traffic and all of the associated congestion remain a concern for emergency vehicles, along with meeting the nationally accepted standards for emergency response times.

Ocean County has beautiful coastline beaches and resort areas accessible to the public. This draws many to the area and the barrier islands, which have also experienced an increased population, particularly during summer. These factors contribute to increased vehicular traffic in many shore areas and the roadways that lead to these areas causing congested conditions. The influx of transient day trippers, overnight stays,

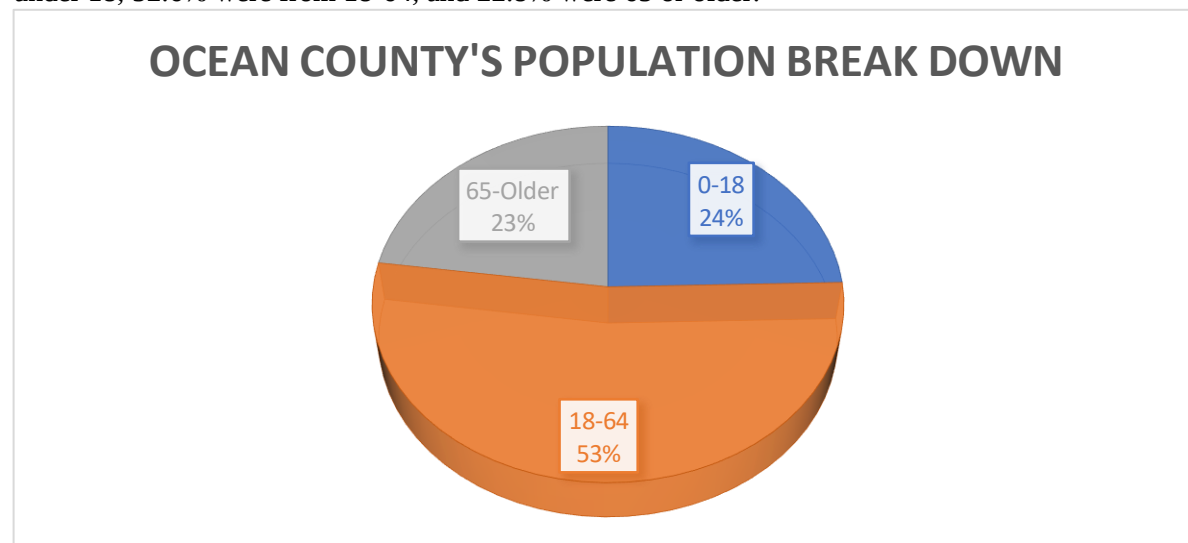
travelers, vacationers, and those fortunate enough to own vacation homes in the county contribute to this increased population during the summer, estimated to be 1.3 million on any given day. According to the former Ocean County Board of Commissioners Director Joseph Vicari, referring to the county's internal data while speaking to the public on November 12, 2023, and subsequently reported in the Asbury Park Press. In support of that data, visitors to the entire state of New Jersey spent \$45.4 billion in 2022, a substantial increase of over 22% over the prior year, according to the New Jersey Visitor Economy 2022 study completed by Tourism Economics, an Oxford Economics Company. The study, completed in March of 2023, projected that visitor volume would grow to 5.1 million in 2023, 103% of pre-pandemic levels.

In other words, the tourist industry is expected to increase throughout the state, and the associated emergency services must be prepared to meet the needs of their communities. Accurate reporting of population increases is vitally essential when using predictive modeling for deployment strategies for EMS services, and various resources will be utilized to verify and crosscheck all statistical data.

Monmouth, a neighboring but much smaller county, completed a Summer Coastal Population Study in 2008, sixteen years ago. The study reported an increase in the permanent population on a peak summer day of 73% to 107% on an average summer day (page 18). A current study of similar origin could benefit Ocean County when instituting predictive modeling and forecasting preparation for county-wide emergency medical services.

All data points support the theory that drastic population increases will generate a commensurate need for services. The demographics of the increased vacationing population could also dictate a more comprehensive array of emergency medical service calls.

According to the 2020 U.S. Census, Ocean County's breakdown by age was 24.6% of the population were under 18, 52.6% were from 18-64, and 22.8% were 65 or older.



According to a new study released on May 17, 2024, by the New Jersey Division of Travel and Tourism, the state welcomed 120.5 million visitors in 2023, up from 114.6 million a year prior and 4% higher than 2019's record level of 116.2 million visitors. Currently, no available studies specify the age of the increased vacationing population attracted to the Ocean County area. Still, one thing can be objectively drawn from the data: an increased call volume for emergency services, particularly during the warmer months. This is on the heels of an already stressed nationwide EMS system that continues to feel the pinch. The 33 municipalities that makeup Ocean County are no different, as many have felt the continued challenges of filling empty employment vacancies.

With the rapidly increasing population and staggering increases during the warmer months, Ocean County has also seen the associated increase in traffic congestion, which is reported daily on every news channel

and radio station. Traffic congestion has a profound effect on emergency response times. Emergency services must get to the call locations and hospital facilities and then be back in service to handle the next call. Traffic congestion and hospital locations can significantly affect the timeliness of pre-hospital care, leading to serious or fatal outcomes.

In Ocean County, there are four hospital locations:

1. Community Medical Center 99 NJ-37 Toms River NJ
2. Monmouth Medical Center South Campus 600 River Ave Lakewood NJ
3. Ocean Medical Center 425 Jack Martin Boulevard Brick NJ
4. Southern Ocean County Hospital 1140 NJ-72 Manahawkin NJ

There are four additional hospitals that Ocean County residents routinely utilize as they are located just outside of the county limits, and they are:

1. Jersey Shore University Medical Center, 1945 State Route 33, Neptune, NJ
2. Deborah Hospital 212 Trenton Rd. Browns Mills, NJ
3. AtlantiCare Regional Medical Center 1925 Pacific Ave Atlantic City, NJ
4. AtlantiCare Regional Medical Center Mainland Campus 65W Jimmy Leeds Road Pomona, NJ

As such, there are potentially eight hospitals that Ocean County residents typically utilize and are transported to by ambulance. The two furthest hospitals, Jersey Shore Medical Center in Neptune and AtlantiCare Regional Medical Center in Atlantic City, are 75 miles apart. Both facilities are level-one trauma centers and, as such, have full capabilities to accept patients via ground transport or through medical airlift helicopters, commonly called medevacs.

Traffic patterns, road construction, traffic congestion due to the area's population increase, and the drastic increase of vehicular traffic bringing visitors into the area during the summer months are all important factors that must be considered when analyzing data for a county-wide EMS system.

According to Wikipedia, the current roads and highways consist of the following:

- Garden State Parkway
- U.S. Route 9
- Route 13
- Route 35
- Route 37
- Route 70
- Route 72
- Route 88
- Route 166
- Interstate 95

Several promenade 500 series county highways also make up a significant portion of roadways in the Ocean County area, and they include:

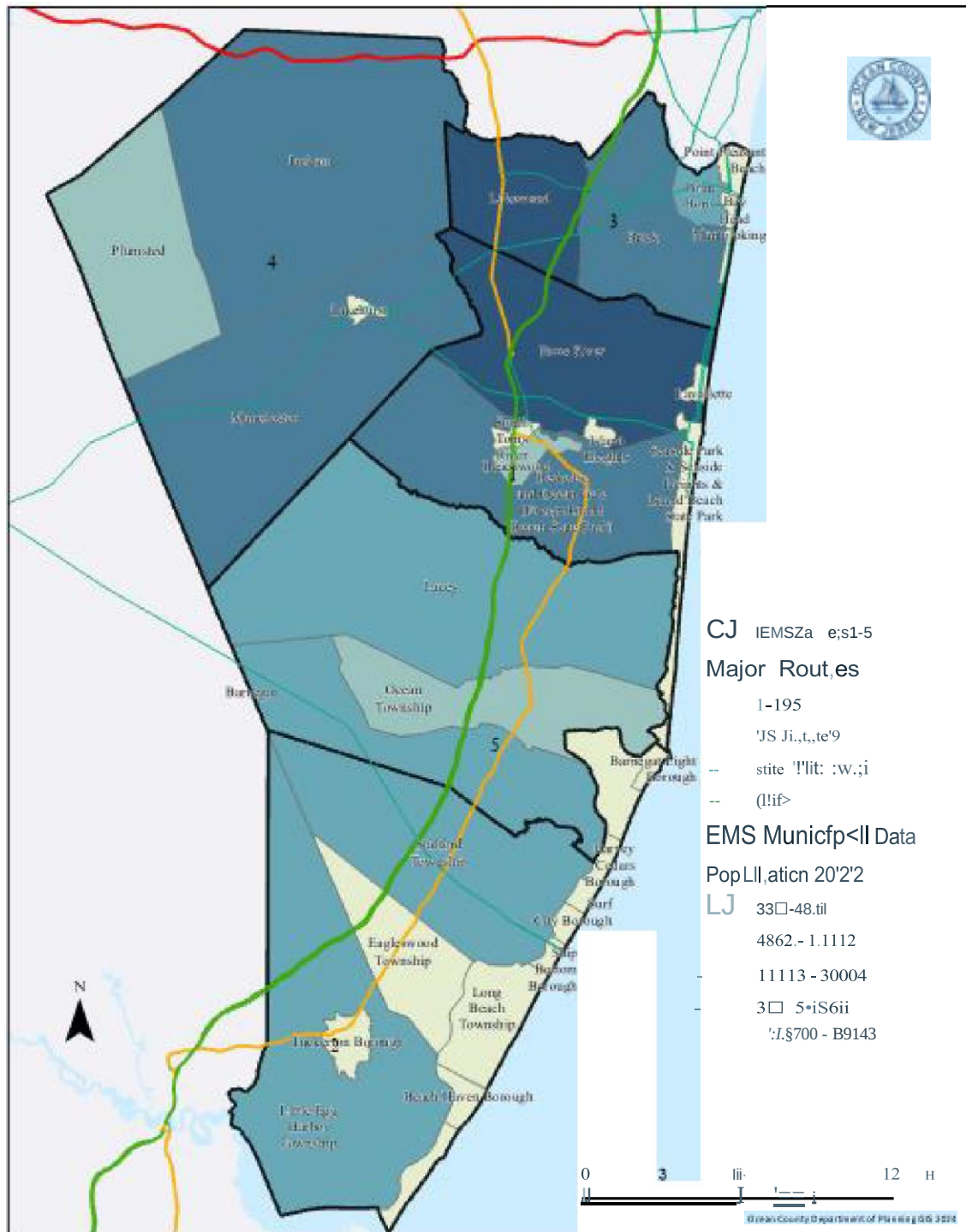
- County Road 526,
- County Road 527,
- County Road 528,
- County Road 530,
- County Road 532,
- County Road 539,

- County Road 547,
- County Road 549,
- County Road 554,
- County Road 571.

With a list this long of major roadways and highways, it is easy to deduce the large-scale mapping necessary for a county-wide system to have proper coverage and acceptable response times, along with the unique challenges that come with a project of this magnitude.

The below chart emphasizes the estimated population of each community in Ocean County, based on the 2020 Census and reflected changes to the population up till 2023.

Geographic Area	2023
Barnegat township	25,629
Barnegat Light borough	652
Bay Head borough	965
Beach Haven borough	1,069
Beachwood borough	11,153
Berkeley township	44,856
Brick township	76,021
Eagleswood township	1,783
Harvey Cedars borough	397
Island Heights borough	1,699
Jackson township	60,275
Lacey township	29,714
Lakehurst borough	2,703
Lakewood township	139,866
Lavallette borough	1,843
Little Egg Harbor township	21,483
Long Beach township	3,145
Manchester township	46,053
Mantoloking borough	332
Ocean township	9,027
Ocean Gate borough	1,991
Pine Beach borough	2,193
Plumsted township	8,894
Point Pleasant borough	19,429
Point Pleasant Beach borough	4,897
Seaside Heights borough	2,486
Seaside Park borough	1,471
Ship Bottom borough	1,114
South Toms River borough	3,736
Stafford township	30,261
Surf City borough	1,288
Toms River township	99,091
Tuckerton borough	3,681
TOTAL OCEAN COUNTY	659,197



Ocean County EMS Zones 1 - 5 and 2022 Population (US Census Bureau)

Comprehensive EMS System Analysis

Methodology of EMS Zones

The methodology of EMS zones and the characteristics that make each community response unique.

Ocean County's emergency medical response system is divided into five zones. Within these zones are first aid squads responsible for answering calls in specific geographical locations within their designated zone. Each first aid squad has an assigned operating squad number. These assigned zones and squad numbers assist the County 911 Communication Centers' Public Safety Telecommunicators when dispatching EMS resources to a patient's location. When a call comes into the County 911 Communication Center, the telecommunicator knows from the patient's location what zone they are in and what squad covers that area within the designated zone. The telecommunicator then dispatches the assigned squad to the call for service. Approximately 108,000 calls in 2023 came through the County 911 Communication Center when requesting EMS services. However, some agencies receive EMS requests through their seven-digit phone numbers, which go directly to their local dispatch center. When a request for EMS services bypasses the county 911 dispatch center and goes directly to the local police department dispatch center and is not transferred back to the County to dispatch an ambulance, this data is not captured for this county study. For example, if a fall victim in Manchester Township calls the local police department dispatch center directly on their seven-digit line (732)657-6111, the Manchester telecommunicator receives the call. The telecommunicator would dispatch the Manchester Township municipal-based career EMS squad to the call; this information will not be captured in the county 911 communication center data. Based on current practices, this data is also not required to be reported to the county 911 communications center. Many of the career municipal-based EMS squads in Ocean County receive calls via their in-house seven-digit emergency and non-emergency phone lines. This has been and will remain a common practice in Ocean County for the foreseeable future. As such, the data obtained from the County 911 Communications Center is the data they have obtained from the call-taking that has come through the county dispatch system.

Conversely, using the same fall victim example, if Manchester EMS does not have an available in-service ambulance, the Manchester telecommunicator may notify the county 911 Communication Center to assist with dispatching a mutual aid ambulance to the call. This information is captured in the county database and included in the Ocean County 911 Communications Center data. However, for example, there are times when a Manchester telecommunicator will call a neighboring career municipal-based EMS dispatch center directly and request mutual aid from another agency, such as Toms River career-based EMS. This information will not be captured in the county data for mutual aid requests. The mutual aid requests captured for the purposes of this study are reliant on the database from the Ocean County 911 Communications Center.

Seven EMS agencies self-dispatch their own EMS calls for service and mutual aid requests. They also receive calls and request mutual aid assistance via the County 911 Communications Center as well.

These agencies are:

1. Lakewood
2. Brick
3. Point Borough
4. Point Beach (also covers Bayhead and Mantoloking)
5. Toms River
6. Manchester
7. Stafford

As one can see, this is a fragmented system where data is not always exactly what it appears to be; however, it seems to work under the current circumstances for expediting patient care, which should always be the number one objective in any pre-hospital care decision. The computer-aided dispatch (CAD) data received is usable; however, all of the limitations generally associated with this type of data, including the ones noted above, remain essential factors that this consulting firm acknowledges. As such, data received is analyzed within this project's scope with a strategic view specific to this assignment and the relevant goals and objectives for this project.

Furthermore, for this study, it was agreed upon that the 2023 statistical data, due to its comprehensive nature and the fact that it represents the first year of solid back-to-baseline data after the pandemic, would be the most relevant data to predict future EMS utilization needs. This does not mean all previous data has little value; it just means that for most of the predictive and deployment modeling, the data for 2023 will be utilized for this study.

Of equal importance is the designated mutual aid plan for each zone. As noted before, every squad is in a specific geographical zone, and for good reason: that is where their primary mutual aid partners are responding from. One could say that a squad is only as strong as their mutual aid plan and partners. No matter how hard each EMS squad works to keep their mutual aid requests at a minimum, call coverage requesting mutual aid is bound to happen. Predicting how many emergency calls will come into a designated area and the exact number of ambulances needed for those calls is an unknown variable. Nevertheless, using predictive modeling formulas, some squads are achieving success with mutual aid rates of less than 2%. Always striving for 100% coverage is commendable, but mutual aid percentages under 5% are still quite an achievement.

Mutual aid percentage rates are essential for analyzing each EMS squad's effectiveness. Still, other equal and more critical factors should be considered when calculating effectiveness. Factors such as how many EMS mutual aid requests were made before a crew could respond. Also, and arguably the most important factor, what was the response time from the initial call requesting EMS to when a mutual aid ambulance arrived on the scene to administer pre-hospital care? These essential factors and more will be analyzed in the next section of this study so a complete and comprehensive evaluation from all standpoints can be used as a guide for future EMS planning.

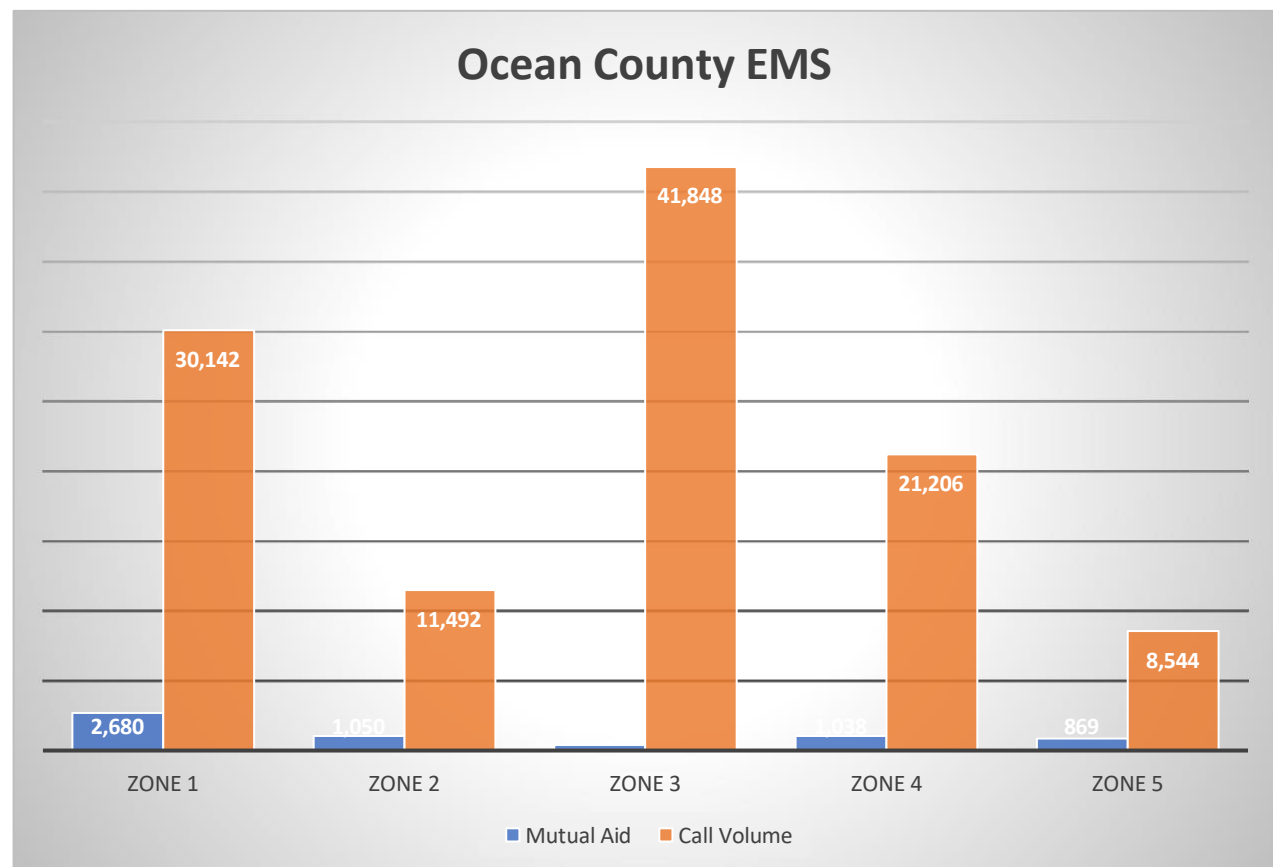
Another critical factor is the staffing of each squad. To this day, many first aid squads in Ocean County are strictly volunteer. These volunteer agencies have varying availability. Some provide around-the-clock EMS coverage, while other volunteer squads are available during certain hours of the day and/or specific days of the week. The municipality they serve contributes financially, along with community donations. Some volunteer squads are fortunate enough to receive grant money to offset costs. Few volunteer agencies bill patients to offset costs as it requires state licensing and strict adherence to regulations requiring two licensed EMTs onboard each ambulance. Volunteer-based agencies that do not bill and, therefore, do not require state licensing can operate an ambulance with a volunteer driver who is not an EMT and one licensed EMT who will treat the patient. This allows volunteers who have the time to donate to their communities, the opportunity to assist EMS agencies without obtaining and maintaining EMT medical credentials.

In most of the larger municipalities, career-based EMS agencies have been established. These agencies provide around-the-clock EMS coverage, are licensed by the state of New Jersey, and operate under strict patient care guidelines. Any deviation from these guidelines can and has resulted in extensive fines levied against the municipality. These career-based EMS agencies offset expenses by billing the patient and/or the patient's medical and/or auto insurance. They also receive funding through municipal budgets, grants, and/or donations.

There are also hybrid squads where a combination of volunteers and paid EMTs work together to provide a service to their community. They are funded much like the career squads, and billing varies depending on the squad. The pay scales and stipend incentives vary from agency to agency.

Different staffing models are utilized for various agencies. As you will see, different staffing models exist in the same communities. For example, in Toms River, their volunteer squad and paid career squad can be on the same call, working hand in hand with each other. There are no hard and fast rules regarding EMS staffing models, and Ocean County is an example of one of these models.

The data for this study was collected and analyzed from all five zones in Ocean County. Each zone was ranked according to two standards: mutual aid requests and call volume. Each agency is ranked on a scale from highest to lowest. In other words, if a specific zone is ranked number one in mutual aid requests, the data shows that the highest requests for mutual aid assistance were made in that zone. The same standard was utilized for call volume. So, if a squad is ranked number one on the call volume scale, it will show the county's highest call volume in that specific zone. Here are the five zones, their mutual aid requests, and the call volume.

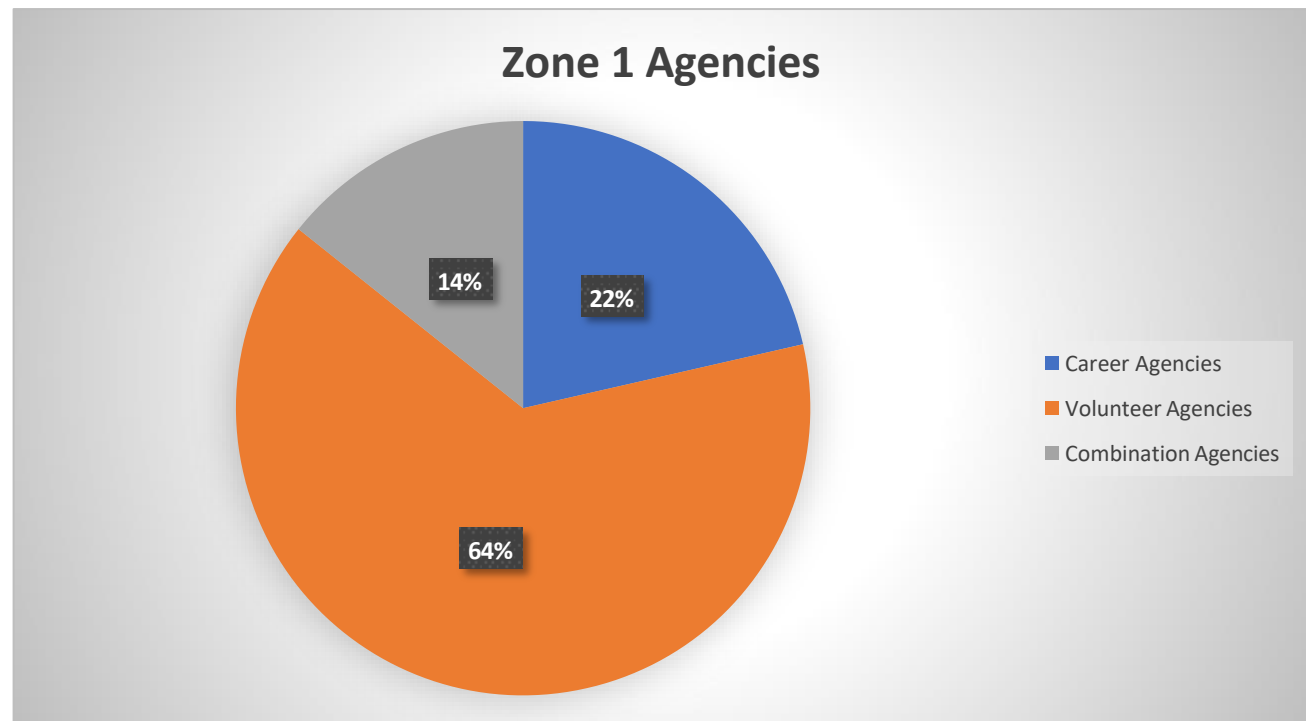


Zone 1

Zone one consists of ten municipalities with associated squads and squad numbers, staffing models, and mutual aid percentages.

Zone one ranked third out of the five zones for requested mutual aid coverage, with the second-highest total call volume for the county. Zone one called for mutual aid assistance nine percent of the time, which is a relatively low number, particularly considering they have the second-highest total call volume for Ocean County. In other words, the need for backup mutual aid to cover their calls was only nine percent of the call volume in Zone 1. As stated before, predicting staffing numbers that correlate with the number of calls a community needs for an unpredictable emergency at any given time is difficult, notwithstanding the fact that this is a 24/7 operation for most agencies. However, zone 1 completed that task 91% of the time.

Zone one consists of fourteen EMS agencies that provide pre-hospital medical care in their designated areas and render mutual aid assistance to other EMS agencies when available. Each agency varies in its staffing models, with three operating as career EMS agencies, two being a combination of volunteer and career, and the remaining agencies being all volunteer. Most of the EMS staffing in zone 1 is performed by volunteers. In many cases, the volunteer squads keep their mutual aid numbers at an acceptable percentage in zone one; however, when forecasting staffing models, the declining trends associated with EMS volunteers must be addressed. Volunteer declining trends must be factored into the overall long-term equation, county-wide.



Recently, in zone 1 (as of June 1, 2024) Silver Ridge First Aid Squad, Squad 44, went out of service. Dover Brick EMS, Squad 17, is also no longer in service, and East Dover EMS, Squad 18, has not answered a call in over a year. This is a trend that the EMS community is all too familiar with, and there is no end in sight when it comes to dwindling EMT volunteers. Preparing for the future is a forgone conclusion because the future is here. Many times, much like in Manchester Township, the creation of the career-based EMS was not a luxury service created with the ease of time. It was established out of a genuine need and completed with a sense of urgency due to high call volume and an overreaching need for mutual aid with diminishing volunteers. This is a trend that all reports indicate will not be changing in the near future.

The remaining active squads are broken down as such:

Toms River Township operates with four squads answering EMS calls within its community. Two are career agencies, and two are volunteer agencies, all operating independently of each other but providing first-out mutual aid to one another.

- Toms River Squads
 - Pleasant Plains EMS (Squad 33) - Volunteer Agency
 - Silverton EMS (Squad 36) - Career Agency
 - As of July 2024, Silverton EMS Squad 36 has been shut down indefinitely by the Toms River administration. This will undoubtedly impact the three remaining squads in Toms River. For this study, 2023 statistical data is being utilized and will

not capture the potential fallout. Still, mutual aid requests going outside of the three remaining Toms River EMS agencies will need to be monitored for the potential impact on their mutual aid partners.

- Toms River Volunteer EMS (Squad 39) - Volunteer Agency
- Toms River Township EMS (Squad 51) - Career Agency
- Toms River Township (Squad 51) has one of the highest call volumes in the county.
- Toms River's combined agencies responded to 13,834 calls for service in 2023. Mutual aid coverage was requested for 260 calls, resulting in mutual aid usage of 2%.
 - Toms River utilized the following agencies for mutual aid:
 - 11- Barnegat EMS
 - 13 - Bayville EMS
 - 15 - Beachwood EMS
 - 20 - Holiday City EMS
 - 21 - Island Heights EMS
 - 22 - Jackson EMS
 - 26 - Lanoka Harbor EMS
 - 27 - Lavallette EMS
 - 37 - South Toms River
 - 40 - Tri-Boro First Aid Squad
 - 54 - Manchester EMS
 - 55 - Berkeley Township

Berkeley Township operates with five squads answering EMS calls within its community. One is a career agency, three are volunteer agencies, and one agency is a combination of paid and volunteer. All operate independently of each other but provide first-out mutual aid to one another. Berkeley Township has also experienced another squad closing down as Silver Ridge First Aid Squad recently went out of service.

- Berkeley Township Squads
 - Berkeley Township EMS (Squad 550) - Career Agency
 - Bayville (Squad 13) - Volunteer Agency
 - Holiday City Berkeley First Aid Squad (Squad 20) - Volunteer Agency
 - Silver Ridge First Aid Squad (Squad 44) - Volunteer Agency (Recently Closed)
 - Holiday Heights First Aid Squad (Squad 46) - Volunteer Agency
 - Tri-Boro First Aid Squad (Squad 40) - Combination Agency

Berkeley Township

- The combined agencies responded to 10,861 calls for service in 2023. Mutual aid coverage was requested for 1,463 calls, resulting in mutual aid usage of 13%.

- Berkeley utilized the following agencies for mutual aid:
 - 11- Beachwood
 - 21- Island Heights
 - 22 - Jackson EMS
 - 23 - Lacey EMS
 - 24 - Lakehurst EMS
 - 26 - Lanoka Harbor EMS
 - 33 - Pleasant Plains EMS
 - 36 - Silverton EMS
 - 39 - Toms River Volunteer EMS
 - 38 - Stafford EMS
 - 42 - Waretown EMS
 - 51 - Toms River Township EMS
 - 54 - Manchester EMS
 - 27 - Lavallette EMS
 - QMT - Quality EMS
- Berkeley Township EMS (Squad 55) - Career Agency
 - Career Agency that covers all areas of Berkeley Township except Tri-Boro's area (which covers the barrier island section of Berkeley Township).
- Bayville First Aid Squad (Squad 13) - Volunteer- considering paid response options.
 - All of their calls are automatically dispatched to Berkeley Township EMS career (Squad 55). They inform county dispatch when they have a crew available.
- Holiday City Berkeley First Aid Squad (Squad 20) - Volunteer Agency
 - Runs 7 am to 7pm Tues – Fri with one crew/ambulance.
- Silver Ridge First Aid Squad (Squad 44) - Volunteer Agency (Recently Closed)
- Holiday Heights First Aid Squad (Squad 46) - Volunteer Agency
 - Runs one crew from 7am to 7pm Monday – Wednesday. They assist Holiday City with their area as well.
- Tri-Boro First Aid Squad (Squad 40) - Combination Agency
 - Covers the Seaside Park sections of Berkeley Township.

- **Island Heights**

- Island Heights EMS (Squad 21)- Volunteer Agency
- Island Heights responded to 264 calls for service for 2023 with 57 requests for mutual aid, a 22% mutual aid usage.
 - Island Heights utilized the following agencies for mutual aid
 - Squad 15 Beachwood
 - Squad 20 Holiday City EMS
 - Squad 27 Lavallette EMS
 - Squad 36 Silverton EMS
 - Squad 37 South Toms River EMS
 - Squad 40 Tri-Boro EMS
 - Squad 51 Toms River Township EMS

- **South Toms River**

- South Toms River EMS (Squad 37) - Combination Agency (paid days as of June).
- South Toms River EMS responded to 1,366 calls for 2023 with 39 requests for Mutual Aid, a 3% mutual aid usage.
 - South Toms River utilized the following EMS agencies for mutual aid:
 - 13 - Bayville EMS
 - 15 - Beachwood EMS
 - 20 - Holiday City EMS
 - 22 - Jackson EMS
 - 21- Island Heights EMS
 - 26 - Lanoka Harbor EMS
 - 40 - Tri-Boro EMS
 - 46 - Holiday Heights EMS
 - 51- Toms River Township EMS
 - 54 - Manchester EMS
 - 55 - Berkeley EMS

- **Pine Beach**

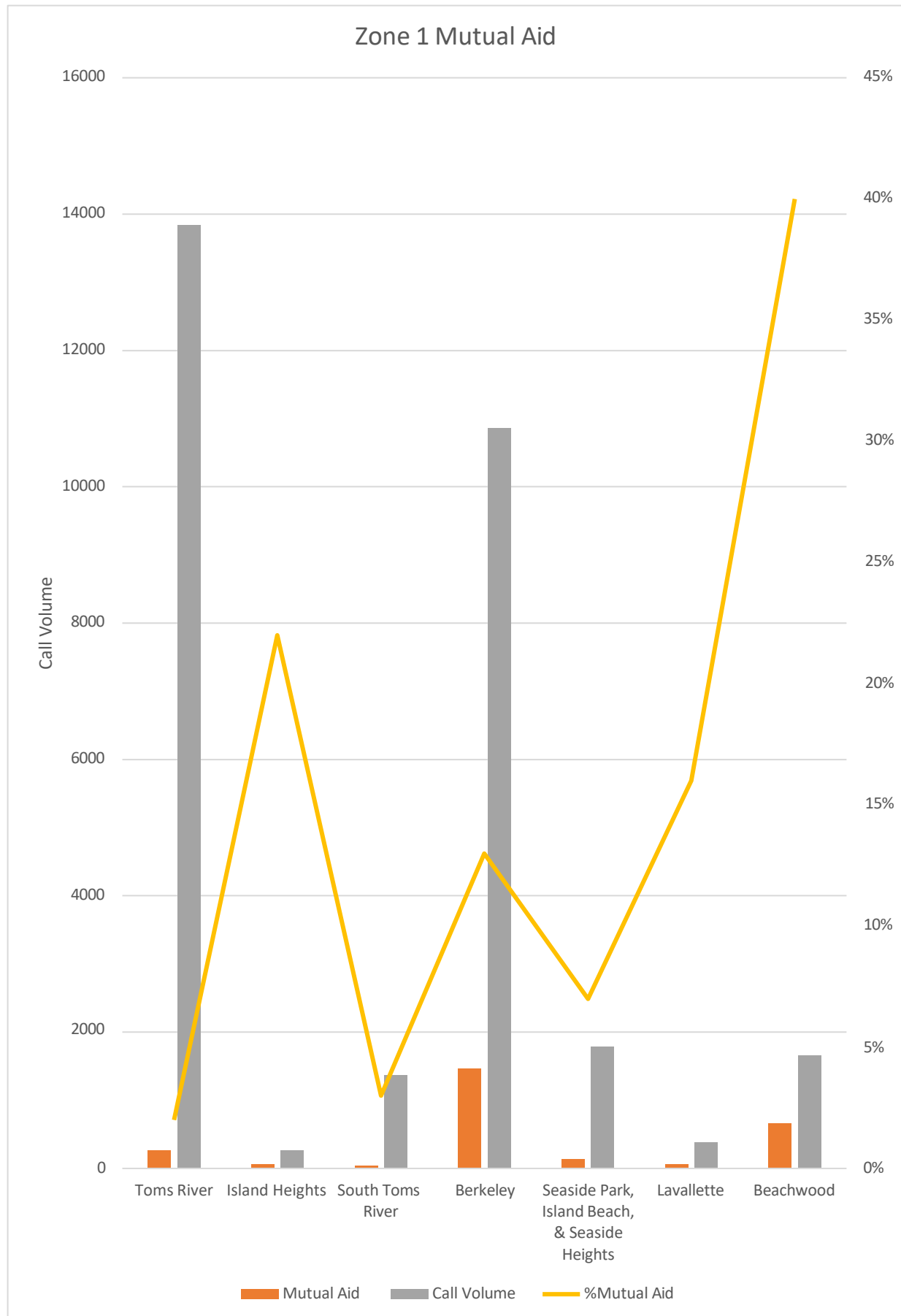
- Beachwood Emergency Medical Services (Squad 15) - Volunteer Agency covers Pine Beach. All the statistical data for Pine Beach is included in the Beachwood EMS data.

