CITYGATE
POLICE SERVICES

COMPREHENSIVE OPERATIONS AND STAFFING ASSESSMENT OF THE POLICE DEPARTMENT

FINAL REPORT

CITY OF MINNETONKA, MN

MAY 4, 2023

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CITY OF MINNETONKA

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TABLE OF CONTENTS

Table of Tables

Table of Figures

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EXECUTIVE SUMMARY

The City of Minnetonka (City) retained Citygate Associates, LLC (Citygate) to conduct a Comprehensive Operations and Staffing Assessment of the Police Department (Department). This assessment, performed concurrently with a Standards of Coverage assessment for the Fire Department, included review of the adequacy of current and future deployment systems, staffing levels throughout the Department, sustainable alternatives, medical incident and mental health response, and organizational structure. The methodology utilized in this Operations and Staffing Assessment can be found in **Section 1** of this report.

Citygate's review includes a detailed analysis of the data that drives staffing recommendations, including data concerning police unit response times, crime, and calls for service. The review also includes analysis of the staffing of supervision, management, and support functions within each of the three divisions of the Department. The Department provided incident and other workload measures data where available.

This assessment encompasses Citygate's recommendations for Department success over the next five to seven years.

Overall, there are **59 key findings** and **47 specific action item recommendations**. Findings and recommendations are presented in their narrative context in sections 2 through 7. A comprehensive list of all findings and recommendations is presented sequentially in Section 8. Recommendations are also presented in summary form in this Executive Summary.

POLICY CHOICES FRAMEWORK

As the City Council understands, there are no mandatory federal or state regulations directing the level of police field service staffing, response times, and outcomes. The International Association of Chiefs of Police (IACP) recommends methods for determining appropriate staffing levels based on local priorities. The National Emergency Number Association (NENA) provides standards for 9-1-1 call answering, and the Association of Public-Safety Communications Officials-International (APCO) and the International Academies of Emergency Dispatching (IAED) provide best practices that illuminate staffing needs for communications centers providing dispatch services.

Using a data-driven framework as advocated in this report, the City can engage the community in *adapting future public safety services to use alternative and focused strategies* while addressing community-wide, neighborhood, and social issues relative to the services provided.

Personnel costs are often the most significant cost center in any department budget. One of the City Council's greatest challenges is managing scarce fiscal resources and allocating them wisely across the vast needs of municipal government safety operations. The recommendations in this

Comprehensive Operations and Staffing Assessment are made based on best practices, Citygate's experience, and guidelines established by professional industry organizations. The City's fiscal capabilities must be considered when weighing these recommendations. Since there are no law enforcement national standards, the City is well advised to use the advice and counsel of City management and the Police Chief for guidance to determine where to allocate available resources to meet the service delivery expectations of the community.

General Summary of Citygate's Assessment

Throughout Citygate's assessment, we found a Department with high professionalism at all levels and a staff willing to implement new ideas and technologies to improve policing in the City. The members of the Department are extremely dedicated to the community they serve. No organization is perfect, and many of the findings and recommendations in this report are items the Department is aware of and is already taking steps to implement. Some changes will take time and require resources as part of the normal budget process.

Throughout this assessment, Citygate's recommendations across five themes will serve the Department in its effort to achieve the following goals:

- Update organizational structures to maximize effectiveness.
- Improve public and officer safety through increased supervisory oversight.
- Increase capacity in Patrol services, particularly during peak hours, to reduce response times and allow more time for officer-initiated proactive policing, community engagement, and investigative follow-up.
- Increase training to ensure compliance with the latest regulations and standards for safe, fair policing.
- Improve the type and volume of formal community engagement.

If this study's recommendations are implemented over several fiscal years, the Department will be well positioned to deepen its ability to provide proactive policing. The community will be able to increase interaction with partners in the Department to foster joint crime prevention strategies. The prevention of crime and disorder and the closure of investigations of serious incidents will increase. When the public interacts with Minnetonka police, they will *know them and trust them to be fair* and not assume they are representative of what is wrong with policing elsewhere in America.

Summary of Police Services Findings by Topic

Organizational Summary

At the time of Citygate's organizational review, the Department was operating with an authorized/budgeted staffing level of 67 employees—including 58 sworn staff and 9 professional staff—organized into three divisions and an Office of the Chief. Additionally, the Department was funded for four part-time Community Service Officers, which were being converted to Cadet positions at the time of this report's delivery. These staffing levels represent a ratio of 943 residents per sworn police officer, or 1.06 sworn officers per 1,000 residents. Citygate found that the Department's ratio of supervisors and managers to line-level officers represents the "mid-range" when compared to similar regional police agencies. As will be discussed in depth in this study, Citygate does not believe that only a certain ratio of officers to population delivers effective police services. For example, Citygate also measured that, although the City has the second highest violent crime rate when compared to other benchmark agencies, the City's per capita police spending is relatively low.

Patrol Services Summary

The City is divided into four distinct patrol districts that are predetermined based on call volume. These service areas are different than the electoral boundaries associated with the City Council. Each patrol shift is properly supervised 24/7. Each district is staffed with, at minimum, one uniformed police officer, allowing for the most efficient response. There are four uniformed patrol shifts divided into two teams, with each team working 12-hour shifts with no overlapping hours. Each team is budgeted two Sergeants and six to seven total officers to ensure minimum staffing levels are met. Actual staffing levels vary; however, the minimum allowable uniformed staffing level at any given time of day is one supervisor and four officers.

Citygate observed through analysis that in 2022, Patrol was often operating at minimum strength. This practice reduced response effectiveness, created fatigue, and reduced morale. If unplanned leave or vacancies were accounted for, current operational staffing could be managed more effectively.

Currently, Patrol teams operate in siloed environments as shifts and teams do not overlap in ways that build unity and consistency. Current practice limits communication and team building and requires training to be conducted while on duty or during days off.

Patrol calls for service have steadily declined over the last five years. Medical call response by Patrol had been declining over a five-year period, only to return in 2022 to its highest levels since 2015. Additionally, mental health calls are continuing to increase year over year. Calls generated between 5:30 pm and 7:00 pm often get backed up as the shifts transition, resulting in slower response times and delayed services. Analysis of police dispatch data indicates that there are too many call types in the "Priority 1" (high-priority) category. Thus, in addition to overloading Patrol

teams with non-priority calls that impede the response to actual emergencies, it becomes difficult to identify what the actual emergency response times are.

While traffic enforcement has dramatically declined over the last five years (with significant declines in traffic education and enforcement), traffic-related calls for service make up a significant portion of public-generated calls for service. Traffic collisions have been declining over the same period but remain high.

Investigative/Support Services Summary

Citygate found that the Department's investigative services provide a high level of selectivity as to which cases to investigate in depth, thus providing the greatest benefit to the community. Investigative Services are broken down into General Investigations, Retail Crime services, School Resource Officers at Minnetonka High School, a Secret Service Work Group Detective, and a Southwest Hennepin Drug Task Force Officer.

Additional staff are needed in General Investigations due to the growth in caseloads and increasing levels of complexity due to electronic search warrants being required for almost every case. One additional Detective would bring caseloads back into historical alignment, and one additional Crime Analyst would increase hours of coverage, provide greater service to more of Patrol operations, and lessen the workload currently placed on the existing Crime Analyst. Due to the level of activity and lack of seven-day-per-week coverage, one to two more Detectives are needed to properly serve the "community within a community" at and around Ridgedale Mall.

Process improvements can be made within Investigative Services by delineating areas of responsibility for each Detective Sergeant, increasing the communication and documentation of workload for the Secret Service Work Group Detective, and through acquisition of a new records management system—which would help with the data-mining capabilities of all members in the agency.

Administrative Services Summary

Professional Standards, Records, and the Administrative Manager all serve important roles in meeting community expectations of suburban law enforcement agencies. Proper staffing is present in all areas with the exception of Professional Standards. Due to increased regulatory expectations and accountability at the state level, a restructuring of how training is administered, provided, and followed up upon is needed. The Department can meet this need by creating a Sergeant position for Training and Professional Standards that reports to the Professional Standards Captain.

Economic Development Summary

For a community in a prime location related to major employment opportunities, housing pressure places Minnetonka in a growth cycle during a period of real estate redevelopment and infilling of smaller land parcels. Over the next seven years, the City will continue to experience additional

population and household growth. The scheduled opening of the Southwest Light Rail corridor in 2027 will continue to create demand for multi-family housing and contribute to increases in population. Citygate recommends close monitoring of growth in the next decade as it relates to the resultant impacts on municipal services.

List of Recommendations and Funding Priorities

The following table lists all recommendations in summary form and identifies the following:

- Recommendations that can be implemented at no cost (other than staff time).
- Remaining recommendations that will require a General Fund expense to implement.
- The funding priority level for recommendations requiring funding.
- Staffing additions associated with implementing a recommendation, noted in parentheses immediately next to "X" in the three "Funding Priority" columns to the right of the table, which are totaled at the bottom of the table.

While funding priorities are identified, these recommendations are not presented in priority order. Greater context and additional content related to these recommendations is provided throughout the body of this report.

Table 1—Recommendations and Funding Priorities

Recommendation	No Cost	Funding Priority 1	Funding Priority 2
Organizational Review			
Economic Development			
1. Closely monitor the effect of new housing developments on the level of service being required of the Department.	X		
2. Plan for the impact of increased traffic in the Opus Park area of people traveling to and living in proximity to the Southwest Light Rail transit corridor.	X		
Patrol Services			
Organization and Staffing			
3. Consider a pre-hire program that smooths the operational impact of the Department without increasing the actual authorized (budgeted) number of officers.		X	
4. Evaluate the actual depleted strength of operations due to non-deployable officer positions (vacancies/injuries) within the 24/7 Patrol operation. Plan for this as a buffer strength to maintain preferred operational staffing across each shift.			X

Recommendation	No Cost	Funding Priority 1	Funding Priority 2
Workload Analysis			
5. Consider methods of reducing the number of alarm call types through public awareness or enforcement of false alarm programs and reprioritizing this service to reclaim valuable police resources for other purposes.		**X**	
6. Consider reprioritizing call priorities and create a true "Priority 1" that only includes emergency response that may typically include a response using emergency lights and sirens.	**X**		
7. The current informal program to reduce and eliminate medical call response and transfer this responsibility to Fire personnel must be better planned and coordinated in sync with the City's ability to fund added Fire Department First Responders to all sections of the City.	**X**		
8. The Department should explore models and practices specific to mental health crisis response.	**X**		
Schedule Assessment			
9. Consider evaluating alternative Patrol schedules such as the 4/10 schedule that addresses fatigue, training, team building, ancillary duties, employee wellness, and City growth.	**X**		
10. Re-implement a Power Shift with two Patrol officers per shift to respond to increased utilization during peak hours of the day (four total FTE officer positions).		**X (4)**	
11. Eliminate the Police response to medical calls and transition these services to Fire when possible.	**X**		
12. Prioritize recruiting and retention efforts to minimize staffing deficiencies and deployment issues.	**X**		
13. Consider pre-hiring officers to limit the staffing shortages caused by retirements.	**X**		
14. Consider evaluating shift length and work hours to determine if alternate, compressed work schedules are more suitable in response to growth.	**X**		
Administrative Sergeant			
15. Rename the Administrative Sergeant position as Community Services Sergeant (reporting to the Patrol Captain) and have them retain the community-based elements of the position with the following direct reports: Traffic Officers (4), Community Engagement Officer (2), Community Service Officers (3), Police Cadets (2), and all Chaplains and Reserves.	**X**		
Traffic Unit			
16. Consider expanding the Traffic Unit by two Traffic Officers and aligning work schedules with Patrol schedules.			**X (2)**
Mental Health Response			
17. Consider organizing a full-time Mental Health Unit under the Administrative Sergeant by adding two officers and assigning the Master Social Worker (MSW) to the Unit.			**X (2)**

Recommendation	No Cost	Funding Priority 1	Funding Priority 2
18. The Department should also reconsider this Unit operating under a co-response model.	X		
19. Institutionalize mental health incident data collection.	X		
20. Expand Minnesota Crisis Intervention Training to the entire Department.			X
Administrative Manager			
21. Identify Administrative Manager position responsibilities and memorialize in written procedures all elements of the hiring, background, and on-boarding process to prevent role confusion by future employees in these positions.	X		
Community Engagement Officer			
22. Create a Community Engagement Unit by adding one sworn Community Engagement Officer. Organize the Unit under the supervision of the Community Services Sergeant.		X (1)	
Investigative/Support Services			
Captain of Investigations			
23. Maintain the Captain of Investigations as a managerial role.	X		
Case Detectives			
24. Define clear responsibilities for each Detective Sergeant, including which Detectives or civilian professional staff are to be evaluated by each supervisor.	X		
25. Separate the duties and responsibilities of the Detective Sergeants into two distinct investigative units so that Detectives report to only one Sergeant.	X		
26. Continue the practice of Detective Sergeants screening out cases without solvability factors.	X		
27. Consider the addition of at least one Case Detective to Investigations to work on existing caseload.		X (1)	
28. Incorporate case-management functionality into a new records management system to replace field-based reporting (FBR) or purchase a limited case-management system for Investigations.			X
29. Develop a set of learning objectives for each new Detective, connecting them with training opportunities to meet the objectives, including digital forensics training (understand the capabilities), legal issues, writing search warrants, mobile banking and electronic crimes (how to investigate and write related warrants), and basic financial crimes.	X		
Retail Crime Detectives			
30. Due to the volume of incidents, maintain the on-site presence of Detectives at the Ridgedale Mall. Removing Detectives from the mall location would require additional Patrol officers in this sector who would not have the relationships with store staff and loss prevention.	X		
31. Maintain current hours for Retail Crime Detectives (1000–2000 hours) to provide optimal coverage while the mall is open.	X		

Recommendation	No Cost	Funding Priority 1	Funding Priority 2
32. Consider the funding for these positions through a contractual agreement with mall ownership. Retail Crime Detectives only exist due to the presence of the facility.	**X**		
33. Add two Retail Crime Detectives, creating a four-person team with rotating responsibilities. Each month or quarter, one Detective would be responsible for investigating the caseload of incidents which occur while Detectives are not on-site, while the other three Detectives would work an overlapping schedule that provides two Detectives working all seven days of the week, thus allowing Detectives to work on in-progress calls for service, perform proactive work in the mall, and provide proper backup to one another.		**X (2)**	
34. Create a digital platform that will allow the Detective Sergeants the ability to see the full caseload of Retail Crime Detectives.		**X**	
Secret Service Work Group Detective			
35. Define clear weekly reporting responsibilities for the Secret Service Work Group Detective; have a site visit on a monthly basis by a Detective Sergeant to create a more direct connection and improve understanding related to the work being performed by the Work Group Detective.	**X**		
Southwest Hennepin Drug Task Force Officer			
36. Maintain the position of Drug Task Force Officer on the Southwest Hennepin Drug Task Force.	**X**		
School Resource Officers (SROs)			
37. A strong partnership between the Department and schools is an essential component of increasing trust, safety, and security in the community. The Department should assist school administrators in building a safe environment for students and staff. By collaborating with educators and mental health professionals, school and community safety issues can be proactively addressed.	**X**		
Crime Analyst			
38. Due to the force multiplier approach this position has within the organization, a second Crime Analyst position is recommended as a redundancy for time off, building organizational knowledge if a Crime Analyst leaves, and providing more information needed by the agency. This position will serve to address real-time information needs for Patrol, operate Ridgedale cameras into the evening, and extend the time frame the position offers to Detectives and officers in the Department.		**X (1)**	
39. Consolidate data into a new, comprehensive system that collects computer-aided dispatch (CAD), ticketing, and report information for faster, easier, and more consistent data collection and mining.		**X**	
40. The Department should continue to invest in new and promising technologies that can be used to manage resources more efficiently to prevent, detect, and solve crimes.		**X**	

Recommendation	No Cost	Funding Priority 1	Funding Priority 2
Property and Evidence			
41. Hiring one (0.5 FTE) civilian employee to assist with workload, processes where two people are needed, and fill scheduling gaps when the full-time Property and Evidence Specialist is off the schedule would alleviate additional workload on Detective supervisors.			**X (.5)**
Records			
42. Change the process for filing new reports so that members of the public can speak with Records Unit staff and calls can be entered into the computer-aided dispatch (CAD) system from a computer at the front desk.		**X**	
43. For quality control, change the process to Records Unit staff classifying National Incident-Based Reporting System (NIBRS) data to avoid errors that create improper NIBRS reporting.	**X**		
Professional Standards			
44. Maintain the current position of Professional Standards Captain.	**X**		
45. Move the training function to a new Sergeant of Standards and Training; this position can report to the Captain of Professional Standards and address the new complexities of MN POST requirements.		**X (1)**	
Administration			
46. Refurbish/remodel the Ridgedale investigative offices.			**X**
47. Plan for a potential future sub-station at Opus Park.	**X**		
Total Recommended Personnel by Priority	**--**	**10**	**4.5**
Total Recommended Personnel	**--**	**14.5**	

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SECTION 1—INTRODUCTION

Citygate Associates, LLC (Citygate) is pleased to present this Comprehensive Operations and Staffing Assessment for the City of Minnetonka (City) Police Department (Department). This introductory section will discuss the organization of the assessment, the project scope of work, and the methodology used by Citygate.

1.1 REPORT ORGANIZATION

This report is organized into the following sections.

Executive Summary: A summary of Citygate's general assessment of current services. A table that lists all of Citygate's recommendations and their funding priority levels is also provided.

Section 1 Introduction: An introduction to the report's organization; goals, including project scope; and project methodology.

Section 2 Organizational Review: A discussion of City and agency background, history, and organization. The City's crime data, Department leadership and culture, as well as the internal employee (SWOT) survey, are also discussed.

Section 3 Community Engagement: A general overview of community engagement is contained within this section as well as a summary of the community satisfaction survey and community listening session administered by Citygate.

Section 4 Patrol Services Review: A review of the Patrol Division organization, staffing, scheduling, and supervision. Workload analysis, assessment of response times, and overview of various Patrol units and functions is also included.

Section 5 Investigative/Support Services Review: A review of the Investigative as well as Support Services Division including all criminal investigation units. The Records Unit and Property and Evidence Unit are also discussed.

Section 6 Professional Standards Review: A review of Internal Affairs and the Professional Standards Captain's role within the agency. The training function is also discussed.

Section 7 Facilities Review: Department facilities are assessed.

Section 8 Summary of Personnel Priorities and Findings and Recommendations: A proposed organizational chart for the Department, a comprehensive list of all personnel full-time equivalent (FTE) recommendations and their associated priority levels that appear in this report, a master staffing index showing current and projected

vacancies, and a sequential list of all findings and recommendations that appear throughout the report.

1.2 PROJECT SCOPE

Citygate was retained to conduct a comprehensive Operations and Staffing Assessment of the Minnetonka Police Department. The review's scope included the following elements.

- Conducting a comprehensive review of the law enforcement service delivery system of the Department.
- Reviewing Department functions and staffing levels.
- Interviewing Department staff as well as select City staff and elected officials.
- Reviewing the organizational structure, operational functions, staffing and service levels, and Department efficiencies to ensure current and future needs are met through efficient and effective operations.
- Coordinating the assessment with the Fire services study being performed concurrently.

1.3 PROJECT METHODOLOGY

In preparing this Operations and Staffing Assessment, Citygate consultants engaged in the following processes:

- Reviewed available documents and records relating to the management, operation, staffing, training, and budgeting of the Department.
- Conducted an anonymous online internal employee survey to assess Department strengths, weaknesses, opportunities, and threats (SWOT).
- Interviewed sworn and professional staff throughout the Department.
- Conducted an online Community Survey in partnership with the Department.
- Facilitated one online Community Listening Forums in partnership with the Department.
- Conducted an on-site visit of Department facilities.
- Reviewed available computer-aided dispatch (CAD) and workload measurement data.
- Conducted a legislative review, interviews, and review of organizational impacts.

- Considered best practices in other agencies for applicability to the Department.

1.4 ACKNOWLEDGEMENTS

Citygate would like to thank the members of the Minnetonka Police Department for their participation in this assessment and acknowledge the diligent work ethic within the Department. The vast majority of employees made time in their busy schedules for interviews, to acquire requested information, and to provide historical perspectives and context on issues necessary for this assessment. Additionally, our team would like to thank Mayor Brad Wiersum, City Councilmembers, the City of Minnetonka Community Development and Economic Development Authority staff, and City residents who provided input through in-person meetings, the community survey, or by attending the online forum.

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SECTION 2—ORGANIZATIONAL REVIEW

2.1 CITY BACKGROUND

The City of Minnetonka's history dates to the mid-1800s when the first settlement was established. Minnetonka remained a township through the turn of the twentieth century and both world wars. However, by 1956, surrounding annexations forced residents to push for incorporation as a village. Minnetonka has since grown from a population of approximately 25,000 in 1960 to its current population of over 50,000. The Village of Minnetonka officially became a city in 1968.

2.1.1 Form of Government

The City is incorporated under the council-manager form of government. The Mayor and six City Councilmembers are elected during odd-numbered years, with the Mayor and two at-large seats decided during one election, and four "ward" Councilmembers chosen in a staggered election two years later.

The City is divided into four wards that are based on population with a City Councilmember representing each ward (see picture below). The City Council is also the Economic Development Authority.[1]

The Council employs a City Manager who provides administrative leadership to City staff for implementing the policy direction of the Mayor and Council.

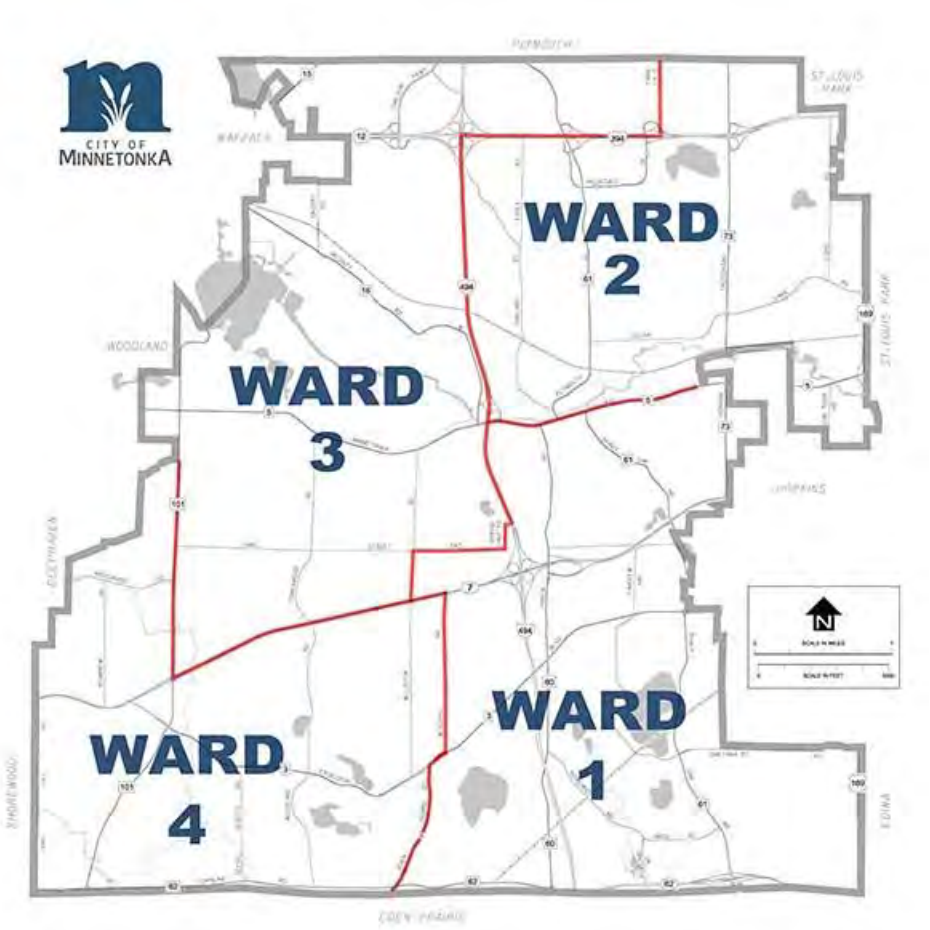
The Current City Council is composed as follows:

- Mayor Brad Wiersum
- At-large Councilmember Deb Calvert
- At-large Councilmember Dr. Kimberly Wilburn
- Ward 1 Councilmember Brian Kirk
- Ward 2 Councilmember Rebecca Schack
- Ward 3 Councilmember Bradley Schaeppi
- Ward 4 Councilmember Kissy Coakley

The City's four designated wards are represented in the following figure.

[1] City of Minnetonka Website: https://www.minnetonkamn.gov/government/city-council-mayor

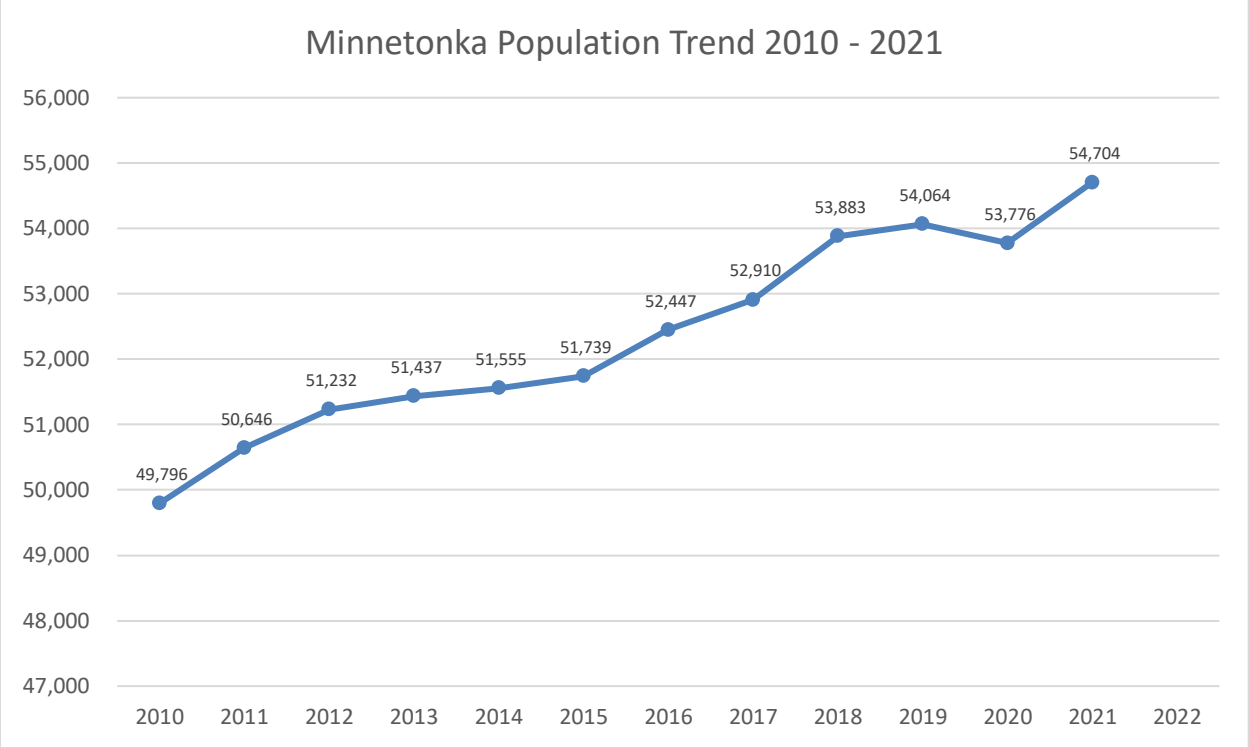
Figure 1—Minnetonka Ward Divisions



2.1.2 Population Trends

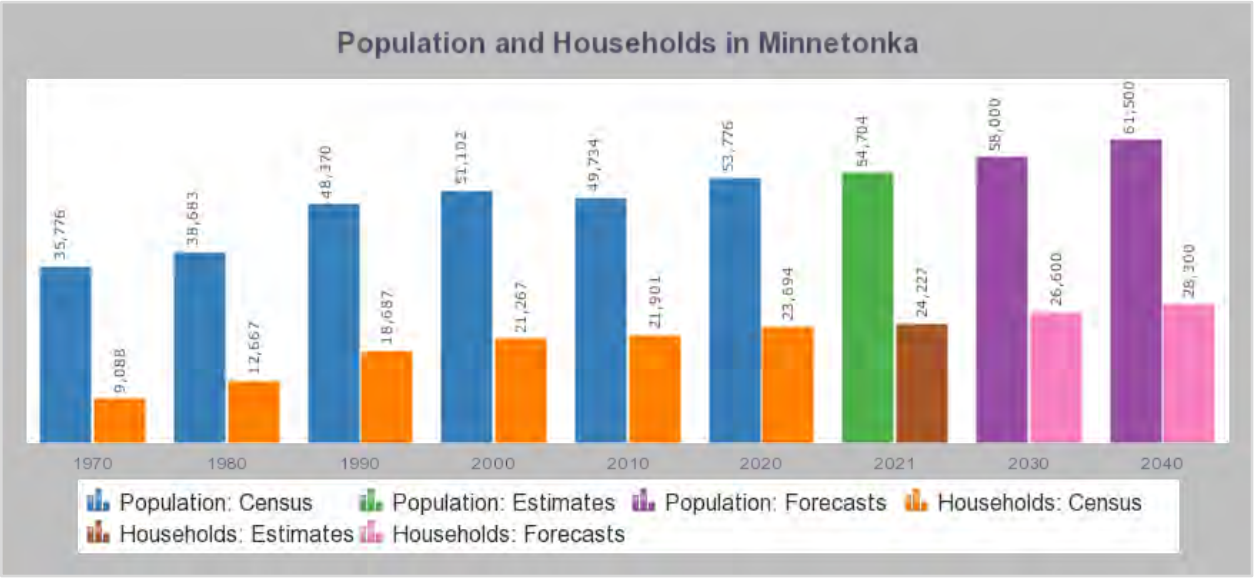
According to US Census data, and as shown in the following figure (Figure 2), Minnetonka's population steadily increased for the decade preceding 2020. The regional policy-making body known as The Metropolitan Council projects continued, moderate increases in both population and housing needs for the City (Figure 3).

Figure 2—Minnetonka Population Trend (2010–2021)



Population Data Source: US Census website (2010–2019); Metropolitan Council estimates from report dated July 2022 (2020, 2021)

Figure 3—Minnetonka Population and Housing Forecasts



Source: Metropolitan Council Website

2.2 Economic Growth and Development

The City is uniquely situated as a "second ring" suburban community directly west of Minneapolis. Minnetonka has major corporate headquarters for Cargill, United Health Group, and Carlson Companies, and is located in close proximity to 14 percent of all employment in the metro area.[2]

In 2021, the population of Minnetonka was 54,704, with 24,227 distinct households in the community. The Metropolitan Council predicts the population in 2030 will be 58,000, representing 26,600 households.[3] This growth is exacerbated by the prime location of the community, which continues to drive up land values as the need for more housing in the area continues to grow.

Demand is high for housing and recent multi-housing developments around Ridgedale Mall and continued small-scale single family in-filling will continue to increase municipal service demands, including police services. Opus Park is currently being redeveloped—from its original established purpose as an office park in the early 1980s, to a hub for multi-family housing and as a corridor for the Southwest Light Rail transit service of Metro Transit. The repurposing of this real estate has already led to the development of 482 units of multi-family housing, with an additional 848 units of all types to be completed in 2023.