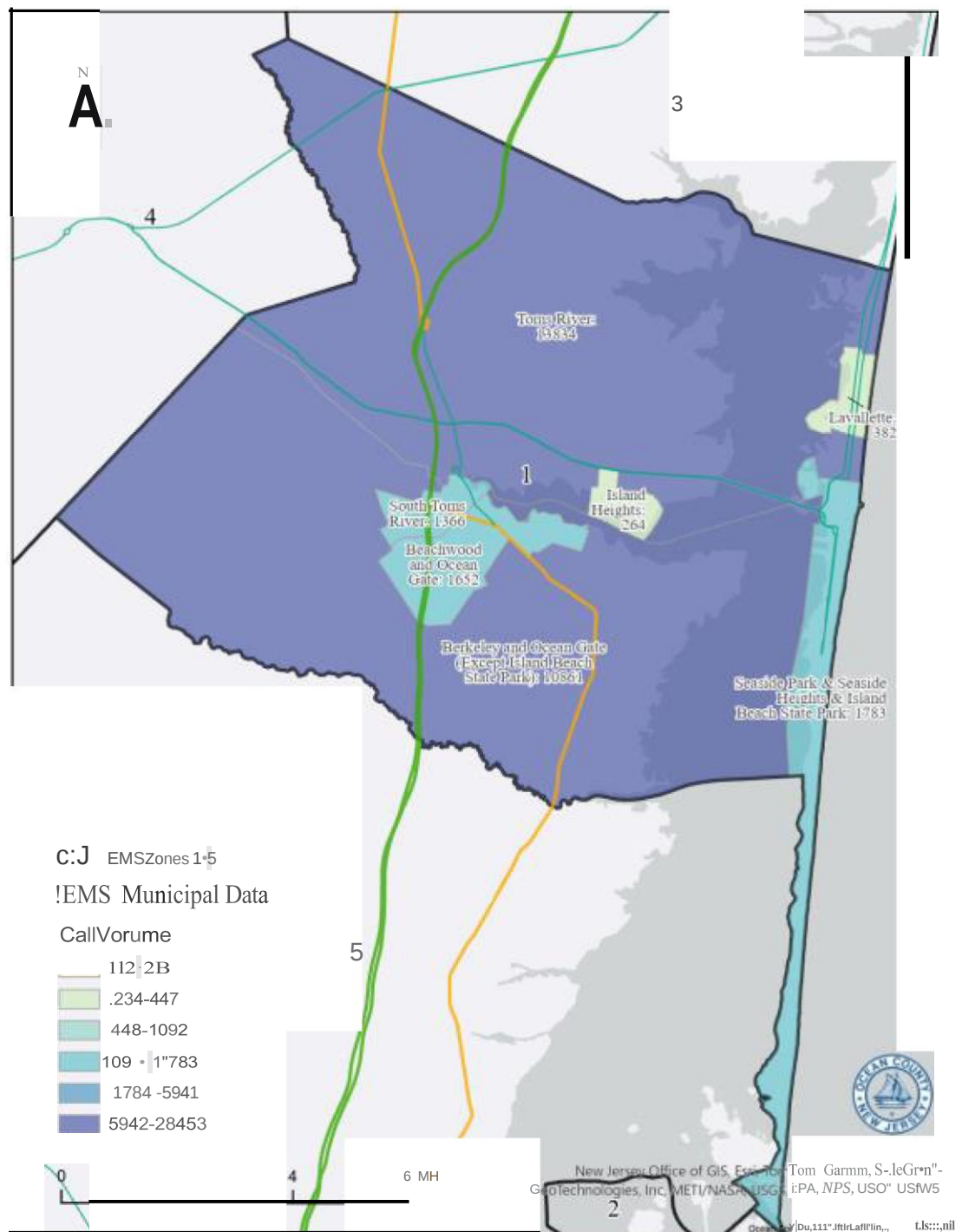
- **Ocean Gate**
 - Berkeley Township EMS (Squad 55) - Career Agency covers Ocean Gate. All of the statistical data for Ocean Gate is included in the Berkeley Township EMS data.
- **Seaside Park and Seaside Heights**
 - Tri-Boro First Aid Squad (Squad 40) - Combination Agency
 - Tri-Boro responded to 1,783 calls for service in 2023, with 133 requests for mutual aid and 7% mutual aid usage.
- **Beachwood Emergency Medical Services**
 - Beachwood EMS (Squad 15) – Volunteer Agency
 - Beachwood EMS responded to 1,652 calls for service in 2023, with 666 requests for mutual aid a 40% mutual aid usage.
 - Beachwood has moderate call volume and a high mutual aid usage.
 - The County 911 communications center reports that the in-service communication between dispatch and Beachwood EMS needs to improve.
 - Beachwood utilizes the following agencies for mutual aid.
 - 13 - Bayville EMS
 - 11 - Barnegat EMS
 - 21 - Island Heights EMS
 - 26 - Lanoka Harbor EMS
 - 37 - South Toms River EMS
 - 55 - Berkeley EMS
 - 46 - Holiday Heights EMS
 - 51 - Toms River Township EMS
 - 39 - Toms River Volunteer EMS
 - 20 - Holiday City EMS
 - QMT - Quality EMS
- **Lavallette First Aid (Squad 27) - Volunteer Agency**
 - Many members live in town. If one of those members has to leave town, the squad usually goes mutual aid to Tri-Boro EMS.
 - Lavallette EMS is a squad heavily dependent on 2 to 3 core members who live in Lavallette EMS responded to 382 calls for service in 2023, with 62 requests for mutual aid, a 16% mutual aid usage.
 - Lavallette utilized the following agencies for mutual aid
 - 21 - Island Heights EMS
 - 20 - Holiday City EMS

- 37 - South Toms River EMS
- 51 - Toms River Township EMS
- 40 - Tri-Boro EMS
- 55 - Berkeley EMS

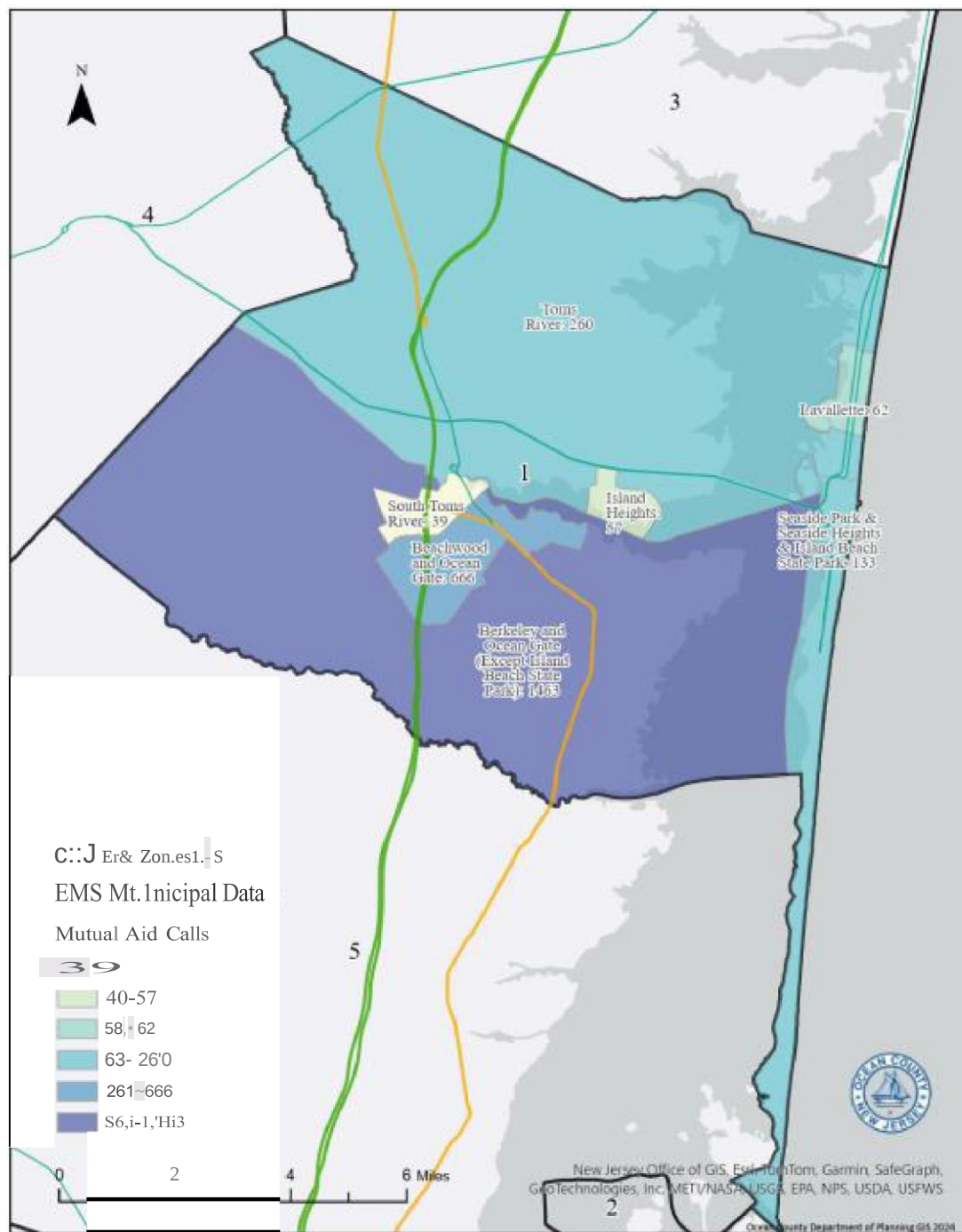
Zone 1				
Agency	Stations	Mutual Aid	Call Volume	%Mutual Aid
Toms River	33,36,39,51	260	13,834	2%
Island Heights	21	57	264	22%
South Toms River	37	39	1,366	3%
Berkeley	55, 13,20,44,46	1,463	10,861	13%
Seaside Park & Seaside Heights	40	133	1,783	7%
Lavallette	27	62	382	16%
Beachwood	15	666	1,652	40%
	Total	2,680	30,142	9%

*Island Beach State Park EMS calls are captured in Seaside Heights and Seaside Parks data, with Tri-Boro as the primary EMS agency.

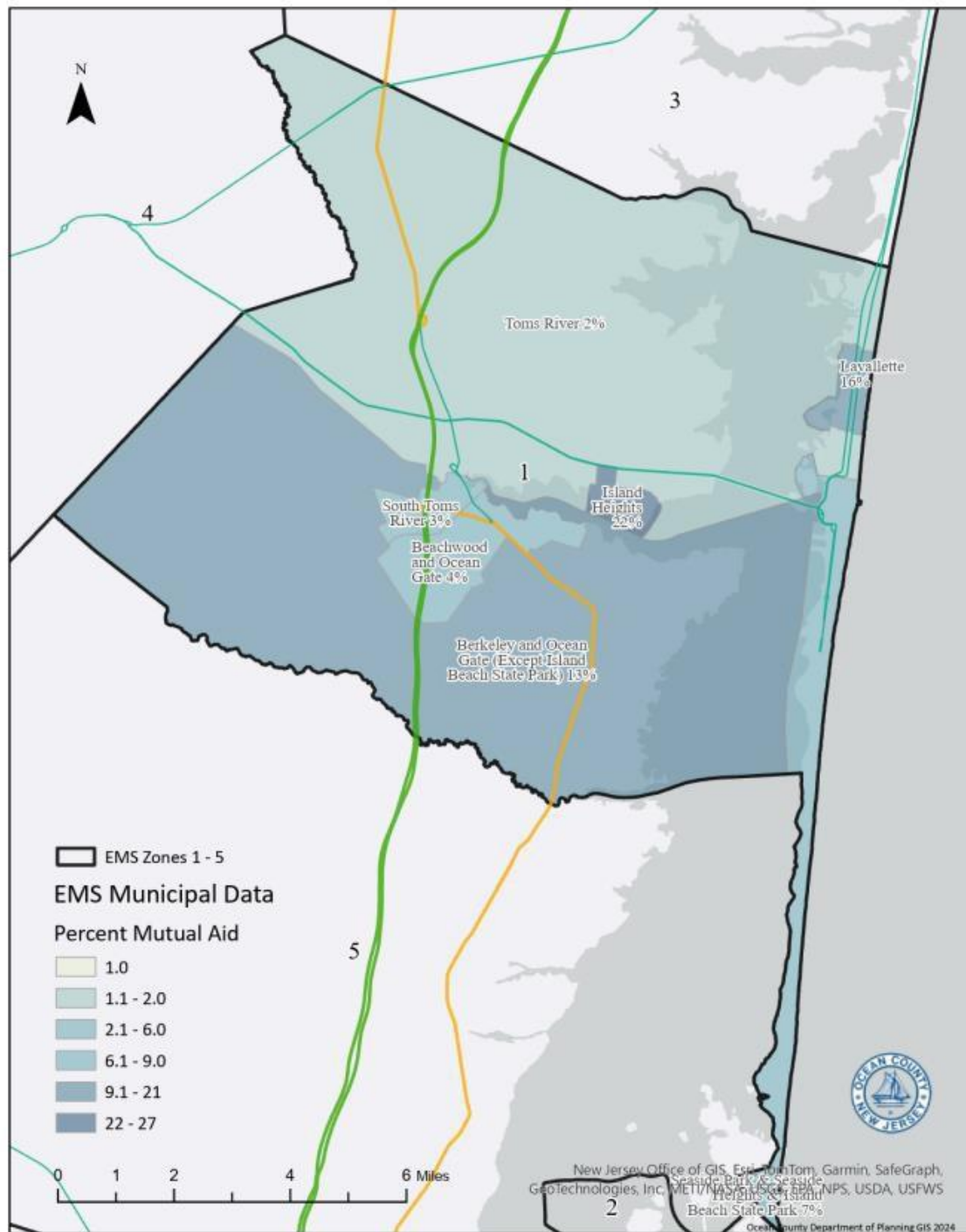




Ocean County Total EMS Call Volume by Municipality Zone 1



Ocean County EMS, Mutual Aid Call Volume by Municipality- Zone 1



Ocean County EMS Mutual Aid Call Percentage by Municipality - Zone 1

*All data was received from the Ocean County 911 Communications Center database and the Ocean County EMS Coordinator when additional data from self-dispatched agencies was needed for the study.

Zone 2

Zone two consists of the following ten municipalities with their associated squads and squad numbers, staffing models, and mutual aid percentages.

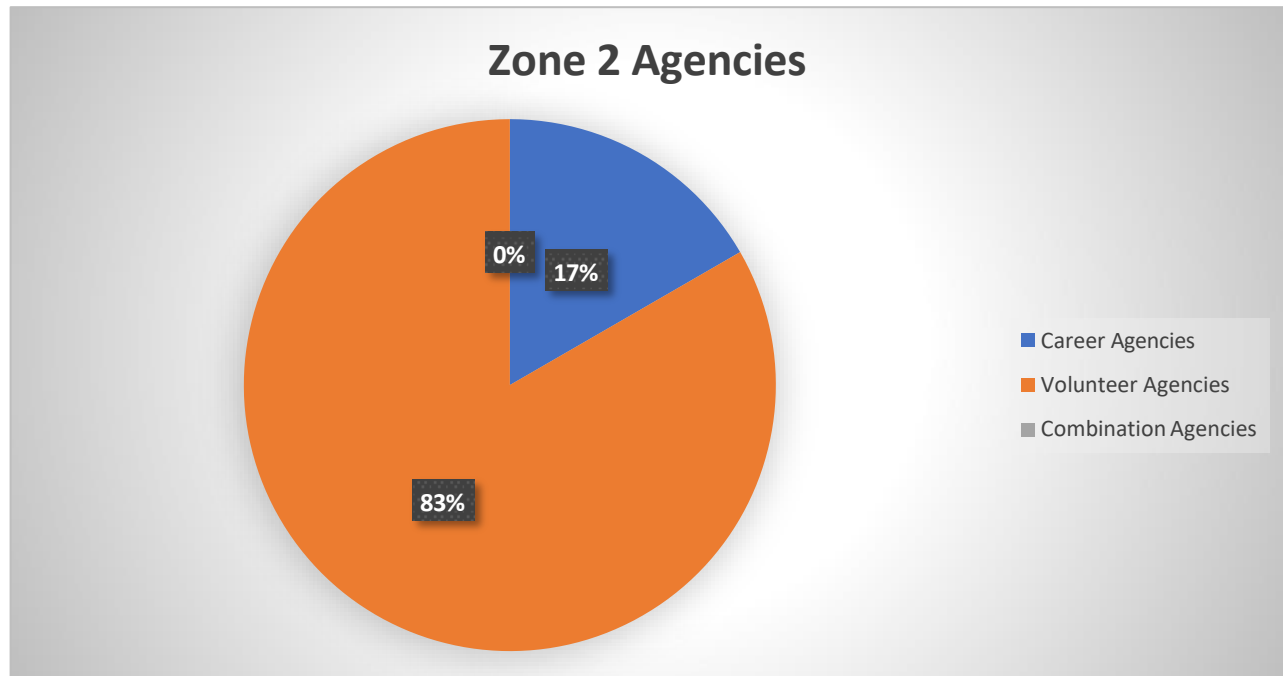
Zone two ranked second out of the five zones for requests for mutual aid coverage, with a total call volume ranking fourth, which is on the lower end for call volume in Ocean County. Zone 2 requested mutual aid assistance for 9% of their total calls.

In zone two, there are ten municipalities with only five EMS agencies. What is unique about Zone 2 is that all agencies that provide EMS services are volunteers, except Quality Medical Transport (QMT), a for-profit, independently-owned company. QMT is licensed by the state of New Jersey and provides care for patients needing medical transport in communities without established EMS services or communities that need additional EMS services to meet their call demands.

QMT also provides mutual aid in many areas that need EMS coverage throughout Ocean County. When a municipality contracts with QMT, they agree to assign the number of ambulances necessary based on the EMS calls in that area. However, QMT and Great Bay EMS (Squad 85) share primary response roles and are dispatched simultaneously in three towns (Little Egg Harbor, Tuckerton, and Eagleswood). The Ocean County 911 Communications Center stated to their knowledge that there are no formal contracts between QMT and any of the three towns. As such, QMT does not have a contractual obligation to deploy an ambulance to any of these towns and can withdraw coverage without notice. Additionally, when QMT deploys an ambulance to one of these designated areas, and a call for service requires the ambulance to transport a patient to a local hospital leaving the area, QMT is not obligated to rotate another ambulance for coverage. As such, there can be time gaps where EMS coverage solely relies on mutual aid partners for service.

Also, as a “for-profit” EMS agency, QMT has the right to “balance bill” each patient they provide service to, and they do. For patients residing in areas covered by volunteer agencies and QMT as a primary or backup squad, residents have been surprised when they receive a bill from a private ambulance company providing service. This has raised awareness about the potential financial implications for residents who have come to expect a free EMS service in many Ocean County areas. These residents are shocked when they learn that pre-hospital transport can be expensive beyond what their insurance might cover. Billing practices for agencies that are for-profit can and do include “balance billing.” This billing practice requires the patient to pay the remaining balance after the private insurance company, Medicare, or Medicaid has paid their portion. Any unpaid balance the patient cannot pay can be sent to collections for further action.

Lastly, the Tuckerton Fire Department and EMS have recently been taken out of service for reasons irrelevant to this study. Nevertheless, this shutdown still impacts the EMS community, which needs more staffing coverage rather than less.



Zone 2 consists of the following EMS agencies:

Stafford Township

- Stafford EMS (Squad 38) - Volunteer Agency
 - Stafford EMS responded to 3,700 calls for service in 2023 with 599 requests for mutual aid, a 16% mutual aid usage.
 - This is one of the higher percentages of mutual aid requests for Zone Two and Ocean County in general.
 - The Ocean County EMS Coordinator provided Stafford EMS call volume as they are dispatched by the Stafford Police Department directly, not the Ocean County 911 Communications Center.
 - As per Ocean County Communications, this squad struggles to respond to the moderate call volume in their town and is often requested to assist other surrounding volunteer agencies in Zone 2 with mutual aid coverage.
 - Stafford EMS utilized the following agencies for mutual aid (Can be considerable distances away from the caller):
 - Barnegat EMS Squad 11
 - Barnegat Light EMS Squad 12
 - Bayville EMS Squad 13
 - Beach Haven EMS Squad 14
 - Lacey EMS Squad 23
 - Lanoka Harbor EMS Squad 26
 - Waretown EMS Squad 42

- Surf City EMS Squad 49
- Great Bay EMS Squad 85
- Quality Medical Transport QMT

- **Eagleswood**

- Great Bay EMS Squad 85 - Volunteer Agency and Quality Medical Transport Company - Career Agency. Crews are simultaneously dispatched as the primary response for this town.
- Great Bay EMS Squad 85 and QMT combined responded to 349 calls for service with 13 requests for mutual aid, resulting in a 4% mutual aid usage.
- QMT does not guarantee an ambulance in this area due to the lack of a formal contract with Eagleswood but will respond if one is available.
- As of 2024, the Ocean County 911 Communications Center reported that QMT is having difficulty staffing an ambulance on the weekend for area coverage.
- Some Mutual Aid agencies are considerable distances away. This is not recommended, as adhering to the national response standards cannot be met with these mutual aid distances.
 - Eagleswood utilized the following agencies for mutual aid:
 - Stafford EMS Squad 38
 - Barnegat Light EMS Squad 12
 - Surf City EMS Squad 49
 - Barnegat EMS Squad 11

- **Little Egg Harbor**

- Great Bay EMS Squad 85- Volunteer Agency and Quality Medical Transport –Career Agency are simultaneously dispatched as the primary response for this town.
- Great Bay EMS (Squad 85) and QMT combined responded to 4,608 calls for service with 286 requests for mutual aid, resulting in a 6% mutual aid usage.
- QMT does not guarantee an ambulance in this area due to the lack of a formal contract with Little Egg Harbor but will respond if one is available.
- As of 2024, the Ocean County 911 Communications Center reports that QMT is having difficulty staffing an ambulance on the weekend for area coverage.
- Some Mutual Aid agencies are considerable distances away. This is not recommended, as adhering to the national response standards cannot be met with these mutual aid distances.
 - The following Squads provided mutual aid:
 - Barnegat EMS Squad 11
 - Barnegat Light EMS Squad 12
 - Bayville EMS Squad 13
 - Beach Haven EMS Squad 14
 - Lacey EMS Squad 23

- Lanoka Harbor EMS Squad 23
- South Toms River Squad 37
- Stafford EMS Squad 38
- Waretown EMS Squad 42
- Surf City EMS Squad 49

- **Tuckerton**

- Great Bay EMS Squad 85- Volunteer Agency and Quality Medical Transport Company-Career Agency are simultaneously dispatched.
- Tuckerton FD EMS is out of service, and Tuckerton does not have volunteer, paid, or contracted EMS coverage.
- Great Bay EMS (Squad 85) and QMT combined responded to 918 calls for service with 79 requests for mutual aid, resulting in a 9% mutual aid usage.
- QMT does not guarantee an ambulance in this area due to the lack of a formal contract with Tuckerton but will respond if one is available.
- As of 2024, the Ocean County 911 Communications Center reported that QMT is having difficulty staffing an ambulance on the weekend for area coverage.
- Some Mutual Aid agencies are considerable distances away. This is not recommended, as adhering to the national response standards cannot be met with these mutual aid distances.
 - Tuckerton utilized the following EMS agencies for mutual aid:
 - Bayville EMS Squad 13 - Volunteer
 - Berkeley Township Squad 55 - Career
 - Waretown EMS Squad 42 - Volunteer

- **Barnegat Light**

- Barnegat Light EMS (Squad 12) - Volunteer Agency
- Barnegat Light EMS responded to 145 calls for service in 2023 with seven requests for mutual aid, a 5% mutual aid usage.
 - Barnegat Light EMS utilized the following agencies for mutual aid:
 - Beach Haven EMS Squad 14 - Volunteer
 - Stafford EMS Squad 38-Volunteer
 - Surf City EMS Squad 49- Volunteer

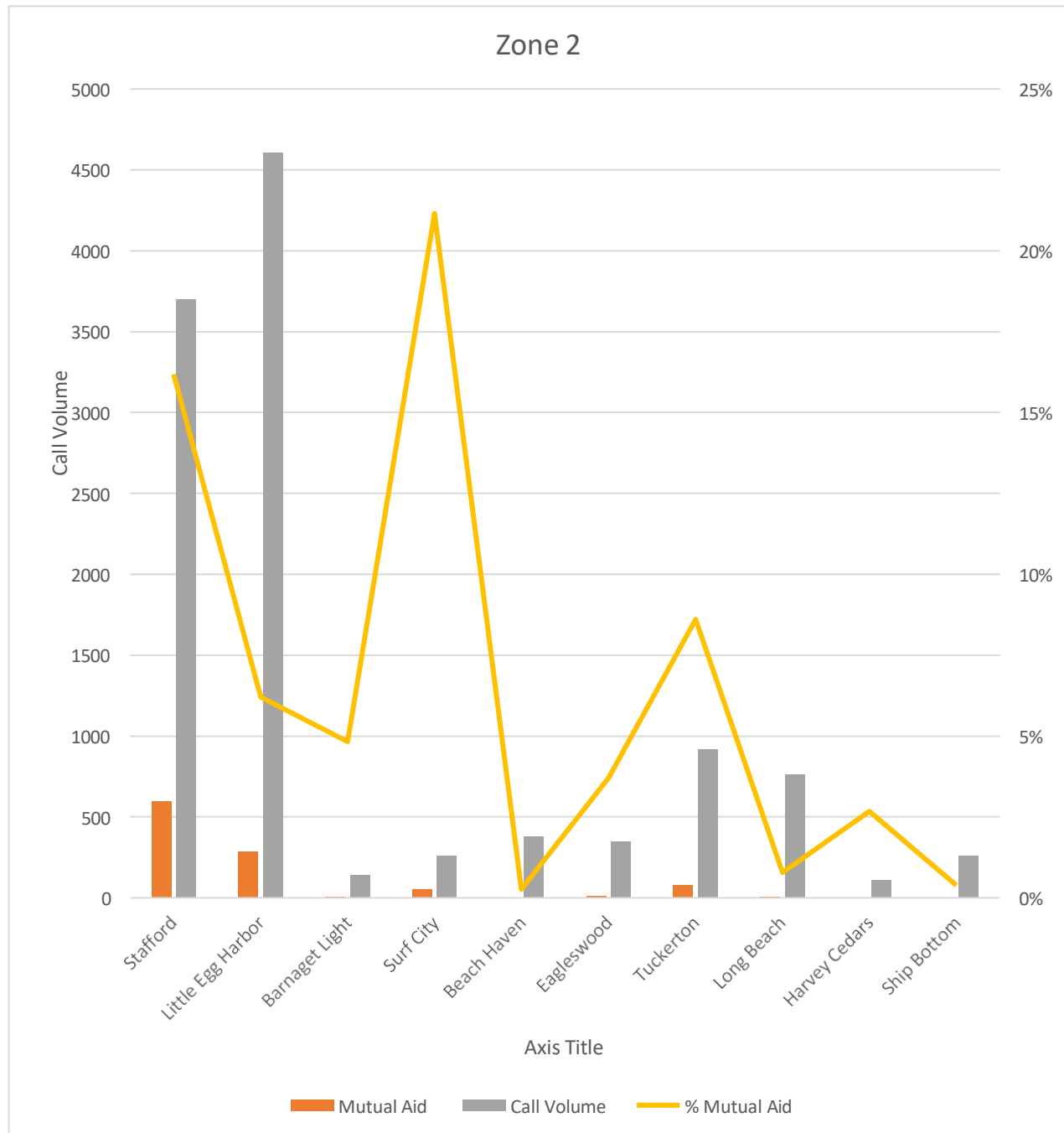
- **Long Beach Township**

- Barnegat Light EMS (Squad 12)- Volunteer Agency and Beach Haven EMS (Squad 14)- Volunteer Agency both respond to calls for Long Beach Township.

- Long Beach Township has a unique geographical area where the township is split into several sections on an 18-mile-long strip of land called Long Beach Island.
- Barnegat Light EMS and Beach Haven EMS responded to 764 calls for service in Long Beach Township in 2023 with 6 requests for mutual aid, a 1% mutual aid usage.
 - Long Beach Township covering squads utilized the following agencies for mutual aid:
 - Stafford EMS Squad 38-Volunteer
 - Surf City EMS Squad 49- Volunteer
- **Harvey Cedars**
 - Barnegat Light EMS Squad 12- Volunteer Agency covers Harvey Cedars.
 - Barnegat Light EMS responded to 112 calls for service in 2023, with 12 requests for mutual aid, a 3% usage of mutual aid.
 - This agency utilized the following EMS for mutual aid:
 - Surf City EMS Squad 49 - Volunteer
- **Surf City**
 - Surf City EMS Squad 49- Volunteer Agency
 - Surf City EMS responded to 260 calls for service in 2023, with 55 requests for mutual aid, a 21% usage of mutual aid.
 - This agency utilized the following EMS for mutual aid:
 - Barnegat Light Squad 12 - Volunteer
 - Beach Haven EMS Squad 14 - Volunteer
- **Ship Bottom**
 - Beach Haven EMS Squad 14- Volunteer Agency covers EMS calls for Ship Bottom Borough for 2023.
 - Beach Haven EMS responded to 258 calls for service for 2023 with 1 request for mutual aid, a 0% mutual aid usage.
 - This agency utilizes one agency for mutual aid:
 - Barnegat Light EMS Squad 12 - Volunteer
- **Beach Haven**
 - Beach Haven EMS Squad 14- Volunteer Agency
 - Beach Haven EMS responded to 378 calls for service for 2023 with one request for mutual aid, a 0% mutual aid usage.
 - Beach Haven EMS Squad only utilized Surf City EMS Squad 49 once for a mutual aid call for a 0.2% of Mutual Aid.

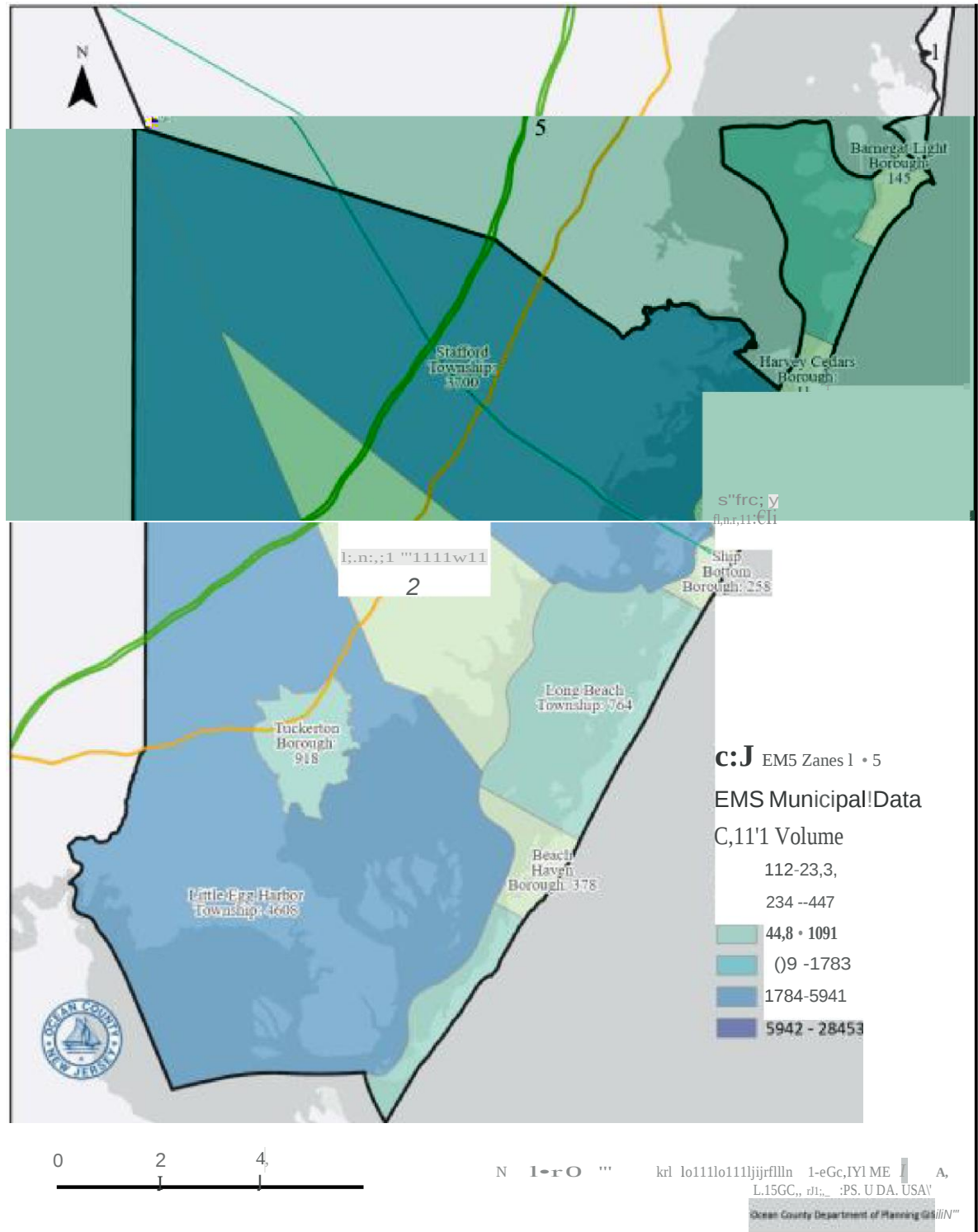
- This agency utilized one agency for mutual aid:
 - Surf City EMS Squad 49 - Volunteer

Zone 2	Stations	Mutual Aid	Call Volume	% Mutual Aid
Stafford	38	599	3,700	16%
Little Egg Harbor	85 & QMT	286	4,608	6%
Barnegat Light	12	7	145	5%
Surf City	49	55	260	21%
Beach Haven	14	1	378	0%
Eagleswood	85 & QMT	13	349	4%
Tuckerton	85 & QMT	79	918	9%
Long Beach	14 & 12	6	764	1%
Harvey Cedars	12	3	112	3%
Ship Bottom	14	1	258	0%
	Total	1,050	11,492	9%

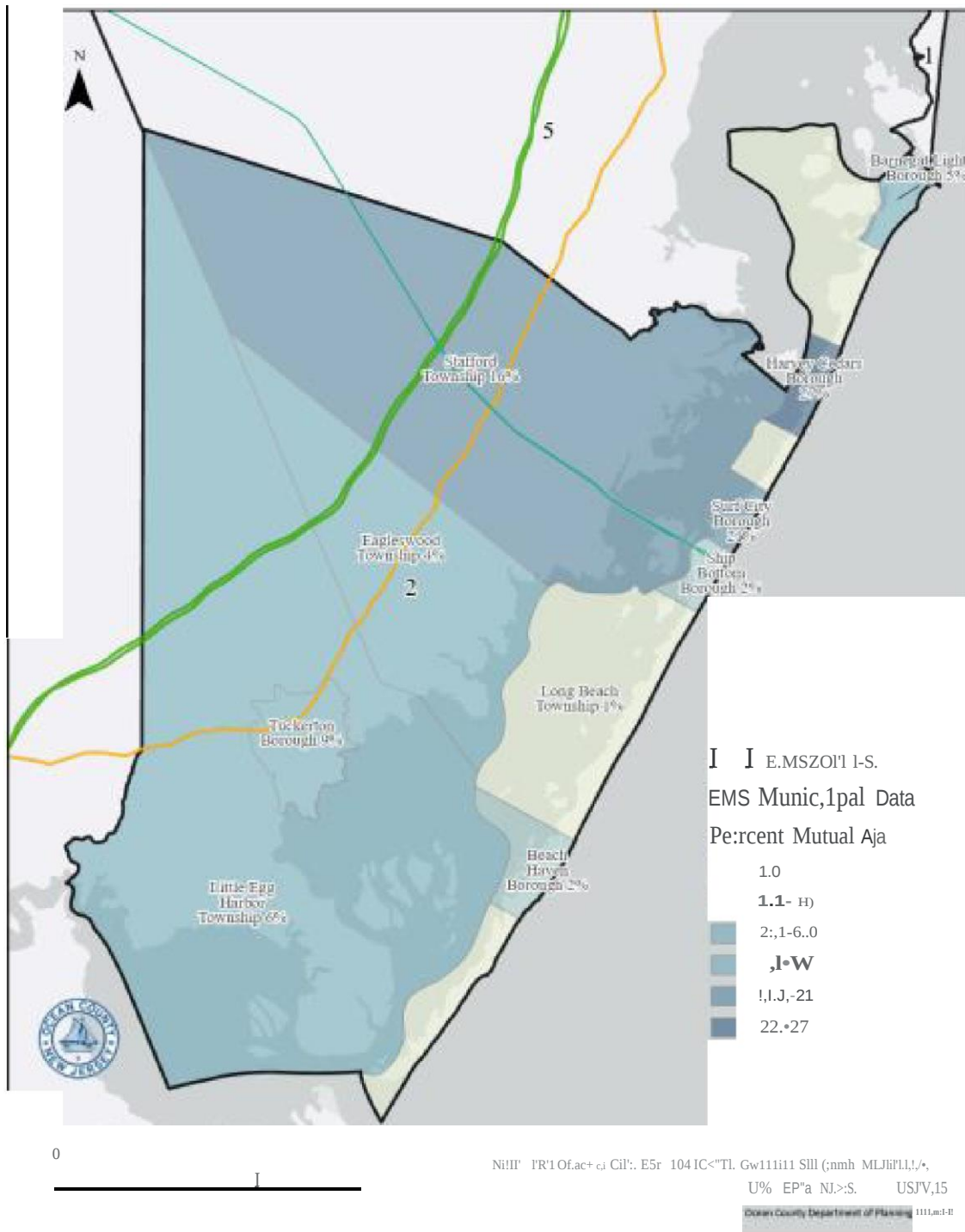


*All data was received from the Ocean County 911 Communications Center database and the Ocean County EMS Coordinator when additional data from self-dispatched agencies was needed for the study.

*Call volume increases during the summer in most of Zone 2 due to their waterfront communities and proximity to tourist attractions.



Ocean County EMS Call Totals by Municipality - Zone 2



Ocean County EMS Mutual Aid Call Percentage by Municipality - Zone 2

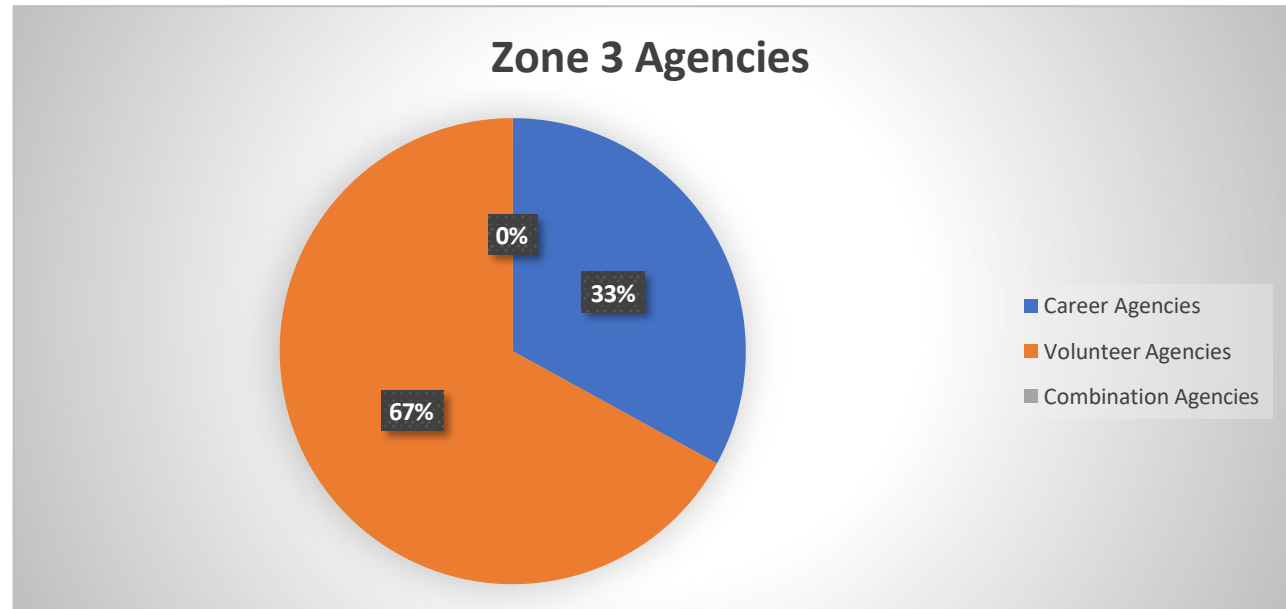
Ocean County EMS Mutual Aid Call Totals 5-year Municipality - Zone 2

Zone 3

Zone three consists of six municipalities, each with associated squads and squad numbers, staffing models, and mutual aid percentages.

Zone three ranked first in the county, with the highest call volume of 41,848 calls for service, yet ranked fifth with the lowest percentage of requests for mutual aid. Zone three requested mutual aid assistance for 1% of the total calls. This is quite a remarkable statistic.

The six municipalities in zone three have eight EMS agencies. Career EMS agencies cover 33% of this zone, and 67% are volunteers.



While covering multiple townships in this zone, Hatzolah's call volume data is included in Lakewood's data, where most calls are received. The volunteer EMS agency, Hatzolah, reportedly has an entire staff of volunteers around the clock, with more volunteers on an active waitlist. They are licensed and do not bill patients for service.

Zone 3 consists of the following EMS agencies:

Bayhead

- Point Beach EMS Squad 34 –Volunteer
- Point Beach EMS Squad 34 responded to 233 calls for service in 2023 with 6 requests for mutual aid and a 3% mutual aid usage.
 - The following agencies assisted Bayhead with mutual aid:
 - Point Borough EMS Squad 35 - Volunteer

Brick Township

- Brick Township EMS & Rescue Squad 53 - Career
- Brick EMS Squad 53 responded to 11,149 calls for service in 2023 with 289 requests for mutual aid, a 3% mutual aid usage.

- The Ocean County EMS Coordinator provided Brick EMS call volume as they are dispatched by the Brick Police Department directly, not the Ocean County 911 Communications Center.
 - The following agencies assisted Brick EMS with mutual aid:
 - We could not obtain data, as Brick Township dispatches their mutual aid, and that data is unavailable, as per the EMS County Coordinator.

Lakewood Township operates with three squads answering EMS calls within its community. One is a career-based agency, and two are volunteer agencies. All operate independently but provide first-out mutual aid to one another.

- **Lakewood Squads:**
- Lakewood Volunteer EMS Squad 25 – Volunteer Agency
- Lakewood Township EMS Squad 52 – Career Agency
- Hatzolah EMS Squad 45- Volunteer Agency
 - Lakewood Township’s demographics provide for a unique response model. Lakewood Township EMS Squad 52 responds to most of the calls in the Township unless the patient is a member of the Jewish Community. Hatzolah is an independent volunteer EMS agency that self-dispatches many calls for service. They are also dispatched through the Ocean County 911 Communications Center and other self-dispatch municipalities. When mutual aid is requested from Hatzolah, it will only be captured if the request was made through the Ocean County 911 Communications Center for this study.
- Lakewood Squad 52 will respond to extraction calls for service.
- The total number of calls for service in this area is 28,453. This includes all calls that Hatzolah responded to as well.
- Lakewood Township responded to 28,453 calls for service in 2023, with 13 requests for mutual aid, a 0.004% mutual aid usage.
 - The following agencies assisted Lakewood Township with mutual aid:
 - Jackson EMS Squad 22 - Combination
 - Brick Township EMS/Rescue Squad 53 - Career

Mantoloking

- Point Beach EMS Squad 34 – Volunteer Agency
 - Point Beach EMS Squad 34 responded to 131 calls for service in 2023 with one request for mutual aid, a 1% mutual aid usage.
 - The following agency assisted Mantoloking with mutual aid:
 - Point Boro EMS Squad 35 – Volunteer

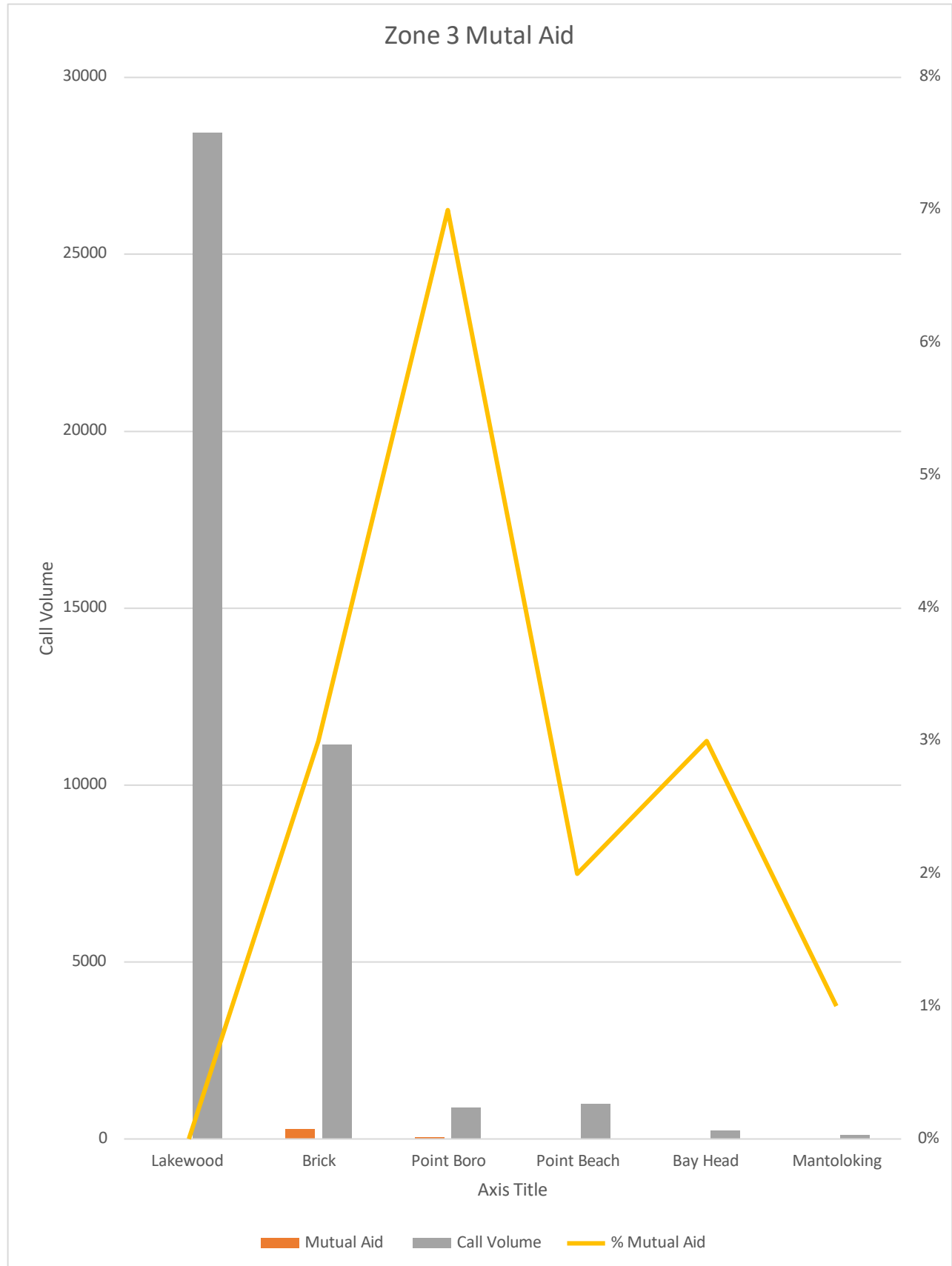
Point Beach

- Point Beach EMS Squad 34 – Volunteer Agency
 - Point Beach EMS Squad 34 responded to 999 calls for service in 2023 with 23 requests for mutual aid, a 2% mutual aid usage.

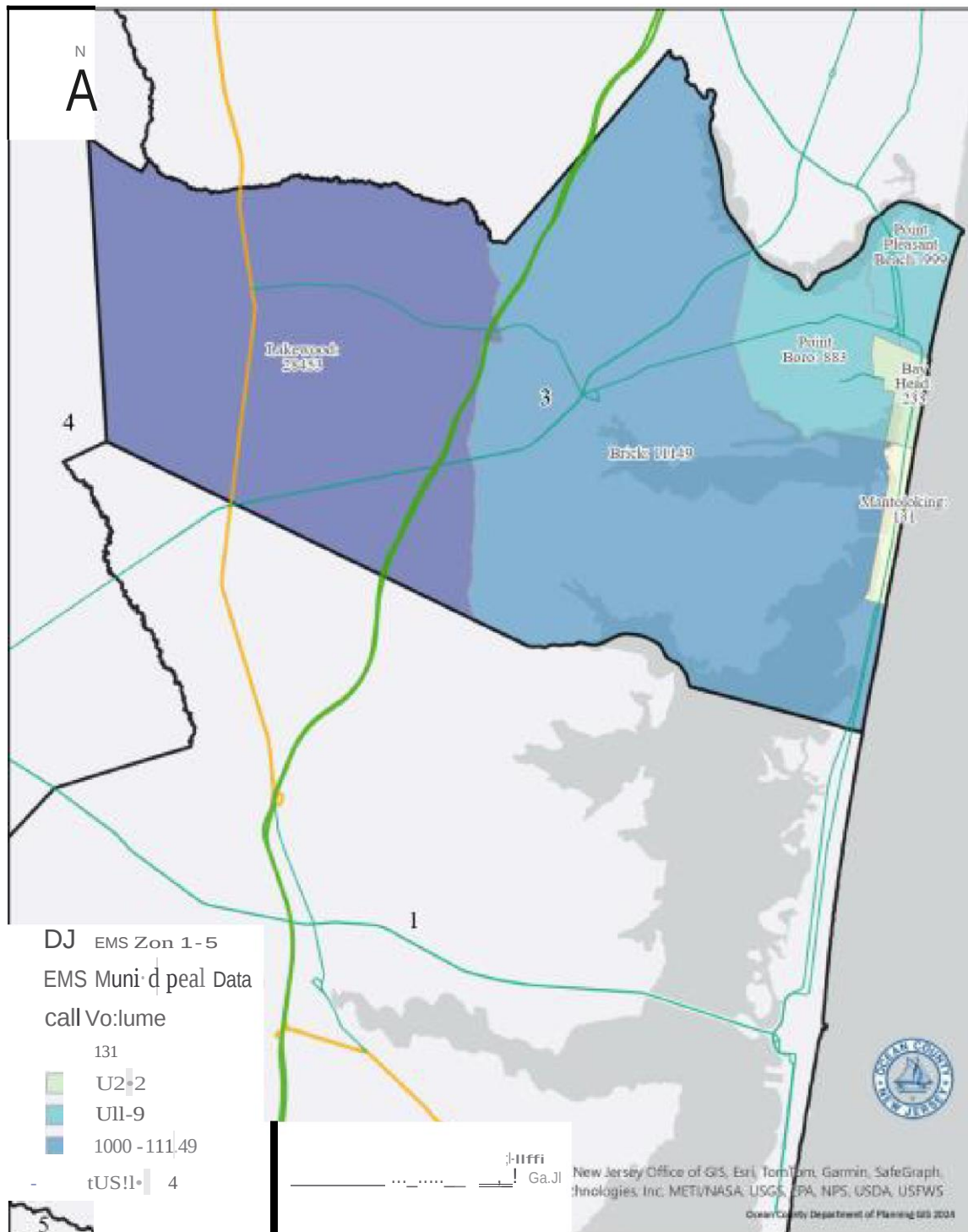
- The following agency assisted Point Beach with mutual aid:
 - Point Boro EMS Squad 35 – Volunteer

Point Borough

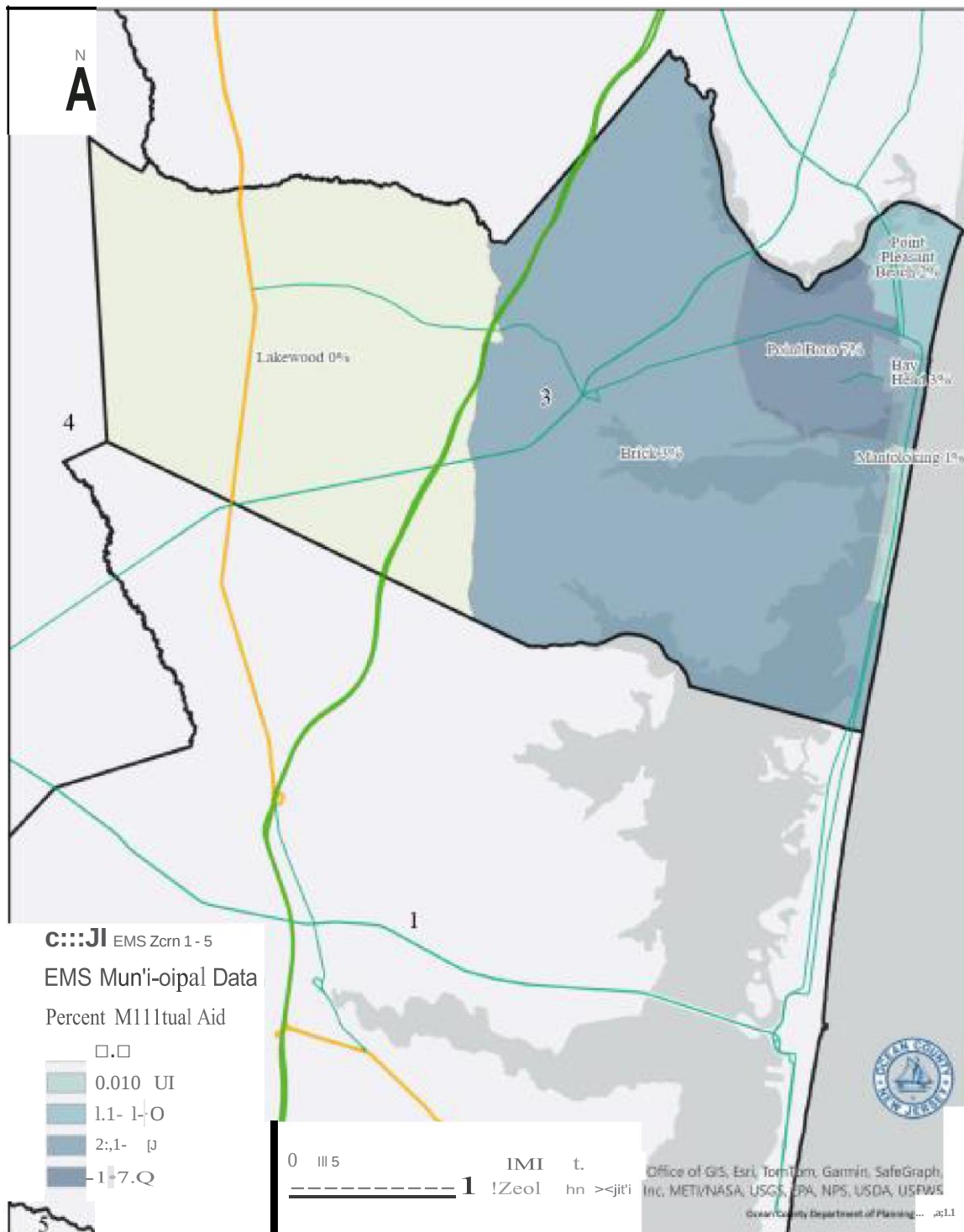
- Point Boro EMS Squad 35 – Volunteer Agency
 - Point Boro EMS Squad 35 responded to 883 calls for service in 2023 with 23 requests for mutual aid, a 3% mutual aid usage.
 - The Ocean County EMS Coordinator provided Point Boro EMS call volume as they are dispatched by the Pt Boro Police Department directly, not the Ocean County 911 Communications Center.
 - The following agencies assisted Point Borough with mutual aid:
 - Point Boro EMS Squad 34 – Volunteer
 - Brick Township EMS/Rescue Squad 53 - Career



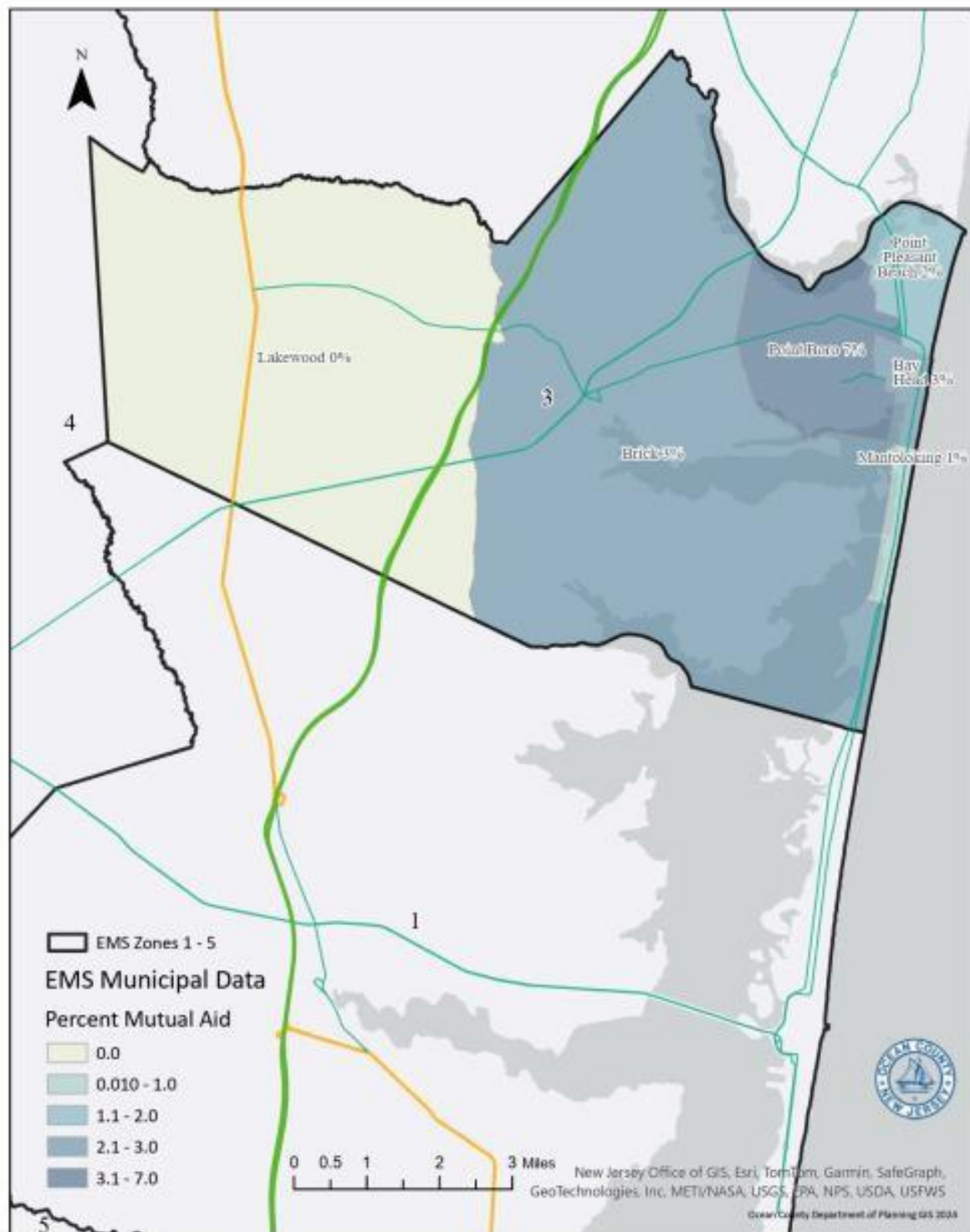
Zone 3				
Agency	Stations	Mutual Aid	Call Volume	% Mutual Aid
Lakewood	25,45,52	13	28,453	0%
Brick	53	289	11,149	3%
Point Boro	35	64	883	3%
Point Beach	34	23	999	2%
Bay Head	34	6	233	3%
Mantoloking	34	1	131	1%
	Total	396	41,848	1%



Ocean County EMS Call Total by Municipality - Zone 3



Ocean County EMS Mutual Aid Call Totals by Municipality - Zone 3



Ocean County EMS Percent Mutual Aid by Municipality - Zone 3

*All data was received from the Ocean County 911 Communications Center database and the Ocean County EMS Coordinator when additional data from self-dispatched agencies was needed for the study.

*Call volume increases during the summer months in most of Zone 3 due to their waterfront communities and proximity to tourist attractions.

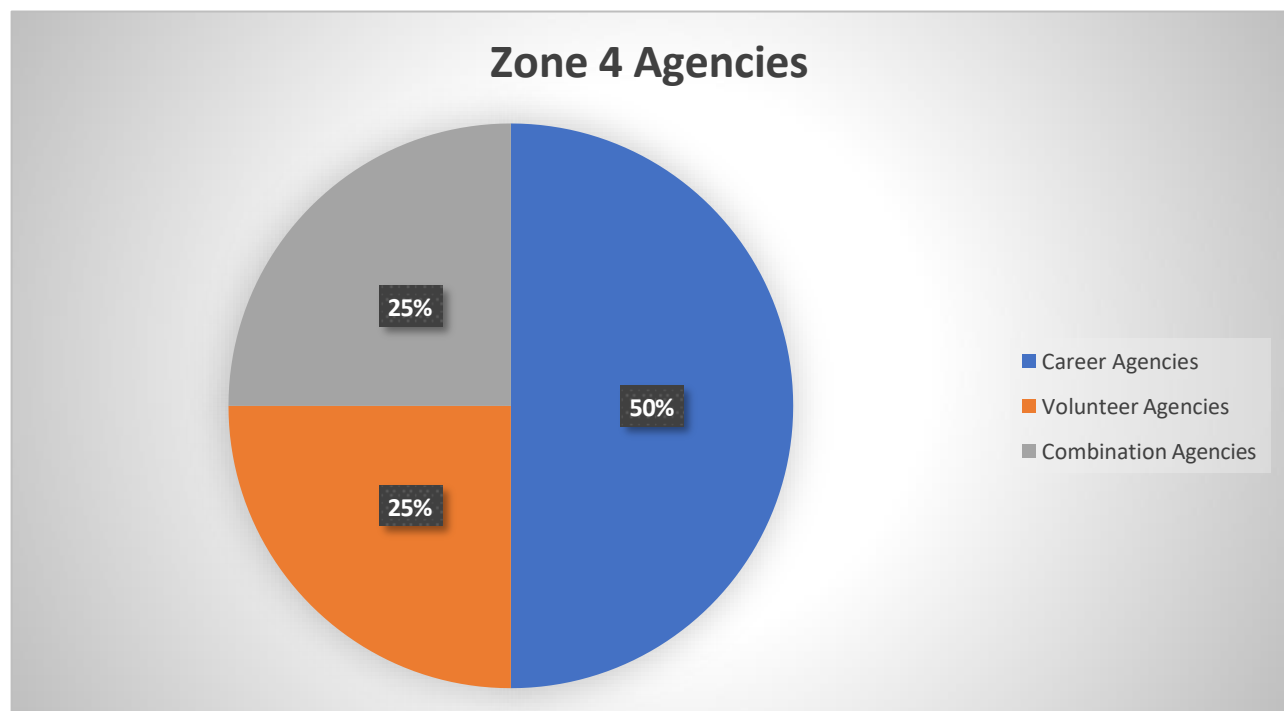
Zone 4

Zone four consists of the following four municipalities, each with its associated squads and squad numbers, staffing models, and mutual aid percentages.

Zone four ranked fourth out of the five zones for requests for mutual aid coverage. Their total call volume of 21,206 calls for service ranks this zone third in the county. Zone four requested mutual aid assistance for 5% of their total calls.

In zone four, there are only four municipalities with four EMS agencies. What is unique about Zone 4 is that three of the four are career agencies, with Lakehurst EMS being the only volunteer agency. Jackson EMS allows volunteers, but the staff is mostly career personnel.

Another point of interest is that Manchester and Jackson have police dispatch centers and receive calls through their seven-digit emergency and non-emergency lines. The Ocean County 911 Communications Center does not capture this data, but it has been obtained from the Ocean County EMS Coordinator for this study.



Zone 4 consists of the following EMS agencies:

Jackson

- Jackson EMS Squad 22- Career Agency
- Jackson EMS Squad 22 predominantly utilizes career staffing deployment for 24/7 coverage but will augment volunteers for staffing and/or deployment needs.
- Jackson EMS responded to 5,941 calls for service in 2023 with 53 requests for mutual aid, a 1% mutual aid usage.

- Jackson EMS utilizes the following agencies for mutual aid:
 - Lakewood Township EMS Squad 52- Career
 - Manchester Township EMS Squad 54- Career
 - Berkeley EMS Squad 55- Career
 - Lakehurst EMS Squad 24- Volunteer
 - Plumsted Fire EMS Squad 30- Career
 - Howell Township EMS- Monmouth County
 - Millstone Township Fire Department EMS-Monmouth County

Lakehurst

- Lakehurst EMS Squad 24- Volunteer Agency
- Most Lakehurst EMS calls currently go mutual aid to Manchester Township Squad 54, with both Squads dispatched simultaneously for all calls in Lakehurst Borough. Ensure stats are done like other agencies with simultaneous patrol calls, i.e., LEH and Eagleswood.
- Lakehurst EMS responded to 447 calls for service in 2023, with 345 requests for mutual aid, a 77% mutual aid usage.
 - The following agencies assisted Lakehurst Boro with mutual aid:
 - Manchester Township Station 54 - Career
 - Jackson EMS Squad 22 - Career
 - Berkeley EMS Squad 55 - Career
 - Beachwood EMS Squad - Volunteer
 - Toms River EMS Squad 51 - Career

Manchester

- Manchester Township EMS Squad 54 - Career Agency
 - Manchester Township has the largest call volume in the county for any single agency covering one municipality at 13,726. Explain Lakewood.
 - Manchester EMS responded to 13,726 calls for service in 2023 with 637 requests for mutual aid, a 5% mutual aid usage.
 - The Ocean County EMS Coordinator provided Manchester Township EMS call volume as they are dispatched by the Manchester Police Department directly, not the Ocean County 911 Communications Center.
 - The following agencies assisted Manchester Township with mutual aid:
 - Barnegat EMS Squad 11- Volunteer
 - Bayville EMS Squad 13 - Volunteer
 - Beachwood EMS Squad 15 - Volunteer
 - Holiday City EMS Squad 20 - Volunteer

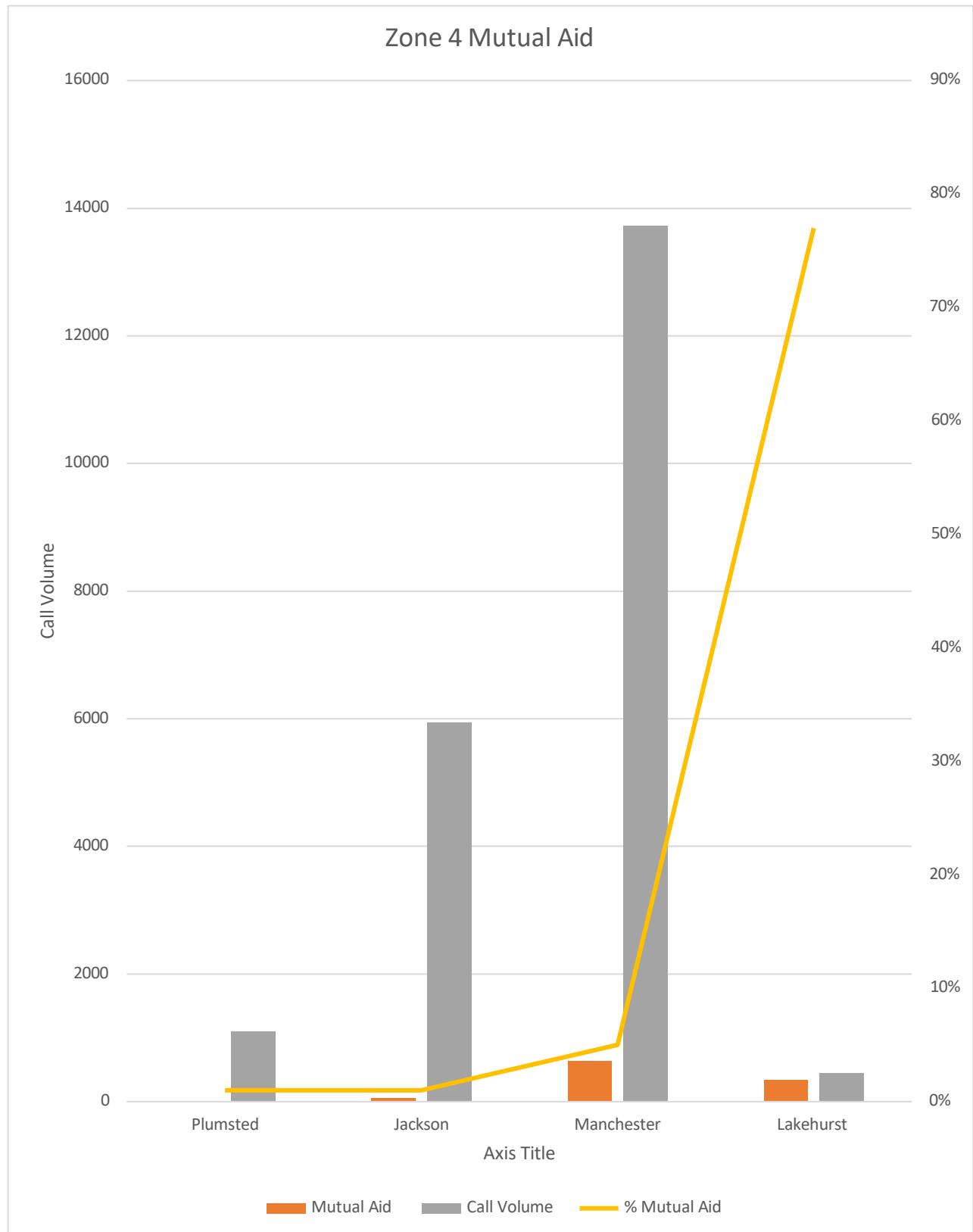
- Island Heights EMS Squad 21 - Volunteer
- Jackson Township EMS Squad 22 - Career
- Lacey EMS Squad 23 - Combination
- Lakehurst EMS Squad 24 - Volunteer
- Lakewood EMS Squad 25 - Volunteer
- Lanoka Harbor EMS Squad 26 - Combination
- Plumsted Fire EMS Squad 30 - Career
- Point Beach EMS Squad 34 - Volunteer
- Pleasant Plains EMS Squad 33 - Volunteer
- Point Boro EMS Squad 35 - Volunteer
- South Toms River EMS Squad 37- Combination
- Toms River EMS Squad 51- Career
- Berkeley EMS Squad 55- Career

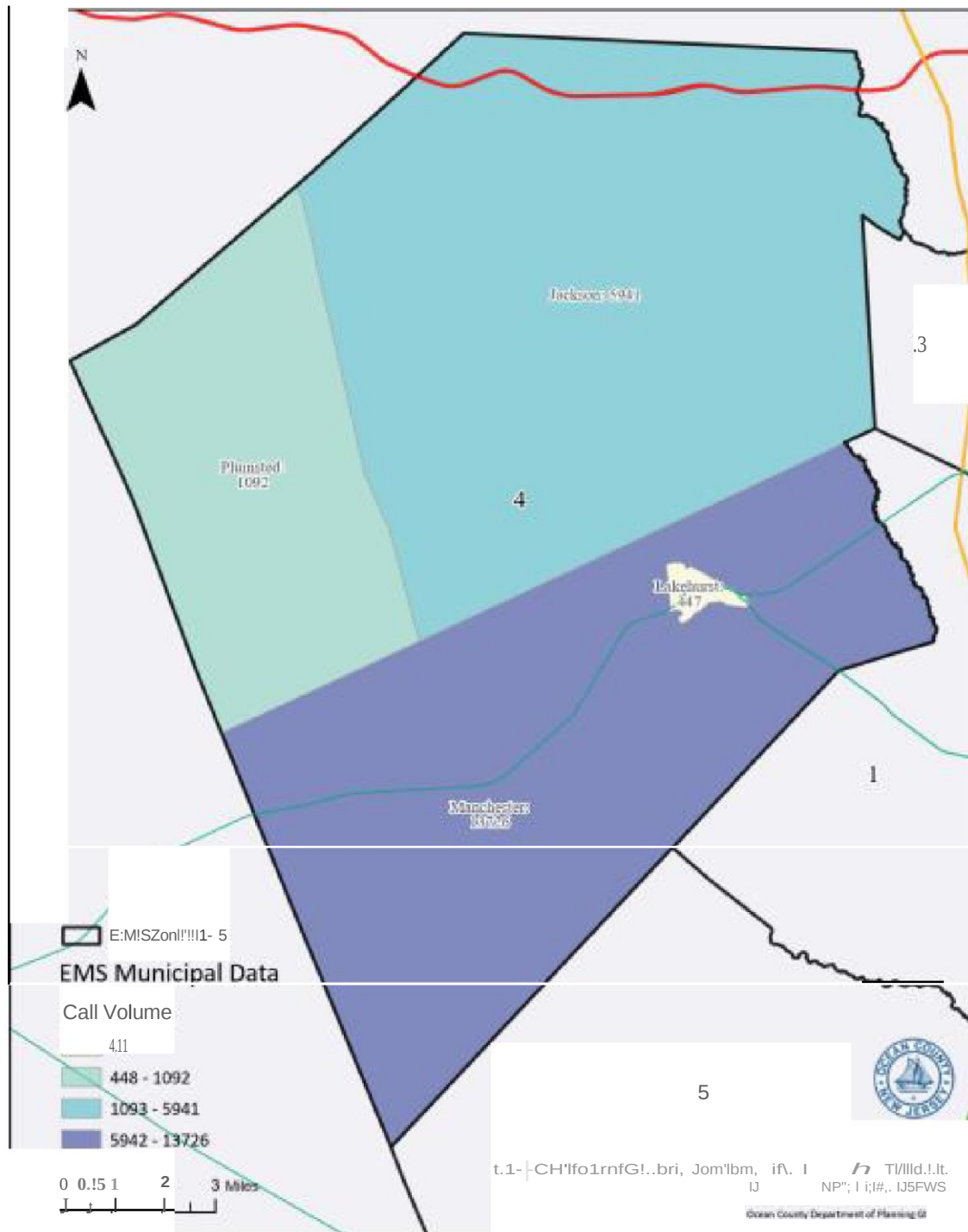
Plumsted

- Plumsted Fire EMS Squad 30 covers Plumsted Township – Career Agency.
- Plumsted Fire EMS responded to 1,092 calls for service and utilized mutual aid for six calls for a 1% mutual aid usage.
 - The following agency assisted Plumsted with mutual aid:
 - Jackson Township EMS Squad 22 - Career
 - Manchester Township EMS Squad 54 - Career

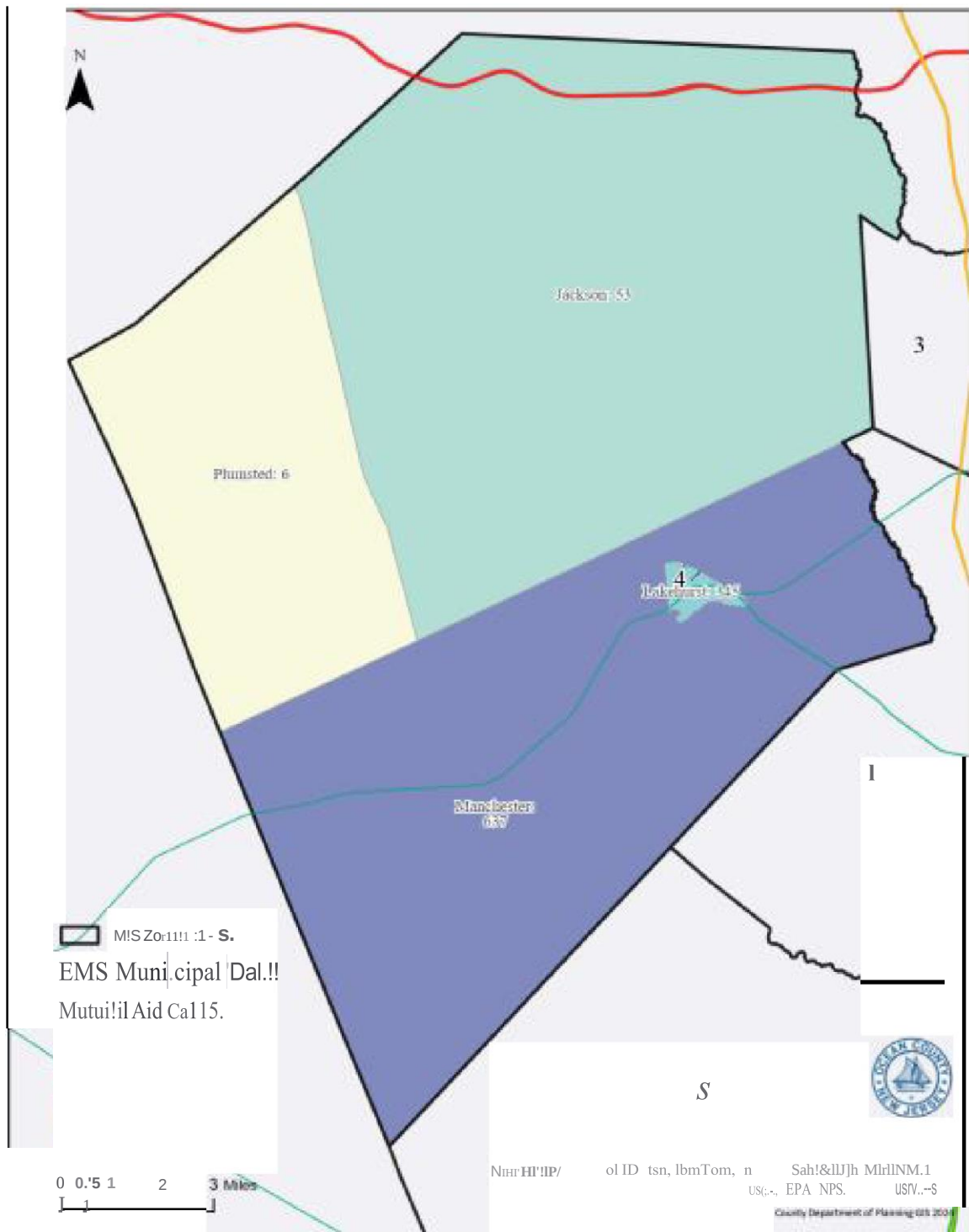
Zone 4				
Agency	Stations	Mutual Aid	Call Volume	% Mutual Aid
Plumsted	30	6	1,092	1%
Jackson	22	53	5,941	1%
Manchester	54	637	13,726	5%
Lakehurst	24	345	447	77%
	Total	1,038	21,206	5%

*All data was received from the Ocean County 911 Communications Center database and the Ocean County EMS Coordinator when additional data from self-dispatched agencies was needed for the study.