Analysis has shown that an additional 500 units are likely to be built by 2025/2026 and additional developments and other infill developments are likely to occur on a smaller scale. Since the number of people per square mile drives demand for Police, Fire, and EMS services, all of these higher-density development locations will likely lead to additional demand on City services. It is the recommendation of Citygate to continue to closely monitor the impact of each new development and evaluate the new services needed for every additional 100–200 units of housing. With the amount of time required for travel Citywide—plus the additional policing work that will incur—Department workloads to deliver the desired level of services should be evaluated at least annually to determine additional staffing or other necessary changes to the service model.

Finding #1:	The City represents a uniquely situated community and is a desired location for people of all income levels.
Finding #2:	The City is now experiencing new infill development and larger-scale redevelopment that will increase demands over time on police services.

[2] Source: Marquette Advisors, 2022.
[3] Source: Metropolitan Council, 2022.

Finding #3:	The City is projected to continue to grow, including with higher-density, multi-unit housing projects to accommodate the increase in population.
Finding #4:	The Southwest Light Rail transit corridor that will begin operation in 2027 and will pass through (and stop) at Opus Park is already influencing higher-density infill housing development in the City.

Recommendation #1:	Closely monitor the effect of new housing developments on the level of service being required of the Department.
Recommendation #2:	Plan for the impact of increased traffic in the Opus Park area of people traveling to and living in proximity to the Southwest Light Rail transit corridor.

2.3 Agency Background and Organizational Structure

The City's post-World War II growth was accompanied by a Police Department, at first consisting of a Police Chief and a Patrol Officer, with supplemental coverage from the Hennepin County Sheriff's Office. As the City has grown over the past 50 years, its Police Department has evolved into the full-service agency which serves the community today.

At the time of this assessment, the Department was operating with an authorized sworn staff of 58 and an additional professional staff of 9 for a total of 67 full-time and part-time personnel. The following figure represents an adapted version of the Department's Organizational Chart.

Figure 4—Minnetonka PD Organizational Chart (2022)

As the organizational chart shows, the Department consists of three divisions, each headed by a Captain, along with an Office of the Chief, which includes an Administration section. The three divisions include Patrol Services, Investigative and Support Services, and Professional Standards.

The Department provides a full range of police services including patrol, criminal investigations, traffic enforcement, a School Resource Officer program, a K-9 Unit, Special Weapons and Tactics (SWAT) services, drug/narcotics investigation, Community Service Officers (CSOs), community engagement, mental health services, Cadets, and Police Explorers. Each division was assessed separately, and any recommendations specific to each are contained within the context of each division's analysis within this assessment.

2.3.1 Benchmark Analysis

As part of this review, Citygate has established several benchmark measurements with similarly situated municipal police agencies. When selecting benchmark agencies, Citygate sought input from the Department as to which agencies the Department typically compares itself with. Citygate also utilized other geographical and population metrics. For the purposes of this assessment, the following municipal police agencies were used.

- City of Plymouth Police Department
- City of St. Louis Park Police Department

- City of Edina Police Department
- City of Eden Prairie Police Department

It should be noted that Citygate does not make staffing recommendations based on population measures (i.e., one officer per 1,000 residents). Rather, Citygate utilizes a data-informed workload analysis based on calls for service, which will be discussed later in this report. Nonetheless, population benchmarking does provide a snapshot in time of current, staffing-related ratios for an agency in comparison with other benchmark agencies.

Staffing Benchmark

The following staffing benchmark table compares chosen agencies by population, the ratio of residents per officer, and the number of sworn police officers employed per 1,000 residents. Also included is the violent crime rate—as reported by the Federal Bureau of Investigation for 2021[4]—as well as the number of violent crimes in 2021. The table is sorted by officers per 1,000 residents.

Table 2—Benchmark: Agency Staffing

Agency	Population	Sworn	Residents per Officer	Officers per 1,000 Residents	Violent Crime Rate (10k)	Violent Crime 2021
St. Louis Park	50,144	60	835.7	**1.20**	17.95	90
Eden Prairie	64,142	72	890.9	**1.12**	6.55	42
Edina	53,572	58	923.7	**1.08**	6.91	37
Minnetonka	**54,704**	**58**	**943.2**	**1.06**	**8.04**	**44**
Plymouth	81,184	81	1002.3	**1.00**	5.67	46

As the table shows, the comparator agencies share a similar ratio of officers per 1,000 residents.

Rank Structure Benchmark

The following rank structure benchmark table compares the police agencies' ratio of line-level officers to managers. For this operational assessment, Citygate considered only sworn positions. The reader should in no way infer that non-sworn professional staff are not critical to any police agency's operational effectiveness and efficiency. However, as every agency deploys professional staff somewhat differently, Citygate concentrated solely on sworn staff for this assessment. The table is sorted by population.

[4] Federal Bureau of Investigation's Crime Data Explorer website.

Table 3—Benchmark: Rank Structure

Agency	Population	Sworn	Command*	Sergeant	Officers	Patrol
Plymouth	81,184	81	6%	16%	77.8%	53%
Eden Prairie	64,142	72	7%	17%	76.4%	64%
Minnetonka	**54,704**	**58**	**7%**	**19%**	**74.1%**	**64%**
Edina	53,572	58	9%	14%	77.6%	69%
St. Louis Park	50,144	60	8%	15%	76.7%	63%

* "Command" means sworn managers above first line supervisors including Lieutenant, Captain, Deputy Chief, and Chief positions; "Sergeant" refers to Sergeants or first line supervisors; "Officers" refers to all line-level sworn officers; and "Patrol" refers to officers and Sergeants assigned to the Patrol function

As the table shows, Minnetonka's current rank structure features a slightly higher percentage of Sergeants and a slightly lower percentage of sworn officers.

Policing Cost Benchmark

The following table benchmarks each comparator agency's budgeted policing costs per capita.

Table 4—Benchmark: Police Budget per Capita

Agency	CY 21 Population	CY 22 City Budget General Fund	CY 22 Police Budget General Fund	CY 22 Police Budget % of General Fund	CY 22 Police Budget per Capita – General Fund**
Eden Prairie	64,142	$52,664,390	$17,388,375	33.02%	**$271**
Edina	53,572	$52,231,751	$14,175,815	27.14%	**$265**
St. Louis Park	50,144	$44,312,567	$11,846,760	26.73%	**$236**
Minnetonka*	**54,704**	**$49,815,000**	**$11,882,050**	**23.85%**	**$217**
Plymouth	81,184	$46,955,697	$16,716,084	35.60%	**$206**

* Operational budget only; does not include Capital Improvement Plan (CIP) funding
** Assumes CY 21 population

As the table shows, Minnetonka's budgeted police spending per capita is at the lower end of the spectrum when compared to other benchmark agencies.

2.4 CITY CRIME DATA – UNIFORM CRIME REPORTING

The following data is from the FBI's Crime Data Explorer website.[5] Police agencies across the nation, including the Minnetonka Police Department, report crimes committed to the Department of Justice annually, with that data being published on the FBI website.

2.4.1 Part 1 Crimes Definition

While all crimes are reported, the FBI website focuses on two categories of crimes with four crimes in each category. These are referred to as Part 1 Violent Crimes and Part 1 Property Crimes:

- **Part 1 Violent Crimes**
  - Homicide
  - Rape
  - Robbery
  - Aggravated assault
- **Part I Property Crimes**
  - Arson
  - Burglary
  - Theft
  - Motor vehicle theft

2.4.2 Crime Rate Comparison

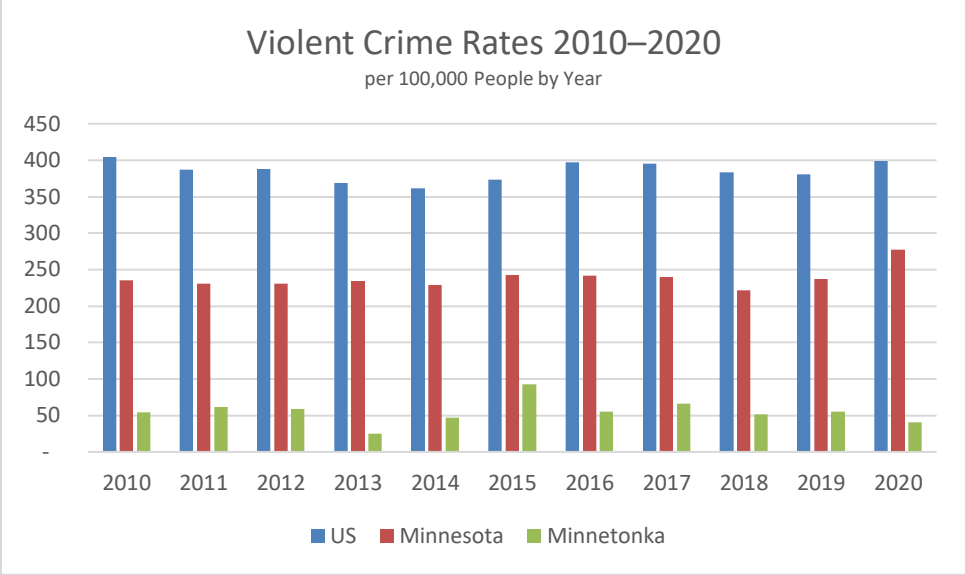
Citygate compared crime rates in the City with those in Minnesota as well as the United States overall. To perform equivalent comparison, the City's crime statistics had to be converted to a ratio of per 100,000 population as that is what the FBI utilizes in reporting crime rates at both the state and national levels.

Violent Crime Rate Comparison

As the FBI has not yet published crime rate statistics for 2021 and 2022, the following figure shows a comparison of violent crime rates through 2020.

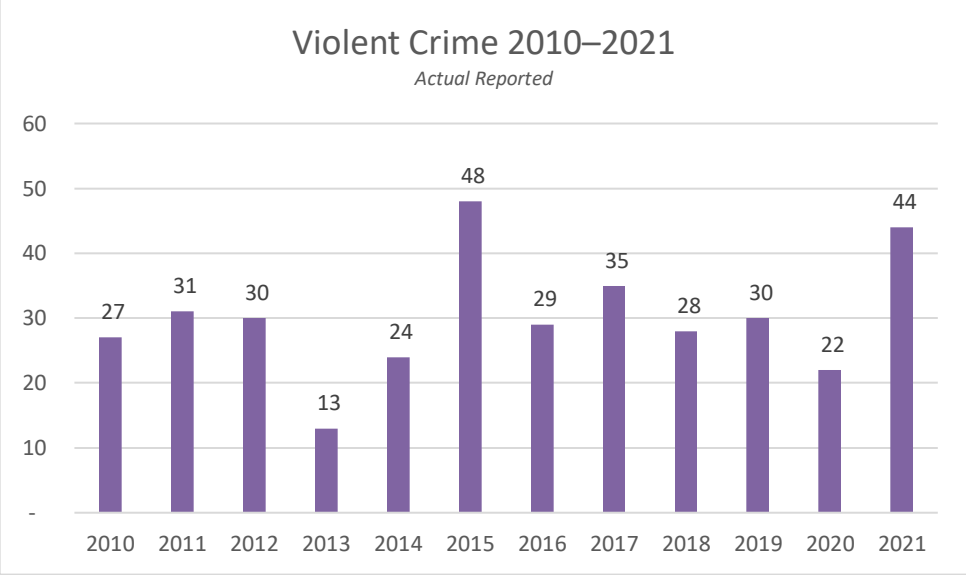
[5] https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/home

Figure 5—Comparison of Violent Crime Rates (2010–2020)



As the figure shows, violent crime in Minnetonka is relatively low when compared to the statewide and national crime rates. For further detail, the following figure shows actual reported violent crime by year in the City calculated through 2021.

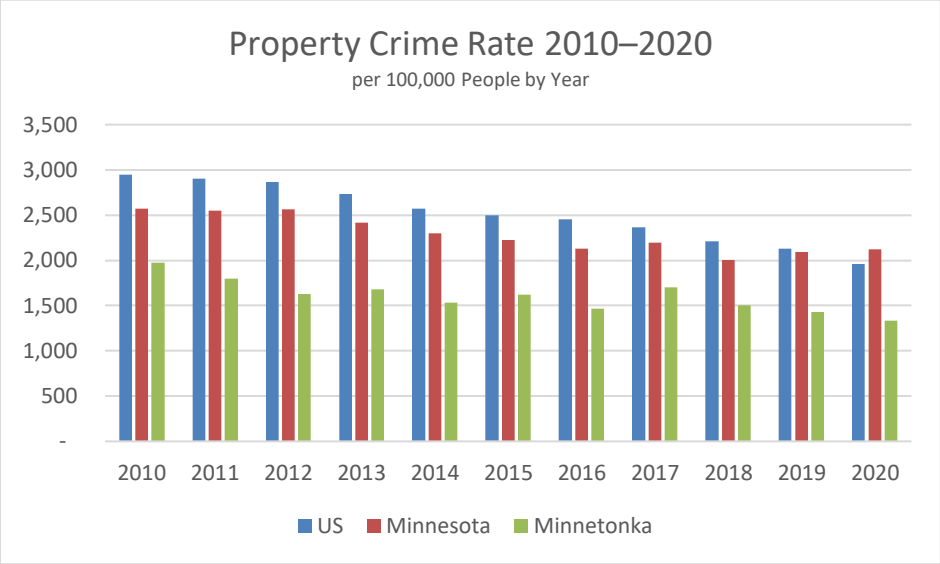
Figure 6—Actual Reported Violent Crime (2010–2021)



Property Crime Rate Comparison

As with violent crimes, the following figure shows property crime rate comparisons calculated through 2020 because further crime statistics for Minnesota and the United States are not yet published.

Figure 7—Comparison of Property Crime Rates (2010–2020)



As the figure shows, property crime rates in the City are somewhat lower when compared to statewide and national averages. For further detail, the following figure shows actual reported property crime data by year in the City, calculated through 2021.

Figure 8—Actual Reported Property Crime (2010–2021)

2.5 Leadership and Culture

Throughout Citygate's assessment, we found a Department with high professionalism at all levels and a staff willing to implement new ideas and technologies to improve policing in the City. The members of the Department are extremely dedicated to the community they serve. No organization is perfect, and many of the findings and recommendations in this report are items the Department is aware of and is already taking steps to implement. Some changes will take time and require resources as part of the normal budget process.

Changes recommended as a part of this study are meant to leverage current organizational structures to maximize effectiveness, supervisory oversight, patrol services, and community engagement for a Department that exemplifies a culture committed to providing a high level of service to the community.

2.6 Employee Survey

As part of every operational assessment, Citygate seeks valuable input from all employees within an organization. Citygate constructs an anonymous online survey that all employees are encouraged to complete. The survey asks employees about the organization's strengths, weaknesses, opportunities for improvement, and threats to achievement, otherwise known as a SWOT assessment.

The SWOT survey received a 73 percent response rate from Department personnel, which is a very high response rate. The responses submitted by Department personnel indicated a strong commitment to serving the community and an openness to change.

Citygate has incorporated employee feedback throughout this assessment.

SECTION 3—COMMUNITY ENGAGEMENT

3.1 GENERAL OVERVIEW

Engagement with the community is a crucial component of the work of any police department. Strong relationships of mutual trust between police agencies and the communities they serve are critical to maintaining public safety and effective policing. Police officials rely on the cooperation of community members to provide information about crime in their neighborhoods and work with the police to devise solutions to crime and disorder problems.[6]

Modern policing can trace its roots to 1829 in London, when Sir Robert Peel introduced the first modern-day police force (now known as the Metropolitan Police Service).[7] Peel, the British Home Secretary at the time, is also widely credited with the development of nine principles of good policing,[8] which are still very relevant today.