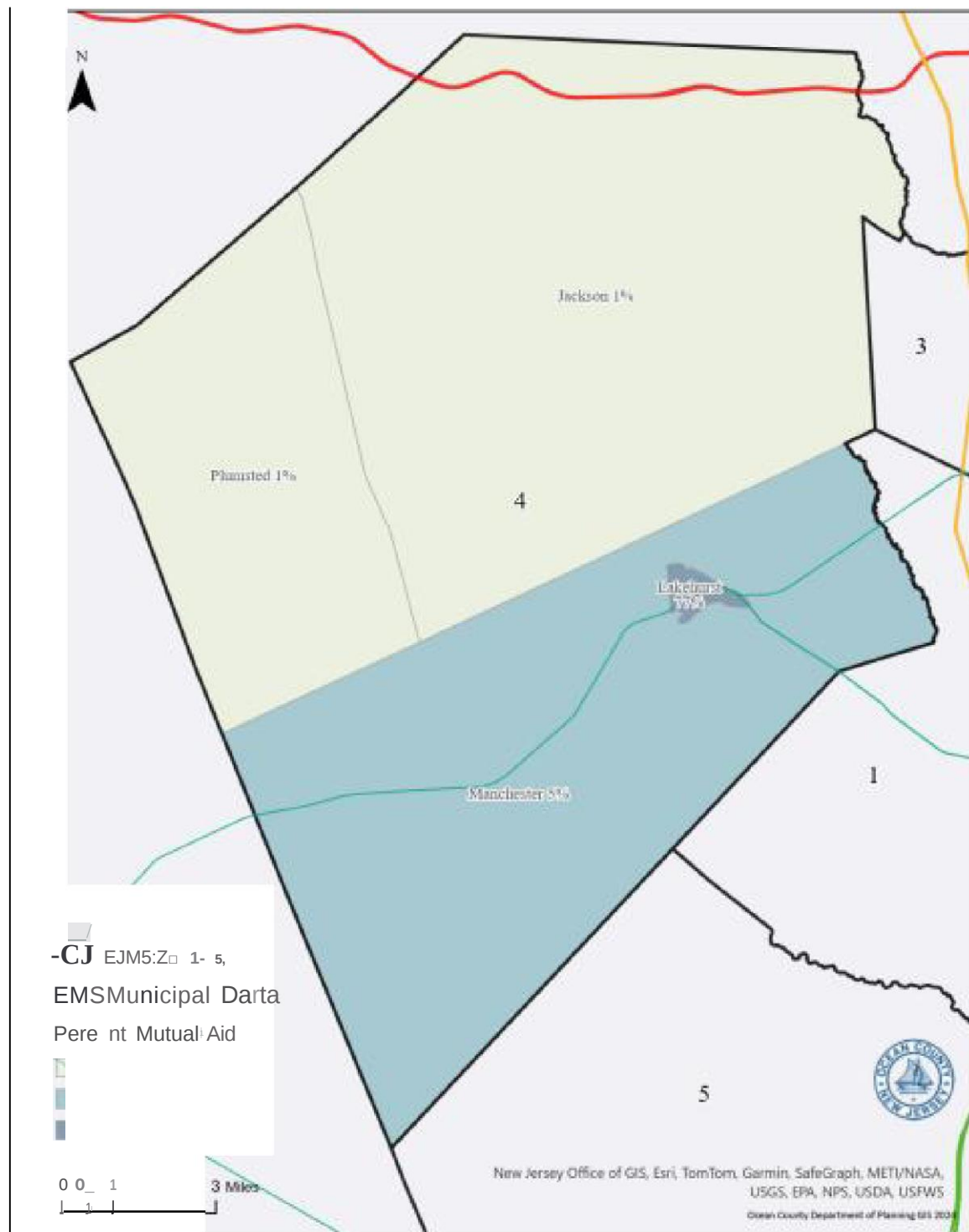




Oj,e.a fl C-o!,Jnty E.MS Call Voh,1me by Mu nic:1pahity - Z:0111e 4



Ocean County EMS Total Mutual Aid Calls by Municipality - Zone 4

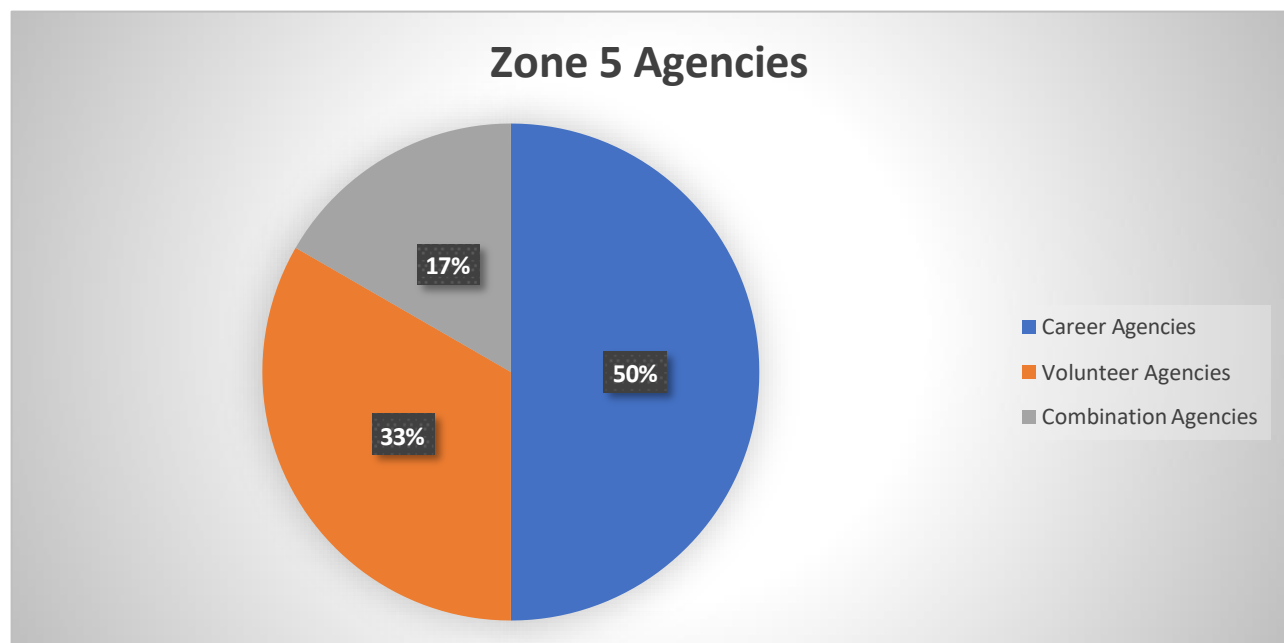


Ocean County EMS Percent Mutual Aid by Municipality - Zone 4

Zone 5

Zone five consists of the following three municipalities, each with its associated squads and squad numbers, staffing models, and mutual aid percentages.

Zone five ranked number one out of the five for the county's highest requests for mutual aid coverage, requesting assistance for 10% of its calls. It ranked fifth with a total call volume of 8,544, the lowest call volume in Ocean County. What is unique about Zone 5 is that career agencies cover fifty percent of the staffing models. Quality Medical Transport QMT, a for-profit ambulance service, is contracted to provide EMS services for Barnegat Township, with the volunteer squad, Barnegat Squad 11, providing backup coverage. Lacey Township utilizes seventy-five percent career EMS and supplements with Lanoka Harbor Volunteer Squad 26 for night response. Ocean Township utilizes a fifty percent staffing model with North East Metro, a for-profit ambulance service for daytime response, and Waretown (Ocean Township) EMS providing night and weekend coverage.



Zone five consists of the following EMS agencies:

Barnegat Township

- Quality Medical Transport- Career and Barnegat Squad 11- volunteer cover Barnegat Township.
- Barnegat Township has contracted with Quality Medical Transport to provide ambulance(s) 24/7.
- Both Squad 11 and QMT combined stats for Barnegat Township.
- Barnegat Squad 11 is dispatched when QMT is unavailable.
- There was a total of 3,623 calls for service in 2023, with 747 requests for mutual aid, a 21% mutual aid usage.
 - The following agencies assisted Barnegat with mutual aid:
 - Stafford Township EMS Squad 30-Volunteer
 - Barnegat Light EMS Squad 12- Volunteer

- South Toms River EMS Squad 37- Combination
- Waretown EMS Squad 42- Volunteer
- Bayville EMS Squad 13- Volunteer
- Lanoka Harbor EMS Squad 26- Combination
- Lacey EMS Squad 23-Combination
- Great Bay EMS Squad 85-Volunteer
- Berkeley EMS Squad 55- Career
- Beach Haven EMS Squad 14- Volunteer

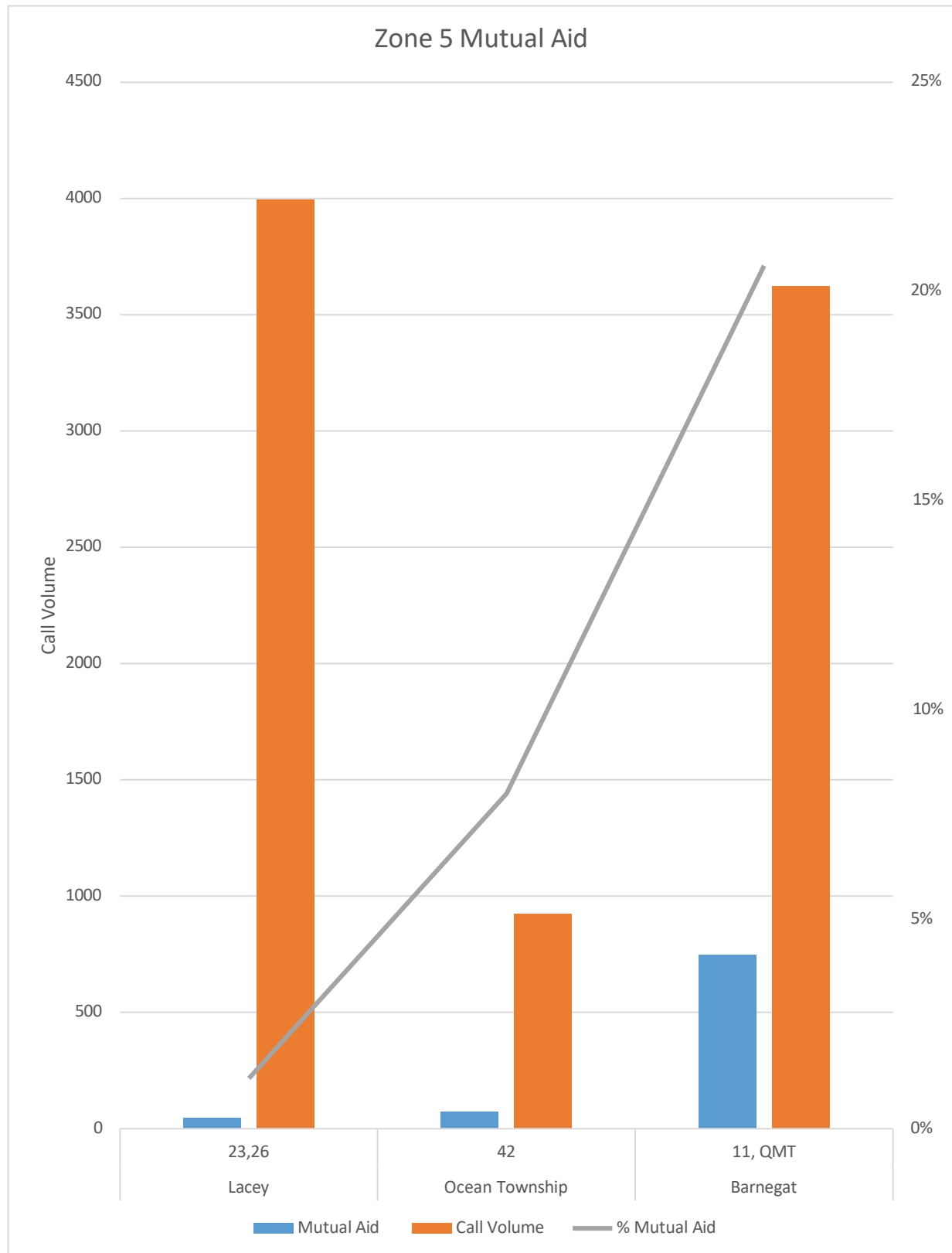
Lacey Township

- Lacey Township EMS Squad 23- Career and Lanoka Harbor EMS Squad 26- Combination covers Lacey Township
- Lanoka Harbor EMS Squad 26 utilizes career staff during the day, and volunteers respond to the night and weekend calls.
- Both Squad 23 & 26 combined stats for Lacey Township.
- There was a total of 3,997 calls for service in 2023 with 48 requests for mutual aid, a 1% mutual aid usage. These calls were handled by both Lacey EMS Squad 23 and Lanoka Harbor EMS Squad 26.
 - The following agencies assisted Lacey Township with mutual aid:
 - Barnegat EMS Squad 11 - Volunteer
 - Waretown EMS Squad 42 - Volunteer
 - Berkeley EMS Squad 55 - Career
 - Bayville EMS Squad 13 - Volunteer
 - Beachwood EMS Squad 15 - Volunteer
 - South Toms River EMS Squad 37 - Combination
 - Holiday Heights EMS Squad 46 - Volunteer

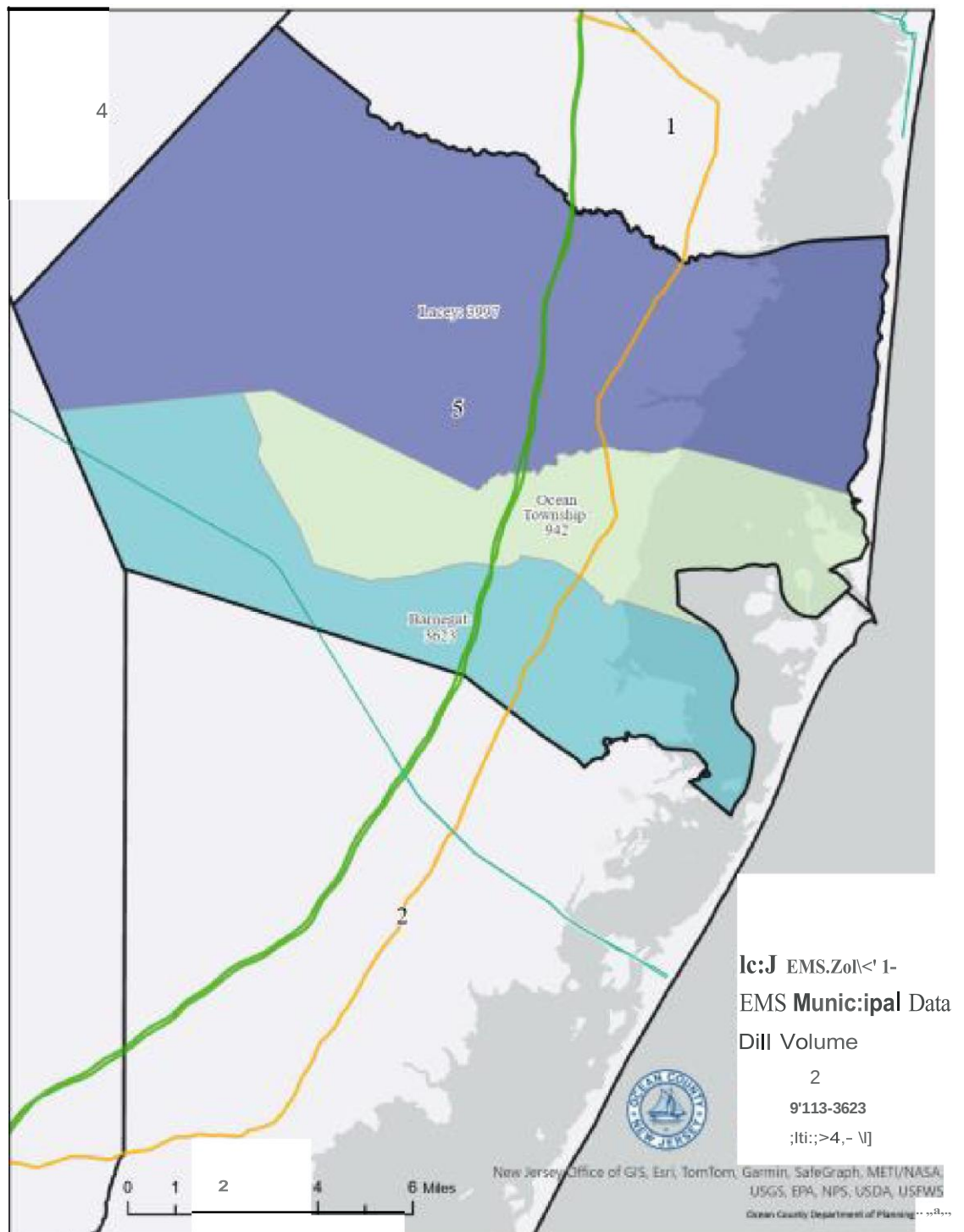
Ocean Township

- Waretown EMS Squad 42-Volunteer and North East Metro- Career cover Ocean Township.
- North East Metro-Career responds during weekdays.
- Waretown EMS Squad 42- Volunteer responds nights and weekends.
- There was a total of 942 calls for service in 2023 with 74 requests for mutual aid, an 8% mutual aid usage. These calls were handled by both Waretown EMS Squad 42 and the North East Metro Career Squad.

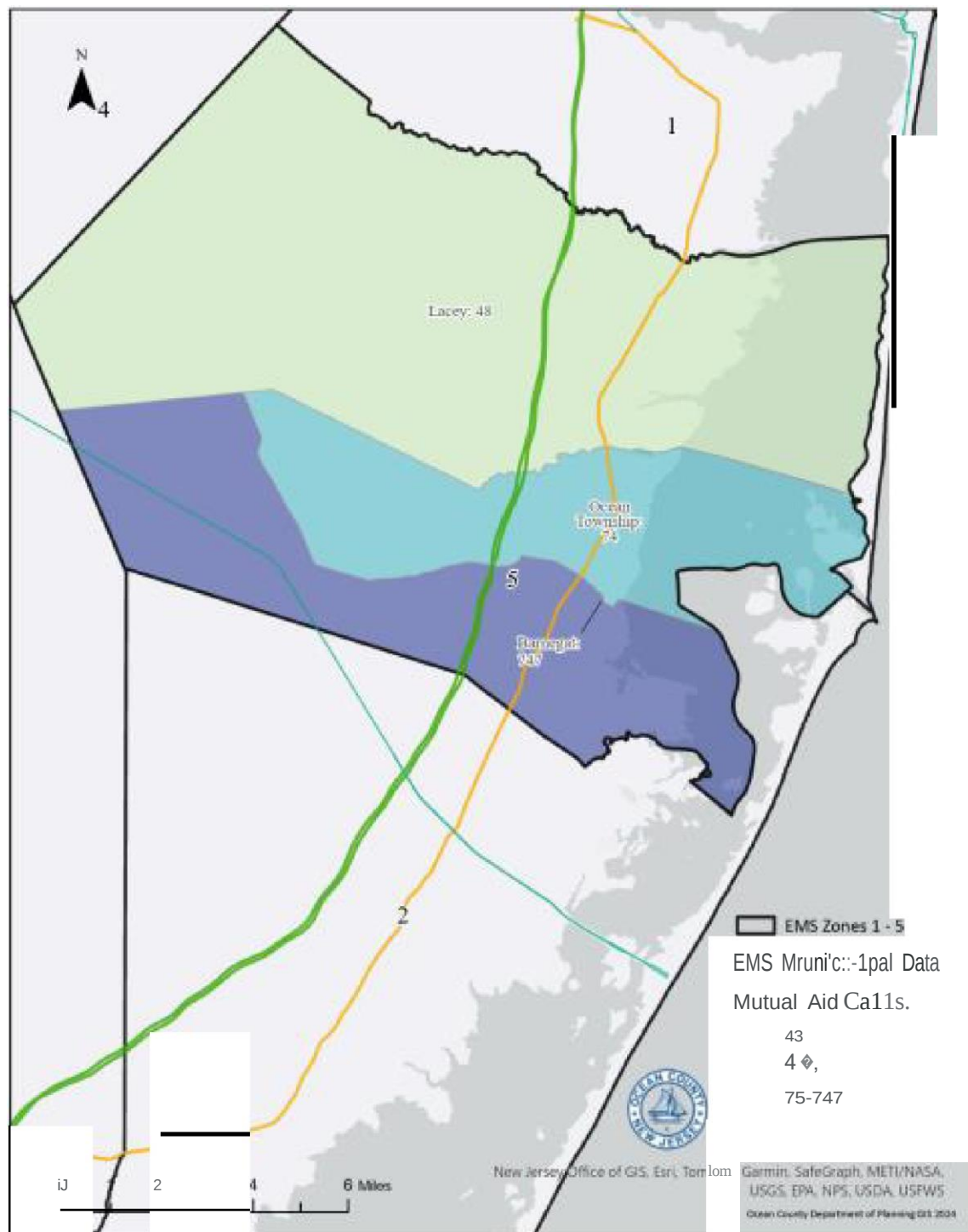
- The following agencies assisted Ocean Township with mutual aid:
 - Barnegat EMS Squad 11 - Volunteer
 - Bayville EMS Squad 13 - Volunteer
 - Lacey EMS Squad 23 - Combination
 - Lanoka Harbor EMS Squad 26 - Combination
 - Stafford EMS Squad 38 - Volunteer
 - Quality Medical Transport - QMT



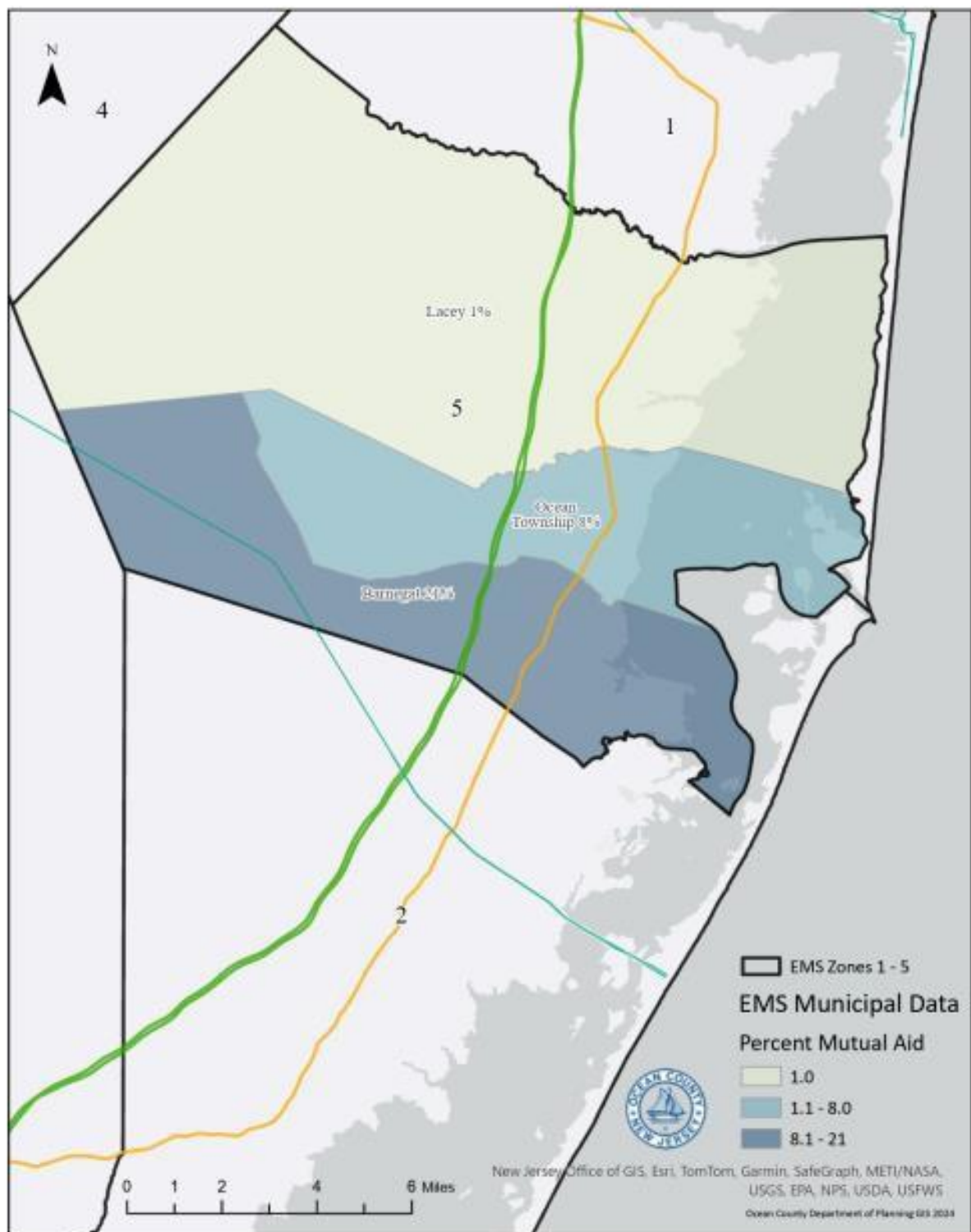
Zone 5				
Agency	Stations	Mutual Aid	Call Volume	% Mutual Aid
Lacey	23,26	48	3,997	1%
Ocean Township	42	74	924	8%
Barnegat	11, QMT	747	3,623	21%
	Total	869	8,544	10%



Ocean County EMS Call Volume by Municipality- Zone 5,



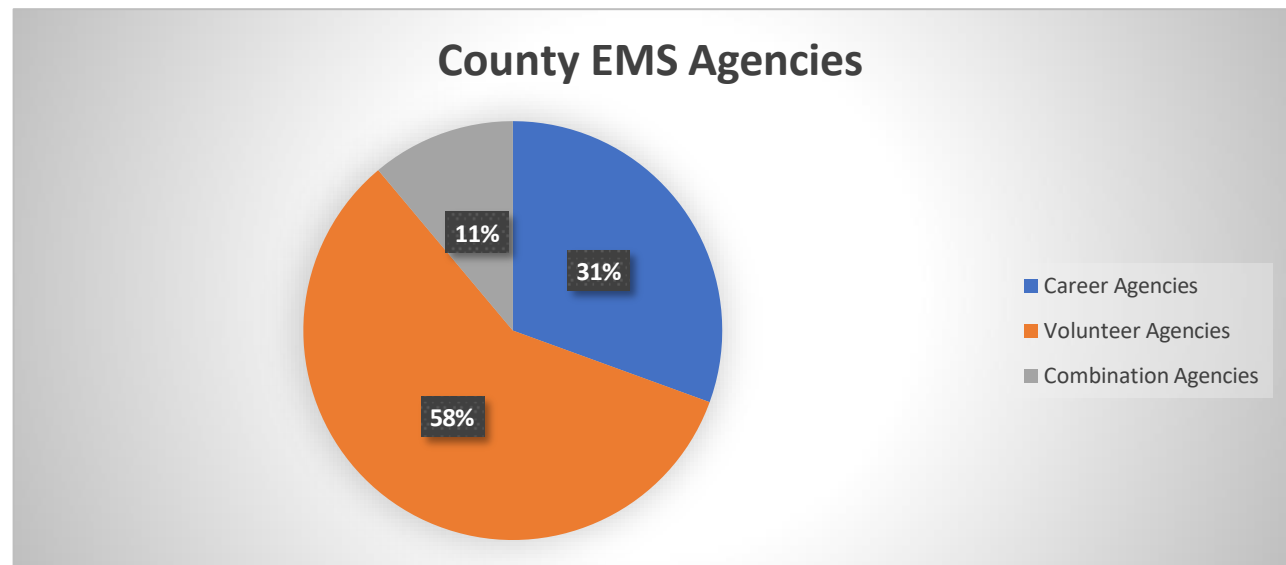
Ocean County EMS Total Mutual Aid Calls by Municipality - Zone 5



Ocean County Percent Mutual Aid by Municipality - Zone 5

*All data was received from the Ocean County 911 Communications Center database and the Ocean County EMS Coordinator when additional data from self-dispatched agencies was needed for the study.

*Call volume increases during the summer in most of Zone 5 due to their waterfront communities and proximity to tourist attractions.



In summary, the data shows the following when utilizing the statistical data set to quantify the relationship between call volume, mutual aid requests, and volunteer versus career EMS squads.

This data set indicates that Zone 5 has the lowest call volume and the highest request for mutual aid. The EMS coverage for Zone Five comprises a mix of career, volunteer, and two paid-for-profit agencies, one with a contract for EMS coverage. Coverage is for the lowest call volume out of all of the zones, yet the data shows the highest request for mutual aid assistance.

Conversely, Zone 3 has the highest call volume in the county, with over 10,000 calls more than the second-ranking zone and a 1% request for mutual aid, the lowest in the county. This zone comprises 33% career EMS and 67% volunteer EMS, with Hatzolah EMS answering over 18,000 calls in 2023. With the largest call volume in the county and the lowest mutual aid requests covered predominately by volunteers, this zone appears to be operating at the highest efficiency level.

There were varying mutual aid request percentages between volunteer and career agencies. The highest rates were 77% in Lakehurst (volunteer), followed by 40% in Beachwood (volunteer), 21% in Surf City (volunteer), 21% in Barnegat / QMT (for-profit paid service), and Barnegat (volunteer). Stafford and Lavallette, both volunteer EMS agencies, came in at 16% mutual aid requests. Predominately, volunteer-based agencies are experiencing call volumes that they cannot cover, except for Hatzolah. There can be many reasons for this, including dwindling membership, higher call volume, and increased requests to cover other towns for mutual aid requests. These are just a few examples, but there are many more possibilities.

After analyzing the data and discussing the level of crisis that the County 911 Communications Center was describing, it was clear that the original set of data, although relevant, did not capture the magnitude of what they were experiencing firsthand. More data is needed in order to obtain a clearer picture of daily occurrences. A deeper dive into the mutual aid requests is required to analyze specific and essential data points. For example, when an agency requests mutual aid, how long does it take another EMS agency to arrive on the scene from the initial call time? How many requests to different EMS agencies are needed before a mutual aid ambulance and crew are available? This data is essential to the project's overall scope and plays a critical role in patient care while monitoring the national standards for response times. The national standard for EMS response times for licensed EMS agencies is 8 minutes and 59 seconds. This data will also assist in planning a county-wide EMS project and establishing future staffing and deployment

models.

Mutual Aid Standard Operating Procedures and Statistical Data Review

The agency's mutual aid network is vital in the EMS world. It is analogous to a police officer's request for backup during a critical incident. The phrase “time is of the essence” cannot be overemphasized here. The time it takes to dispatch another available mutual aid ambulance crew, the distance they are responding from, and the time an ambulance crew arrives on the scene to begin patient care and transport to the hospital are essential data points that must be captured, analyzed, and evaluated for best-practice policy development and implementation. These are crucial benchmarks that must be monitored to maintain measurable performance standards. These data points are also critical when analyzing deployment strategies for the strategic assignment of ambulances in high call volume area that lack ample coverage.

As such, the second data set requested from the Ocean County 911 Communications Center focused on these critical mutual aid points and how they affect pre-hospital care. Key factors considered were: How many EMS agencies were requested by county dispatch before an ambulance and crew were available? How long was the response time for each call? Where is the mutual aid EMS agency responding from, and how long is the response time for the EMS agency to arrive on the scene and begin pre-hospital care for the patient? Lastly, do the response times fall within nationally acceptable standards?

All the data required to answer these questions was requested from the County 911 Communications Center. As mentioned earlier, seven self-dispatch agencies need to report their data to the county. They are only included in the statistical data presented in this section if they requested mutual aid through the County 911 Communications Center. To reiterate, this data is strictly from the Ocean County 911 Communications Center. We use 2023 for all data requests to maintain consistency in this EMS study.

After reviewing the data, it uncovers a troubling trend: In 2023, 889 calls led to a third request or more for mutual aid assistance. This suggests that when a caller requested an ambulance in Ocean County, the primary EMS agency was unavailable, prompting requests for mutual aid from neighboring agencies. The second requested EMS agency was also unavailable, leading to a third or more requests before an ambulance crew could respond to the initial call. To put this into perspective, of the 889 third request calls, County Dispatch needed to request 3,032 EMS agencies in total for mutual aid assistance to cover the 889 calls. This means that many of these first aid calls required more than three requests for mutual aid before an ambulance was available. On average, it took 3.4 requests for mutual aid before an ambulance crew could respond to the initial call. These findings underscore the pressing need for improved coordination and resource allocation in the EMS system. It also clearly shows the additional work required by telecommunications and the long delays in pre-hospital patient care.

Notably, Berkeley Township required the highest number of third requests for mutual aid, 237. County dispatch requested 809 mutual aid EMS agencies to cover these calls.

Mutual aid calls by zones:

- Zone 1 – 445 Calls with 1,516 requests. Average 3.4/per call
- Zone 2 – 267 Calls with 965 requests. Average 2.7/per call
- Zone 3 – 4 Calls with 13 requests. Average 2.5/per call
- Zone 4 - 34 Calls with 100 requests. Average 2.6/per call
- Zone 5 – 139 Calls with 468 requests. Average 3.1/per call

Zone one had the highest call volume for three or more mutual aid requests. This is a strong indicator that the EMS agencies and/or their mutual aid partners are experiencing high call volumes and/or low staffing coverage. Zone one has a mix of career and volunteer agencies, and the overall call volume is second in the county.

Mutual aid partnerships are essential in the EMS community, regardless of whether the agency is volunteer, career-based, or a hybrid with a combination of paid and volunteers. Staffing models are merely a guide to ensuring coverage for any area, but emergencies are unpredictable. This is when the anticipated staffing levels cannot compensate for the unpredictability of emergencies, notwithstanding the issues surrounding volunteerism and those EMS agencies that struggle to meet the staffing demand levels in general. Mutual aid partnerships have been and will remain the safety net for all EMS agencies. The camaraderie to back each other up, an instinct that naturally appears without hesitation in the EMS community, is remarkable. There is no doubt that mutual aid partnerships have saved many lives.

That being said, there is a better way to dispatch mutual aid requests for service. The County 911 Communication Center system currently requires the telecommunicator first to work off a list of other EMS agencies in the same zone as they request mutual aid. If none are available, mutual aid requests continue with other agencies outside the zone until coverage is secured. The telecommunicator must radio each agency, one at a time, and wait to ascertain if an available ambulance and crew can provide mutual aid assistance. Many volunteer agencies have varying hours and days of in-service availability for mutual aid calls. Each agency decides independently if they can assist another town for mutual aid. Some agencies have a percentage formula, or one ambulance must remain in town at all times for proper coverage in their community; others do not have guidelines addressing this issue. As one can see, it's a complex matrix that is subject to change at a moment's notice and often without any notice to the County 911 Communication Center. The telecommunicator's work and time necessary for an average of 3.4 requests for an EMS agency to be dispatched before an ambulance with a crew can begin to respond to the call is time-consuming, labor-intensive, and inefficient use of valuable time.

As mentioned above, there is a better way that has proven benefits while meeting best practice standards. It is recommended that the county purchase, for all participating agencies, an automatic vehicle locator system called AVL through a grant or capital project. The county should require that all EMS agencies that utilize the Ocean County 911 Communication Center for primary dispatch or mutual aid dispatching assistance (including self-dispatching agencies) be equipped with an AVL vehicle locator system. The County 911 Communication Center's telecommunicators would have mapping systems on their dispatch consoles showing the in-service ambulances throughout the county. With this information, the telecommunicator can see which ambulance is closest and in service on their monitor screens and then dispatch accordingly to the call location. This will alleviate all unnecessary radio calls requesting mutual aid from EMS agencies that are not in service or available to render mutual aid assistance. The most important and arguably the most valuable element is time. This AVL system eliminates unnecessary delays in response times and thus patient care. Another quantifiable benefit is improved efficiency for telecommunicators whose every job assignment is time-stamped with levels of accountability. This takes the guesswork out of what EMS agencies are available and streamlines the process of expediting ambulances to call locations. This is much more efficient process for the telecommunicator than radioing each EMS agency, one at a time, checking for availability. AVL systems have been operational and have been put to good use by emergency services since the early 2000s. Although upfront costs are expensive, this system will prove to be a good tool for many reasons, from quicker response times when treating patients, visual mapping for quick identification of in-service ambulances, mapping for ambulance drivers that need directional assistance, monitoring a safe ambulance driver response, training opportunities, and risk management tools.

Additionally, training and policy development will also be necessary with the rollout of a new AVL system. One of the essential issues the policy should address is the common sense patient-first dispatch rule of the closest available EMS unit(s) that will be dispatched to each emergency, regardless of the EMS agency, assigned zone, or township. This should be irrespective of territorial boundaries, which has prevented the quickest patient care in many communities around the United States. A paradigm change in the EMS community may need to occur to implement this patient-first concept, as the old way of doing things must be addressed. A contemporary mindset with reassurance that this formula of patient first care, despite territorial boundaries, is paramount.

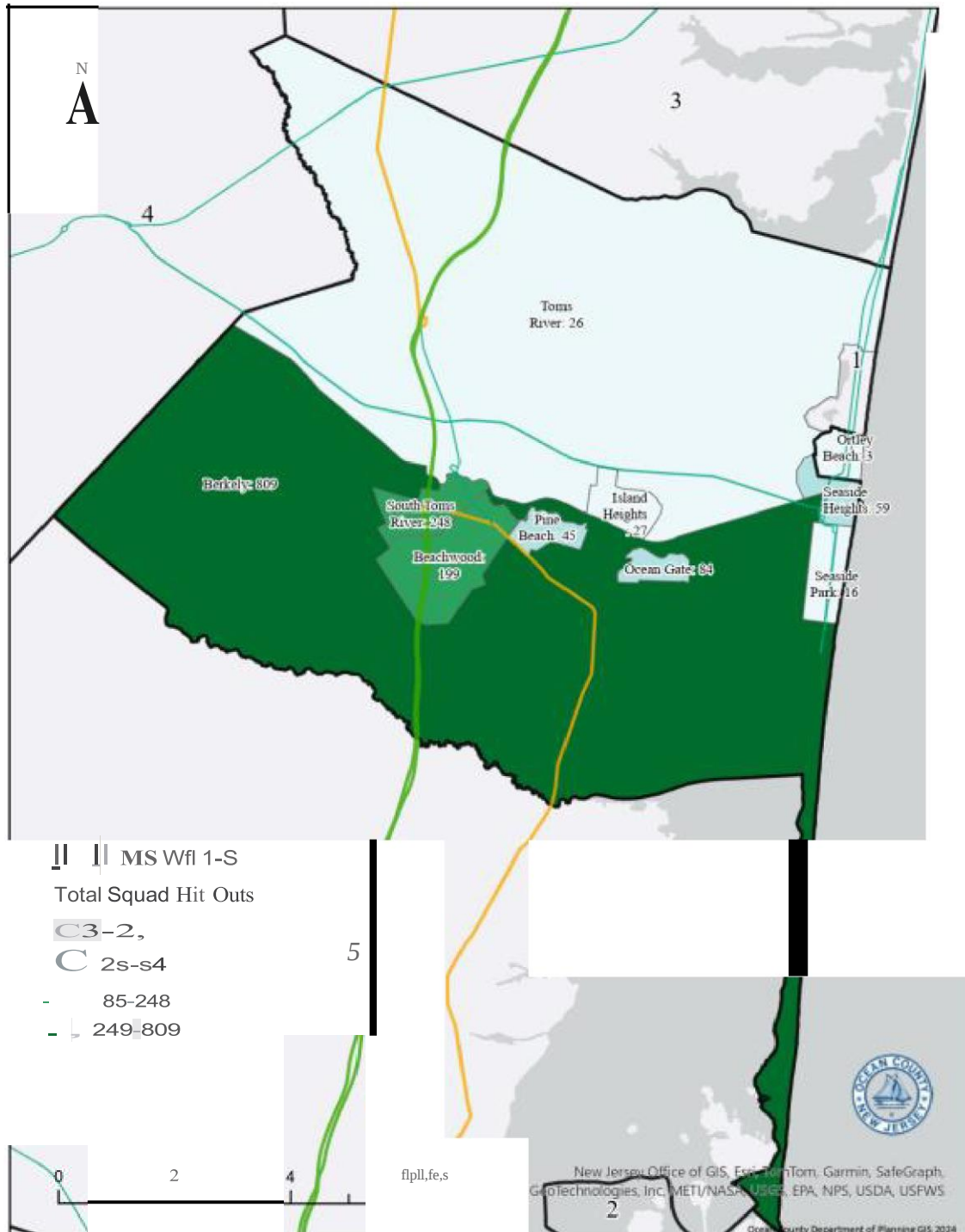
Due to the preserved location and speed data with the AVL system, all ambulance drivers should be current with coaching the emergency vehicle operator CEVO and emergency vehicle operation course EVOC training, which should be offered for free or at a discounted cost through the county. A county-wide response policy should be recommended for all agencies dispatched through the County 911 Communication Center, with regular free training that includes instructions on code responses and where code three is only reserved for extreme and rare circumstances. The County 911 Communications Center needs to reduce the unnecessary use of emergency lights and sirens throughout the county, particularly when responding to low-acuity requests for service. Studies acknowledge that when a patient is in the back of an ambulance, the unnecessary use of a siren can cause undue stress. Even when CPR is in progress, lights and sirens accompanied by higher speeds put the EMT, who is performing CPR unrestrained in the back of the ambulance, at a higher risk of serious injury. The goal is to get everyone to the hospital safely, and in doing so, lights, sirens, and speeds should be guided by prudent policy, regular training, and active quality control to ensure the safety of all involved. Best practice starts with a designated code response from the telecommunicator and a proper response from the EMS driver. Everyone benefits from good guidance and safe arrivals.

After reviewing how many mutual aid EMS agencies must be requested before an ambulance crew is available, mutual aid response times are the next and possibly the most critical data point. Every EMS study relies on accurate response times. How much time did it take from the initial call for emergency medical services to when an ambulance arrived on the scene? Unfortunately, the data received from the Ocean County 911 Communication Center does not include one of the most critical pieces of information: response times. The data appears incomplete and only shows response times on a limited number of computer-aided dispatch (CAD) mutual aid calls.

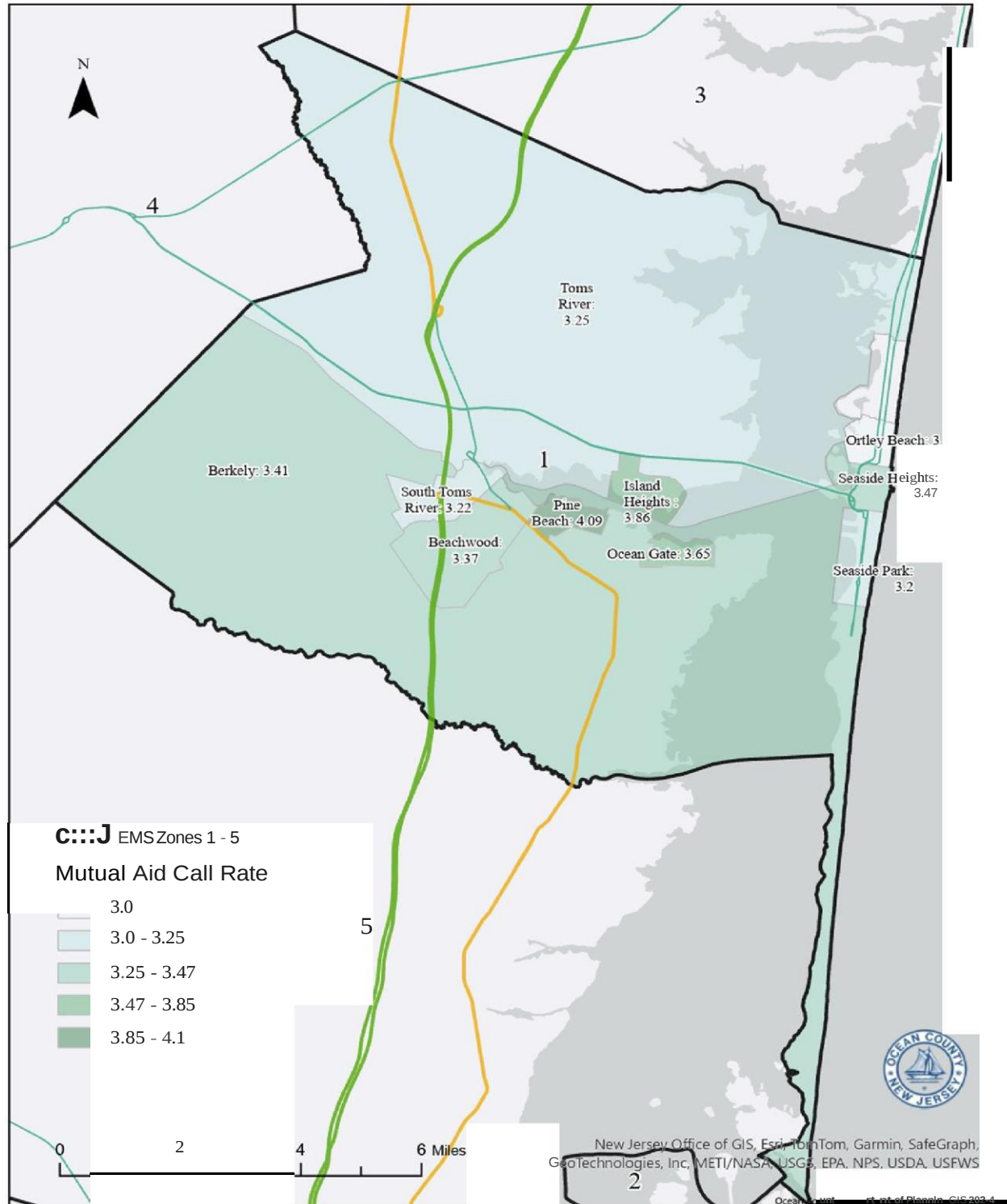
After several requests for clarification, the data could not be obtained. As such, it is difficult to evaluate current mutual aid response times, how they affect patient care and wait times, and future recommendations to ensure best practice standards are established and followed. Since the County is solely responsible for entering and maintaining accurate mutual aid data points, we cannot retrieve this data from another source.

Accurate data is critical when forecasting future staffing and deployment models. Establishing accountability standards and evaluating areas of concern regarding risk management requires accurate and reliable data. This is discussed further in the evaluation of the County 911 Communications Center. As a result of the incomplete data, the only data available for this section of the study was obtained through the New Jersey Office of Emergency Services Dashboard on Basic Life Support BLS response times. It should be noted not all agencies report this information, therefore the data is incomplete. Only those EMS agencies that report their data via Electronic Patient Care Report (EPCR) to the state National Emergency Medical Services Information System (NEMSIS) reporting system will be utilized for this study. All licensed EMS in Ocean County report through this EPCR system, but many volunteer agencies do not. As such, their data will not be captured in this section. Based on the data collected as of July 2024, we can report that this year's current Ocean County response time average is 14:00, an increase from the 2023 average response time of 13:36. According to this data, the county response time from month to month did not considerably fluctuate. In February, the average response time was 12:01 (lowest for the year); in December, the average response time was 13:54 (highest for the year).

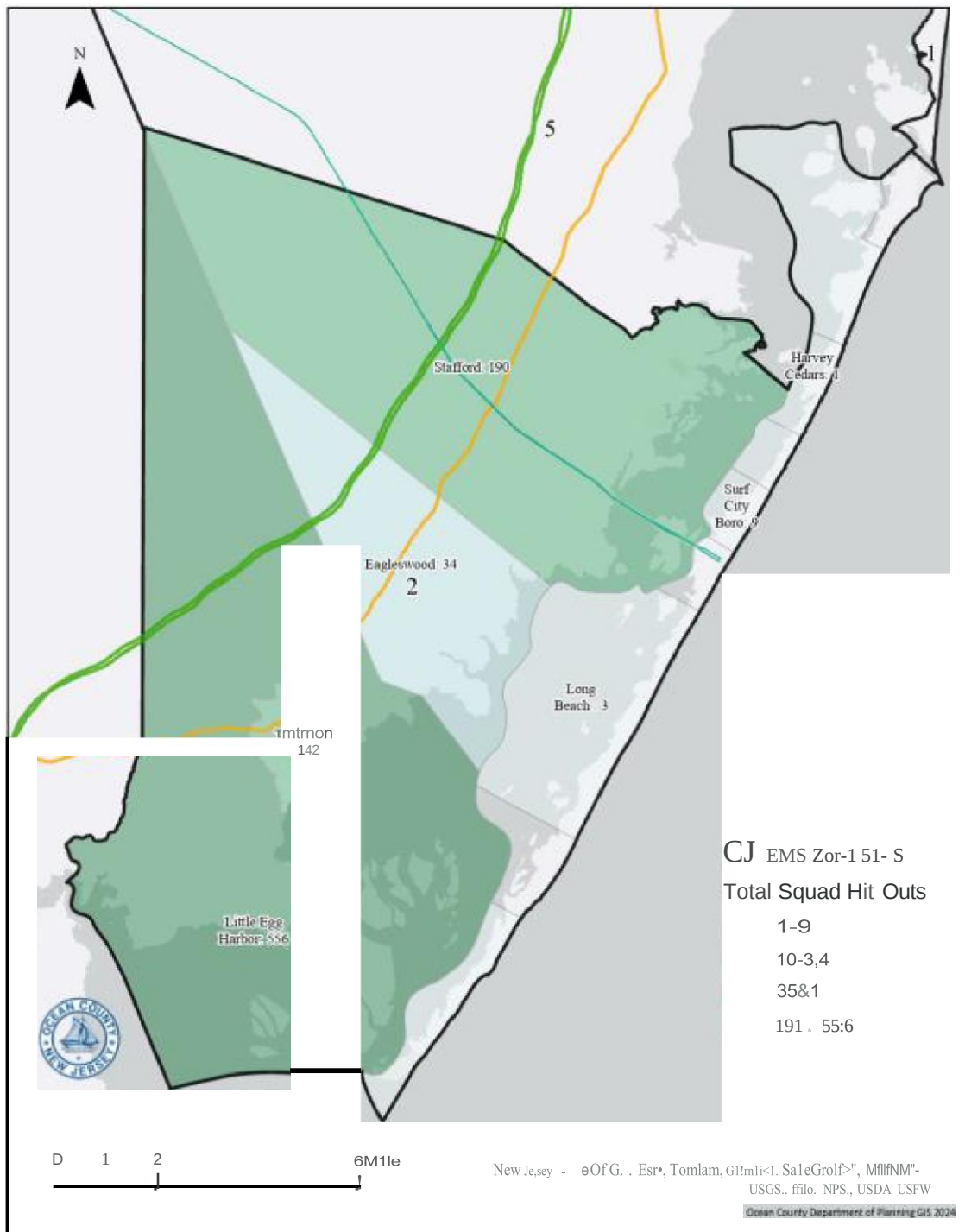
As shown on the graph, Ocean County has lower response times than other counties in New Jersey, with Hudson coming in at 10:59 and Warren County coming in at 21:00.



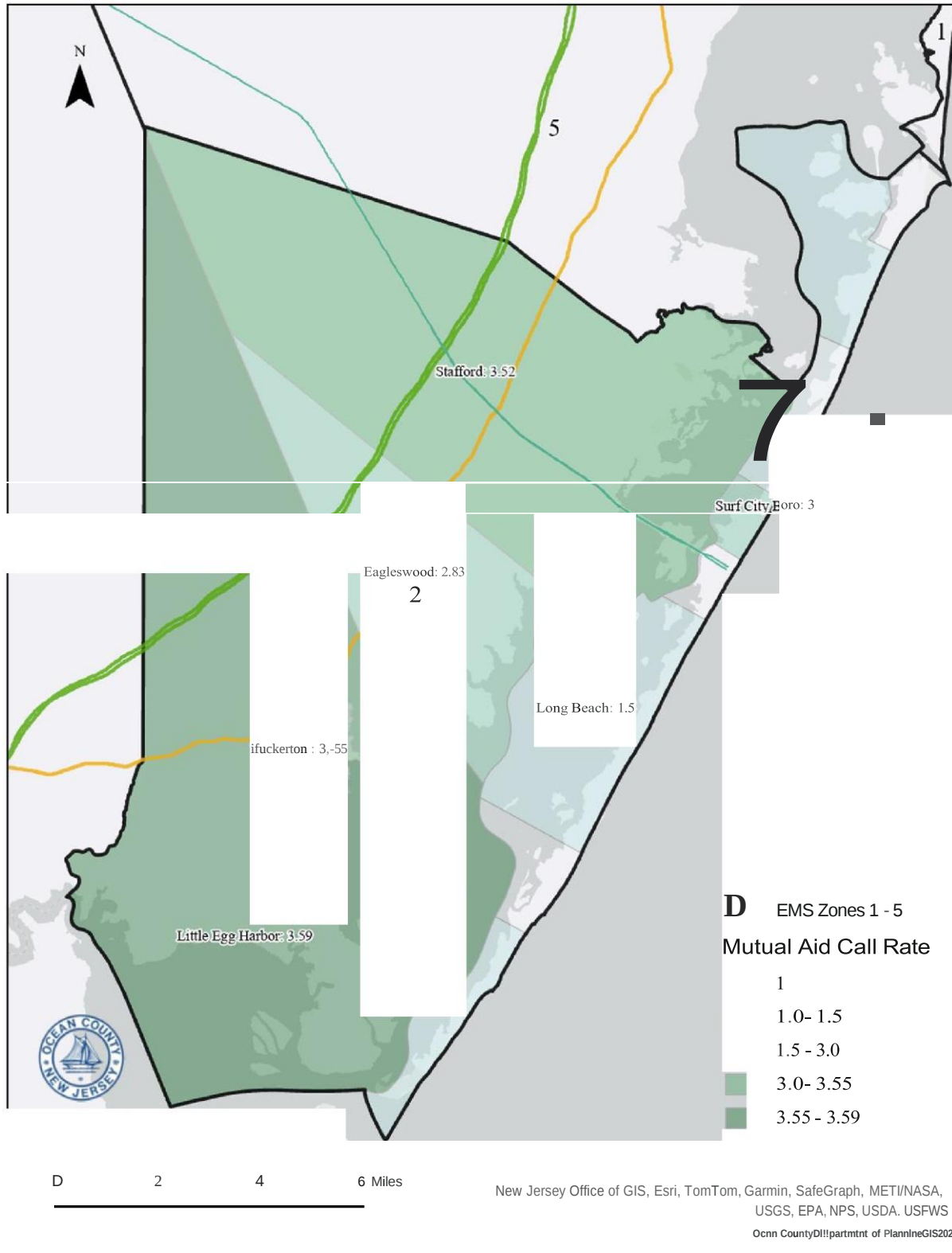
Ocean County EMS Total Squad Hit-Outs
(Greater than 3 Agencies Notified Per Call) by Municipality - Zone 1



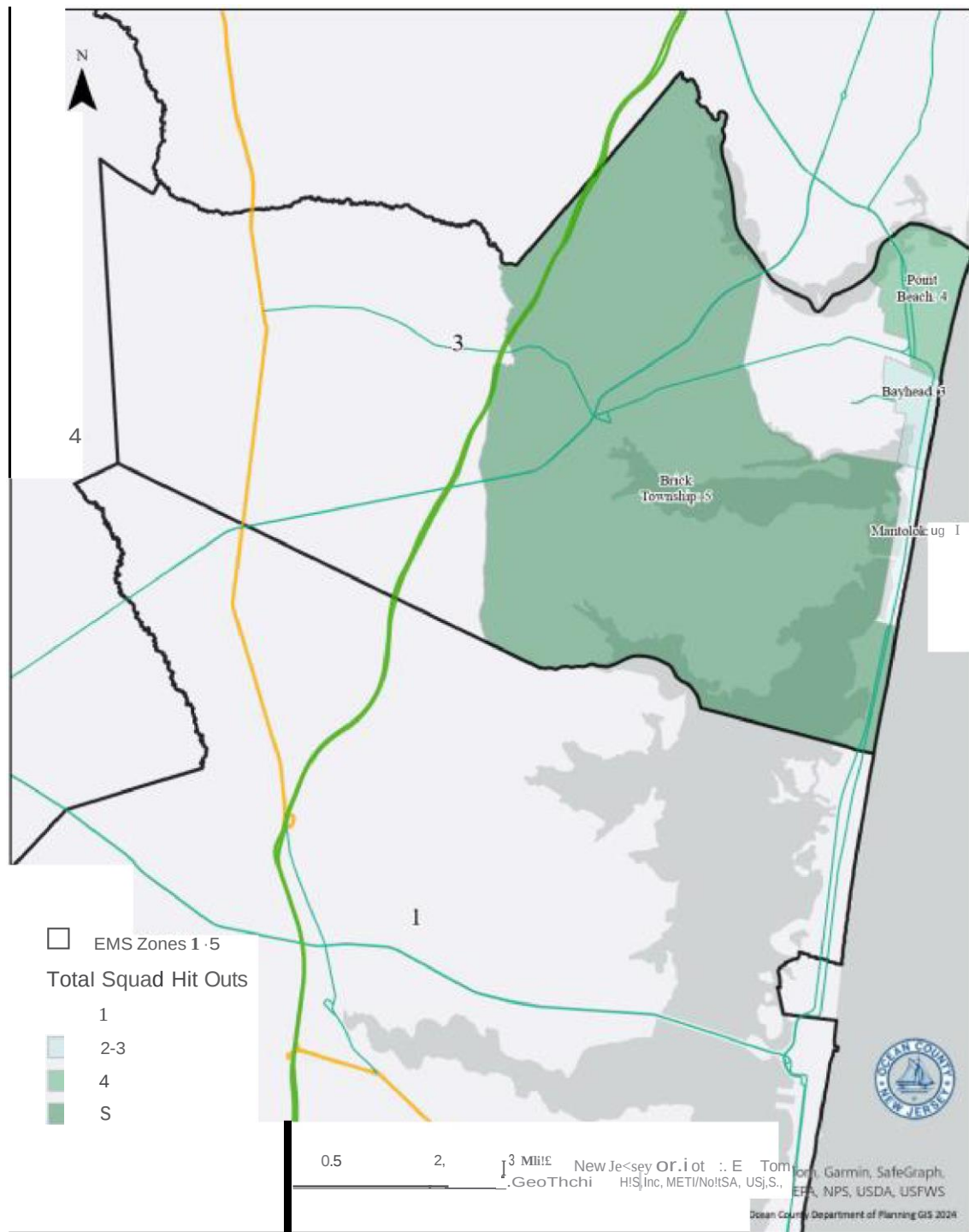
Rate of EMS Mutual Aid Calls per Standard EMS Response by Municipality - Zone 1



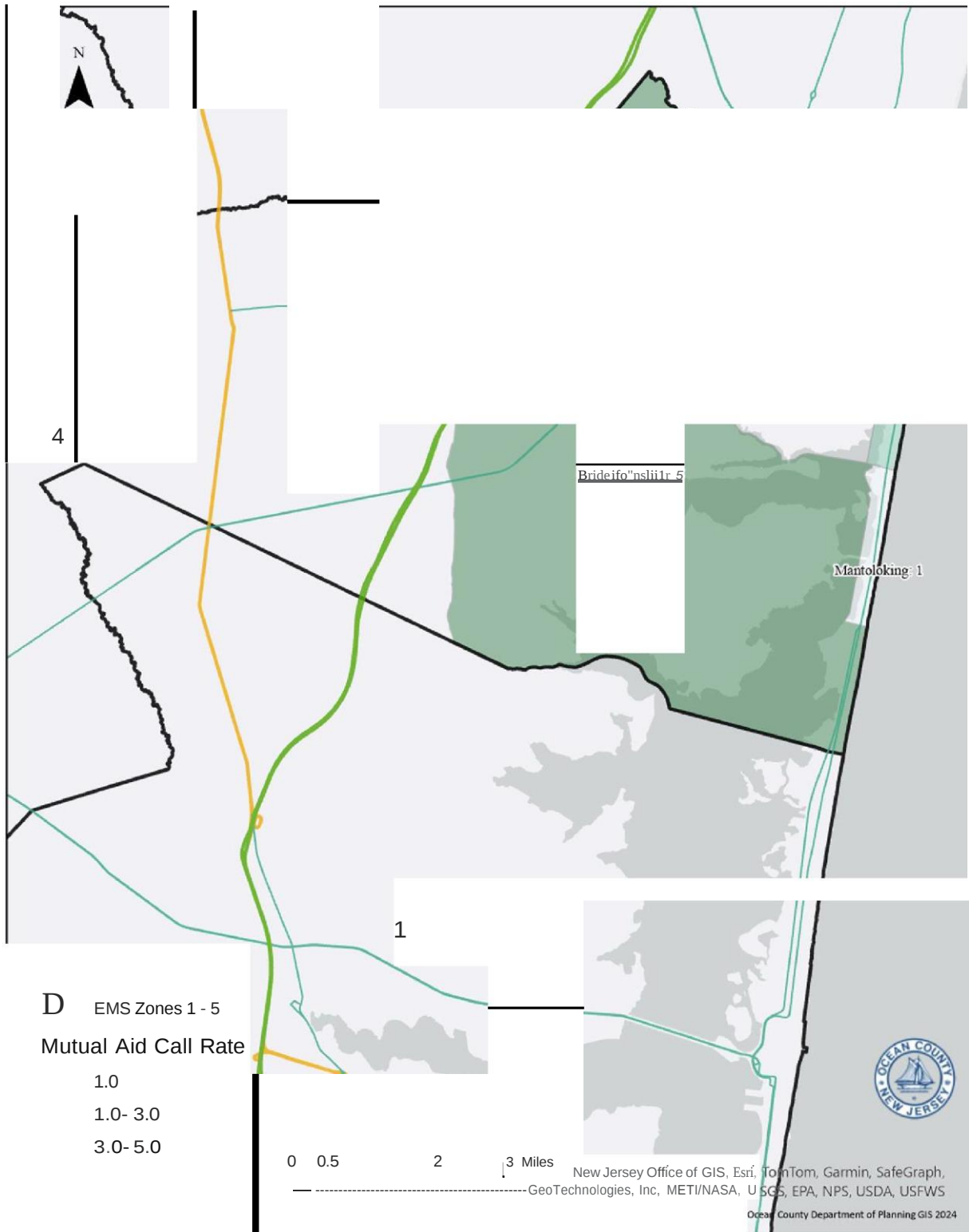
Ocean County EMS Total Squad Hit-Outs
 (Greater than 3 Agencies Notified Per Call) by Municipality - Zone 2



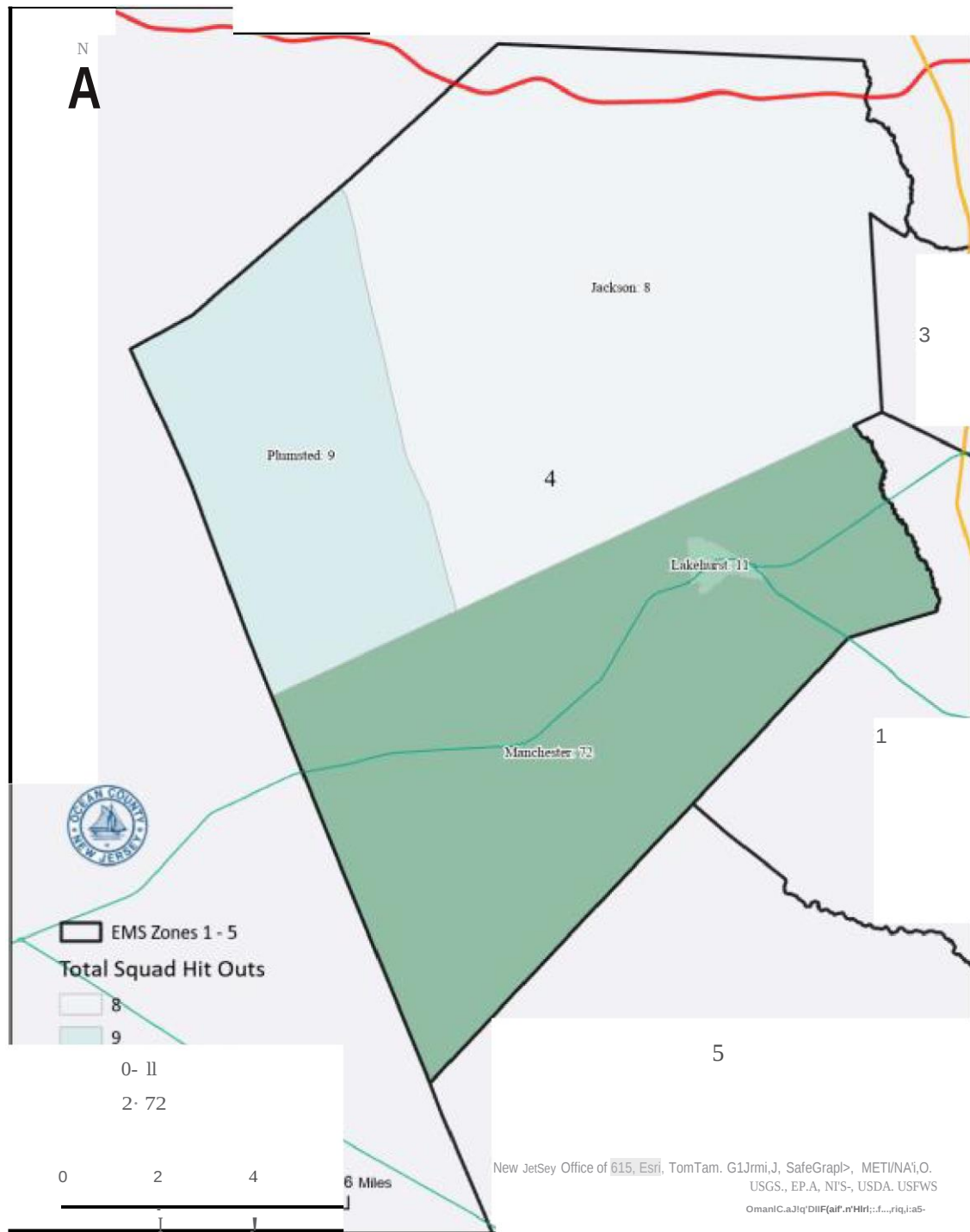
Rate of EMS Mutual Aid Calls per Standard EMS Response by Municipality - Zone 2



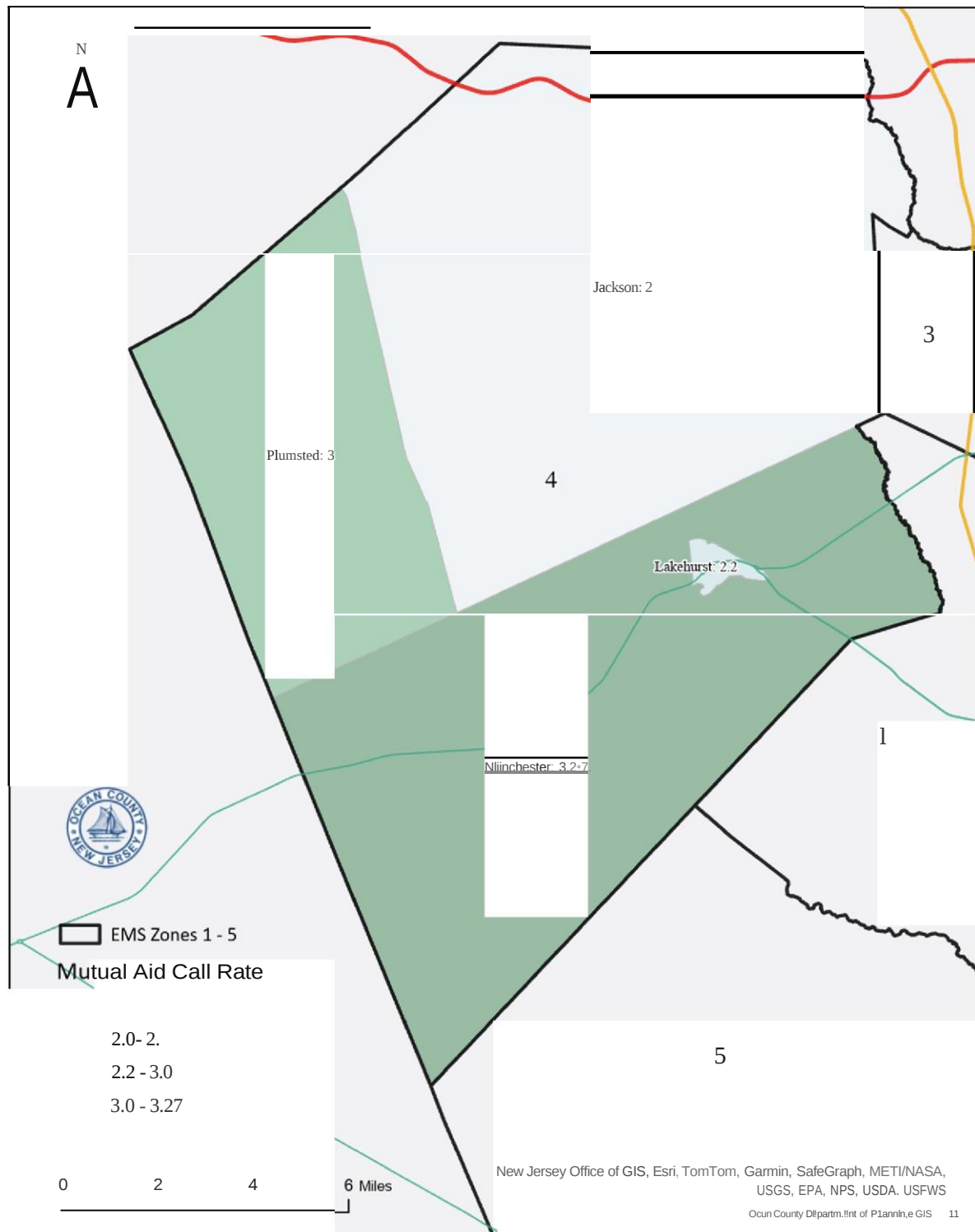
Ocean County EMS Total Squad Hit Outs
(Greater than 3, Agencies Notified Per Call) by Municipality. Zone 3