One of the most often quoted of Peel's principles states, in short, ***"…the police are the public and the public are the police…"*** which underscores the need for significant community support and engagement. To that end, Citygate sought to measure the level of community support and engagement in the City in two ways: first, by conducting a community satisfaction survey, and second, by facilitating and online community listening session that was open to the public.

3.2 COMMUNITY SATISFACTION SURVEY

The Community Satisfaction Survey was developed from a community survey created by the U.S. Department of Justice Office of Community-Oriented Policing Services (US-DOJ COPS)[9] and assessed five key areas of police-community relations including:

- Community Involvement
- Safety
- Procedural Justice
- Performance
- Contact and Satisfaction

The survey was published by Citygate online and hosted on the City's website. The Department, through its Public Information Officer, published and marketed the survey, which was launched

[6] https://www.justice.gov/file/1437336/download
[7] https://www.metMinnetonka.police.uk/
[8] https://www.civitas.org.uk/research/crime/facts-comments/principles-of-good-policing/
[9] https://cops.usdoj.gov

on December 21, 2022, and closed on January 20, 2023. In total, there were 356 responses to the survey.

It should be noted that the following survey results do not necessarily reflect the overall satisfaction of the entire Minnetonka community. While 356 responses for a City of over 50,000 is above average in comparison to surveys Citygate has administered in other communities, it is still a small sample size. It should also be noted that the vast majority of respondents (over 80 percent) had not had contact with an officer in the past 12 months and 78 percent of respondents were females over the age of 50. The full demographic breakdown of survey respondents is included in **Appendix A**.

3.2.1 Survey Results

A summary of survey results follows, with the entire summary of survey results contained in **Appendix A** of this report.

Community Involvement

There were five community involvement questions that assessed the extent to which the Department develops community relationships, communicates with community members, seeks community input, works with the community to solve problems, and practices community policing. The following options were available to respondents.

- Not at all
- A little
- Somewhat
- A lot
- To a great extent

The question receiving the highest positive response rate was in the area of developing relationships and community policing, with 55 percent responding either "to a great extent" or "a lot" compared to less than 10 percent responding either "a little" or "not at all."

Safety

When asked about the three greatest issues facing the community, the top three responses were as follows:

1. Burglaries / Thefts (auto) = 60.7 percent
2. Burglaries / Thefts (residential) = 55.8 percent
3. Traffic-related problems = 37.6 percent

Most respondents feel safe in Minnetonka, with over 90 percent saying they feel safe "to a great extent" or "a lot."

Procedural Justice

In the area of *Procedural Justice,* 71 percent responded that the Department treats people fairly "to a great extent" or "a lot" compared to less than two percent that responded, "a little" or "not at all."

Performance

To the question of overall satisfaction with the Department, 81 percent of respondents stated they are satisfied either "to a great extend" or "a lot."

Contact and Satisfaction

As previously mentioned, nearly 80 percent of respondents had no contact with the Department in the past 12 months; however, those who did were generally satisfied as a result of those contacts.

The results of the entire survey can be found in **Appendix A** of this report.

3.3 Online Community Listening Session

Citygate facilitated an online Community Engagement (Listening) Session on Wednesday, February 8, from 6:00 pm until 7:30 pm utilizing the Zoom videoconferencing platform. The City marketed the session using the same public information platforms previously used for the community satisfaction survey.

A total of 38 participants registered in advance for the session. Additionally, an email address was set up for Citygate to receive additional input related to the sessions from those members of the community who, for whatever reason, were unable to attend. The email responses along with the facilitated discussion during the listening session were all considered during the preparation of this report.

3.4 Community Engagement

The Department's Community Engagement Officer serves as a liaison between the Department and the community. This officer, assigned the responsibility of outreach, builds relationships with residents and community groups, plans community outreach events, assists in officer training, and looks for opportunities for police to engage with residents. While every Department employee is committed to engaging with individuals who represent the community, the Community Engagement Officer is focused on the coordination of all stakeholders to ensure the values of the City are integrated in the daily operations of the Department. Community policing is a very intentional practice which can easily be lost in the process of ensuring actual public safety. The

intentionality of bringing people together through events and activities creates relationships that are not often realized in a community. This opportunity to build trust sets the City apart and is very progressive in promoting public safety.

Today's policing requires being engaged to ensure the Department is intentional in creating opportunities to maintain and improve relationships with the public. Citygate recognizes and commends the Department's strategies to prioritize community engagement within the City.

SECTION 4—PATROL SERVICES REVIEW

4.1 ORGANIZATION, STAFFING, AND SCHEDULING

Citygate's staffing methodology endeavors to review and analyze several factors. Some of these common factors include:

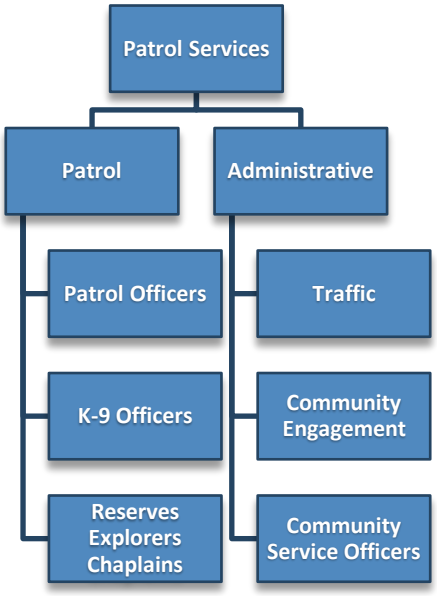
- Actual (and available) staffing versus allotted staffing, including Patrol officers, Sergeants, K-9 officers, and Traffic officers.
- Time off taken by officers in Patrol, and how it curtails actual Patrol staffing levels.
- The number, type, and duration of public-generated calls for service and staff-initiated activity.
- Response times, including call taking, dispatching, driving time, and second officer arrival times.
- Crime, including crime trends and any other unique local public safety concerns.
- Any obstacles or impediments that can consume an officer's time and/or take an officer or other Patrol staff away from their core duties (such as time spent in court, at the jail, or in local hospitals, and/or any technological deficiencies).

Patrol Services provides continuous delivery of police services to the community through numerous and varied functions, which include responding to calls for service, proactive patrol (officer-initiated activity), maintenance of public order, the discovery of hazards, investigation of crimes and incidents, arresting offenders, traffic enforcement and control, emergency services, and the reporting of information to other appropriate organizational units.

Patrol Services is managed by a Police Captain, eight Sergeants, and one Administrative Sergeant. There are 32 budgeted police officers assigned to Patrol Services, 29 of which are assigned to patrol shifts. Patrol officers spend the majority of their 12-hour shifts responding to public-generated calls for service or proactively addressing public safety issues as they arise.

The following figure shows the organizational structure within Patrol Services.

Figure 9—Patrol Services Organizational Structure



For the purposes of Patrol officer deployment, the City is divided into four distinct patrol districts that are predetermined based on call volume. These service areas are different than the electoral boundaries associated with the City Council. Each district is staffed 24/7 by one uniformed police officer at minimum, allowing for the most efficient response. There are four uniformed patrol shifts divided between two teams, with each team working 12-hour shifts that have no overlapping hours. Each team is budgeted two sergeants and seven to eight total officers to ensure minimum staffing levels are met. Actual staffing levels vary; however, the minimum allowable uniformed staffing level at any given time of day is one supervisor and four officers.

The following tables show the Patrol schedule at both full strength and minimum staffing levels.

Table 5—Patrol Schedule – Full Strength

Team	Workdays	Day Shift: 0600–1800 Hours	Night Shift: 1800–0600 Hours
Team A	Sunday, Monday, Tuesday, Every Other Saturday	2 Sergeants / 7 Officers	2 Sergeants / 7 Officers
Team B	Wednesday, Thursday, Friday, Every Other Saturday	2 Sergeants / 7 Officers	2 Sergeants / 8 Officers

Table 6—Patrol Schedule – Minimum Staffing

Team	Workdays	Day Shift: 0600–1800 Hours	Night Shift: 1800–0600 Hours
Team A	Sunday, Monday, Tuesday, Every Other Saturday	1 Sergeant / 4 Officers	1 Sergeant / 4 Officers
Team B	Wednesday, Thursday, Friday, Every Other Saturday	1 Sergeant / 4 Officers	1 Sergeant / 4 Officers

To achieve minimum staffing based on organizational policy, teams are assigned a budgeted number of officers that generally includes three officers above minimum deployment levels. Staffing levels are impacted by leave and vacation during each shift, reducing the available number of officers that can be deployed. Shift supervisors manage the daily schedule to ensure minimum staffing is met. Requests for days off are managed based on guidelines that attempt to balance staffing and the personal leave time allotted to each employee.

The administrative plan to ensure staffing requirements are met includes policies and procedures balancing employee benefits with operational needs. This is not unusual among agencies and provides a supportive experience to employee happiness. The City allows the annual patrol schedule to be selected by quarter, or four times per year. This seasonal approach is consistent with life preferences and personal choices, which are not uncommon or in contradiction with the community. Forecasting a year in advance by making selections in the fall of each prior year is similar to what most police organizations practice and allows for personnel to make scheduling decisions that are consistent with personal life decisions. Patrol staffing and assignments were evaluated with the following notable observations:

- Officers generally stay on patrol shifts based on seniority and preference.
- There is no requirement to rotate between shifts, allowing officers to stay indefinitely.
- The 12-hour compressed schedule has been utilized for 20 years.

4.1.1 Personnel Vacancies and Recent Attrition

Municipal policing models such as those observed in the City are common. From data provided by the Department, and in interviews with staff and SWOT survey responses, Citygate learned that Patrol often lacks enough officers on any given shift to assign one to cover each of the City's four districts. These vacancies are often the result of unplanned leave—work/personal injuries and medical leave—that is not calculated into the staffing deployment model.

Each team manages assigned officers and applies operational policies relating to vacation, sick leave, compensatory time, FMLA, and other provided benefited leave. When fully staffed, each shift is generally capable of staffing requirements. As a result of long-term injuries,

retirements/resignations, and other administrative absences, the Department experienced a staffing reduction of approximately 15 percent in 2022. This has caused staffing for Patrol shifts to fall below minimum levels more often, impacting services and team morale. Staff shared a recent experience over the summer of 2022 in which service levels were at minimum for 19 weeks, causing routine hold overs and mandatory call-back overtime.

An additional challenge to maintaining operational staffing levels is vacant positions that occur when a retirement or opening occurs. The hiring and training process often leaves operational positions unavailable for 6–12 months per vacancy. These vacancies are not accounted for in the actual assessment of operational needs but are informally included in the overall budgeted strength of the Department. This practice skews the actual staffing needs of the Department when an analysis of calls for service is conducted.

Finding #5:	If unplanned leave or vacancies were accounted for, current operational staffing could be managed more effectively.
Finding #6:	Citygate observed through analysis that in 2022, Patrol was often operating at minimum strength. This practice, reduced response effectiveness, created fatigue, and reduced morale.

Recommendation #3:	Consider a pre-hire program that smooths the operational impact of the Department without increasing the actual authorized (budgeted) number of officers.
Recommendation #4:	Evaluate the actual depleted strength of operations due to non-deployable officer positions (vacancies/injuries) within the 24/7 Patrol operation. Plan for this as a buffer strength to maintain preferred operational staffing across each shift.

NOTE: *A pre-hire program would not add full-time equivalent (FTE) positions to the Department budget. Rather (if City funding allows), a non-Departmental budget within Human Resources could be utilized to hire officers before a projected retirement. As a result, the impact of vacancies could be minimized. The budget and temporary FTE pre-hire positions would be strategic and separate from operational budgeted positions. Historically, agencies may overstaff (over hire) police officer positions to meet needed operational allocations due to long-term injuries, etc. This is different in that "over-hire" FTE positions are generally allotted within a department's budget and act as a buffer to staffing shortages versus department vacancies. Further evaluation will be required to determine a potential funding allotment toward onboarding in advance of a projected departure.*

Additionally, Citygate learned the following through interviews with Department personnel:

- Retirements, long-term injuries, and resignations have created a staffing reduction of 15 percent.
- Pending retirements are going to create an institutional loss of knowledge.
- Recruitment has already proven difficult with a lack of applicants.

4.2 THE ICMA "RULE OF 60"

Since 2008, the International City/County Management Association (ICMA) Center for Public Safety Management has conducted police operational and data analyses in 61 cities and towns located in 26 states in all regions of the United States. The ICMA data analysis, like Citygate's, relies on information captured in a department's CAD system.

As a general guideline, ICMA applies a "Rule of 60" to evaluate police department staffing allocation and deployment. This "Rule of 60" applies to three the following critical variables analyzed in the City:

1. There should be approximately 60 percent of the total number of sworn officers in a department assigned to the Patrol function. In the cities studied by ICMA, the mean Patrol percentage was 60 or the average department in their study assigned about two-thirds of its officers to Patrol. *[Of the 58 total allotted sworn staff across the Department—including 43 police officers, 11 Sergeants, 3 Captains, and the Chief of Police—29 officers, 8 Sergeants, and a Captain (approximately 65 percent) of these personnel are allotted to Patrol.]*
2. The average workload for Patrol staffing should not exceed 60 percent. The busiest communities in the ICMA analysis did not dedicate more than 60 percent of their Patrol resources towards workload, which includes public-generated calls for service, police-initiated calls for service, administrative and out-of-service time, as well as directed Patrol time. *[As the Patrol Utilization temporal table shows (Section 4.3.3), Minnetonka Patrol officers are generally committed less than 60 percent of their available time.]*

Collectively, these "Rule of 60" calculations represent much more comprehensive and robust variables to use in making police staffing allocation and deployment decisions.

4.3 WORKLOAD ANALYSIS (CALLS FOR SERVICE)

Citygate reviewed historical data and identified a downward trend in total calls for service (CFS). As the following table shows, from 2017 through 2021, total calls handled by uniformed patrol officers declined steadily from 43,504 in 2017 to 40,863 in 2022.

Table 7—Minnetonka Police Annual Calls for Service

Year	Calls for Service
2017	43,504
2018	41,213
2019	41,946
2020	40,509
2021	38,490
2022	40,863

Source: Minnetonka Police Department Annual Reports

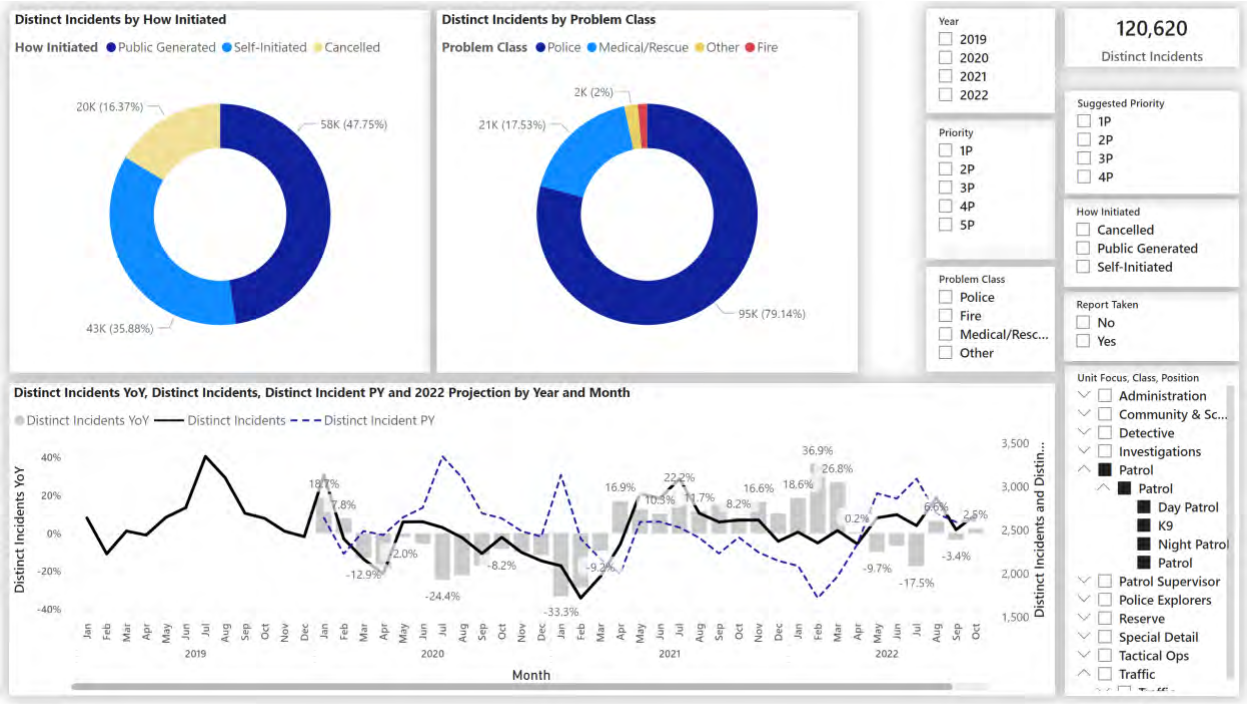
In 2018, dispatch was outsourced to a regional communications center managed under a Joint Powers Authority (JPA) contract with Hennepin County. This change required call priorities to be aligned within a standard set of protocols to accommodate a single framework managing a multi-agency dispatch center. Because of this, 2018 saw a decline in CFS that may have been eliminated or did not get captured after the legacy CAD system was no longer used. However, the number of CFS reflected in the record continued to decline. Police CFS are categorized into two groups: (1) public-generated, and (2) officer-initiated. A four-year analysis of CFS by type between 2019–2022 demonstrates a stable level of public-generated calls while officer initiated CFS have continued declining during the same period.