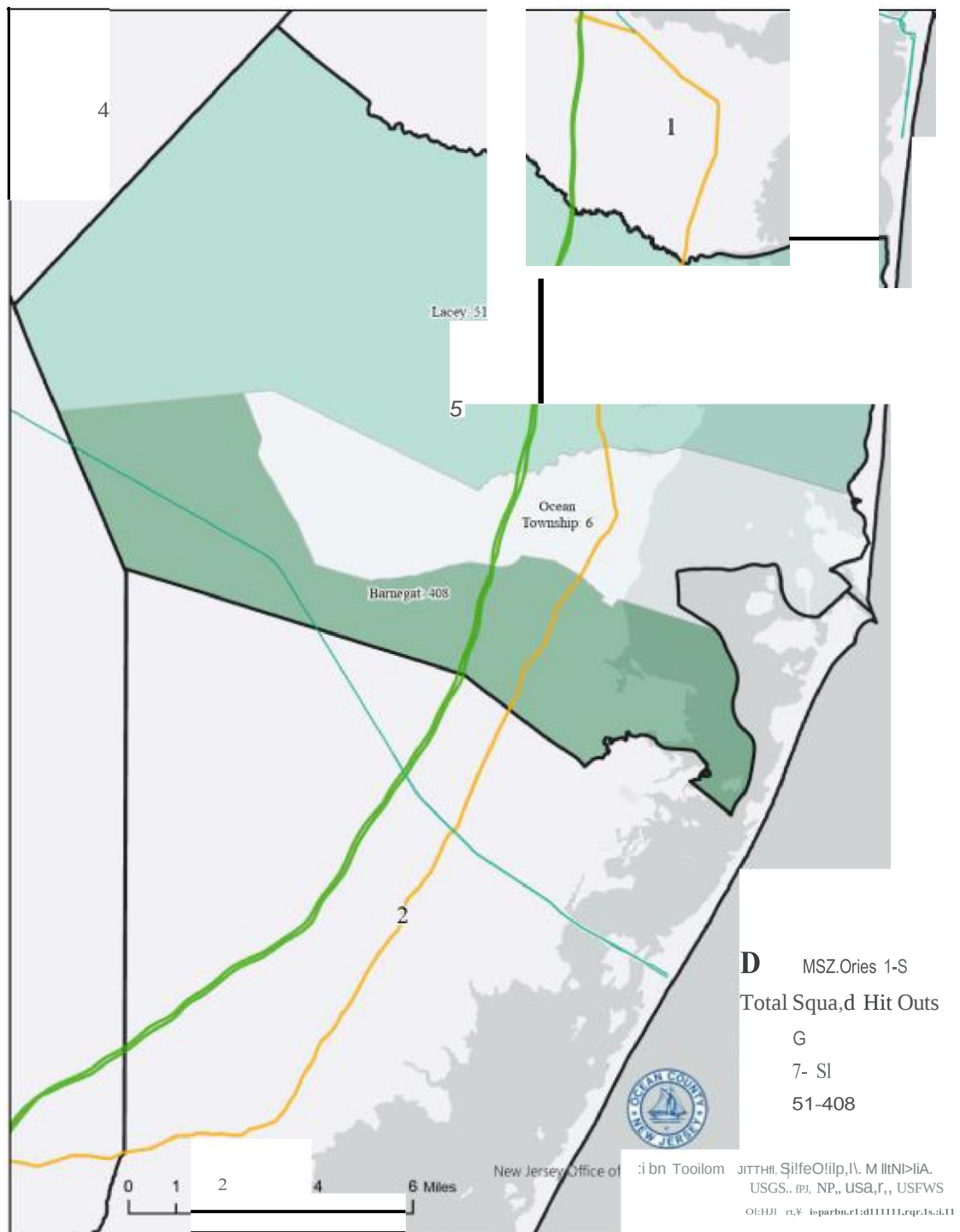
Rate of EMS Mutual Aid Calls per Standard EMS Response by Municipality - Zone 3



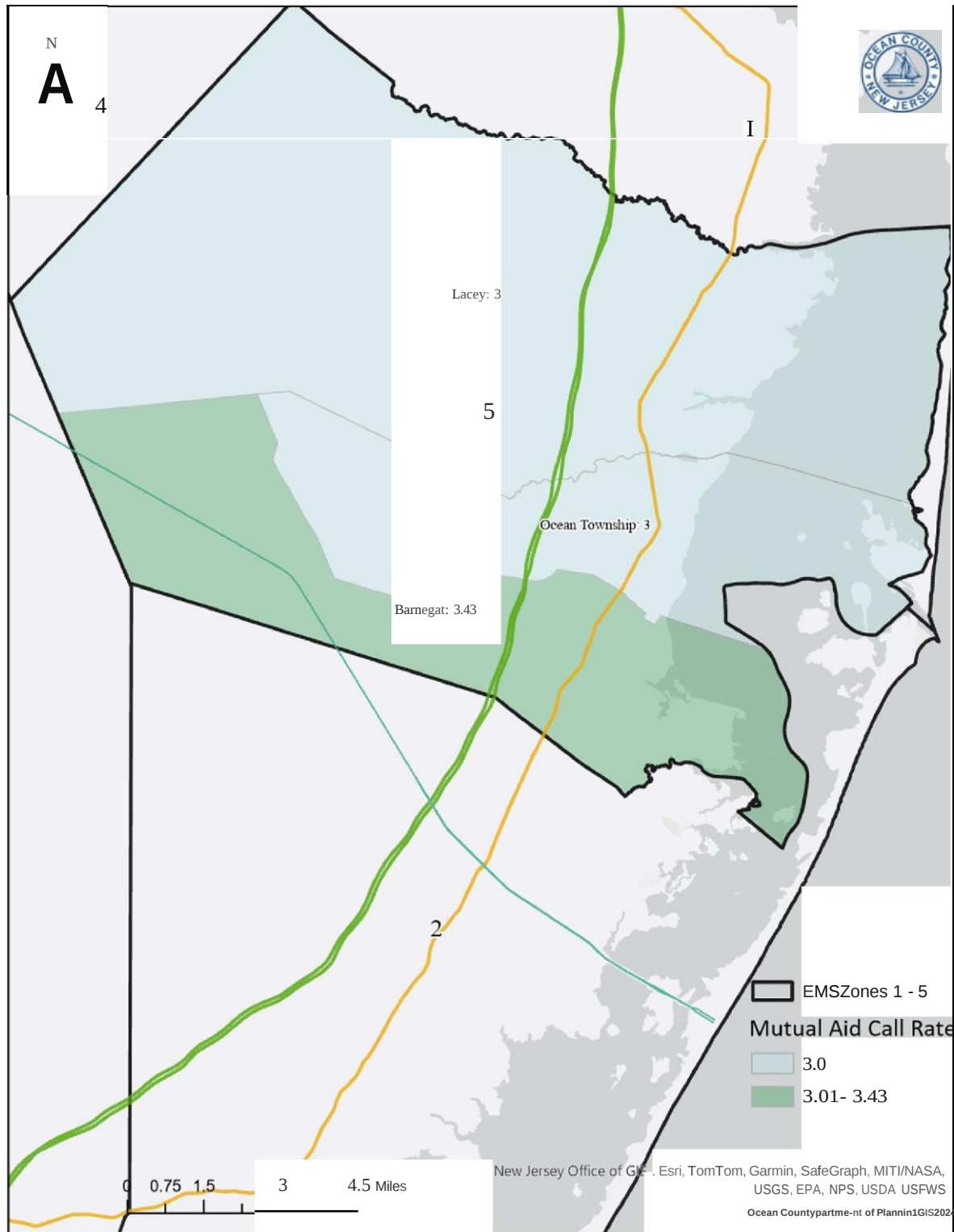
Ocean County EMS Total Squad Hit-Outs
(Greater than 3 Agencies Notified Per Call) by Municipality - Zone 4



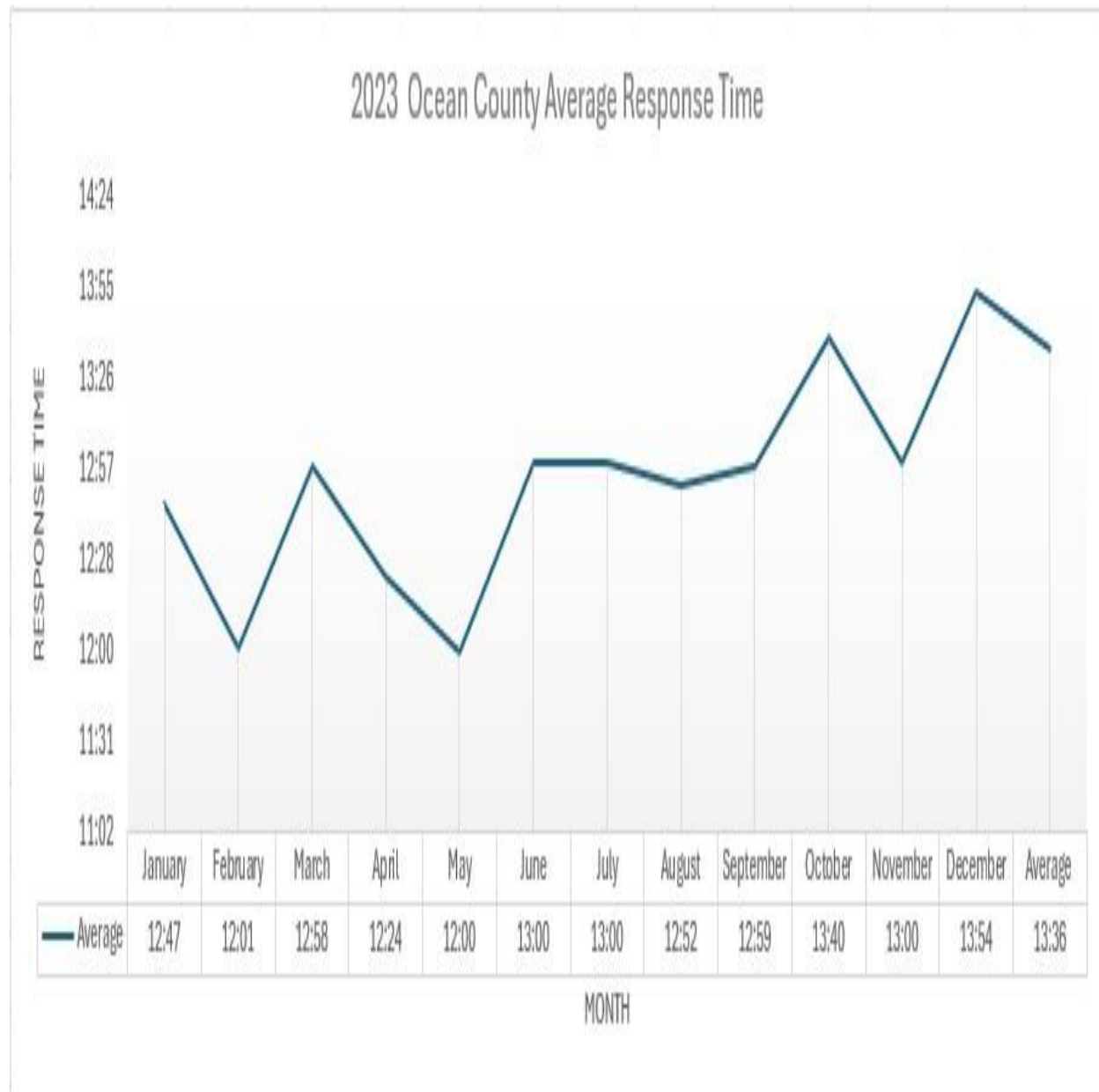
Rate of EMS Mutual Aid Calls per Standard EMS Response by Municipality - Zone 4

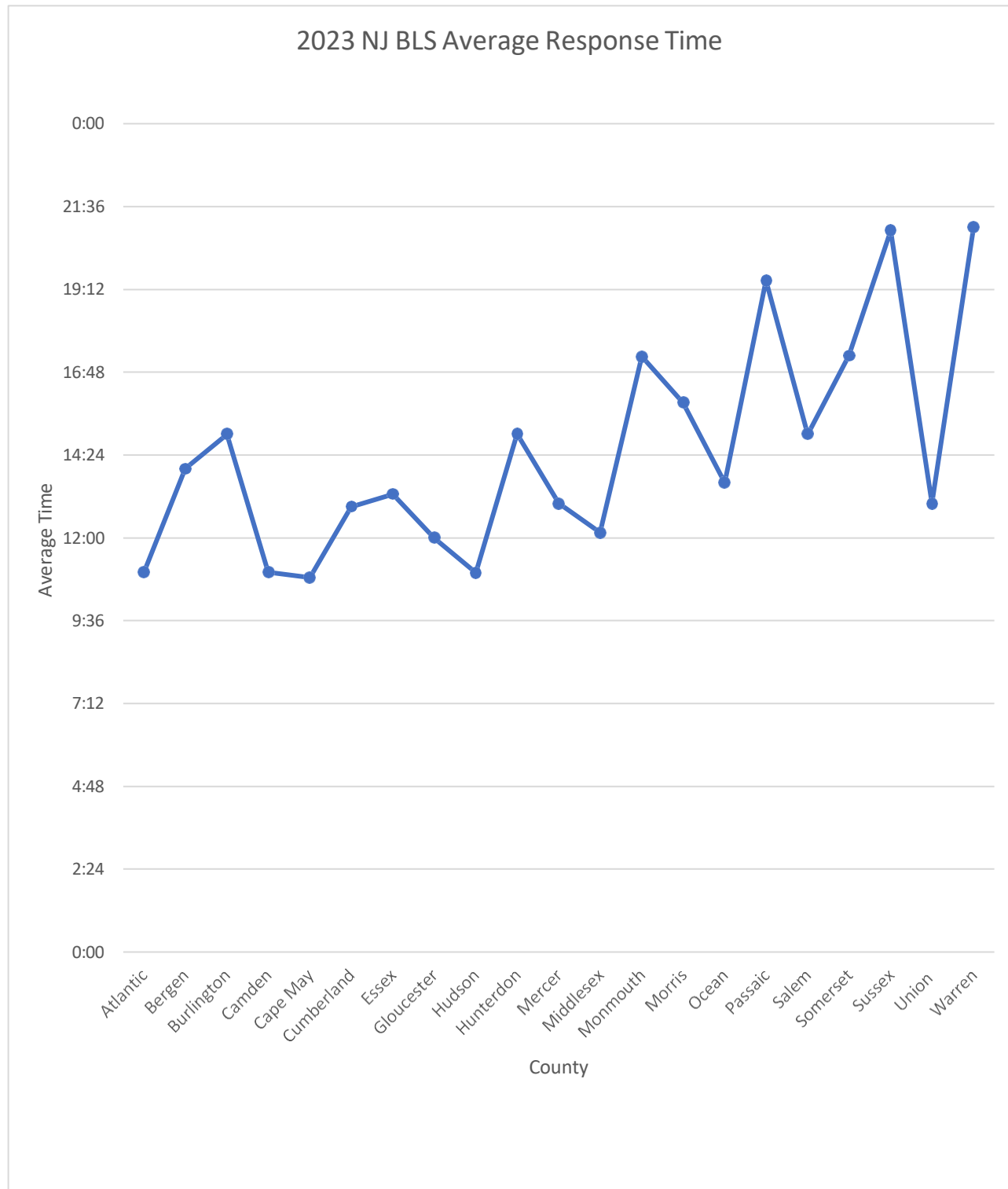


Ocean County EMS Total Squad Hit-Outs
(Greater than 3 Agencies Notified Per Call) by Municipality Zone 5



Rate of EMS Mutual Aid Calls per Standard EMS Response by Municipality - Zone 5





Response Times

While no universally accepted response-time requirement exists, the most widely used acceptable standard for an ambulance response time is eight minutes and fifty-nine seconds (8:59), with 90% compliance. This 8:59 target is consistent with the response time recommended by the National Fire Protection Association when adjusted to include call-processing time. (NFPA 1710, 5.3.3.4.2, required communities to provide an eight-minute response time for 90% of incidents.) In addition, a recent survey of the 200 most populous cities in America found that more than three-quarters (77%) of the survey respondents reported a target of 8:59 or less using the response method (February 2005 JEMS).

The origin of the response time “Standard” was initially developed based on cardiac arrest survival. It was noted that there was a dramatic increase in survival, which included at least three factors: response time of less than eight minutes, quick CPR, and defibrillation of the patient. Patients who utilize Emergency Medical Services universally value, and have to expect, the rapid response and intervention for loved ones. Long response times are often looked at negatively and affect scene interactions and the perception of care. Furthermore, they are frequently cited by the public as the number one complaint. Court proceedings provide the ultimate guidance without a regulatory or defined system standard. Experts often cite the 8:59 as the defined community standard of care in many litigations.

It should be noted that many EMS organizations recommend different urban ambulance response time benchmarks, typically between 8 minutes and 59 seconds to 12 minutes and 59 seconds. These benchmarks depend on various factors, such as using a protocol-driven medical priority dispatch system (MPDS) consistent with International Academies of Emergency Dispatch standards, active medical supervision, vigilant quality control, the availability of Advanced Life Support (ALS) first response, and other demographic and economic factors unique to the local community.

In suburban and rural areas, and for non-life-threatening calls, it is common to set slightly longer target response times based on geographic and call-density patterns. One size does not fit all when it comes to response times. It is important to consider that expanding the benchmark for life-threatening emergencies set at 8 minutes and 59 seconds for 90% of calls to include the provision of that same level of response to all 911 requests may not be the most effective approach. Some may argue that this has been primarily done to increase call volumes. Using a single priority response to every 911 request is like saying that all hospital patients need a CT scan at admission, regardless of their condition. This approach does not make sense.

Similarly, sending a maximum-level response to a person choking and to a patient who suffered a ground-level fall without any loss of consciousness or bleeding just because they called 911 is not the most prudent or efficient use of resources. For less critical calls, a lights-and-siren response is not necessary. An unnecessary hot response by first responders and ambulances is dangerous and can be deadly for both responders, patients, and civilians. It is incumbent upon administrators and supervisors to create best practice response policies, subsequent training, and quality assurance to ensure that they are followed. The goal must be safety over speed.

Ocean County Communication Center Analysis

Statistics

Crime Grade data (www.crimegrade.org):

A crime occurs every 23 minutes on average in Ocean County

The average crime grade is a D, which means the crime rate is higher than the US county average. Ocean County is in the 20th percentile for safety, meaning 80% of counties are safer and 20% are more dangerous.

The crime rate in Ocean County is 32.27 per 1,000 residents during the 2023 year.

*Crime Grade Data collects data from police departments, the FBI, and several other sources to project crime.

Personnel

According to (PST & PST Sup.6/24/24) which lists the employees, titles, and salaries, the total number of Ocean County employees is outlined below:

Full-Time Public Safety Telecommunicators: 36

Trainee Public Safety Telecommunicators: 15

Per-Diem Public Safety Telecommunicators: 17

Senior Public Safety Telecommunicators: 5

Supervising Public Safety Telecommunicators: 5

Staffing Based on Call Volume

Based on the data from the 2023 Annual Report.

Incoming Calls:

222,294 were 9-1-1 calls

138,088 were 7-/10-digit calls

Outgoing Calls:

170,791 calls

Average Bouncing Busy Hour (ABBH) was measured for the entire year across all three shifts to calculate the volume of calls during the busiest periods:

911 - Call Volume:

Busy Hour Average Calls = 93

Normal Hour Average Calls = 18

7-/10-digit Call Volume:

Busy Hours Average Calls = 3.6

Normal Hour Average Calls = 3.1

Call Volume Category	Call Volume		Call Duration in Seconds
	Busy Hour Shift	Normal Shift	
9-1-1 calls	93	18	95
7-/10-digit emergency #	3.6	3.1	95

*No call duration was found in the report, so the standard of 95 seconds will be used for this evaluation, based on the Association of Public Safety Communication Officials (APCO) Standard.

Staffing Ratio

Staffing ratios show the personnel that must be hired to keep a communications center staffed 24/7. It is calculated by dividing the number of hours in a year by the number of hours a telecommunicator is available to work at a position. Based on the current Collective Bargaining Agreement, the paid time off below represents the average number of days available to work. The staffing ratio is 5.07, and the required personnel for the volume and standard duration of calls is 82.6.

Days in year	365
Less Days Off:	
Weekends (i.e., 2 days per 52 weeks)	104
Paid Holidays Off	12
Vacation	15
Personal Days off	3
Training	0
Conference	0
Sick	15
Total Days Off per Year	149

Days available to work	216
If worked eight hours per day	8
Hours available to work	1728
Staffing Ratio* (Hours in Year/Hours Available)	5.07

*It is unknown if conference and training time is delineated across the yearly schedule, though annual training is indicated in the annual report.

	Shift	
	Busy Hour	Normal
9-1-1 calls in Erlangs	2.454	0.475
7-/10-digit emerg # calls in Erlangs	0.095	0.082
Total Erlangs per Shift	2.549	0.557
Call takers required per shift	8	4
Number of shifts per day	1	2
Total Call Takers on watch in a typical day	16	
Staffing Ratio	5.07	
Telecommunicators required for 24 x 7	81.1	

*An Erlang is a unit of telecommunications traffic measurement. Strictly, an Erlang represents the continuous use of one voice path. In practice, it describes the total traffic volume of one hour. As a telecommunications network planner, traffic measurements or estimates are essential to successfully design your network topology and establish the necessary trunk group sizes.

Recommendations:

1. Staffing Options—Currently, there are 46 full-time staff (including seniors and supervisors), 15 in training, and 17 part-time/per-diem staff. The center is understaffed, with 20 full-time employees (including the staff in training). It is unknown how much the part-time/per-diem personnel work or how much overtime is worked.
 - a. Increase full-time telecommunicator staff.
 - b. Pay overtime but recommended only to cover rare high-volume time or personnel absences.
 - c. Part-time/Per-Diem—Consider a policy requiring minimum hours for each employee in this employment status.
 - d. Seasonal Employment – Consider hiring seasonal staff when the population increases due to tourism.
 - e. The year-over-year increase in call volume will continue and could be significant with the implementation of Next Generation 911 by 2030, so prepare future staffing models accordingly.
 - f. When negotiating a new contract with Teamsters Local #97, consider a 12-hour shift option.
 - g. Consider incentivizing certifications and training.
 - h. Continue the retention adjustment in the upcoming contract.
2. Key Concepts in Staffing
 - a. Pay employees a competitive wage that financially incentivizes them and maintains retention goals.
 - b. Consider all the onboarding costs and the investment made and/or lost if employees leave. Calculate that into the value of employee retention.
 - c. Labor costs increase with the lack of retention.
3. When reporting, separate 9-1-1 calls from non-emergency 7-/10-digit calls. Additionally, the call duration must be captured for each category of calls. The duration is the time in seconds from the first ring to dispatch to the call termination, as this captures the telecommunicator's time. This information is necessary for ensuring proper staffing, employee evaluations, and training, among other benchmarks.
4. Table of organization—The communication center should employ a director, a 911 coordinator, supervisors, seniors, tactical dispatchers, Mobile Command Unit (MCU) dispatchers, and training personnel listed on a table of organization, where each shift shows a balance of staff. Job descriptions with specific responsibilities should be established and implemented.
5. As the 2023 annual report indicates, data reporting is confusing when EMS cannot cover their calls, so mutual aid support is needed. This documentation is not clearly captured as mutual aid and must be individually searched when running mutual aid reports.
It is recommended that these calls be tagged as mutual aid to help simplify the collection of imperative data.

6. It is recommended that agencies utilize a reporting program that provides real-time reporting data on agency operations, such as NICE. This system can break down data to a per-call or per-dispatcher basis for better analytics of staff and calls for service.
7. It is recommended that an AVL/IVN (automated vehicle locator/in-vehicle navigation) be purchased and utilized. This system provides location and travel information to the vehicle and the communications center. This system has been around for years, but like most computer and mapping systems, its capabilities are rapidly changing, and upgrade modules are released at least yearly.
8. It is recommended that all agencies utilizing the Ocean County 911 Communication Center be provided with the (CAD) or similar services such as the “EMS Anyware” MDT System.

Recommended Deployment Model

Deployment

Ocean County is New Jersey’s largest county, with over 914.84 square miles. The mere land size of Ocean County has allowed for a continual influx of new residents moving to the county every year. With the influx of new residents and those who visit Ocean County daily comes the need for services, and EMS is at the top of the list. To adequately cover such a large area, Ocean County EMS organizations and municipalities have been divided into five zones based on geographic regions. These zones have an assigned Ocean County Coordinator who reports to the Chief Ocean County Coordinator. Together, they coordinate and assist with EMS response plans. Various deployment models are utilized in Ocean County:

- Municipal-based: Where the municipality controls the EMS Service.
- Volunteer-based: The municipality relies on a volunteer agency to provide EMS service. The municipality has little or no control over the agency.
- Private Service - Where the municipality contracts with an EMS service to provide EMS response. Often, the municipality has little or no control over the agency.
 - There are municipalities where a private EMS service provides a service without a contract. There is no control over the agency, and service could end without notice.
- Combination Service: Where a volunteer agency has paid career staffing, usually during set times for operational coverage.

The following deployment model has been developed and recommended for a county-based EMS system using Ocean County 911 Communication Center data and data provided by the Ocean County EMS Coordinator.

Based on this data, Ocean County should develop and implement a county-based EMS organization that is fully staffed and supported through county taxation and any available grant funding. This agency should be a career agency that is deployable to any request for EMS response in Ocean County. Based on 2023 historical data on EMS utilization, it is recommended that this organization be recognized as a “third service” model, separate from law enforcement and fire suppression administration and operations. The organization should be headed by a Director of Emergency Medical Services, assisted by two managers, an EMS Operations Manager and an EMS Clinical Manager. Two administrative assistants should be assigned to aid the administrative staff with executive-level skillsets appropriate for the position.

Operationally, the service should be divided into four shifts, each staffing five ambulances on a 12-hour rotational basis. Each shift should be supervised by an EMS Operational Supervisor who operates an SUV command vehicle. Each EMS Operational Supervisor is responsible for monitoring, facilitating, and

responding to, when necessary, all Ocean County EMS calls requiring a County-Based EMS Response and provides additional assistance to any organization for a large-scale event or mass casualty Incident.

The agency should be designed to provide a level of response performance throughout the county of 9 minutes or better, 90% of the time, for an Advanced Level of Service Call (chest pain, difficulty breathing, stroke, trauma, etc.). With the following exceptions, as noted:

- In the areas where career agencies primarily cover the county, the county should look to provide assistance when needed, but it should not deploy ambulances as a primary response. Instead, ambulances should be staged in locations where current staffing struggles exist to meet high call volumes, which aligns with this project's recommended dynamic deployment model.
- In the Areas of the County that result in significantly longer response times due to their geographic nature, response time will vary as safe speeds and obeying traffic laws are necessary, and distances that require longer travel will require longer response times.

Ocean County EMS should utilize a dynamic deployment model to deliver emergency medical services. Dynamic deployment involves pre-positioning resources closer to expected calls for service. The core principle of dynamic deployment is to reduce the distance an ambulance travels between the point of dispatch and arriving on the scene. This enhances ambulance response times and the crew's safety, especially when traveling under red lights and siren protocols.

While many EMS organizations in the county currently operate on a static deployment model, responding from one set location. This system is found to be rudimentary. It does not adequately allow agencies to deploy valuable resources based on demand analysis, thus delaying response times. Many volunteer organizations currently utilize a static deployment model due to a lack of municipal buildings equipped to provide housing for ambulances.

Dynamic deployment was proven to be the better option in emergency response metrics than static deployment. When EMS systems want to meet a specific response goal, dynamic deployment will enable them to achieve that performance with fewer vehicles than static deployment. While savings in the number of vehicles translate to substantial savings in crew wages and vehicular purchasing costs, dynamic deployment may increase operating costs per vehicle because of the extra mileage involved in redeployment. Moving the vehicles/ambulances to different locations to cover high-volume call areas may increase vehicle mileage, but the results far outweigh the negatives.

Many EMS systems with average vehicular utilizations of 40% to 50% may find dynamic deployment to be both cost-effective and beneficial in improving response performance. The optimum utilization for an in-service ambulance is 33% to 44%. Monitoring and managing vehicular utilization is imperative to fleet longevity. Vehicle utilization, proper staffing, and call volume have an intertwined relationship, and finding the sweet spot will require continuous monitoring of all three variables.

Based on a statistical analysis of Ocean County EMS Zones 1-5, it is recommended that a county-based emergency medical system utilizing a dynamic deployment model would require ambulances to be deployed in the following areas:

- Zone 1- Berkeley Township Area
- Zone 1- Beachwood Area
- Zone 2- Stafford Township Area
- Zone 2- Little Egg Harbor Township Area
- Zone 5- Barnegat Township Area

Simply put, the dynamic deployment model deploys ambulances at peak times, where calls are most likely to occur, based on predictive modeling results. This model also reduces the need for buildings and the associated costs of maintaining large-scale buildings. After breaking down, categorizing, and studying the volumes of statistical data received from multiple sources, several areas within the county require immediate additional EMS gap coverage. These areas include zones one, two, and five.

Zone one hosts 14 EMS agencies: three career agencies, two combination agencies, and the remaining volunteer EMS squads. The largest municipalities in Zone 1 are Toms River and Berkeley; Zone 1 collectively boasts the second-highest call volume in the county. Zone one has a few towns with higher-than-average mutual aid percentages. For example, mutual aid in the following municipalities in 2023 was calculated to be 40% in Beachwood, 16% in Lavallette, 22% in Island Heights, and 13% in Berkeley.

Deploying an ambulance in the Beachwood area would allow for adequate EMS coverage to an identifiable service gap and relieve some of the mutual aid burden on other agencies.

Zone two boasts ten municipalities, all of which are volunteers. This zone is fourth in call volume but second in mutual aid requests, which is usually a strong indicator that the current staffing levels cannot meet the call volume demand.

Deploying an ambulance in zone two in the Stafford Township area will cover the identified gap in service. This zone goes from Long Beach Island to Little Egg Harbor and covers a large area, including a barrier island. It was also noted that several towns in zone two do not have designated EMS services and rely strictly on other townships' EMS volunteer agencies and/or an uncontracted for-profit EMS agency. Those EMS non-contracted services can stop answering calls without any legal obligation to give notice. As such, an additional ambulance should be stationed in the Little Egg Harbor area to cover the identified gaps in EMS service.

Zone five has only three municipalities with the lowest call volume but has the highest mutual aid request. Lacey, Ocean, and Barnegat Township have a mix of career, volunteer, and two contracted for-profit EMS agencies that cover these areas. Even so, Barnegat Township still has a higher-than-average mutual aid request of 21%. Deploying an ambulance to this area will cover the gaps in EMS service.

This statistical data is a snapshot of call volume for that period in time. It can be utilized in many ways to assist with staffing and deployment models and forecast future staffing and equipment budgeting needs.

Although this data has a solid level of predictability, it cannot compete with real-time data regarding dynamic deployment and real-time dispatching of ambulances. That is where AVL/IVN (automated vehicle locator/in-vehicle navigation) provides location and travel information to the vehicle and the communications center.

Purchasing and installing AVL/IVN in all EMS ambulances that utilize county dispatch will be one of the most significant changes Ocean County has seen in many years. Purchasing and installing this system would allow the closest available EMS unit(s) to be dispatched to each emergency, regardless of agency or zone. This is the patient's first concept of dispatching, where all of the "that's the way we have always done it" rules are thrown out, and patient care becomes the primary focus. This will take a paradigm change for all involved and should come from trusted and respected leadership who demonstrate the reasoning and back-to-basic principles of patient care as the primary focus of decision-making and policy development. Contemporary EMS systems like AVL /IVN can be implemented through respected leaders promoting buy-in from the EMS community.

- It is recommended that the county invest in a system similar to the MARVLIS Deployment Planner. This system will help stage ambulances in areas of the county that are in high demand based on historical data, call type, traffic conditions, etc.
- Here is a link to the program [MARVLIS Products - BCS, Inc. \(bcs-gis.com\)](https://www.bcs-gis.com/)

The capability to correctly classify calls and designate response priorities and modes for all ambulances must be updated, and clinically sophisticated software should be utilized.

Another advantage of AVL/IVN is response times. When a telecommunicator can look on their dispatch screen and see the closest in-service ambulance without going down a list of mutual aid partners, this is a game changer for everyone. The telecommunicator can quickly access, identify, and dispatch an available ambulance in real-time within seconds. This saves dispatch time and ambulance response time as the closest ambulance is dispatched to the call. The patient ultimately gets the quickest pre-hospital care available at the time of their call, which should be one of the most important goals of every EMS deployment system.

- Deployment and re-deployment are also more accessible for the County 911 Communication Center to visualize and adjust as needed. Ambulances can be moved to areas that need coverage due to gaps in service. Based on this data, the ambulances should be deployed to the four recommended areas (Zone 1 Beachwood Area, Zone 2 Stafford Township Area, Zone 2 Little Egg Harbor Township Area, and Zone 5 Barnegat Township Area). They should be staged on main roads closest to the Route 9 corridor for better response times.

If the County Program utilizes any fixed building for deployment, it should include:

- Apparatus Bay Space that can house an ambulance(s) with an electrical connection to keep all equipment on a continual charge.
- Crew Resources such as:
 - Bathroom
 - Kitchen or Kitchenette
 - Computers to complete patient care reports and online training
 - Wi-Fi and Television
 - Area for crew to sit and work on reports
 - Area to store office supplies & replenish medical supplies
 - Area to wash vehicle
 - Areas to gas vehicles or gas cards

Staffing and Job Descriptions for the County EMS Program

Position Title: Director of EMS / Education

Job Description:

General Summary:

The Emergency Medical Services Director / Director of Education is pivotal in maintaining the program's integrity. They must have a strong background demonstrating successful leadership of emergency personnel, exhibit transformational leadership skills, and have a deep commitment to employee-centered workplace environments. Their proven work history in developing cohesion with outside agencies is crucial. The Director must be a self-starter with creative problem-solving skills and the ability to make long-term decisions when developing daily criteria and processes. Strong networking skills are a must, as working

collaboratively with other agencies is crucial for the success of this program. The overall job duties include but are not limited to supervising, planning, preparing, coordinating, and implementing a multitude of work activities while upholding standard operating procedures related to providing emergency medical services to residents. The Director ensures that all employees follow the agency's policy and procedures, along with departmental guidelines. They are responsible for ensuring all discipline is handled according to the departmental rules and regulations set forth by the appropriate authority. The Director's role in ensuring all education is based on best practices and falls within the laws and standards set forth by the state of New Jersey is crucial to maintaining the integrity of our program.

Candidates for the position of Director must be able to perform the following successfully:

Essential Job Functions:

- Recommend updated or new departmental policies, goals, and program priorities for Division of Emergency Services members to follow.
- The Director of EMS/Education is responsible for developing and presenting strategic planning, including staffing and budgeting, to the appropriate authority. This role is crucial in setting long-term goals and ensuring financial preparedness for the program's success.
- Directs the formulation of work methods and procedures to be followed by division members; inspects and appraises division activities and personnel.
- Develops and maintains the operational budget and oversees the control of expenditures.
- Develops and oversees all capital budgets and projects.
- Develops all strategic plans and goals of the division, develops the implementation, and routinely re-evaluates these plans for effectiveness and compliance.
- Oversees all aspects of the hiring process and forecasts staffing requirements.
- Oversees equipment logs and staffing reports to ensure the agency is operationally sound and running efficiently and effectively.
- Conducts and maintains effective public relations for the division.
- Oversees work schedules for division personnel.
- Inspects the operations and maintenance of division equipment and building facilities.
- Oversee EMS Apprenticeship Program.
- Reports of staffing, financials, and equipment regularly to the appropriate authority with 1, 3, and 5-year projections in the annual report released publicly to all county residents.
- Develops and continually updates all General Orders or Special Orders.
- Schedules and administers daily or regular staff meetings to keep all employees informed.
- Oversees all disciplinary action and ensures the agency's personnel records have the proper information for continuity and record-keeping purposes.
- Ensures the division policies, procedures, objectives, safety, and quality assurance programs are followed.
- Interact effectively, professionally, and tactfully with the public and all participating agencies, dispatch, police, and fire.
- Oversees and completion of EMS Special Reports and other required reports, including documentation into the division's computerized records management system.
- Respond to inquiries from members of the public regarding requests for medical service documentation and ensure that all medical privacy and laws are followed.
- Assist in maintaining an adequate level of personnel inside the division.
- Ensures the division is represented at the Ocean County EMS Association & New Jersey EMS Task Force.

Scope of Responsibility:

- Manages and oversees all aspects of the division; develops objectives for the program; recommends, implements, and evaluates policies, procedures, and operating standards for assigned services and activities.
- Oversees and monitors program operations and personnel for compliance with state and local laws and regulations; evaluates legislation impacting the Emergency Services program; performs contract compliance audits as necessary.
- Reviews, monitors, and revises continuing education program course content to ensure employees meet state and/or national requirements; conducts and/or schedules and coordinates training.
- Designs, implements, and monitors quality improvement programs, including emergency services and dispatch operations; evaluates, coordinates, and monitors quality improvement issues.
- Develops, administers, and monitors the program budget; participates in forecasting funds needed for equipment, materials, and supplies; coordinates the maintenance and replacement of EMS equipment; and purchases equipment, materials, and supplies as necessary.
- Responsible for maintaining, storing, security, and confidentiality of patient and employment records.
- Investigates complaints and inquiries relating to EMS; oversees, recommends, and coordinates corrective action to the appropriate authority.
- Trains, evaluates, and motivates personnel to ensure performance meets department standards; serves as a resource to the supervisors by providing input regarding evaluating Emergency Medical Technician (EMT) personnel; recommends disciplinary action as necessary.
- Researches and develops medical operational procedures on a local, county, and statewide basis.
- Develops and maintains positive communications and working relationships with those of other departments, divisions, and outside agencies and organizations; represents the county on all State and local EMS activities.
- Researches, prepares, and presents various reports and public presentations related to the EMS program.
- Assists in the testing, evaluating, and selecting personnel; performs orientation for all new EMTs.
- Maintains records and prepares reports concerning new or ongoing programs and program effectiveness.
- Performs periodic EMS chart review in cooperation with the Medical Director.
- Supervises the billing and collection of money for services rendered in cooperation with the billing vendor.
- Inspects ambulances and all medical equipment to ensure they are operational and in good condition and facilitates repairs when necessary.
- Responds to any pending emergency calls or large-scale incidents that may occur.
- Attends and participates in various EMS organizations and committees.

Authority: The chain of command for this position has yet to be determined.

Experience:

Candidates for the position of Director must possess the following:

Required:

- Five years of experience in the Emergency Medical Services field, preferably as an EMT-Basic (EMT-B) or Mobile Intensive Care Paramedic (MICP), and five years of experience in a supervisory capacity in a NJ State licensed EMS agency or medical facility.
- Must show they possess high levels of integrity, confidentiality, and moral character.
- Must possess and maintain current certification in New Jersey as an EMT-B or obtain the certification within one year of employment.

- Possession of EMT Instructor certification preferred.
- Possession of a valid driver's license from the State of New Jersey.
- Knowledge of the principles of emergency medical or first aid treatment.
- Knowledge of the methods used in rescuing and transporting accident or catastrophe victims and others requiring emergency medical assistance.
- Knowledge of medical care facilities and medical emergency transport vehicles.
- Knowledge of local emergency medical squads' mutual aid and mobilization plans.
- Knowledge of medical triage.
- Knowledge of the principles of first aid training programs.
- Knowledge of first responder communication systems.
- Ability to remain calm in times of crisis.
- Ability to exercise sound judgment under stressful circumstances.
- Ability to lead others.
- Ability to establish necessary records and files.
- Ability to utilize various electronic and/or manual recording and information systems used by the agency, office, or related units.
- Ability to read, write, understand, and communicate in English sufficiently to perform the duties of this position.
- Ability to follow safety precautions in the operation of assigned tools and equipment.
- Knowledge of traffic laws, ordinances, and regulations governing equipment and vehicle operation in the State of New Jersey.
- Certified NJ Department of Health Emergency Medical Technician or a Certified NJ Department of Health Paramedic.
- Minimum five years as a Paid Certified EMT or Paramedic
- 3-5 years of previous Supervisor Experience
- Incident Command System 100
- Incident Command System 200
- Incident Command System 300
- Incident Command System 400
- National Incident Management System 700
- National Incident Management System 800
- Hazardous Materials Awareness Certification
- Weapons of Mass Destruction Awareness

Preferred:

- NAEMT PHTLS Instructor
- NAEMT GEMS Instructor
- NAEMT All Hazards Disaster Instructor
- NAEMT TECC Instructor
- Experience in Supply Chain Management
- Experience in Quality Assurance & Quality Management
- Experience in the Development of Policies
- Experience in Emergency Medical Services Licensing
- Experience with Budget Management & Purchasing
- Experience with Writing and Managing Grants

Reasoning Ability:

Candidates for the position of Director must possess:

- The ability to define problems, collect data, establish facts, and draw valid conclusions.
- The ability to interpret technical instructions in mathematical or diagram form and deal with abstract and concrete variables.
- The ability to assess situations, exercise sound judgment, and take appropriate action, remaining cognizant of the Division's confidentiality requirement and the public relations General Order.

Public Relations:

Public relations will be an integral part of the Director's job. As such, candidates for the position must be courteous, helpful, and able to conduct themselves appropriately as public service employees.

Other Skills and Abilities:

Candidates for the position of Director of EMS should also possess:

- A sound knowledge of applicable codes, laws, statutes, and ordinances.
- A sound knowledge of management and administrative techniques and the principles of leadership and supervision.
- A sound knowledge of the safe and effective operation, maintenance, and repair of various equipment and tools, as well as emergency medical treatment and rescue techniques.
- The ability to operate emergency vehicles during an emergency response safely and effectively.
- The ability to think clearly and quickly during emergencies utilizing sound judgment.
- The ability to establish and maintain cooperative work relations.
- The ability to analyze situations accurately and take prompt, effective action.
- The ability to comprehend written material, interpret, and apply rules and instructions.
- The ability to plan, direct, and coordinate the work of others.
- The ability to work cooperatively with others and gain their respect and confidence.
- The ability to function independently while adhering to oral and written directions.

Position Title: Operations Manager EMS

Job Description:

General Summary:

Under the general direction of the Director of Emergency Services, the Operations Manager is responsible for shift coverage, planning, scheduling, supervising, and administering a comprehensive emergency services program. Duties include, but are not limited to, personnel management, personnel hiring, coordination with outside agencies, maintaining state and federal certifications, division operations and training, and assisting the Director of Emergency Services with guidance and direction of the division.

Candidates for the position of Operations Manager must be able to successfully perform the following:

Essential Job Functions:

- Recommends updated or new departmental policies, goals, and program priorities to be followed by Division of Emergency Services members.

- Directs the formulation of work methods and procedures to be followed by division members; inspects and appraises division activities and personnel; takes necessary steps in modifying ambulance operations to meet changing conditions; oversees or directs the assigning of division personnel.
- Assists the Director of Emergency Services in developing and maintaining the operational budget and oversees the control of expenditures.
- Assists the Director of Emergency Services in developing Strategic Plans & Goals of the Division, develops the implementation, and routinely re-evaluates these plans for effectiveness and compliance.
- Interviews applicants for appointments, conducts or participates in other phases of the selection process, and recommends appointments to the Director of Emergency Services.
- Assists the Director of Emergency Services in developing and maintaining ambulance records and statistics, such as daily activities and events records, including all calls, complaints, and files on all accident reports, employee and division training, and equipment maintenance.
- Cooperates with federal, state, and other local departments as it pertains to medical emergencies.
- Conducts and maintains effective public relations for the division.
- Prepares work schedules for division personnel.
- Assists the Director of Emergency Services with the operations and maintenance of division equipment and building facilities.
- Responds to inquiries from members of the public regarding requests for medical services documentation and ensure all privacy laws are followed in the release of information.
- Assist in maintaining an adequate level of personnel inside the division.
- Division representatives at Ocean County EMS Association & New Jersey EMS Task Force
- Operate as the Designated Infection Control Officer.
- Participate in the On-Call Administrator Rotation.
- Work as assigned by the Director of Emergency Services.

Scope of Responsibility:

The Operations Manager will be expected to carry out supervisory responsibilities in accordance with the Division's policies and applicable laws.

Such responsibilities may include interviewing, hiring, and training employees and volunteers; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees and volunteers; and addressing complaints and resolving problems.

Authority:

The operations manager reports to the Director of Emergency Services and supervises all staff under their command.

Experience:

Candidates for the position of Operations Manager must possess the following:

Required:

- Certified NJ Department of Health Emergency Medical Technician or a Certified NJ Department of Health Paramedic.
- Minimum five years as a paid certified EMT or Paramedic
- 3-5 years of previous supervisor experience
- Incident Command System 100
- Incident Command System 200

- Incident Command System 300
- Incident Command System 400
- National Incident Management System 700
- National Incident Management System 800
- Hazardous Materials Awareness Certification
- Weapons of Mass Destruction Awareness

Preferred:

- NAEMT PHTLS Instructor
- NAEMT GEMS Instructor
- NAEMT All Hazards Disaster Instructor
- NAEMT TECC Instructor
- Experience in Supply Chain Management
- Experience in Quality Assurance & Quality Management
- Experience in the Development of Policies
- Experience in Emergency Medical Services Licensing
- Experience with Budget Management & Purchasing
- Experience with Writing and Managing Grants

Reasoning Ability:

Candidates for the position of Operations Manager must possess:

- The ability to define problems, collect data, establish facts, and draw valid conclusions.
- The ability to interpret technical instructions in mathematical or diagram form and deal with abstract and concrete variables.
- The ability to assess situations, exercise sound judgment, and take appropriate action, remaining cognizant of the Division's confidentiality requirement and the public relations General Order.

Public Relations:

Public relations will be an integral part of the Operations Manager job. As such, candidates for the position must be courteous and helpful and able to conduct themselves appropriately as employees in public service.

Other Skills and Abilities:

Candidates for the position of Operations Manager should also possess:

- A sound knowledge of applicable codes, laws, statutes, and ordinances.
- A sound knowledge of management and administrative techniques and the principles of leadership and supervision.
- A sound knowledge of the safe and effective operation, maintenance, and repair of various equipment and tools, as well as emergency medical treatment and rescue techniques.
- The ability to operate emergency vehicles during an emergency response safely and effectively.
- The ability to think clearly and quickly during emergencies utilizing sound judgment.
- The ability to establish and maintain cooperative work relations.

- The ability to analyze situations accurately and take prompt, effective action.
- The ability to comprehend written material, interpret, and apply rules and instructions.
- The ability to plan, direct, and coordinate the work of others.
- The ability to work cooperatively with others and gain their respect and confidence.
- The ability to function independently while adhering to oral and written directions.

Position Title: Clinical Manager

Job Description:

General Summary:

The EMS Clinical Manager will develop and implement all educational training courses for Emergency Services clinicians and oversee all clinical and educational operations of the Division. The EMS Clinical Manager assesses, develops, updates, and delivers curriculum for adult learners in preparatory courses for EMS certification, leading to cognitive development, clinical psychomotor skill competence, enhanced affective interaction, and best-practice job skill proficiency appropriate for the provider level of each assigned course.

Essential Job Functions:

Candidates for the position of EMS Clinical Manager must be able to perform the following successfully:

- Responsible for teaching all clinical education courses.
- Demonstrates proficiency in instruction, evaluation, and supervisory skills.
- Coordinates all clinical education with didactic education.
- Coordinates clinical activities- including maintaining clinical competencies.
- Provide direct and indirect supervision of students and clinical members during educational courses.
- Develop educational schedules, syllabi, and orientation information.
- Oversees and maintains all instructor certifications and clinical employee certifications.
- Participates in local events related to student/employee recruitment and other activities related to outreach.
- Assist in the direction of the quality assurance program through program development, critiques, debriefings, and complete daily audits of Electronic Patient Care Reports.
- Oversee EMS Apprenticeship Program.
- Develop or assist in the development of General Orders or Special Orders.
- Available to attend extra training(s) and staff meetings.
- Report and record all disciplinary action taken in the agency's Guardian Tracking System with continuity for record-keeping purposes.
- Promote and adhere to Division policies, procedures, objectives, safety, and quality assurance programs.
- Interact effectively, professionally, and tactfully with the public and all participating agencies, dispatch, police, and fire.
- Complete EMS Special Reports and other required reports, including documentation entered into the division's computerized records management system.
- Perform all other duties as assigned by the Director of Emergency Medical Services.
- Participate in the On-Call Administrator Rotation.

Scope of Responsibility:

The EMS Clinical Manager will be expected to perform supervisory responsibilities in accordance with the Division's policies and applicable laws.

Such responsibilities may include interviewing, hiring, and training employees and volunteers; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees and volunteers; and addressing complaints and resolving problems.

Authority:

EMS Clinical Manager operates under the direction of the Director of EMS or their designee and supervises all clinical and educational aspects of the organization's EMTs.

Experience:

Candidates for the position of EMS Clinical Manager must possess the following:

Required:

- Certified NJ Department of Health Emergency Medical Technician or a Certified NJ Department of Health Paramedic.
- Minimum five years as a Paid Certified EMT or Paramedic
- AHA CPR Instructor Certification
- NJ EMT Instructor Certification
- Incident Command System 100
- Incident Command System 200
- National Incident Management System 700
- National Incident Management System 800
- Hazardous Materials Awareness Certification
- Weapons of Mass Destruction Awareness

Preferred:

- Previous Supervisor Experience
- Incident Command System 300
- Incident Command System 400
- NAEMT Instructor Certification
- NAEMT PHTLS Instructor
- NAEMT GEMS Instructor
- NAEMT All Hazards Disaster Instructor
- NAEMT TECC Instructor

Reasoning Ability:

Candidates for the position of EMS Clinical Manager must possess:

- The ability to define problems, collect data, establish facts, and draw valid conclusions.
- The ability to interpret technical instructions in mathematical or diagram form and deal with abstract and concrete variables.

- The ability to assess situations, exercise sound judgment, and take appropriate action, remaining cognizant of the Division's confidentiality requirement and the public relations General Order.

Public Relations:

Public relations will be an integral part of the EMS Clinical Manager job. As such, candidates for the position must be courteous, helpful, and able to conduct themselves appropriately as public service employees.

Other Skills and Abilities:

Candidates for the position of EMS Clinical Manager should also possess:

- A sound knowledge of applicable codes, laws, statutes, and ordinances.
- A sound knowledge of management and administrative techniques and the principle of effective supervision.
- A sound knowledge of the safe and effective operation, maintenance, and repair of various equipment and tools, as well as emergency medical treatment and rescue techniques.
- The ability to operate emergency vehicles during an emergency response safely and effectively.
- The ability to think clearly and quickly during emergencies.
- The ability to work cooperatively with others and gain their respect and confidence.
- The ability to analyze situations accurately and take prompt, effective action.
- The ability to comprehend written material, interpret, and apply rules and instructions.
- The ability to plan, direct, and coordinate the work of others.
- The ability to function independently while adhering to oral and written directions.

Position Title: EMS Quality Assurance / Quality Improvement Supervisor

Job Description:

General Summary:

Under the Clinical Manager for Emergency Medical Services, the employee selected for the EMS Quality Assurance/Quality Improvement Supervisor position is responsible for planning, managing, supervising, and administering the clinical and operational quality standards and continuous clinical improvement. This position is also the Department's HIPAA Compliance Officer and primary Drug Enforcement Administration compliance officer.

Essential Job Functions:

Minimum requirements:

Five (5) years of field EMS experience or in a management role of a quality assurance and continuous improvement program in a comparable organization, including two (2) years of relevant supervisory and management experience.

Demonstrated knowledge of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), specifically concerning pre-hospital care providers' Privacy and Security Rules.

Duties/Responsibilities

- Oversees the quality assurance and continuous improvement program for emergency services throughout the county.
- Reviews all aspects of emergency medical services responses, including but not limited to emergency medical dispatch, response times, radio protocol compliance, medical protocol compliance, patient care, and treatment, patient report to the hospital (via radio or telephone), patient care documentation, and adherence to patient confidentiality standards.
- In conjunction with the Medical Director, conducts and coordinates formal quality assurance meetings and investigations.
- In conjunction with the Medical Director, reviews the county's medical protocols and makes recommendations for improvement in writing.
- Reports and documents deviations in the standard of care and medical protocols, emergency medical dispatch, patient care documentation standards, and radio protocols and formally recommends remedial training.
- Maintains current knowledge of applicable federal and state privacy laws and monitors changes in privacy practices for the ambulance industry to ensure current organizational compliance.
- Maintains operational data and generates reports.
- Maintains the Department's HIPAA Compliance Plan.
- Develop policies and procedures for staff training on the privacy of patient-protected health information (PHI).
- Develops policies on health care information security, including computer and password security and patient data integrity.
- Defines and monitors levels of staff access to patients' protected health information (PHI) and the minimum requirements for staff based on the required job responsibilities.
- Oversees, directs and ensures the delivery of initial and ongoing Medicare rules, HIPAA training, patient documentation, and orientation to all department employees, volunteers, students, and trainees.
- In conjunction with the ambulance billing department: serves as the contact person for the dissemination of PHI to other health care providers and as the contact person for patient complaints and requests; processes patient requests for access to and amendment of health information and consent forms; processes all patient accounting requests; ensures the capture and storage of patient PHI for the minimum period required by law; and, ensures ambulance service compliance with all applicable Medicare rules, Privacy and Security Rule requirements and works with legal counsel, risk management, and other managers to ensure the Department maintains appropriate privacy and confidentiality notices, forms, and materials.
- Cooperates with the county's risk management program and state and federal government agencies charged with compliance reviews, audits, and investigations.
- Conducts, at a minimum, quarterly inspections of all Emergency Medical Services stations' medication logs and ensures that the Department is in compliance with all Drug Enforcement Administration rules and regulations.
- Acts as the primary contact with the DEA for any audits or reports of discrepancies. Acts as the responsible party for the disposal of dated medications.
- Conducts investigations regarding any discrepancies with regard to medication records.
- Builds an appropriate annual operational and capital budget, coordinating with the Department Director to ensure the achievement of all division goals.

- Coordinates with outside agencies, such as dispatch or medical facilities and staff, as needed to ensure that continued process improvement goals are met.
- Works extensively with physicians and nursing staff to establish rapport and coordinate quality assurance activities.
- Attends the EMS Advisory Council meetings to communicate with all representatives. Updates all information regarding training, department activities, changes in the medical standing orders, and any quality assurance needs.
- Other related duties as assigned.

Position Title: EMS Supervisor

Job Description:

General Summary:

An EMS Supervisor will be responsible for responding to emergencies and will supervise all activities of EMS personnel assigned to daily tours. Supervisors will follow and enforce, with limited supervision, the Division of Emergency Services' General Orders and established Clinical Orders. Supervisors must maintain a state of readiness of all facilities and equipment by conducting required inspections, testing, and maintenance checks. He or she must promote the health and safety of the Division and the community through education. The work environment should be monitored with careful consideration for employee wellness. Supervisors will assist the Operations Manager with planning, educating, and establishing direction for the Division of EMS.

Essential Job Functions:

Candidates for the position of EMS Supervisor must be able to successfully perform the following:

- Respond to medical emergencies and perform and assist in administering patient care in compliance with the Division's General Orders and directives.
- Function within the constructs of the Incident Command System.
- Assess and coordinate the resources and personnel to facilitate safety.
- Assist with Patient Care Protocol revisions.
- Assist in the direction of the quality assurance program through program development, critiques, debriefings, and complete daily audits of Electronic Patient Care Reports.
- Review inspection forms for equipment, vehicles, and supplies.
- Develop or assist in the development of General Orders or Special Orders.
- Participate and instruct in the Division's training program.
- Be available to attend extra training(s) and staff meetings.
- Ensure that all division apparatus is inspected and stocked correctly in compliance with New Jersey Department of Health (NJDOH) requirements.
- Report and record all disciplinary action taken in the agency's Guardian Tracking System with continuity for record-keeping purposes.
- Issue verbal and/or written discipline when appropriate per Division General Orders.
- Recommend appropriate discipline through the chain of command in accordance with established General Orders. (i.e., written and punitive discipline, suspension, or termination, etc.)
- Participate in the on-call administrator rotation.
- Promote and adhere to Division policies, procedures, objectives, safety, and quality assurance programs.

- Participate in a quality assurance program through post-incident analysis and debriefings.
- Initiate and assist in developing and implementing improvements identified by the quality assurance program.
- Perform and schedule inspections of equipment and facilities.
- Interact effectively, professionally, and tactfully with the public and all participating agencies, dispatch, police, and fire.
- Complete EMS Special Reports and other required reports, including documentation entered into the Division's computerized records management system.
- Perform annual or semi-annual performance evaluations of designated subordinates.
- Perform all other duties as assigned by the Director of EMS or the Operations Manager overseeing the Division of Emergency Services.

Scope of Responsibility:

EMS Supervisors are expected to perform their supervisory responsibilities in accordance with the Division's policies and applicable laws.

Such responsibilities may include interviewing, hiring, and training employees and volunteers; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees and volunteers; and addressing complaints and resolving problems.

Authority:

EMS Supervisors operate under the direction of the Operations Manager or his/her designee and supervise all EMTs and EMS volunteers.

Experience:

Candidates for the position of EMS Supervisor must possess:

- A working knowledge of the organization, functions, policies, rules, methods, and regulations.
- A working knowledge of emergency medical services principles, practice, apparatus, and equipment.
- The ability to understand and carry out written and verbal instructions.
- The ability to establish and maintain an effective working relationship with co-workers and function as a team member.
- Knowledge of New Jersey Department of Health N.J.A.C. 8:41
- Be able to perform each essential duty satisfactorily.

Certifications:

Required:

Candidates for the position of EMS Supervisor must possess:

- Certified NJ Department of Health Emergency Medical Technician or a Certified NJ Department of Health Paramedic.
- Minimum five years as a paid certified EMT or Paramedic
- Must hold certification in CPR for a Health Care Provider
- Incident Command System 100
- Incident Command System 200
- National Incident Management System 700

- National Incident Management System 800
- Hazardous Materials Awareness Certification
- Weapons of Mass Destruction Awareness

Preferred:

- Previous Supervisor Experience
- Incident Command System 300
- Incident Command System 400
- All Hazard Disaster Response
- Weapons of Mass Destruction Operations
- Bleeding Control Course
- Active Shooter Response Training
- Large Scale Incidents for EMS Response
- CPR Instructor Certification

Reasoning Ability:

Candidates for the position of EMS Supervisor must possess:

- The ability to define problems, collect data, establish facts, and draw valid conclusions.
- The ability to interpret technical instructions in mathematical or diagram form and deal with abstract and concrete variables.
- The ability to assess situations, exercise sound judgment, and take appropriate action, remaining cognizant of the Division's confidentiality requirement and the public relations General Order.

Public Relations:

Public relations will be an integral part of each supervisor's job. As such, candidates for the EMS Supervisor position must be courteous and helpful and able to conduct themselves in a manner appropriate for an employee in public service.

Other Skills and Abilities:

Candidates for the position of EMS Supervisor should also possess:

- A sound knowledge of applicable codes, laws, statutes, and ordinances.
- A sound knowledge of management and administrative techniques and the principle of effective supervision.
- A sound knowledge of the safe and effective operation, maintenance, and repair of various equipment and tools, as well as emergency medical treatment and rescue techniques.
- The ability to safely and effectively commit and operate emergency vehicles during an emergency response.
- The ability to think clearly and quickly during emergencies.
- The ability to establish and maintain cooperative relations with those at work.
- The ability to analyze situations accurately and take prompt, effective action.
- The ability to comprehend written material, interpret, and apply rules and instructions.
- The ability to plan, direct, and coordinate the work of others.
- The ability to work cooperatively with others and gain their respect and confidence.
- The ability to function independently while adhering to oral and written directions.

Position Title: Education Supervisor / Lead Instructor**Job Description:****General Summary:**

The Education Supervisor is assigned to be the lead instructor in the EMS program following the guidelines established by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession (CoAEMSP) and Commission on Accreditation of Allied Health Education Programs (CAAHEP) and as delegated by the Director of Emergency Medical Services.

The position is responsible for overseeing all clinical aspects of the EMS Educational Program.

Essential Job Functions:**Education, Experience, and License and Certifications:**

A comparable amount of training, education, or experience may be substituted for the minimum qualifications. A minimum of an associate degree is required, a master's degree is preferred, plus three years of work experience in emergency medicine / prehospital care. Must hold a current EMT license.

Essential Tasks:

Must be able to perform the following successfully:

- Coordinate the overall clinical aspects of the EMS program activities with the EMS Clinical Manager & Director of Emergency Medical Services.
- Responsible for instructing all clinical education courses within the academic year.
- Demonstrates proficiency in instruction, evaluation, and supervision of students.
- Coordinating clinical education with didactic education.
- Coordinate clinical activities, including maintaining clinical competencies.
- Provide direct and indirect supervision to students while at clinical sites.
- Develop clinical schedules, syllabi, and orientation information.
- Oversees the collection, maintenance, and reporting of all documentation required by the clinical sites, including, but not limited to, immunization records, criminal background screenings, drug screenings, federal exclusion lists, BLS/ ACLS/PALS/PHTLS certification, HIPAA training and compliance, and Standard Precaution training and compliance.
- Participate in local student recruitment events and other activities related to the EMS program and community outreach.
- Compliance with CoAEMSP and CAAHEP standards for accreditation.
- Maintain confidential student records in compliance with ECC Board Policy.
- Maintain clinical and educational competencies in the area of instruction.
- Perform other related duties as assigned.

Knowledge, Skills, and Abilities:

Knowledge of the Family Educational Rights and Privacy Act (FERPA). Knowledge of department policies, procedures, and practices with the ability to answer work-related questions, interpret and apply these guidelines correctly in various situations, budget management skills, and ability to write routine reports and correspondence.

Leadership and Communication Skills:

Ability to exchange ideas, information, and opinions effectively with others to formulate procedures and arrive jointly at decisions, conclusions, or solutions; ability to manage interpersonal conflict situations requiring tact, diplomacy, and discretion; ability to communicate diplomatically, clearly, and effectively with a variety of people including coworkers and staff of external agencies; ability to demonstrate safe work habits and safe use of equipment; ability to communicate clearly both orally and in writing; ability to interact effectively with diverse student populations and a wide variety of co-workers and the general public.

Decision-Making and Analytical Skills:

Apply principles of logical thinking to define problems, collect data, establish facts, and draw valid conclusions; ability to use sound judgment in decision-making areas; ability to interpret information in mathematical, written, and diagram form, such as statistical reports, profit and loss statement, financial statements, and credit regulations.

Equipment and Software:

Utilize current department information technology including but not limited to Microsoft Office, Outlook, Datatel, etc.; office machines such as telephones, fax machines, or copiers; ability to use Smartboards; distance learning applications; Canvas.

Physical Demands and Working Environment:

The conditions herein represent those that an employee must meet to perform the essential functions of this job successfully.

Environment: Work is performed primarily in a standard classroom/lab setting with frequent interruptions and distractions. The employee may spend extended periods of time viewing computer monitors. The employee may be required to work or meet in the evenings and on weekends and may be required to work clinical shifts as needed.

Physical: Primary functions require sufficient physical ability and mobility to work in a classroom/lab setting, stand or sit for prolonged periods of time, lift, carry, push, and pull up to 10 lbs., operate office equipment requiring repetitive hand movement and fine coordination, including use of a computer keyboard, and verbally communicate to exchange information.

This position supervises all EMT Instructors and the material they provide. This position is also responsible for direct oversight of all guest instructors and the material they use. All material must comply with New Jersey laws and Department policies.

Position	Salary Low	Salary High	Quantity	Notes
Director of Emergency Medical Services	\$ 125,000.00	\$ 165,000.00	1	
EMS Operations Manager	\$ 95,000.00	\$ 120,000.00	1	
EMS Clinical Manager	\$ 95,000.00	\$ 120,000.00	1	
EMS Operations Supervisor	\$ 75,000.00	\$ 90,000.00	4	
EMS Quality Assurance/Quality Improvement Supervisor	\$ 75,000.00	\$ 90,000.00	1	
EMS Education Supervisor/Lead Instructor	\$ 75,000.00	\$ 90,000.00	1	
Administrative Assistants	\$ 50,000.00	\$ 60,000.00	2	
EMT (Full-Time)	\$ 51,000.00	\$ 80,000.00	40	Establish Pay Scale Based on Experience
EMT (Per Diem)	\$ 26.00	\$ 30.00	20	
EMT Instructors	\$ 30.00	\$ 35.00	10	Per-Diem Instructors

Response Guidelines, Staffing Shortage, and Wages:

The EMS climate is changing in many ways, particularly post-COVID. The push for change started over the last twenty years, but there has been significant emphasis on EMS to arrive on calls as quickly as possible. Although a timely response to a medical emergency has proven to save lives, a risk versus benefits analysis must be considered when determining response times. As discussed in other sections of this report, all EMS personnel should be mandated to take various emergency response courses yearly and be tested on their understanding and proficiency. A quantifiable quality control process should be implemented. There should be mandatory training on a policy specifically addressing emergency response guidelines for all county employees and recommendations for other outside agencies that utilize the County 911 Communication Center for dispatching services.

EMS administrators today are challenging many of the previous response models as many agencies experience financial hardships, staffing shortages, and deployment challenges. EMS agencies around the United States use various options to combat these problems. Still, several common themes exist as the Emergency Medical Services climate evolves and the delivery of EMS services continues to change.

With the impact of COVID-19, many emergency services agencies have felt the effects of personnel leaving the profession for different careers. Retention and recruitment remain a concern, particularly in Ocean County, as fewer individuals enter the EMS field. This can be seen by the number of applicants applying for EMS jobs and the number of openings many agencies in Ocean County struggle to fill and maintain. During the height of the COVID-19 pandemic, many EMS training institutes ceased training activities and thus were not adding new personnel to the profession. Compounding this problem, EMT training requirements have increased and now can encompass up to three months to complete with a new lower proficiency range. Additionally, paramedic education has risen to the collegiate level, requiring up to 24 months and 60 hours to recertify every two years.

EMS salaries before the COVID-19 pandemic did not align with other similar career markets. Since the pandemic, wages in many markets have notably increased, and EMS salaries have struggled to keep up. Many positions that were once minimum wage positions that did not require extensive training, high levels of stress, scrutiny, unsafe situations, or extended work hours that impact a work-life balance are now noticeably higher in salaries than EMS employees. EMS agencies are now competing with these new market pressures by cutting their profit margins and requiring tax-payer subsidies to cover the financial challenges.

Recruiting will remain a significant issue for career EMS agencies, and one of the main reasons for this is the low salary. As mentioned in our August meeting attended by two County Commissioners, low salaries have been a point of concern in several areas, including the County 911 Communication Center. Low salaries will attract those with little to no experience; they will receive the costly training, get the expertise they need to qualify for higher-paying jobs, and then move on to better-paying agencies. This is an expensive and vicious cycle when an agency becomes a training ground for other better-paying agencies. County dispatch is experiencing this now, and it will be a similar experience but even worse because it will be challenging to fill the positions in the first place if the salaries are low. The simple principles of supply and demand apply here. Fewer individuals in Ocean County are EMT certified and willing to work in this field. As such, the pool of applicants is low, so the pay must be high enough to attract applicants for county positions.

The next issue is the trickle-down effect of pulling qualified applicants from other EMS agencies and creating staffing shortages for them. Staffing shortages can result in pulling an ambulance offline because there are not enough employees to staff a licensed ambulance; otherwise, employers are forced to hold EMTs on overtime or call in employees for overtime. In time, these options can result in employee

burnout, which is one of the main reasons EMTs leave the field entirely. Currently, many EMTs work two or more jobs to afford to live in Ocean County, so when you factor in forced overtime, it can make an already stressful job unbearable.

To combat these issues, agencies are now implementing new recruitment initiatives called earn-while-you-learn programs, employing untrained individuals and compensating them as they attend an entry-level training EMT course. The agency pays for the training costs and time in class. Graduation rates range from 50% to 70% because individuals decide that the career path isn't what they expected or they cannot complete the education requirements. One of the benefits of this model is that it attracts a more extensive and diverse population, as there are minimal barriers to entry. We recommend that the employee agree to stay with the agency for at least a year after completing all training and passing the EMT testing process.

Grants

As conscientious stewards of taxpayer dollars, every effort should be made to secure grant funding for a start-up EMS program of this magnitude. Many would agree that a full-time, experienced grant writer is a valuable addition to any administrative staff. They serve many purposes, including expert grant writing skills, compliance and administrative oversight, and filing all necessary reports and documentation of purchases as required by law.

The decision to apply for any grant rests on many variables. Each grant application details timelines to consider, including precise deadlines, staffing and deployment model requirements, match funding, and profit versus nonprofit status. That being said, it is very difficult to recommend any grant information for a project that does not have a projected start date; therefore, we do not know what deadlines can be met. Also, recommendations have been made for staffing and deployment models, along with some preliminary discussions regarding billing. Still, many variables can affect the final status of grant application requirements. As such, the below is merely a list of recommendations of what may be available for future opportunities. Additionally, there are new grants each year, and no one can predict what 2025 grant eligibility will be for this program should it become operational. Below is a list of grants for which Ocean Count should determine application feasibility.

Grant Name:**USDA Community Facilities Direct Loan, Grant and Loan Guarantees****Funder Type:**

Federal

Administering State:**Grant Category:**

AEDs (EMS, Fire), All Terrain Vehicles (EMS), Body Armor (Police), Body Cameras (EMS), CO Screening (EMS), Communications – Radios (EMS), Decontamination (EMS), Defibrillators (EMS), Dispatch (EMS), Exhaust Removal Systems (EMS), High Quality CPR Training (EMS), Mobile Data Terminals (EMS), Opioid Response (EMS), Patient Handling (EMS), Patient Monitoring (EMS), Patient Simulation & Education (EMS), RMS (EMS), Stabilization and Lifting Equipment (Fire), Tablets (EMS), Telemedicine Equipment (EMS), Thermal Imaging Cameras (EMS)

Deadline(s):

Rolling

Who Can Apply?:

Non-Profit, Town, City or County Government

Award Details:

Maximum request: The amount of grant assistance is determined by the median household income and population of the community. Match Requirement: Minimum of 25%

Matching Requirement?:

Yes

Program Link:
<http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>
Application Link:
<http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>
Summary:

This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.

How may funds be used? Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses. USDA will prioritize investments to address the opioid crisis in rural communities.

Examples of essential community facilities include:

- Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities
- Public facilities such as town halls, courthouses, airport hangars or street improvements
- Community support services such as child care centers, community centers, fairgrounds or transitional housing
- Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment
- Educational services such as museums, libraries or private schools
- Utility services such as telemedicine or distance learning equipment
- Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses

Eligible borrowers include:

* Public bodies

* Community-based non-profit corporations * Federally-recognized Tribes

Grant Name:
Republic Services Community Grant Program

Funder Type:
 Foundation

Administering State:

Grant Category:
 AEDs (EMS, Fire), Communications – Radios (EMS), Extrication Equipment (EMS), Opioid Response (EMS)

Deadline(s):
 Rolling

Who Can Apply?:
 Non-Profit

Matching Requirement?:
 No

Program Link:
<https://www.republicservices.com/communities/charitable-giving>

Application Link:
https://www.cybergrants.com/pls/cybergrants/ao_login.login?x_gm_id=6470&x_proposal_type_id=66298

Summary:

Republic Services proudly partners with many local nonprofit charitable organizations making a difference nationwide. Through our Community Grant program, we support local nonprofit organizations in the areas where our employees and customers live and work. This program allows for an open application process with a preference on addressing **neighborhood revitalization, safety, disaster relief and social services.**

In order to be considered for support, all interested organizations must start by completing an online application. We do not accept applications via email, fax, mail, or in-person at our local offices or Corporate headquarters. Should you have an employee referral, please specify the referral source in the online application.

Eligibility:

Any 501(c)(3) nonprofit organization within our service areas located within the United States may apply once annually through the Community Grant application process.

We do not fund individuals; religious, labor, political, fraternal, or membership-based organizations; government entities or schools. Additionally, we do not fund advertising and mass mailings, endowments or capital campaigns or private foundations. All considered organizations must comply with our Non-Discrimination Policy.

We are committed to reviewing all funding requests within 30 days of submission. If your request includes support for an event with an earlier timeframe or you have any questions, please contact us at foundation@RepublicServices.com.

Grant Narrative:**General Services Administration (GSA) Federal Surplus Personal Property Donation Program NJ****Funder Type:**

State

Administering State:**Grant Category:**

AEDs (EMS, Fire), All Terrain Vehicles (EMS), Defibrillators (EMS), Personal Protective Equipment (PPE) (EMS)

Donor(s):

Rolling

Who Can Apply:

Non-Profit, Town, City or County Government

Matching Requirement:

No

Program Link:https://oj.oov.UJioemlaroocams.fedecals.1roi11s-nronerty-omoram_sbtrn/**Application Link:**[https://nj.gov/nj_oemlprogram\\$\[.ldf\]202406B_GSA_Surplus_Property_Program_Application_v2_2024.pdf](https://nj.gov/nj_oemlprogram$[.ldf]202406B_GSA_Surplus_Property_Program_Application_v2_2024.pdf)**Summary:**

The Support Services Unit of the New Jersey State Police, Office of Emergency Management has been designated as the State Agency for Surplus Property (SASP) by State law. The SASP is responsible for the administration of the Program, working with GSA to allocate and distribute donations of federal surplus personal property within the State.

All property must be placed in-use or ready for service (fully operational and simply standing by for a mission) within 1 year from the date of receipt of the item.

Donated property must be formally certified as in use by the receiving donee agency via a standardized utilization form that will be provided upon application approval. The restriction period for donated items begins on the date the donee organization certifies on that document that the item is in-use, or is ready for service should the need arise.

The donee agency is solely responsible for the acquisition, utilization, and maintenance of donated items. It is also responsible for the return of donated property that has been determined to be used contrary to Program guidelines, or that was acquired fraudulently.

Property must be used primarily in the State of New Jersey, and cannot be stored nor used outside of the State of NJ primarily during the period of restriction.

Personal property - equipment to be used only for official & approved purposes - is available to organizations that have been explicitly approved for Program participation by the SASP.

Personal property encompasses an extremely wide range of assets to include:

- Office furniture: desks, chairs, cubicles, conference tables, sofas, bookcases, file cabinets, lockers, whiteboards, etc.
- Heavy equipment: forklifts, cranes, construction, scientific, milling & agricultural equipment, etc.
- Vehicles: passenger motor vehicles, pickups, cargo trucks, wreckers, ATVs/UTVs, mules, scooters, bicycles, etc.
- First aid equipment: field gear as well as additional medical supplies, personal protective equipment (PPE), stretchers, defibrillators, CPR mannequins & other training aids, etc.
- Electronic devices: desktop & laptop computers, tablets, phones, speakers, keyboards, monitors, televisions & other display types, projectors, conferencing systems, printers, etc.
- Miscellaneous: trailers, generators, storage cases & containers, tools of every type, packs, pouches, tents, clothing, boots, aircraft, marine vessels, and much more.
- Real property (such as buildings & land) is not available.

Eligibility:

Public agencies, volunteer first aid squads & fire departments, health and educational nonprofit organizations.

Grant Name:
Rural Emergency Medical Services Training Grant

Please note: This is an estimated deadline based on the previous year grant schedule. We recommend adding this grant to your alert list to be notified of any release date updates.