- Patrol *public-generated CFS* four-year average – **14,238 incidents**:
  - **2019:** 14,726
  - **2020:** 13,235
  - **2021:** 14,481
  - **2022:** 14,508
- Patrol *officer-initiated activity* four-year average – **10,462 incidents**
  - **2019:** 12,122
  - **2020:** 10,518
  - **2021:** 9,010
  - **2022:** 10,199

The COVID-19 pandemic has impacted police response within the community, and through interviews and data analysis, a reduction in non-priority calls involving public contact is evident. Most notably in officer-initiated CFS. This same downward trend has continued through the same period due to changes in police response related to the tragic death of George Floyd.

The following figure shows an analysis of distinct incidents in the City from 2019 to 2022.

Figure 10—Distinct Incident Analysis (2019–2022)

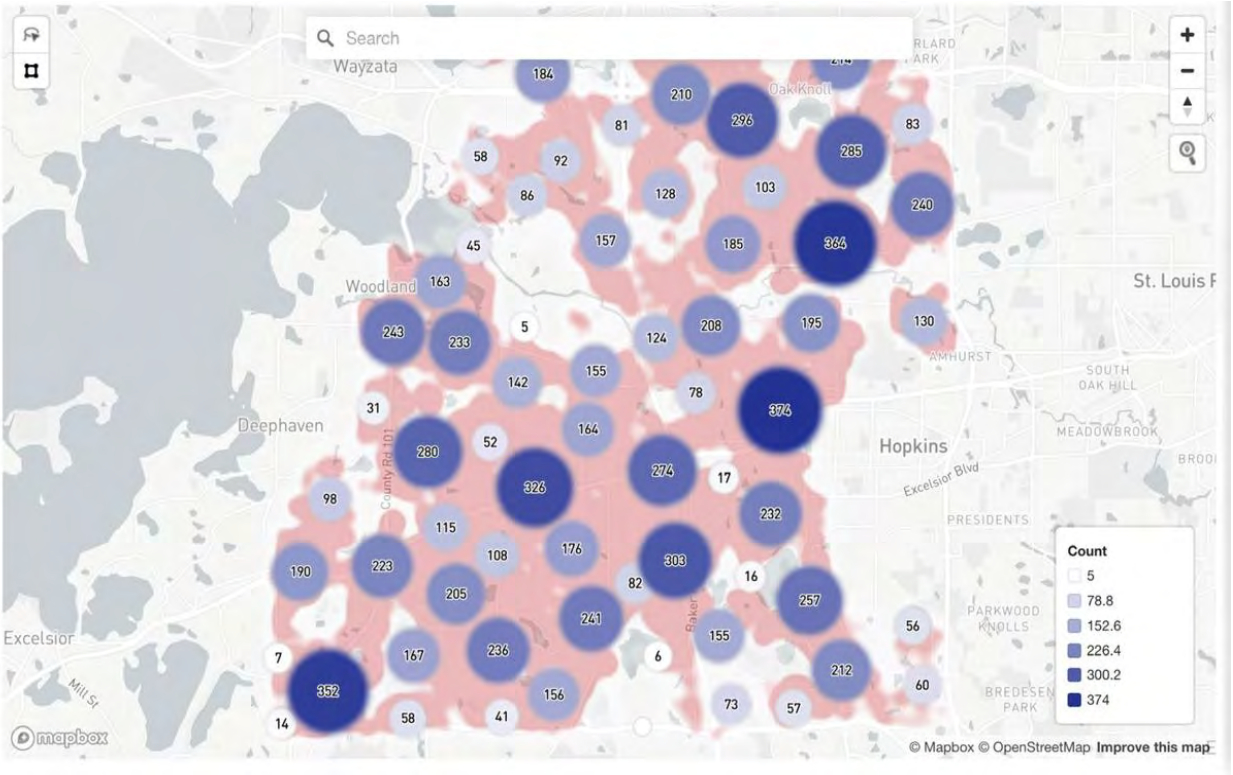


This data includes all calls for service, not only those specific to the Department

Further analysis reveals 120,620 CFS were received during this analysis period. Approximately 95,000 (79 percent) were categorized as police-related, approximately 21,000 (18 percent) were medical/rescue calls. Calls involving an actual fire represented less than two percent of total calls. Significantly, approximately 20,000 calls (16 percent) were cancelled.

The following figure shows a density analysis of activity for public-generated CFS within Patrol.

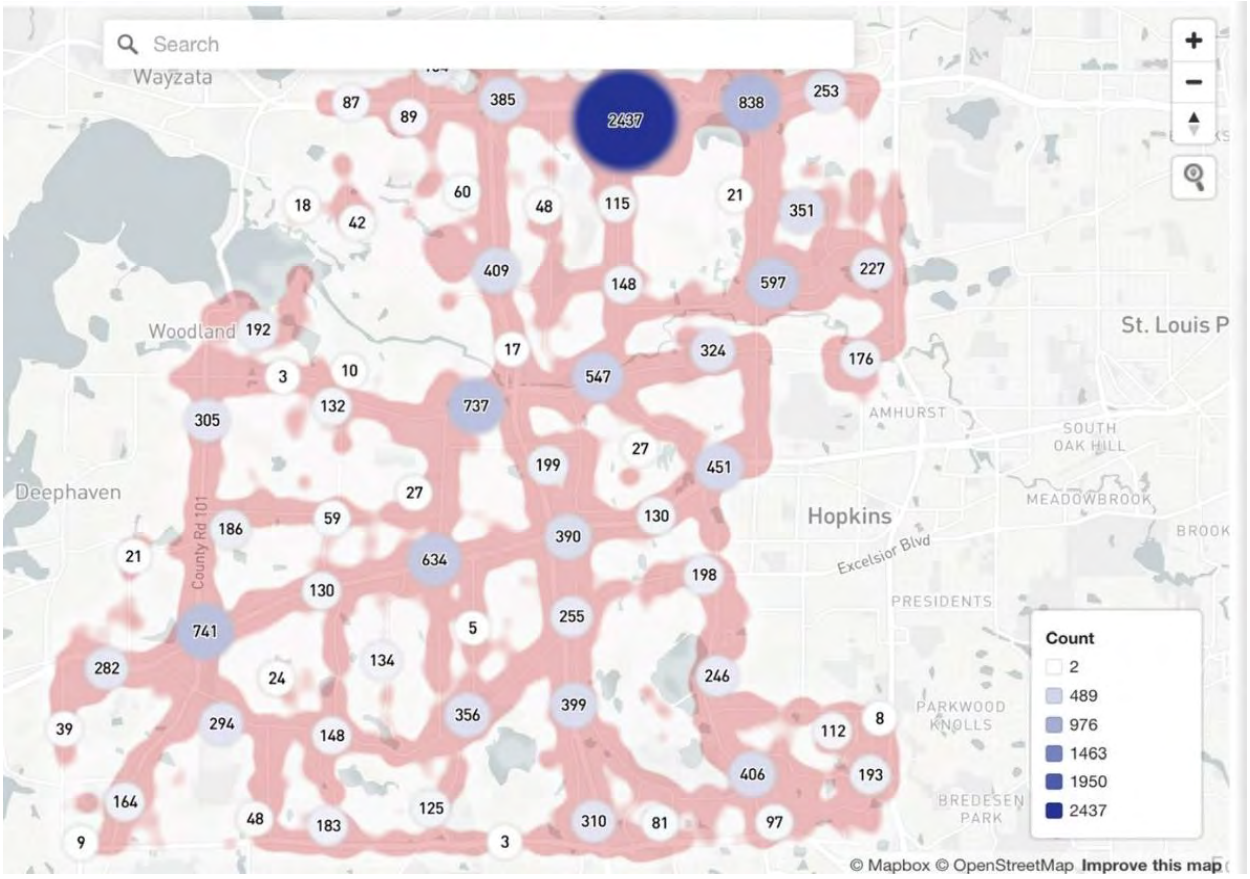
Figure 11—Map Density: Public-Generated CFS (2019–2022)



As the figure shows, another method of analysis is determining geographical response to service calls. Police-related, public-generated CFS are typically dispatched to the district officer on duty if available. Priority calls can be directed to the closest officer based on GIS information identifying the fastest response. Response times are impacted by traffic routes, traffic congestion, and officer availability. Cluster densities in this figure indicate patterns that were not analyzed further but do show areas with greater densities of CFS that should be assessed for both prevention measures and further understanding of needs related to patterns of service and potential areas of growth or redevelopment.

The following figure shows a density analysis of activity for officer-initiated CFS within Patrol.

Figure 12—Map Density: Officer-Initiated CFS (2019–2022)



Officer-initiated activity is captured and mapped to identify proactive enforcement patterns throughout the City. In total, 39,667 officer-initiated CFS were identified and analyzed by location. The map reveals a high concentration on roadway corridors and areas of higher density. A significant level of proactivity is identified by clusters, especially near the Ridgedale Mall.

4.3.1 Response Time Analysis

Understanding Fractile versus Average Measurement

Police response time has historically been presented as an *average*, which is measured by adding the total response times of a given set of incidents and dividing that total by the number of incidents. The shortcoming of the average response time measurement is that it only identifies a single point on a continuum, and thus cannot show how widely the data is spread across that continuum.

A more descriptive best practice in many fields, including fire and EMS, is to transition measuring the *percent completion* of a specified response goal. Citygate uses 90 percent as the standard, as

reflected in the previous figure. The best way to illustrate this concept can be seen in the following two statements:

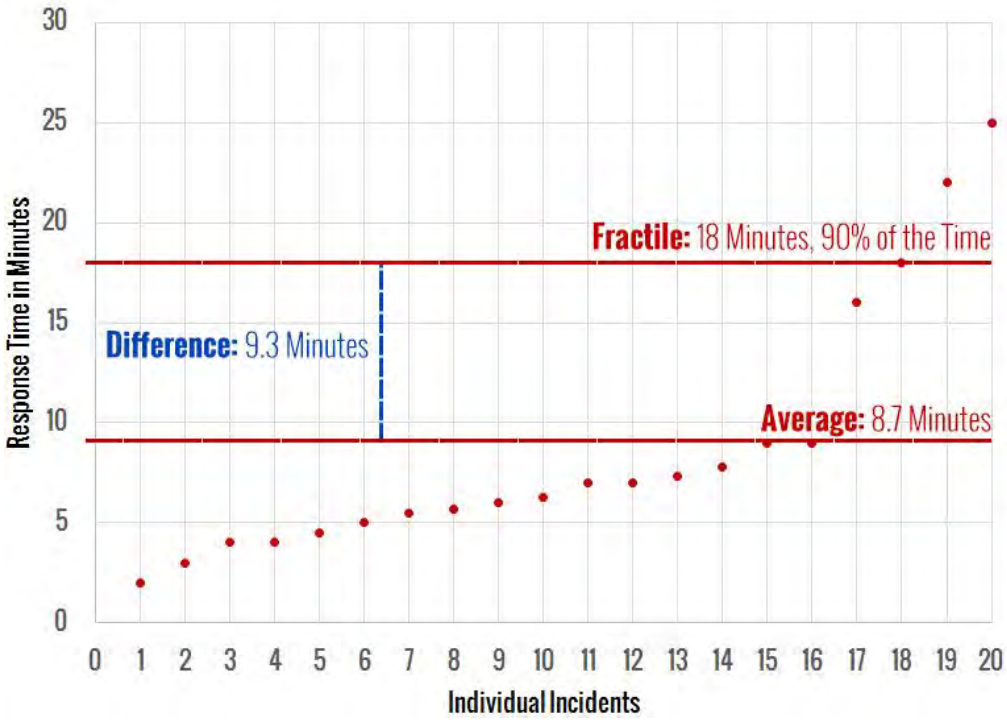
- "The community can expect a response of X minutes or less, 90 percent of the time," or
- "Nine times out of ten, the public can expect a response in X minutes or less."

Mathematically this is referred to as a "fractile" measure.[10]

To illustrate the difference between the fractile and the average response time measurement, the following figure shows the response time for a fictitious police department in the United States. This department is small and received 20 legitimate calls for service during the period reviewed. Each response time for the calls for service has been plotted on the graph, in order from the shortest response time to the longest response time.

The figure shows that the average response time is 8.7 minutes. However, the average response time does not properly account for four calls with response times far exceeding threshold in which positive outcomes could be expected.

Figure 13—Fractile versus Average Response Time Measurements



[10] A fractile is that point *below* which a stated fraction of values lie. The fraction is often given in percent; the term "percentile" may then be used.

As the figure above shows, 20 percent of responses from this department could be considered too slow and an average time measurement would not reveal that. The fractile measure would. Citygate believes the fractile measurement is a more accurate reflection of the service delivery situation of this department.

Average and Fractile Response Performance in Minnetonka

Using Microsoft's Power BI, response time analysis for Patrol is calculated for public-generated CFS from 2019–2022. The average response times are by priority, with 57,595 public-generated police CFS.