Funder Type:

Federal

Administering State:

Grant Category:

Defibrillators (EMS), High Quality CPR Training (EMS), Online Training (EMS), Opioid Response (EMS), Patient Handling (EMS), Patient Monitoring (EMS), Patient Simulation & Education (EMS), Tablets (EMS)

Deadline(s):

Estimated 03/20/2025

Who Can Apply?:

Native American Tribal Government, Non-Profit, Town, City or County Government

Matching Requirement?:

Yes

Program Link:

<https://www.samhsa.gov/grants/grant-announcements/ti-23-011>

Application Link:

<https://www.grants.gov/search-results-detail/342881>

Summary:

Overview:

The purpose of this program is to recruit and train EMS personnel in rural areas with a particular focus on addressing substance use disorders (SUD) and co-occurring disorders (COD) substance use and mental disorders. Recipients will be expected to train EMS personnel on SUD and COD, trauma-informed, recovery-based care for people with such disorders in emergency situations and, as appropriate, to maintain licenses and certifications relevant to serve in an EMS agency.

This NOFO will be open for FY 2024 and FY 2025. The following are the due dates for each FY:

- FY 2024: Applications are due by March 20, 2024
- FY 2025: Applications are due by March 20, 2025

Eligibility:

Eligible applicants are rural emergency medical service agencies operated by a local or tribal government (fire-based and non-fire based) and rural non-profit emergency medical service agencies.

Grant Name:**Rural Emergency Medical Communications Demonstration Project**

Please note: This is an estimated deadline based on the previous year grant schedule. We recommend adding this grant to your alert list to be notified of any release date updates.

Funder Type:

Federal

Administering State:**Deadline(s):**

Estimated 08/09/2025

Who Can Apply?:

Institution of Higher Education, Native American Tribal Government, State Government, Town, City or County Government

Matching Requirement?:

No

Program Link:

<https://www.grants.gov/search-results-detail/354999>

Summary:

This funding opportunity is to fund a demonstration project addressing the National Emergency Communications Plan (NECP) implementation gaps and rural medical communications. Emergency responders are not always trained for the types of incidents they encounter but can share valuable information and provide situational awareness during response and recovery efforts. Specifically, medical providers require communications systems and procedures to transmit patient information and coordinate an influx of patients following large-scale disasters or ongoing crises.

As the whole community increases its engagement during emergencies and as technology advances, the need for medical communications and trained personnel increases to ensure coordinated and effective response. In addition to evolving technology and responders, the NECP recommends improved planning and coordination across the Emergency Communications Ecosystem and across geographies, especially in rural areas. CISA recognizes the impact of geography on medical response and interoperable communications.

Rural communities are often underserved regions with several health disparities, such as high mortality rates and cardiovascular diseases. Due to the dire health needs of rural communities, coordinated emergency response is often provided by a variety of medical providers and non-medical emergency responders.

Eligibility:

State governments Public and State controlled institutions of higher education City or township governments County governments Native American tribal governments (Federally recognized)

The entity applying for REMCDP must operate or have access to an existing statewide or regional emergency communications system that is leveraged to address rural health disparities such as mortality rates and cardiovascular diseases. The applicant must also either

- 1) operate a medical facility that provides rural emergency medical care or
- 2) partner with a medical facility or organization that provides rural emergency medical care.

Applicants who do not operate a medical facility and choose to partner with a medical facility or organization that provides rural emergency medical care must provide a letter of intent from the cooperating medical facility or organization to demonstrate commitment to partner in award and project execution.

Grant Name:
McKesson Foundation Grants

Note: This grant's deadline is rapidly approaching. Apply soon!

Funder Type:

Foundation

Administering State:

Deadline(s):

Rolling

Who Can Apply?:

Non-Profit

Matching Requirement?:

No

Program Link:

<https://apply.yourcausegrants.com/apply/programs/4ac4f47d-5d64-4e87-a8ea-27da4769218c/routing>

Summary:

We accept funding requests **up to \$25,000 year-round**. Funding decisions will be made within 60 days of receipt. All funding requests are assessed on the project's alignment with the Foundation's strategic giving pillars, demonstrated need, expected impact, cost, and other evaluation criteria.

The McKesson Foundation's grant cycle, **for requests above \$25,000, will reopen on February 1, 2024.**

Founded in 1943, the McKesson Foundation is a 501(c)(3) corporate foundation dedicated to advancing health outcomes for all. The Foundation's mission is to remove barriers to quality healthcare across North America, especially for vulnerable and underserved communities.

As we celebrate our 80th anniversary this year and continue to champion health equity, we are expanding our portfolio of nonprofit partners to advance efforts aligned with our three strategic giving pillars and corresponding areas of focus:

- **REDUCING THE BURDEN OF CANCER**
- **DIVERSIFYING THE HEALTHCARE TALENT PIPELINE**
- **ACCELERATING EMERGENCY PREPAREDNESS AND DISASTER RELIEF**

Finance

Emergency Medical Services (EMS) systems are incredibly diverse across the United States. They are generally not considered an “essential service” (a service that the government is required, by law, to provide to its citizens). EMS varies in clinical sophistication, deployment strategies, performance standards, and governance. EMS systems also differ considerably in how they are funded. Emergency Medical Services are defined as “pre-hospital and out-of-hospital EMS, including 911 and dispatch, emergency medical response, field triage and stabilization, and transport by ambulance or helicopter to a hospital and between facilities” (EMS.gov, 2023). Ambulance services are a critical component of an emergency medical system and the health care safety net, for which user fees have been the primary funding source. Local tax subsidies have offset the costs for all EMS System components in various locations.

Financing EMS is not just complex; it is a significant challenge. The methods are often fragmented, conflicted, and frequently underfunded. EMS agencies' unique service delivery model means they increasingly respond to situations without reimbursement. For instance, the costs can be significant when law enforcement calls EMS to an emergency scene, such as a motor vehicle accident. If the patient is assessed, treated, and referred to another healthcare provider but not transported, no reimbursement is available from insurance companies. Yet, costs were still incurred for readiness to respond and for the actual response, assessment, and treatment. Policies on whether to bill patients for a response without transport vary among EMS agencies.

One of the most pressing issues facing EMS is the inadequacy of federal reimbursement rates. Like other healthcare safety net providers, a substantial portion of EMS costs are directed toward readiness and timely response. According to the Institutes of Medicine, “EMS costs include the direct costs of each emergency response, as well as the readiness costs associated with maintaining the capability to respond quickly, 24 hours a day, seven days a week.” (Institute of Emergency Medicine, 2007). These costs, which include 24/7 staffing levels, response time reliability, service level, training, equipment, and administrative expenses, are inherent in the delivery of service and must be adequately accounted for in the reimbursement models.

Outsource of EMS Billing

The U.S. EMS billing services market size was estimated at USD 1.9 billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 9.85% from 2023 to 2030. The market is expected to increase during the forecast period due to the cost-saving benefits of outsourcing billing operations. Emergency medical services (EMS) agencies are turning to specialized billing companies to focus on patient care and reduce overhead costs. Outsourcing allows agencies to utilize expert claims management with reimbursement knowledge, ensuring accurate processing and maximum reimbursement revenue.

The rising number of Emergency Department (ED) visits and the emergence of independent freestanding ED facilities are expected to drive the EMS billing services market in the U.S. According to the National Hospital Ambulatory Medical Care Survey 2020, there were 131.3 million ED visits in the U.S. Of these visits, 38.0 million were injury-related, indicating a substantial demand for emergency medical services.

Furthermore, technological advancements for improved billing services are expected to impact the overall market significantly over the forecast period. As billing procedures become increasingly complex, there is a growing demand for software solutions to enhance the process and increase client revenue. Billing

service providers are either developing their in-house software applications or purchasing them from technology firms to meet this demand.

Before the implementation of a county-based EMS Program, Ocean County should look to develop a Request for Proposals (RFP) for Emergency Medical Services billing. Utilizing a billing company will allow for outsourcing, a valuable component in developing the EMS county-based system. Securing a billing agency will allow one entity to source all the material needed to gain financial responsibility and licensing for Medicare, Medicaid, and all forms of insurance. The correct organization should be picked based on experience with other agencies of similar size and response demographics. As part of the Request for Proposals, the agency should provide all report samples and an in-depth analysis of potential billing based on estimated call volume.

Two types of annual revenue recoveries can be calculated for transport fees:

1. Annual Revenue Collected versus Annual Revenue Billed: This shows the amount collected compared to the amount that would have been billed. This directly relates to the fixed reimbursement amounts based on the county's payer mix.
2. Annual Revenue Collected versus Annual Cost: This shows the amount collected compared to the annual cost associated with those activities.

Fees for Service

Ocean County should adopt a resolution for the County-Based EMS program's fees-for-service. Below is an example of these fees. These fees should be updated yearly utilizing the Medicare-approved percentage increase. The County and the approved EMS billing agency should evaluate the direct expense accrued before implementation and conduct a revenue analysis after year one of the system's in-service to determine the optimal billing rates.

Service	Fee
Oxygen Administration	\$100
Disposable Cervical Collar	\$50
AED Administration	\$100
EpiPen	\$180
Refusal Fee (treatment without transport)	\$250
Extra attendant/bariatric	\$130
Narcan Administration	\$150
Assist in Lifting	\$110
Pelvic Splint	\$90
Albuterol Nebulizer Treatment	\$75
Pronouncement Fee	\$500
CPAP Device	\$100
Glucometer	\$75
Basic Ambulance 911 Fee	\$1,200
Mileage/Per	\$30

Billing Models

Emergency Medical Services recognizes two types of billing models. These include the complete collection of costs, referred to as “hard billing” or “soft billing,” which is the partial collection of service expenses. With soft billing, the agency only collects what Medicare, Medicaid, and third-party insurance pays. It waives the rest of the bill based on policies or soft billing—the process of obtaining financial reimbursement for the cost of providing medically necessary ambulance transportation. Medicaid, Medicare, and most other private insurance policies (health, auto, and homeowner) already allow for reimbursement for ambulance transportation services. It should be noted that in both billing practices, there will not be any change in the Emergency Medical Services response; all parties who need EMS, regardless of insurance coverage or ability to pay, will receive the services.

Soft Billing

Insurance companies will be billed first for emergency transport. Unpaid costs by the insurance company may be forwarded to the patient who received emergency services. Although patients may receive a bill, Ocean County residents will not be expected to cover any associated costs or underpayment by insurance companies and will not be penalized for nonpayment. The law allows for Emergency Medical Providers fees to be written off by the organization in lieu of taxes paid to the County Government. Soft Billing does not penalize patients if they cannot pay and utilizes the insurance payment as full payment. The balance is written off as uncollected debt.

Hard Billing

Insurance companies will be billed first for emergency transport. Unpaid costs by the insurance company may be forwarded to the patient who received emergency services. Bills for services not paid for in full will have attempts for collection by the EMS billing company, and organizations can place the patient into collections. While this process can cause hardship for the patient, it will increase overall revenue collection for Ocean County. It is recommended that Ocean County develop a hardship waiver for either reduction or waiver of service fees. When considering the option of hard billing, know there can be a community backlash from a taxpayer-funded program with this billing practice.

Ocean County should consider implementing a billing model that seeks reimbursement of funds to help supplement some of the operational expenses for Emergency Medical Services while giving some relief to the county’s general fund and, ultimately, the taxpayer. Ocean County should analyze and discuss the ability to determine a hybrid billing system; this could include soft billing for county residents and hard billing for out-of-county residents. This model will allow Ocean County to recoup funding for Emergency Medical Services.

Services with Municipalities

If Ocean County and another municipality determine that it would be mutually beneficial to enter into a shared service agreement, Ocean County should consider the following billing models:

Ambulance service providers contract with municipalities in several ways:

1. A subscription service in which residents pay a small yearly subscription fee. If the ambulance service is needed, the insurance company is billed, and the resident is not responsible for anything not paid by the insurance company. If a resident chooses not to pay the subscription fee, the resident is billed for whatever the insurance company does not cover.

2. Some divide their operating costs by the total population served. Each town is then assessed a fee by multiplying its population by the price per resident.
3. Some divide their operating costs by the total number of calls. Each town is then assessed a fee by multiplying its prior year's call volume by the cost per call.
4. Some do not charge towns anything and rely on patient fees collected from the insurance companies. Most EMS agencies bill for services provided. Given the Medicare laws, paramedic intercept services are barred from billing Medicare. To get around this, an ambulance company may bill Medicare to include the cost of the paramedic service, but the payment is less than if it had billed Medicare patients directly. If the ambulance service does not bill for services, the paramedic intercept can bill Medicare directly. However, for private insurance, a bill can be submitted for both the emergency ambulance transport and the paramedic intercept.

If Ocean County determines they will charge a municipality for services, the following formula is recommended:

A generally accepted costing model on how to estimate the price of EMS services uses the following formula:

- A. Personnel Costs = average on-call time x average hourly labor rate x an average number of personnel on the call x number of incidents during the prior year. (Hourly rate includes benefits)
- B. Vehicle = (Operating cost per mile x annual call miles) + annual cost for ambulance replacement.
- C. Supplies = Actual cost of medical supplies per year + billing service costs.
- D. Indirect Costs = 25% (A+B+C). 25% is used to address other benefits and training costs.

This formula should be used to determine the fee charged to towns contracting for ambulance service. Once all formulas are completed, an analysis versus potential revenue based on call volume should be obtained and subtracted from the overall costs. This will determine the costs for each municipality.

Budget

Knowledge of EMS expenses, revenues, and funding alternatives is necessary to plan for an EMS service's financial capability. The County should consult the area's ambulance dealers, communication equipment distributors, and medical equipment suppliers to obtain up-to-date expense data. The proposed budgets are based on the current trends in the EMS industry, with a 10% cost variable due to increased expenses and inflation.

Three expense sheets will be discussed: capital expense, year one operational budget, and year one salary and wage. All are based on current market expenses and take into account unknown items that may be necessary based on the inability to determine any purchases or current equipment that Ocean County currently has on hand or purchased.

Capital expenses consist of the total capital equipment outlay and annual expenses. Capital and operating expenses are based on average known expenses or actual expenses. Annual capital equipment expenses are further defined as annual replacement expenses of the capital equipment based on a straight-line depreciation system. Annual capital replacement funds are not a requirement but a planning tool for EMS systems to include in future planning.

Vehicles and Equipment

There are three types of ambulance vehicles: Type I, Type II, and Type III. All vehicles must comply with the Federal Specifications for the Star-of-Life Ambulance KKK-A1822 at the time of manufacture. Based on these specifications, the EMS decision-makers or planners must decide what type of ambulance the Ocean County EMS System will require to accomplish the mission. With the addition of optional available equipment, the price of a vehicle will vary. Note the price per vehicle does not include the cost of equipping the vehicle for patient care. The average costs of ambulances can range from \$150,000 to \$350,000 based on the type of ambulance and setup. To equip an ambulance, further equipment will be required and can add over an additional \$200,000 per ambulance fully equipped. All ambulances must be minimally stocked to the NJ OEMS regulations standard before obtaining NJ EMS Provider Licensing.

Other vehicles must also be purchased and outfitted as EMS Command Vehicles. The command vehicle is usually an SUV assigned to the administration staff and on-duty supervisor and available to respond to the scene or provide additional equipment and supplies. Additional equipment for EMS vehicles includes basic life support and command-level equipment. These fully equipped vehicles average \$100,000-\$120,000.

Communication System

Ocean County has already established a communications system through the Ocean County Sheriff's Office. As such, the capital expenses for communications will be directly related to the EMS Operations. Capital expenditures for communication equipment will include portable and vehicle-based communication equipment. These items will allow communication with Ocean County 911 Communication Center on a digital trunked system. Mobile Data Terminals (MDT) installed in each vehicle should allow Computer Aided Dispatch (CAD) notes to be transmitted directly to crews to reduce radio communication traffic. It is also recommended that AVL is installed in all vehicles and offered to all Ocean County EMS Agencies for better tracking and reduced primary response times and mutual aid response times for the County. Ocean County should investigate the cost of providing the (CAD) or similar services such as the "EMS Anywhere" MDT System.

Building

A building will be needed to accommodate the ambulance vehicles, auxiliary equipment, workspace, and EMTs. The building may also need to accommodate the administration, including the billing office. The building can be a new construction or an existing building that can be adapted to provide adequate space to meet the current and future needs of the EMS system. Ocean County should look to develop a new building to store all out-of-service ambulances and administrative offices. Primary locations could include the Ocean County Fire & EMS Training Academy, with a new building on the site for EMS Operations. Capital Expenses for this building should consist of furniture, communication equipment, vehicle storage, administration, data equipment, adequate power connections for diesel ambulances, and generators as needed.

The proposed Capital Budget is not an all-inclusive list, and each line-item cost is based on current market value plus 10% due to projected inflation costs. The capital budget assessment was completed in conjunction with the current Ocean County Emergency Medical Coordinator and is a baseline for the decision-makers to assist in developing the Ocean County EMS System.

Capital Item	Quantity	Price	Total
Ambulances	15	\$ 300,000.00	\$ 4,500,000.00
Command Vehicles/Upfitted	8	\$ 100,000.00	\$ 800,000.00
Mobile Radios	25	\$ 7,000.00	\$ 175,000.00
Portable Radios	50	\$ 8,500.00	\$ 425,000.00
MDT	30	\$ 5,500.00	\$ 165,000.00
Truck Camera System	23	\$ 6,500.00	\$ 149,500.00
Stretchers & Retention Systems	16	\$ 70,000.00	\$ 1,120,000.00
Stair Chairs	20	\$ 6,000.00	\$ 120,000.00
Suction Units	30	\$ 500.00	\$ 15,000.00
AED'S	30	\$ 3,000.00	\$ 90,000.00
Lucas Devices	25	\$ 15,000.00	\$ 375,000.00
Medical Supplies Start-Up Kits	18	\$ 15,000.00	\$ 270,000.00
IT Data Equipment/Base/Computers	20	\$ 7,000.00	\$ 140,000.00
Safety Equipment (Helmets, Jackets)	30	\$ 5,000.00	\$ 150,000.00
Misc. Medical Equipment			\$ 500,000.00
Misc. Equipment			\$ 500,000.00

Total Capital Expense- \$ 9,494,500.00

Operational Budget

The proposed operational budget, developed in conjunction with the Ocean County EMS Coordinator, is designed to highlight the main financial expenses of an EMS System. This does not include building maintenance, fuel, hiring expenses, and vehicle expenses, as these will need to be developed once vehicles are purchased based on the manufacturer's recommendation. It is also noted that uniforms may be reduced after the first year as these items do not require yearly replacement. Miscellaneous and Medical Equipment are included as backup equipment, and supplies will need to be purchased for replacement and disposable medical supplies. Ocean County should look to include the cost of Electronic Patient Care Reporting service under the RFP for Ambulance Service Billing.

Line Items 2025

Uniforms	
EMS Uniforms	\$180,000.00
Subscriptions/Service Agreements	
Scheduling Software	\$2,000.00
Policy & Procedure Software	\$10,000.00
Guardian Reporting	\$6,000.00
Active 911	\$5,000.00
Online Education System	\$5,000.00
EMS Charts	\$-
EMSAR (Stretcher/Stair chair Preventative Maintenance)	\$35,000.00
Medical Direction	\$10,000.00
Medical Billing @ Rate of 7%	\$400,000.00
Ambulance Fire Extinguisher Inspection	\$1,000.00
AED/Suction/Lucas Biomedical Yearly Testing	\$10,000.00
Education Software	\$3,000.00
Medical Supplies	
Oxygen	\$30,000.00
Medical Supplies/Equipment	\$250,000.00
Education/Training/Outreach	
Training Equipment/Outreach	\$25,000.00
EMS Training Course Fees	\$100,000.00
General Operations	
Office Supplies	\$10,000.00
IT Equipment	\$10,000.00
Vehicle Supplies	\$8,000.00

Food & Other Items for Meetings Etc.	\$1,500.00
Unanticipated Costs	\$15,000.00

Total Operational Budget Year 1- \$1,116,500.00

Salary

Traditionally, EMTs, regardless of license level, have been under-compensated medical professionals. Many paid EMTs are forced to work more than one EMS job or to work at other types of employment to earn enough money to raise a family above the poverty level. Reflecting the multi-faceted functions of the EMS system of the future and increased educational requirements coming from the federal level, compensation for these professionals must be improved. Using market research, the proposed salary ranges are provided for the decision-makers to develop a wage for each position within the organization. These ranges do not include pension, benefits, FICA, and any other employment-related expenses. Decision-makers should develop a salary step guide to place employees into step brackets. The Per-Diem EMT salary total is based on each per-diem working 36 hours per month, while per-diem Instructors work 24 hours monthly.

Position	Salary Low	Salary High
Director of EMS	\$ 125,000.00	\$ 165,000.00
EMS Operations Manager	\$ 95,000.00	\$ 120,000.00
EMS Clinical Manager	\$ 95,000.00	\$ 120,000.00
EMS Supervisor	\$ 75,000.00	\$ 90,000.00
EMS Supervisor	\$ 75,000.00	\$ 90,000.00
EMS Supervisor	\$ 75,000.00	\$ 90,000.00
EMS Supervisor	\$ 75,000.00	\$ 90,000.00
QA/QI Supervisor	\$ 75,000.00	\$ 90,000.00
Education Supervisor	\$ 75,000.00	\$ 90,000.00
Administrative Assistant	\$ 50,000.00	\$ 60,000.00
Administrative Assistant	\$ 50,000.00	\$ 60,000.00

[illegible]

[illegible]

[illegible]

Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Emergency Medical Tech PD	\$ 26.00	\$ 30.00
Total	\$ 224,640.00	\$ 259,200.00
	Salary Low	Salary High
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00

EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
EMT Instructors	\$ 30.00	\$ 35.00
Total	\$ 86,400.00	\$ 100,800.00

Year 1-5 Deployment

While it is nearly impossible to develop a strategic plan for an agency that does not exist yet, a staffing and deployment model that has not been selected and the data set provided for analysis regarding mutual aid are limited. As such, this number is based on the development of an agency that will grow 10-15% in call volume each year. It is recommended that after a staffing and deployment strategy is implemented, a strategic plan should be developed utilizing reliable response data and a re-evaluation of deployment based on those numbers. As such, the chart included represents an agency that shows substantial yearly growth in response numbers, as it is impossible to determine if any municipality will require a primary response from the county-based EMS system. This table also includes a vehicle deployment recommended by the industry standard of 300,000 miles or five years of service for replacement and the utilization of N.J.A.C 8:40, which requires a set amount of reserve vehicles for an EMS service based on their primary response vehicles.

Year	Director	Managers	Supervisor	Full-Time EMT	Per-Diem EMT	Instructors	Ambulances	Support Vehicles
Year 1	1	2	4	40	20	10	15	8
Year 2	1	2	5	45	25	12	17	8
Year 3	1	2	5	50	30	14	19	8
Year 4	1	2	5	55	35	16	21	10
Year 5	1	2	6	60	40	18	23	10

Revenue

There are several options available for decision-makers to raise revenues. Some options, such as community fund-raisers, are commendable but unreliable. More reliable sources are user fees (fee per call), mileage fees, sales tax collections, ad valorem taxes (property taxation), public utility assessments (surcharges), subscription/membership fees, county, city, or state subsidies, and third-party reimbursement. It's important to mention that collection percentages for EMS charges have declined due to decreased Medicare and Medicaid reimbursements. Collection percentages average between 30 percent and 70 percent. There should be some consideration for a waiver process for the indigent.

The expenses incurred in operating the EMS system are shown above; however, the "readiness" cost per ambulance will range from \$200,000 to \$300,000 per year but will increase as the number of calls increases above the average numbers that are the basis of the budget. It is essential to keep this amount in mind when evaluating funding options.

User fees and mileage fees

User fees and mileage fees are generally charged for EMS service. Different fees can be charged for non-emergency transport, emergency transports, transfer calls, and treatment (but no transport calls). Mileage fees are charged per loaded or transport mile. For the smaller rural EMS systems, these fees generally do not cover costs and have not kept up with EMS costs and inflation. Thus, they are often supplemented with other forms of revenue. Other funding sources may need to be used to supplement funding for the EMS system. User fees and mileage fees are typically collected from Medicare, Medicaid, private insurance, military insurance, and private pay from individuals representing deductibles, copays, and full payment from the uninsured.

Sales tax collections

Sales tax collections are another way to fund an EMS System. Typically, an election of the citizens of the designated taxation area is required to authorize a sales tax; this could be a state, county, or city. Percentages for sales tax collections designated for EMS systems vary based on size. Local, regional, and state laws must be checked to see if sales taxes are available to subsidize EMS systems and the percentage of sales tax available for such subsidy.

Utility assessments/Surcharges

Public utility assessments (or surcharges) are another method that community residents might use to pay for the EMS service. This method is available for an EMS system owned by a city, town, or municipality that owns its utilities. Residents may already pay for water, sewer, sanitation, and/or electrical services. The city, town, or municipality can authorize a public utility assessment through their governing board or council without a vote of the residents. The assessment is added to the residents' regular utility bill and is paid monthly based on the current collection system.

Subscription/Membership fees

Subscription/membership fees are another source of funding for EMS systems. Subscription fees are voluntary payments from individuals and/or businesses. A subscriber may be allowed a discounted user fee if and when the subscriber should utilize the EMS service. These fees are collected voluntarily. City, county, and state subsidies: city and county subsidies are funds allocated to EMS systems by local governments. Local governments may allocate funds to the EMS systems to supplement the service and ensure that the residents have adequate EMS services available. The public is beginning to recognize

EMS as a necessary infrastructure emergency response service, similar to police and fire. The state government may also choose to subsidize EMS systems. State legislators may elect to allocate funds for EMS to supplement the services to assure that state residents will have adequate EMS services available.

Third-party reimbursements

Third-party reimbursements are collections of payments made by governmental agencies and private insurance companies. These amounts can account for as much as 80 percent of patient fees.

Understanding how to access these funding sources is vitally important. The rules and regulations to bill vary by source of third-party collections. Many EMS systems are outsourcing their billing functions to improve funds collection. Billing companies will charge a flat fee per call or a percentage of fees collected for their services. If an appropriate and efficient billing service is utilized, the increased collections will typically pay the additional cost for the service.

Medicaid ambulance coverage

Medicaid is a joint program of the federal and state governments. Each state establishes its own Medicaid regulations. Therefore, the reimbursement level for ambulance service from Medicaid varies significantly from state to state, as there is no standard methodology for determining reimbursement rates. Agencies must check with their state Medicaid office to determine EMS reimbursement rates. Medicare ambulance coverage Section 4531 (b) (2) of the Balanced Budget Act (BBA) of 1997 added a new section 1834 (l) to the Social Security Act, which mandated the implementation of a national fee schedule for ambulance services furnished as a benefit under Medicare Part B. Medicare began using a national fee schedule effective January 1, 2000, as per the Balanced Budget Act of 1997. In February 2002, the Centers for Medicare and Medicaid (CMS) published the Final Rule implementing the fee schedule. The fee schedule applies to all ambulance services, including volunteer, municipal, private, independent, and institutional providers, i.e., hospitals, critical access hospitals (except when it is the only ambulance service within 35 miles), and skilled nursing facilities. Section 1834(l) requires mandatory assignment for all ambulance services. Ambulance providers and suppliers must accept the Medicare-allowed charge as payment in full and not bill or collect from the beneficiary any amount other than any unmet Part B deductible and the Part B coinsurance amounts. Ambulance services covered under Medicare will then be paid based on the lower of the actual billed amount or the ambulance fee schedule amount. The fee schedule was fully implemented as of January 1, 2006. Base rates and mileage rates are included in the new schedule. Base rates are adjusted for geographic cost variations, and mileage rates are designated as rural, urban, or super urban based on the zip code of the trip origination. The rates will vary based on the level of service provided and based upon appropriate documentation of services provided, making documentation necessary for EMS providers to be appropriately reimbursed, equitably, and at the maximum allowable level.

The current 42 CFR §414.601-414.625, Fee Schedule for Ambulance Services can be accessed at: http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&tpl=/ecfrbrowse/Title42/42cfr414_main_02.tpl

It is important to note that Medicare regulations complicate the billing procedures and documentation process. EMS providers must take a proactive role in properly billing Medicare calls and providing adequate documentation to ensure maximum reimbursement levels. EMS providers must research Medicare guidelines regularly to keep billing procedures current or contract (or outsource) their billing to a professional billing service. An EMS provider should thoroughly document to promote good patient care, reduce liability, and ensure proper conscientious management. For complete information on the new Medicare Fee Schedule, visit the CMS website.

As discussed in the initial meeting with all stakeholders, this document will not include a revenue chart. So many variables will affect the outcome of any possible revenue projection that creating a chart based on mere speculation lacks reliability.

Conclusion

In conclusion, after reviewing all the data, interviewing, and meeting with stakeholders, it is undeniable that a County-wide EMS gap service would benefit Ocean County residents and visitors. There is a clear need for a sustainable, reliable, strategically deployed pre-hospital ambulance service.

The Ocean County 911 Communications Center will be the nucleus of this project, and its initial and future success will rest on the quality of the data captured through the call-taking center. Consistently accurate data reporting, capturing the necessary call data, and extracting that information efficiently and effectively must be immediately implemented. The EMS leadership must complete predictive modeling as accurately as possible, calculate staffing projections and proper supervision, and budget forecasting, all of which require accurate data. Immediate attention must be given to the identified deficiency in data collection. EMS leadership and the leadership with direct oversight of the County 911 Communication Center must work together to meet these goals accurately and reliably. Monthly, quarterly, and yearly reports should be completed and shared with the stakeholders during the first year of operation to ensure appropriate data has been captured and the proper resources have been allocated.

The study clearly showed that the County 911 Communications Center has been severely understaffed, unsupported with technical updates, and underpaid compared to other telecommunicators, and it has not met the standards for accreditation. Moving forward with accreditation, appropriate guidelines and call-taking standards must be implemented, along with the necessary best practice benchmarks and quality control requirements. Proper staffing is essential to achieve these goals. The EMS and County 911 Communication Center leadership should work together to create standardized new employee training programs for both agencies (EMS and Telecommunicators) as they will work together collaboratively and with an appreciation for each other's vital and intertwining roles.

If a project of this size and scale is to launch successfully, which will undoubtedly increase the volume of work for an already short-staffed call center, it is recommended that these issues be addressed before implementation. The County 911 Communications Center should be viewed as a customer service-based agency, where compassionate patient care call-taking is the experience, the caller receives. Behind the scenes, robust state-of-the-art technology captures important analytical data and yields a real-time reporting system, saving time and lives.

As stated previously, there were times when essential data could not be obtained, and this will need to be addressed immediately as it will be necessary for future EMS leadership to draw from. Conversely, it is hard to ask for more work when it has already been established that the County 911 Communication Center is working well below reasonable staffing levels. Staffing must be addressed along with commensurate pay to incentivize new employees to remain working for the county instead of leaving for lower call/work volume and higher pay at another agency. Low pay is the breeding ground for mediocrity and complacency. This issue must be resolved before an increased workload is undertaken.

The importance of new and upgraded equipment that will assist the County 911 Communication Center cannot be emphasized enough. As stated, several times prior, it is recommended that the county purchase, for all participating agencies, an automatic vehicle locator system called AVL through a grant or capital project. The county should require that all EMS agencies that utilize the Ocean County 911 Communication Center for primary dispatch or mutual aid dispatching assistance (including self-

dispatching agencies) be equipped with an AVL vehicle locator system. This system would allow the County 911 Communication Center's telecommunicators to access mapping systems on their dispatch consoles showing the in-service ambulances throughout the county. With this information, the telecommunicator can see which ambulance is closest and in service on their monitor screens and then dispatch accordingly to the call location. This will alleviate unnecessary radio calls requesting mutual aid from EMS agencies that are not in service or unavailable to render mutual aid assistance. The most important and arguably the most valuable element is time; an AVL system eliminates delays in response times and, thus, patient care.

Another quantifiable benefit is eliminating unproductive time for telecommunicators whose every job assignment should be time-stamped with levels of accountability. This takes the guesswork out of what EMS agency is available and streamlines the process of getting an ambulance to a call location. This is a more efficient way for the telecommunicator than radioing each EMS agency, one at a time, checking for availability, which is a very rudimentary way of completing a very time-sensitive task. AVL systems have been operational and have been put to good use by emergency services since the early 2000s. Although upfront costs are expensive, this system will prove to be an advantageous tool for many reasons, from quicker response times when treating patients, visual mapping for quick identification of in-service ambulances, mapping for ambulance drivers who need directional assistance, monitoring a safe ambulance driver response, training opportunities, and as a risk management tool.

Additionally, training and policy development will also be necessary with the rollout of a new AVL system. One of the essential issues the policy should address is the commonsense patient-first dispatch rule of the closest available EMS unit(s) that will be dispatched to each emergency, regardless of the EMS agency, assigned zone, or township. This should be irrespective of territorial boundaries, which has prevented the quickest patient care in many communities around the United States. A paradigm shift in the EMS community must occur to promote this patient-first concept but doing it the old way has serious drawbacks that must be addressed. A contemporary mindset with reassurance that this formula of patient care first, despite territorial boundaries, is paramount and saves lives.

Due to the AVL system's preserved location and speed data, all ambulance operators should be current with coaching the emergency vehicle operator CEVO and emergency vehicle operation course EVOC training, which should be offered for free or at a discounted cost through the county. A county-wide response policy should be recommended for all agencies dispatched through the County 911 Communication Center, with regular free training that includes instructions on code responses and where code three responses are reserved for extreme and rare circumstances. The County 911 Communications Center needs to reduce unnecessary use of emergency lights and sirens throughout the county, particularly when responding to low-acuity requests for service. Studies acknowledge that when a patient is in the back of an ambulance, the unnecessary use of a siren can cause undue stress. Even when CPR is in progress, lights and sirens accompanied by higher speeds put the EMT, who is performing CPR unrestrained in the back of the ambulance, at a higher risk of serious injury. The goal is to get everyone to the hospital safely, and in doing so, lights, sirens, and speeds should be guided by prudent policy, regular training, and active quality control to ensure the safety of all involved. Best practice starts with a designated code response from the telecommunicator and a proper response from the EMS driver. Everyone benefits from good guidance and safe arrivals. That being said, formally establishing guidelines for response time requirements with the best practice standard of 90% compliance for life-threatening, non-life-threatening, and low acuity requests for service is a benchmark that must be implemented.

The newly appointed leadership of the county-wide EMS department should work closely with the leadership of the County 911 Communications Center. They will have overlapping goals, and the success

of both entities is intertwined. Training together and frequent staff meetings, which include representatives from both agencies, will be helpful when accomplishing this task.

Selecting the most talented executive leadership will be one of the most essential decisions that could determine the project's success. Thoughtful, reflective, collaboratively driven leadership that can create an employee-centered work environment while leading a multi-million-dollar agency will contribute to the success of the overall operation. Staffing will again require the County to create a pay scale commensurate with the job description, incentivize employees to apply, and encourage retention. As seen in the study, there is a price to pay for being a training ground for employees.

With an EMS county-wide program of this scale, a headquarters must be established with offices and storage for equipment and ambulances. Equipment has a shelf life, and ambulances have replacement schedules. Calculate a ratio of one spare ambulance for every 1.5 front-line ambulance. When budgeting and forecasting capital projects, be mindful of this and prepare accordingly.

Since the Board of Commissioners approves the county wage and support for the program, it is incumbent upon them to adequately fund the size and scale of a successful organization if they decide to move forward with this project. The county should look to be the leader in all categories, including salary, proper staffing, and purchasing the necessary equipment to yield the best service residents have come to require while reducing unnecessary liability.

Overall, a county-based EMS organization will be most beneficial to the residents of Ocean County, as noted in response times, mutual aid, and call volume, which continue to increase as the population and visitors to Ocean County continue to rise. The number of Baby Boomer Generation residents relocating outside larger cities continues to be a trend that will undoubtedly increase the use of ambulance services. Ocean County should look to implement an EMS program and EMT Initial Training Program by the completion of 2025. While time may be of the essence, it is recommended that a well-established program be implemented before deployment, incorporating all of the best practices of a high-functioning, dynamic deployment EMS System, as rushing a system may cause multiple short- and long-term deployment issues and financial irregularities.

Resources

Crimegrade.org | the safest places and best home security. Crimegrade.org. (n.d.).
<https://crimegrade.org/>

Hankins, J., pub.njleg.gov (2023). State of New Jersey. Retrieved 2024, from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://pub.njleg.gov/publications/reports/TheSpecialTaskForceonVolunteerRetention&RecruitmentFinalReport.pdf.

Institute of Emergency Medicine . (2007). *Emergency medical services: At the crossroads.* Summary | Emergency Medical Services: At the Crossroads | The National Academies Press. <https://nap.nationalacademies.org/read/11629/chapter/2>

Magee, N. (2020, October 29). *5 myths about the EMS volunteer shortage.* EMS1.
<https://www.ems1.com/volunteer-rural-ems/articles/5-myths-about-the-ems-volunteer-shortage-QSH8jkgUeUa4BD51/>

Marvlis products. BCS, Inc. (n.d.). <https://www.bcs-gis.com/marvlis-products.html>

Substance Abuse & Mental Health Services Administration. (2020). *2018-2019 NSDUH state estimates of Substance use and mental disorders.* SAMHSA.gov.
<https://www.samhsa.gov/data/report/2018-2019-nsduh-state-estimates-substance-use-and-mental-disorders>

What is Ems?. EMS.gov. (2023). <https://www.ems.gov/what-is-ems/>