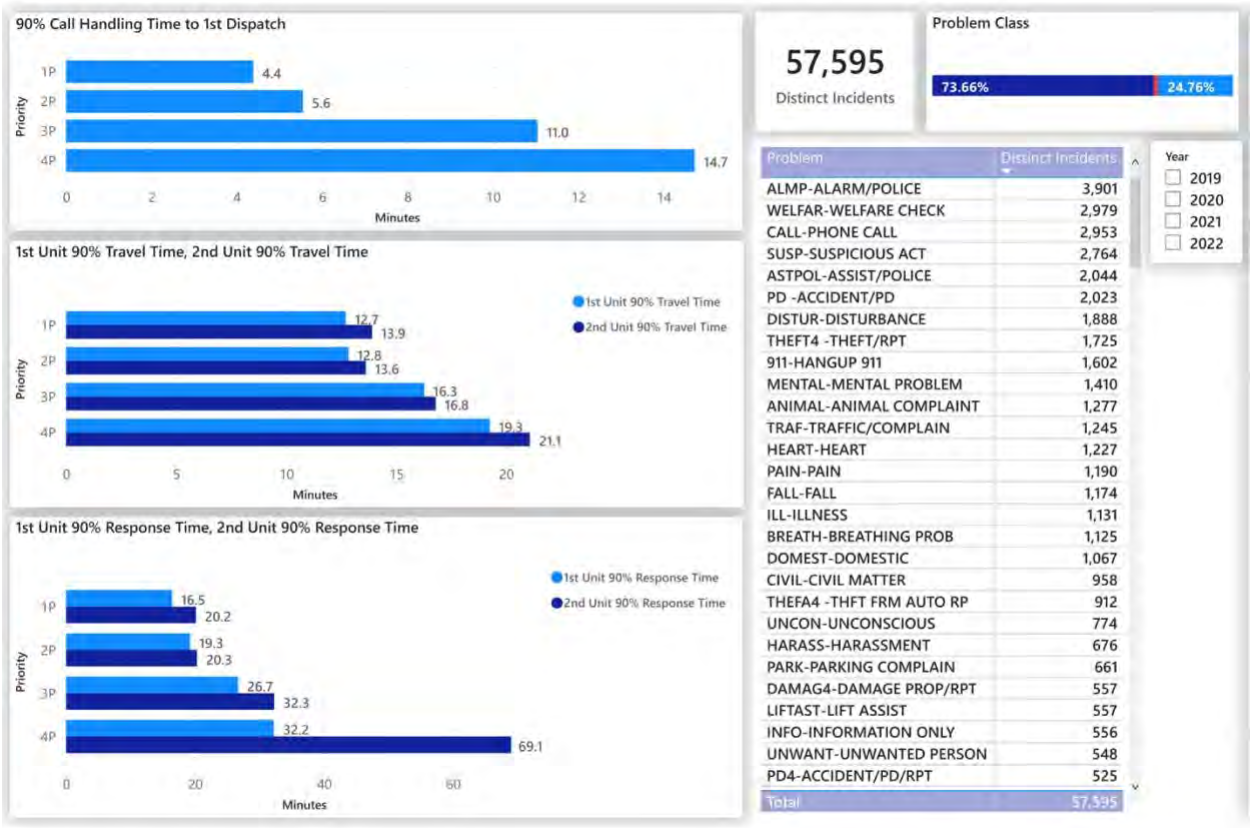
The following figure shows an analysis of *average* response times for Patrol utilizing current response times related to the top four priority categories.

Figure 14—Response Time Analysis – Average Measure (2019–2022)

In analyzing Patrol response times, Citygate found that the Priority 1 call-handling time—the time between call receipt and dispatching—was 5.0 minutes on *average*.

As the following figure shows, a more comprehensive measure of this metric is reported as the *90th percentile* (fractile), meaning nine times out of ten, it takes 4.4 minutes or less to dispatch a police unit to a Priority 1 emergency call.[11]

Figure 15—Response Time Analysis – 90th Percentile / Fractile Measure (2019–2022)



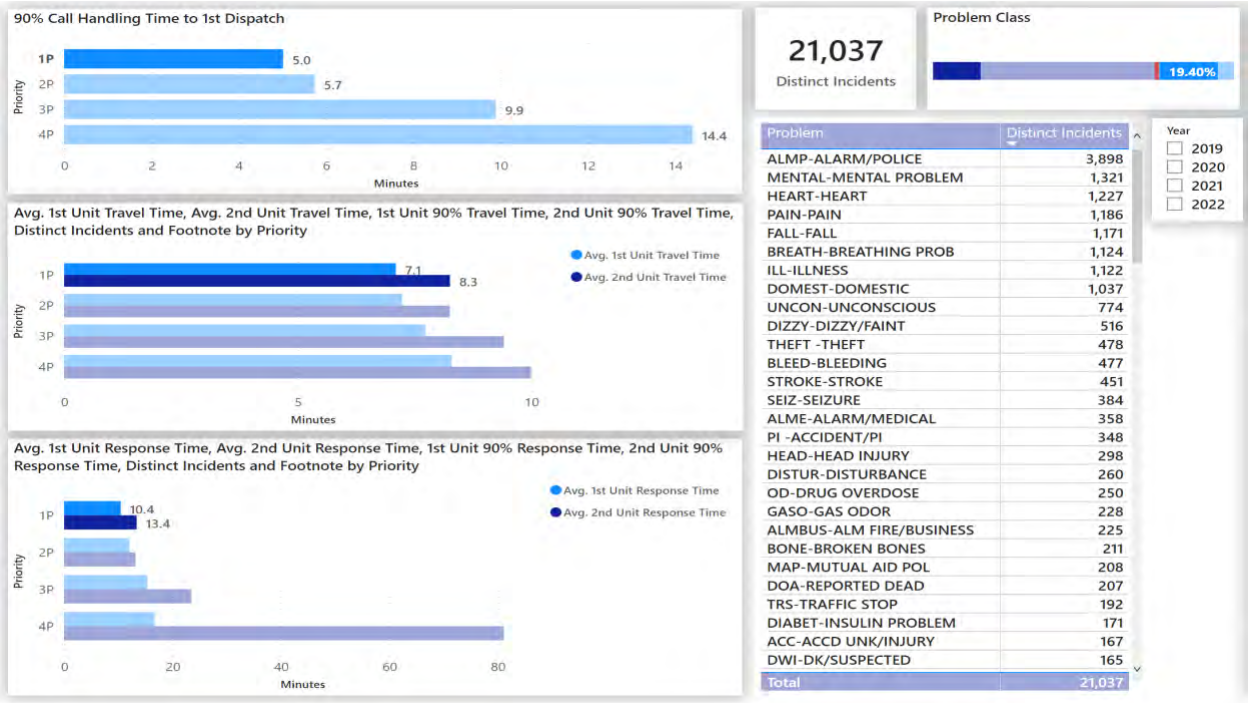
The previous figure showed the average travel time at 7.1 minutes or less; however, using the fractile method as a measuring unit instead of the average, travel time (90 percent of the time) is much higher—12.7 minutes for the first-arriving unit.

The compound effect on total response time is notable, with total response time for the first-arriving unit being 16.5 minutes or less 90 percent of the time, versus 10.4 minutes calculated as an average measurement.

The following figure shows a similar data set specific to Priority 1 CFS.

[11] Priority 1 calls are typically emergency calls which require immediate response as there is reason to believe that an immediate threat to life exists.

Figure 16—Response Time Analysis: Priority 1 CFS (2019–2022)



Evaluating Priority 1 CFS revealed that a significant portion of public-generated calls were all being categorized as the highest priority. Over four years, 21,037 CFS were emergent in nature, representing 37 percent of all public-generated police calls. It is understood that any lifesaving, urgent medical, and in-progress crimes of violence call types are of the highest priority and should receive an immediate response. Based on the current police response to medical calls, and the City currently re-evaluating both Police and Fire service delivery, this could change future police response priorities.

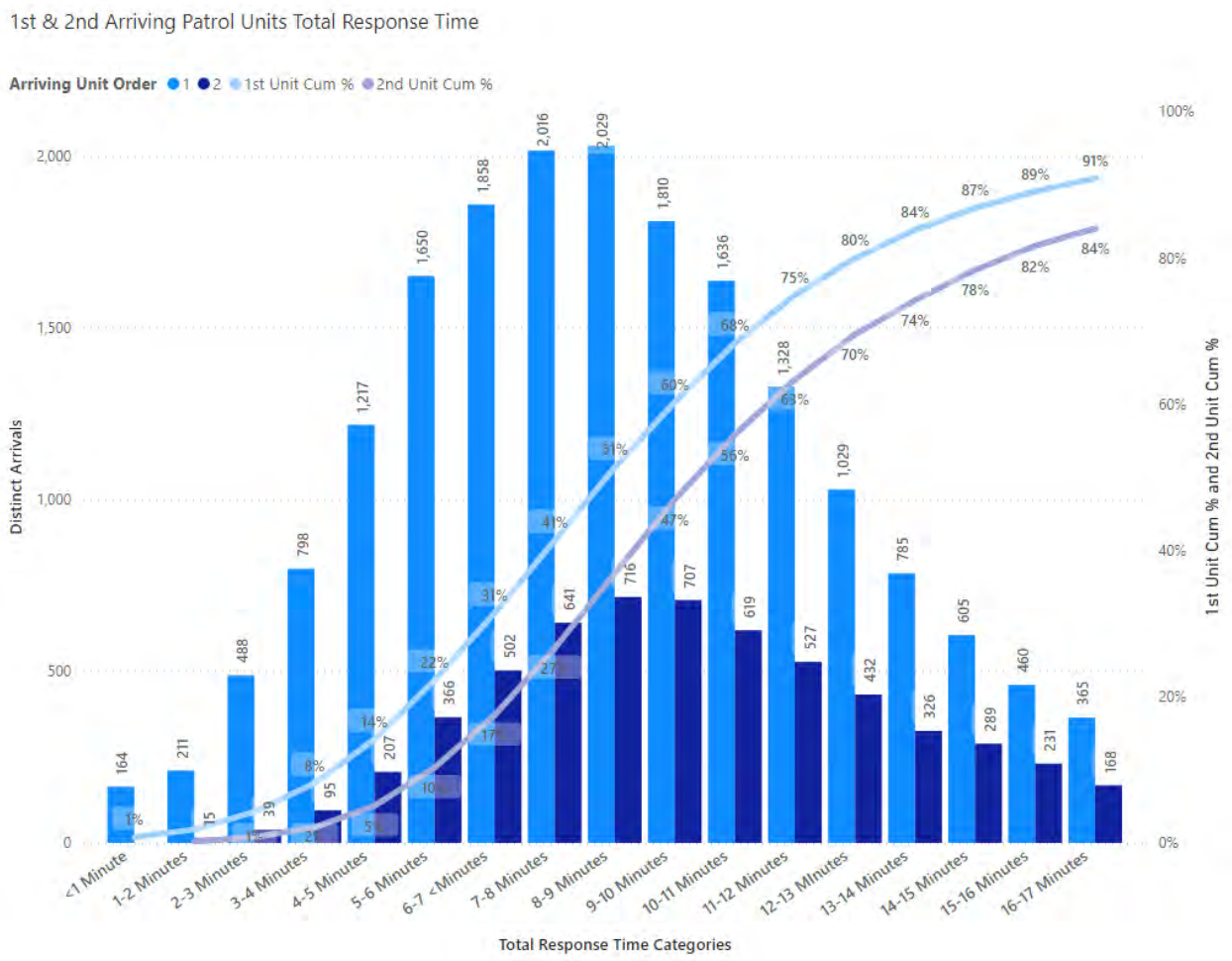
4.3.2 Priority Designations

An additional observation, beyond the large overall percentage of high-priority calls in general, is the 3,898 specifically "Priority 1" police alarm calls reflected in the previous figure. Reducing the number of these call types—through public awareness or enforcement of false alarm programs—and reprioritizing this service could reclaim valuable police resources for other purposes.[12]

The following figure shows the percentage of service area reached by minute for first- and second-arriving Patrol units responding to Priority 1 CFS.

[12] https://www.crywolfservices.com/minnetonkamn/

Figure 17—Service Area Reached by Minute – Priority 1 Patrol CFS (2019–2022)

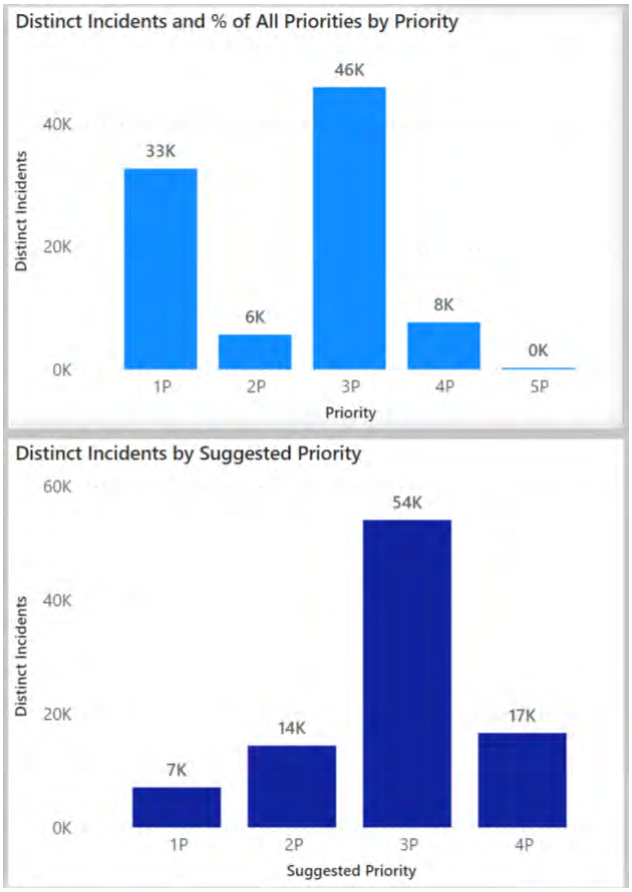


Using the 90 percent fractile response-time data of Priority 1 public-generated CFS, a comprehensive analysis shows "achieved response times" by each passing minute for both the primary officer and the arriving backup officer. The figure demonstrates the correlation between the two different methods of call response analysis. The lines represent the increase linear analysis over time until the 90th percentile is reached. This method is very useful, especially in analyzing high-priority response environments. For these reasons Fire and EMS routinely utilize this model as an industry standard for measuring emergency response times.

It is important to understand that police departments respond to a higher number of police call types and priorities. It is not uncommon to over-prioritize police call types. Additionally, the longstanding metric has been *average* response times. For this analysis, Citygate utilized both measures, and both can be used in future annual response time reporting. The most effective use can be seen when call priorities are more appropriately identified, providing a robust understanding of timely service delivery response.

To demonstrate how this can greatly improve response times, the following figure provides an illustration using actual data and simulating new priorities to create a more appropriate Priority 1 emergency response by shifting non-emergencies to priority levels 2 and 3.

Figure 18—Distinct Patrol Incidents – Current Priority versus Suggested Priority



As the figure shows, the result of new priority designations is fewer actual emergencies that can be better evaluated in total—from call receipt to call response.

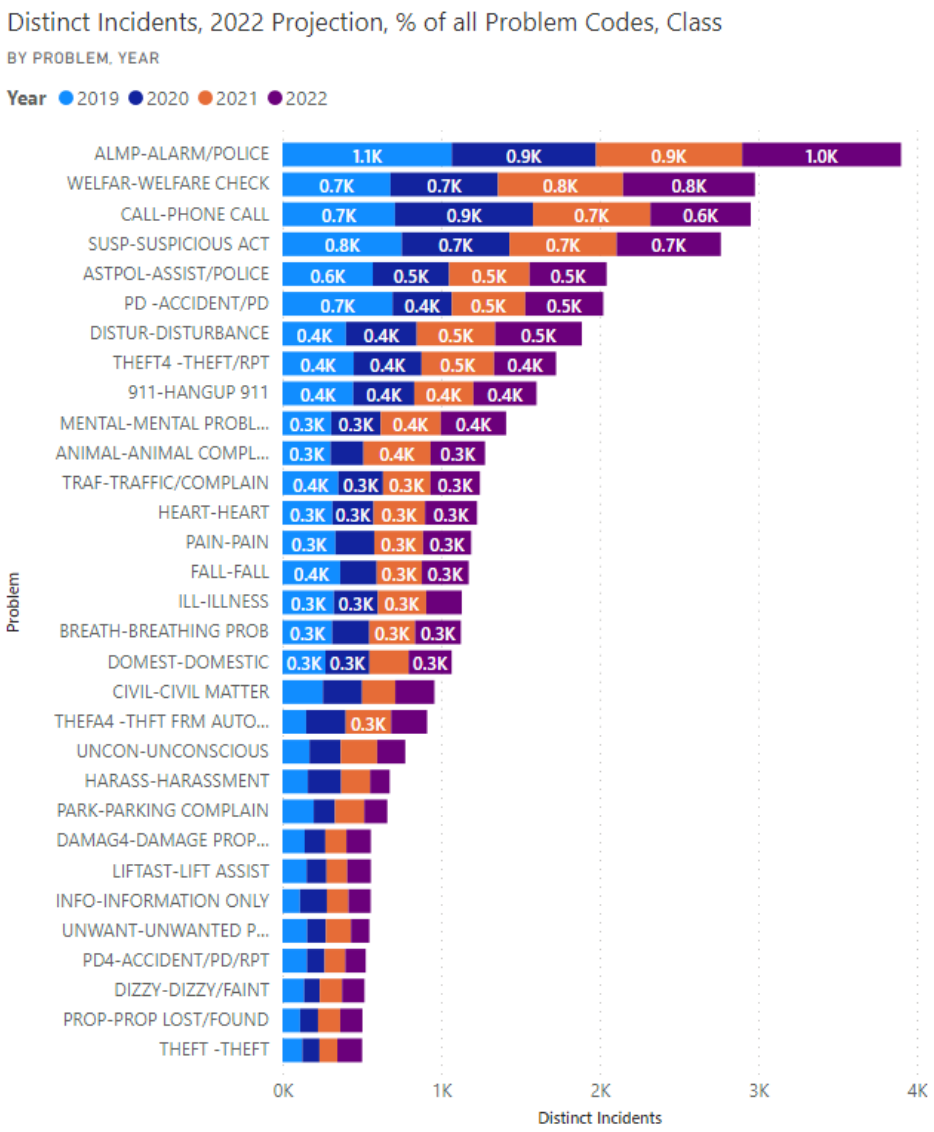
Finding #7: Analysis of police computer-aided dispatch (CAD) data indicates that there are too many "high-priority" call types in the "Priority 1" (high-priority) category. Thus, in addition to overloading Patrol teams with non-priority calls that impede the response to actual emergencies, it becomes difficult to identify what the actual emergency response times are as well as overloading Patrol teams with non-priority calls that impede the response to actual emergencies.

Finding #8:	A significant amount of Department resources are directed to response to alarms, with the majority resulting in a false alarm.

Recommendation #5:	Consider methods of reducing the number of alarm call types through public awareness or enforcement of false alarm programs and reprioritizing this service to reclaim valuable police resources for other purposes.
Recommendation #6:	Consider reprioritizing call priorities and create a true "Priority 1" that only includes emergency response that may typically include a response using emergency lights and sirens.

As the following figure shows, an analysis of public-generated CFS between 2019–2022, based on cumulative volume, shows a consistent pattern of call types by highest distinct incidents. One notable observation includes alarm calls as the highest overall publicly generated call for service. Citygate learned that the City does have an alarm ordinance and utilizes a software management service to assist in reducing the impact of false alarm calls.

Figure 19—Public-Generated CFS – Cumulative by Type



The figure shows a consistent pattern of police response to medical calls for service. The data was consistent with interviews, which reinforced the expectation that officers routinely respond to medical aid CFS.

Mental health CFS continued to increase over a four-year period. In 2019, mental health CFS represented 307 distinct incidents. By 2022, the number had increased to 412, with a total of 1,512 mental health CFS over a four-year period. These call types are generally time consuming, requiring multiple officers and often a co-response depending upon the circumstances. These numbers also do not represent any follow-up or prevention, but rather, a crisis response that otherwise requires specialized services.

The overall data indicates a capacity to absorb growth in police-related calls for service as medical and mental health response by police personnel decreases. Citygate affirms that this offset in call response will generally provide the capacity to increase some demand for service without a significant increase in future Patrol staffing based on the City's projected growth.

4.3.3 Temporal Analysis

Citygate conducted a temporal analysis of all public-generated distinct incidents by day and hour. The following figure provides two tables that show a total of 42,424 CFS that were analyzed. The temporal coloring in the left-side table highlights when these calls predominately occurred. The right-side table indicates the demand for a more comprehensive response with a police report being taken. This represents 10,676 incidents that required some form of documentation or investigation, accounting for about 25 percent of the total public-generated CFS. Each report can vary in the time required to author and submit; however, the actual time taken is not appropriately captured in any CAD category and must be estimated. Generally, a police report can average an additional 45–60 minutes depending on the complexity of the documentation. Based on this analysis, the impact to officer time could be in excess of an estimated 10,000 hours over four years—an average of 2,500 hours per year.

Figure 20—Distinct Incidents by Day and Hour (2019–2022)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	138	151	134	153	175	180	224	1,155
1	121	111	106	117	113	168	173	909
2	89	110	89	101	92	118	151	750
3	90	76	93	96	96	91	110	652
4	95	67	80	66	68	81	83	540
5	78	68	86	66	69	59	58	484
6	111	123	97	85	91	93	81	681
7	237	196	190	166	172	151	154	1,266
8	314	285	279	277	257	224	174	1,810
9	353	415	286	283	303	274	286	2,200
10	387	385	308	334	324	300	313	2,351
11	399	425	357	342	362	355	290	2,530
12	435	398	369	334	323	356	326	2,541
13	407	409	371	354	378	349	303	2,571
14	426	434	384	377	359	349	301	2,630
15	492	458	394	371	434	301	336	2,786
16	486	480	404	353	414	328	338	2,803
17	423	429	351	355	358	280	314	2,510
18	328	340	325	316	302	303	286	2,200
19	335	310	275	296	303	297	280	2,096
20	333	286	291	330	329	301	257	2,127
21	277	243	247	233	300	300	239	1,839
22	206	206	227	225	283	328	210	1,685
23	185	163	169	181	217	238	155	1,308
Total	6,745	6,568	5,912	5,811	6,122	5,824	5,442	42,424

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	20	39	30	31	42	37	54	253
1	24	29	32	27	29	42	37	220
2	17	28	18	21	30	29	38	181
3	25	25	20	22	22	23	25	162
4	16	17	14	8	10	18	18	101
5	15	14	16	11	9	8	16	89
6	20	34	26	19	22	14	15	150
7	68	51	46	55	48	26	21	315
8	95	77	54	69	69	49	39	452
9	91	110	81	90	89	59	53	573
10	105	106	86	94	100	66	56	613
11	108	109	105	83	95	77	77	654
12	115	112	106	90	87	77	65	652
13	91	119	102	103	103	70	66	654
14	121	127	110	125	107	88	64	742
15	123	129	110	110	116	62	84	734
16	127	115	108	91	110	83	60	694
17	94	112	94	92	83	67	75	617
18	97	93	76	76	80	82	81	585
19	97	80	76	65	89	73	76	556
20	94	80	79	94	88	73	74	582
21	65	70	55	51	68	61	55	425
22	50	60	52	44	65	67	49	387
23	42	39	34	39	38	56	37	285
Total	1,720	1,775	1,530	1,510	1,599	1,307	1,235	10,676

*< Without report taken (**LEFT**); with report taken (**RIGHT**) >*

Patrol responds to CFS based on priorities, and each encounter is distinct, requiring time and resources unique to the incident at hand. While the analysis of time required to ensure the appropriate outcome is achieved is met, the time needed to respond to each incident and resolve the issue can be analyzed. Patrol officers are dispatched to pending CFS and expected to mediate and intercede in both criminal and civil disputes. Time spent on these service needs can be matriculated into service time spent to resolve issues to preserve order and ensure public peace. At any given time of day throughout the week, there is a need to have appropriate staffing levels to efficiently respond to a variety of CFS. The City staffs each shift in balance to provide a level of service to address these needs.

The four-year Patrol utilization analysis shown in the following figure identifies a general saturation rate below 60 percent during peak hours of the day, with an overall saturation rate per engaged unit at a four-year average of 44 percent. The percentage rates vary by hour, with hourly averages offering a comprehensive understanding of the workload experienced by Patrol officers who are expected to respond to public-generated CFS. When saturation occurs, officers are more inclined to be less proactive and less engaged in the community as they are focused on response to the immediate public safety needs which arise in the moment. As such, calls generated between 5:30 pm and 7:00 pm often get backed up as the shifts transition, resulting in slower response times and delayed services.

In analysis of the broader trends in data, however, Citygate determined that Patrol was generally not operating in a saturated deployment environment, which allows for a balanced approach to both proactive and reactive policing (public-generated vs officer-initiated response). Officers in the City can generally engage in proactive policing and community engagement while remaining available for priority CFS.

As evidenced by the coloration in the figure, Patrol utilization is at its peak between 9:00 am and 9:00 pm each day. Reviewing both “average committed time” (left) and “patrol utilization rate” (right) reveals the overall workload impact given current staffing levels near capacity based on operational staffing norms (center).

Figure 21—Patrol Utilization (2019–2022)

Patrol Utilization Rates by Hour and Day (Excludes Supervisors)

Patrol Avg. Total Committed Time

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	1.3	1.7	1.4	1.4	1.7	1.5	1.6	**1.5**
1	1.7	1.5	1.6	1.6	1.4	1.5	1.7	**1.6**
2	1.3	1.6	1.2	1.2	1.5	1.4	1.7	**1.4**
3	1.3	1.4	1.1	1.0	1.2	1.0	1.2	**1.2**
4	0.9	1.1	1.0	1.0	1.0	0.9	1.1	**1.0**
5	0.6	0.6	0.8	0.6	0.5	0.7	0.7	**0.7**
6	0.9	1.0	1.0	1.0	1.1	1.0	0.9	**1.0**
7	1.3	1.2	1.2	1.3	1.4	1.1	0.9	**1.2**
8	1.5	1.3	1.3	1.4	1.4	1.2	1.1	**1.3**
9	1.6	1.9	1.6	1.6	1.7	1.5	1.3	**1.6**
10	2.0	2.1	1.8	1.8	1.7	1.5	1.4	**1.8**
11	1.9	2.1	1.9	1.9	1.7	1.7	1.5	**1.8**
12	2.1	2.0	1.7	1.7	1.7	1.5	1.6	**1.8**
13	1.9	2.0	2.1	1.9	2.0	1.5	1.3	**1.8**
14	1.9	2.1	2.0	2.1	1.9	1.7	1.5	**1.9**
15	2.5	2.3	2.1	1.9	2.0	1.4	1.6	**2.0**
16	2.1	2.2	2.5	1.9	2.0	1.7	1.5	**2.0**
17	2.0	2.0	2.0	1.8	1.6	1.4	1.5	**1.8**
18	2.0	2.0	1.9	1.9	1.8	1.8	1.7	**1.9**
19	2.3	1.9	1.7	1.8	2.0	1.7	1.6	**1.9**
20	1.9	1.9	1.7	1.9	1.9	1.9	1.7	**1.9**
21	1.8	1.7	1.4	1.4	1.7	1.5	1.6	**1.6**
22	1.3	1.4	1.5	1.5	1.8	1.5	1.6	**1.5**
23	1.6	1.4	1.4	1.4	1.5	1.7	1.5	**1.5**
Total	**1.8**	**1.8**	**1.7**	**1.6**	**1.7**	**1.5**	**1.5**	**1.6**

Patrol Avg, Units Engaged on Calls

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	3	3	3	3	3	3	3	**3**
1	3	3	3	3	3	3	3	**3**
2	3	3	3	3	3	3	3	**3**
3	3	3	3	3	3	2	3	**3**
4	3	3	2	3	2	2	2	**2**
5	2	2	3	2	2	2	2	**2**
6	2	2	2	2	2	2	2	**2**
7	3	3	3	3	3	3	2	**3**
8	3	3	3	3	3	3	3	**3**
9	4	4	3	3	3	3	3	**3**
10	4	4	4	4	4	3	3	**4**
11	4	4	4	4	4	3	3	**4**
12	4	4	4	4	4	3	3	**4**
13	4	4	4	4	4	3	3	**4**
14	4	4	4	4	4	3	3	**4**
15	4	4	4	4	4	3	3	**4**
16	4	4	4	4	4	3	3	**4**
17	5	4	4	4	4	4	4	**4**
18	4	4	4	4	4	3	3	**4**
19	4	4	4	4	4	3	3	**4**
20	4	4	4	4	4	3	3	**4**
21	4	3	3	3	3	3	3	**3**
22	3	3	3	3	3	3	3	**3**
23	3	3	3	3	3	3	3	**3**
Total	**4**	**4**	**4**	**4**	**4**	**3**	**3**	**3**

Patrol Utilization Rate per Engaged Unit

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	38%	45%	43%	40%	46%	39%	46%	**42%**
1	49%	43%	49%	43%	40%	43%	49%	**45%**
2	40%	47%	42%	35%	42%	41%	50%	**42%**
3	42%	41%	40%	34%	37%	34%	41%	**39%**
4	33%	34%	35%	31%	32%	33%	38%	**34%**
5	23%	25%	31%	27%	20%	23%	27%	**25%**
6	36%	42%	42%	41%	41%	42%	38%	**40%**
7	40%	39%	36%	39%	41%	39%	34%	**38%**
8	42%	41%	36%	42%	40%	40%	36%	**39%**
9	43%	49%	43%	44%	46%	44%	39%	**44%**
10	49%	49%	42%	42%	42%	44%	42%	**45%**
11	46%	49%	42%	43%	43%	48%	42%	**45%**
12	50%	49%	40%	42%	45%	43%	47%	**45%**
13	48%	50%	47%	45%	46%	45%	43%	**46%**
14	47%	51%	46%	47%	48%	47%	46%	**48%**
15	56%	53%	47%	46%	49%	43%	47%	**49%**
16	49%	50%	50%	45%	46%	46%	43%	**47%**
17	41%	43%	42%	38%	36%	34%	34%	**39%**
18	51%	49%	50%	44%	46%	51%	51%	**49%**
19	55%	48%	45%	44%	49%	47%	45%	**48%**
20	48%	51%	45%	47%	49%	50%	45%	**48%**
21	46%	48%	39%	38%	45%	44%	43%	**43%**
22	41%	44%	46%	43%	48%	45%	46%	**45%**
23	42%	44%	41%	39%	43%	48%	46%	**43%**
Total	**45%**	**46%**	**43%**	**42%**	**44%**	**43%**	**43%**	**44%**

City officers are routinely dispatched to medical and mental health CFS. Officers have advanced training to assist Fire and EMS and are very experienced with providing medical aid and assistance. In recent years, there has been discussion of a shift *away* from the model of officers responding to medical or mental illness calls; however, the expected response by first responders is to safeguard the health, safety, and welfare of the community.

The following figure details Patrol utilization rates specific to medical CFS.

Figure 22—Patrol Utilization – Medical CFS (2022)

EMS Medical Patrol Utilization Rates by Hour and Day (Excludes Supervisors. All Priorities)

Medical Patrol Avg. Total Committed Time

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	0.3	0.3	0.4	0.6	0.3	0.4	0.2	**0.3**
1	0.5	0.1	0.8	1.1	0.5	0.3	0.4	**0.5**
2	0.6	0.4	0.7	0.6	0.1	0.3	0.4	**0.5**
3	0.5	0.4	0.3	0.4	0.2	0.4	0.4	**0.4**
4	0.5	0.8	0.4	0.2	0.3	0.3	0.3	**0.4**
5	0.4	0.4	0.4	0.4	0.3	0.1	0.1	**0.3**
6	0.5	0.4	0.5	0.3	0.3	0.3	0.3	**0.4**
7	0.4	0.4	0.4	0.4	0.4	0.5	0.2	**0.4**
8	0.5	0.3	0.4	0.6	0.7	0.6	0.4	**0.5**
9	0.5	0.5	0.2	0.3	0.3	0.8	0.6	**0.4**
10	0.6	0.3	0.3	0.4	0.4	0.4	0.6	**0.4**
11	0.4	0.4	0.3	0.5	0.4	0.4	0.6	**0.4**
12	0.5	0.4	0.3	0.2	0.3	0.4	0.6	**0.4**
13	0.7	0.4	0.3	0.3	0.5	0.3	0.3	**0.4**
14	0.5	0.4	0.4	0.6	0.3	0.5	0.4	**0.5**
15	0.5	0.4	0.3	0.5	0.5	0.6	0.5	**0.5**
16	0.3	0.4	0.3	0.6	0.5	0.8	0.5	**0.5**
17	0.3	0.3	0.4	0.4	0.4	0.3	0.2	**0.3**
18	0.6	0.4	0.4	0.5	0.3	0.2	0.5	**0.4**
19	0.8	0.3	0.6	0.7	0.3	0.4	0.3	**0.5**
20	0.4	0.3	0.5	0.3	0.3	0.4	0.6	**0.4**
21	0.2	0.9	0.2	0.5	0.5	0.3	0.3	**0.4**
22	0.3	0.3	0.3	0.3	0.2	0.5	0.3	**0.3**
23	0.3	0.3	0.2	0.7	0.2	0.2	0.3	**0.3**
Total	**0.5**	**0.4**	**0.4**	**0.5**	**0.4**	**0.4**	**0.4**	**0.4**

Patrol Avg, Units Engaged on Medical Calls

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	2	1	1	2	2	1	1	**2**
1	1	1	2	1	2	1	2	**1**
2	2	1	2	2	1	1	2	**2**
3	1	2	1	1	1	2	2	**1**
4	2	2	1	1	1	1	1	**1**
5	1	2	1	2	1	1	1	**1**
6	2	2	2	1	2	1	2	**2**
7	1	2	1	1	1	2	1	**1**
8	2	2	2	2	2	2	2	**2**
9	2	2	1	2	1	2	2	**2**
10	2	2	1	2	2	2	2	**2**
11	2	2	1	2	2	2	2	**2**
12	2	2	2	1	1	2	2	**2**
13	2	2	2	2	2	2	2	**2**
14	2	2	2	2	2	2	2	**2**
15	2	2	1	2	2	2	2	**2**
16	2	2	2	2	2	2	2	**2**
17	2	2	2	2	2	2	1	**2**
18	2	2	2	2	1	1	2	**2**
19	2	2	2	2	1	2	1	**2**
20	2	2	2	2	2	2	2	**2**
21	1	2	2	2	2	2	1	**2**
22	2	2	1	2	2	2	2	**2**
23	1	1	1	2	2	1	1	**1**
Total	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Medical Patrol Utilization Rate per Engaged Unit

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	19%	18%	27%	32%	18%	31%	11%	**23%**
1	38%	14%	45%	95%	29%	23%	26%	**36%**
2	33%	29%	40%	28%	10%	24%	25%	**29%**
3	35%	24%	20%	26%	19%	25%	26%	**25%**
4	26%	47%	30%	12%	23%	19%	21%	**28%**
5	25%	27%	26%	25%	20%	12%	11%	**22%**
6	32%	24%	36%	22%	23%	24%	18%	**27%**
7	29%	26%	30%	31%	27%	27%	14%	**27%**
8	28%	17%	22%	36%	34%	31%	21%	**27%**
9	27%	25%	18%	20%	18%	36%	40%	**26%**
10	32%	21%	19%	23%	23%	22%	28%	**24%**
11	22%	24%	18%	26%	25%	23%	27%	**24%**
12	26%	22%	17%	17%	18%	22%	34%	**22%**
13	31%	24%	19%	22%	29%	16%	16%	**23%**
14	29%	21%	22%	34%	16%	29%	24%	**25%**
15	27%	19%	24%	27%	24%	38%	29%	**27%**
16	21%	24%	18%	29%	22%	41%	26%	**26%**
17	20%	17%	24%	25%	18%	18%	11%	**19%**
18	37%	19%	26%	26%	22%	17%	27%	**25%**
19	46%	19%	33%	34%	24%	24%	23%	**29%**
20	26%	16%	31%	18%	20%	24%	32%	**24%**
21	18%	47%	13%	20%	19%	19%	19%	**21%**
22	20%	20%	27%	17%	12%	30%	16%	**20%**
23	21%	28%	22%	41%	13%	13%	21%	**24%**
Total	**27%**	**23%**	**24%**	**27%**	**22%**	**25%**	**24%**	**25%**

After evaluation of the Patrol utilization rate in 2022, Citygate determined that Patrol officers routinely respond to aid and assist Fire/EMS in helping individuals in need of medical assistance. While data varies, officers spent 25 percent of available time responding to public-generated *medical* CFS.

The following table reflects a five-year decline in medical call response by Patrol personnel until 2021, which saw a significant increase to 3,141 medical CFS. Response increased further still in 2022. This return to numbers not seen since 2015 is an indication that the operational mission within the Department to service medical CFS is a continuing priority.

Table 8—Minnetonka Police Medical CFS

Year	Calls for Service
2015	3243
2016	3108
2017	2792
2018	2778
2019	2780
2020	2559
2021	3141
2022	3580

Source: Minnetonka Police Department Annual Reports

In many regions of the country, there has been a significant transition away from the model of police responding to CFS which do not specifically require a police presence. This is due to the understanding that preventive policing is fundamentally rooted in officers having the capacity to intervene in situations where behavior is present that is destructive to public order. As is common in many communities, Fire/EMS personnel have increasingly become the priority responders to medical calls in the City.

For decades, the Emergency Medical Services (EMS) first responder role in most of urban Minnesota has been filled by a police officer, as officers deployed out on beats could respond more quickly *to critical emergencies* given the time required to notify volunteer firefighters, who could then respond from home or work. Thus, for years, the City's police officers were recruited at the Emergency Medical Technician-1 (EMT-1) level—the same training received by a Basic Life Support ambulance crew member. Patrol units had EMS quick-help bags and, later, automatic external defibrillators.

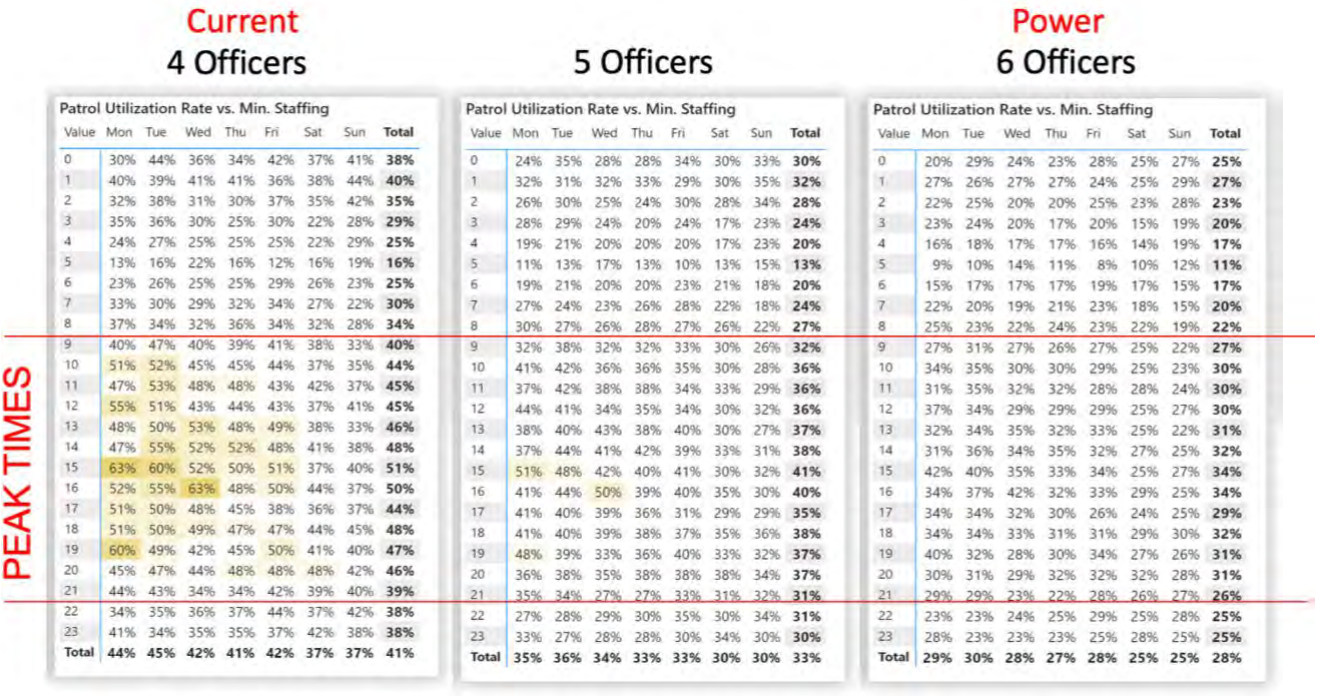
Since approximately May of 2020, however, it has become very difficult to recruit EMT-1 police officers, and also too expensive to train them after employment. As a result, the Department stopped hiring EMT-1 officers and, as police calls for service increased, Patrol supervisors began to informally triage EMS first police response to only more serious incidents. This change led to the transference of EMS first responder dispatches to the Fire Department. However, over only just the last two years has Minnetonka Fire acquired enough funding to staff three "duty crews" per day from two fire stations, while the City itself is large enough to have five fire stations. Thus, police patrol units—even if not trained to the full EMT-1 level—must still respond where they are clearly closer to a medical emergency than one of the City's Fire Department duty crew units.

Additionally, mental health-specific incidents continue to increase year over year, and the City and both public safety departments will need to continue to explore response models and practices with specificity and intentionality.

4.3.4 Patrol Utilization Modeling

The following figure simulates added personnel over an entire 24-hour work cycle, but more importantly demonstrates a significant reduction in saturation during peak utilization (between 9:00 am and 9:00 pm) with an added "Power Shift."

Figure 23—Patrol Utilization – Minimum Staffing Levels



Patrol Utilization Rate vs. Min. Staffing — 4 Officers

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	30%	44%	36%	34%	42%	37%	41%	38%
1	40%	39%	41%	41%	36%	38%	44%	40%
2	32%	38%	31%	30%	37%	35%	42%	35%
3	35%	36%	30%	25%	30%	22%	28%	29%
4	24%	27%	25%	25%	25%	22%	29%	25%
5	13%	16%	22%	16%	12%	16%	19%	16%
6	23%	26%	25%	25%	29%	26%	23%	25%
7	33%	30%	29%	32%	34%	27%	22%	30%
8	37%	34%	32%	36%	34%	32%	28%	34%
9	40%	47%	40%	39%	41%	38%	33%	40%
10	51%	52%	45%	45%	44%	37%	35%	44%
11	47%	53%	48%	48%	43%	42%	37%	45%
12	55%	51%	43%	44%	43%	37%	41%	45%
13	48%	50%	53%	48%	49%	38%	33%	46%
14	47%	55%	52%	52%	48%	41%	38%	48%
15	63%	60%	52%	50%	51%	37%	40%	51%
16	52%	55%	63%	48%	50%	44%	37%	50%
17	51%	50%	48%	45%	38%	36%	37%	44%
18	51%	50%	49%	47%	47%	44%	45%	48%
19	60%	49%	42%	45%	50%	41%	40%	47%
20	45%	47%	44%	48%	48%	48%	42%	46%
21	44%	43%	34%	34%	42%	39%	40%	39%
22	34%	35%	36%	37%	44%	37%	42%	38%
23	41%	34%	35%	35%	37%	42%	38%	38%
Total	44%	45%	42%	41%	42%	37%	37%	41%

Patrol Utilization Rate vs. Min. Staffing — 5 Officers

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	24%	35%	28%	28%	34%	30%	33%	30%
1	32%	31%	32%	33%	29%	30%	35%	32%
2	26%	30%	25%	24%	30%	28%	34%	28%
3	28%	29%	24%	20%	24%	17%	23%	24%
4	19%	21%	20%	20%	20%	17%	23%	20%
5	11%	13%	17%	13%	10%	13%	15%	13%
6	19%	21%	20%	20%	23%	21%	18%	20%
7	27%	24%	23%	26%	28%	22%	18%	24%
8	30%	27%	26%	28%	27%	26%	22%	27%
9	32%	38%	32%	32%	33%	30%	26%	32%
10	41%	42%	36%	36%	35%	30%	28%	36%
11	37%	42%	38%	38%	34%	33%	29%	36%
12	44%	41%	34%	35%	34%	30%	32%	36%
13	38%	40%	43%	38%	40%	30%	27%	37%
14	37%	44%	41%	42%	39%	33%	31%	38%
15	51%	48%	42%	40%	41%	30%	32%	41%
16	41%	44%	50%	39%	40%	35%	30%	40%
17	41%	40%	39%	36%	31%	29%	29%	35%
18	41%	40%	39%	38%	37%	35%	36%	38%
19	48%	39%	33%	36%	40%	33%	32%	37%
20	36%	38%	35%	38%	38%	38%	34%	37%
21	35%	34%	27%	27%	33%	31%	32%	31%
22	27%	28%	29%	30%	35%	30%	34%	31%
23	33%	27%	28%	28%	30%	34%	30%	30%
Total	35%	36%	34%	33%	33%	30%	30%	33%

Patrol Utilization Rate vs. Min. Staffing — 6 Officers

Value	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
0	20%	29%	24%	23%	28%	25%	27%	25%
1	27%	26%	27%	27%	24%	25%	29%	27%
2	22%	25%	20%	20%	25%	23%	28%	23%
3	23%	24%	20%	17%	20%	15%	19%	20%
4	16%	18%	17%	17%	16%	14%	19%	17%
5	9%	10%	14%	11%	8%	10%	12%	11%
6	15%	17%	17%	17%	19%	17%	15%	17%
7	22%	20%	19%	21%	23%	18%	15%	20%
8	25%	23%	22%	24%	23%	22%	19%	22%
9	27%	31%	27%	26%	27%	25%	22%	27%
10	34%	35%	30%	30%	29%	25%	23%	30%
11	31%	35%	32%	32%	28%	28%	24%	30%
12	37%	34%	29%	29%	29%	25%	27%	30%
13	32%	34%	35%	32%	33%	25%	22%	31%
14	31%	36%	34%	35%	32%	27%	25%	32%
15	42%	40%	35%	33%	34%	25%	27%	34%
16	34%	37%	42%	32%	33%	29%	25%	34%
17	34%	34%	32%	30%	26%	24%	25%	29%
18	34%	34%	33%	31%	31%	29%	30%	32%
19	40%	32%	28%	30%	34%	27%	26%	31%
20	30%	31%	29%	32%	32%	32%	28%	31%
21	29%	29%	23%	22%	28%	26%	27%	26%
22	23%	23%	24%	25%	29%	25%	28%	25%
23	28%	23%	23%	23%	25%	28%	25%	25%
Total	29%	30%	28%	27%	28%	25%	25%	28%

As the figure shows, compared to maintaining the current minimum staffing of four officers per shift (left), adding one full-time equivalent (FTE) officer position improves utilization during peak hours of the day (middle). Adding two FTE positions further improves utilization capacity (right).

A Power Shift had previously been tested with success before staffing shortages did not allow it to continue. A cover shift could be accomplished with a minimum of two officers and one supervisor—especially as the City grows and the need for further resources during peak times increases.

4.3.5 Data Analysis Summary

In determining the staffing levels necessary to operate a uniformed patrol service response, the City has used the current district model based on perceived needs and community expectations.

Policing is rapidly evolving, however, and the types of calls that require a police response need to be reevaluated. There has not been any prior evaluation within the Department to perform workload analysis in determining both desired (or required) service levels and staffing needs related to optimum or minimum staffing. The minimum staffing level of one supervisor and four officers is not based on any data-driven analysis or service delivery standard; however, it does provide a basic minimum service level that can be managed according to the expectations of the community, City, and Department.

Finding #9:	Patrol calls for service have steadily declined over the last five years.
Finding #10:	High-priority calls are dispatched by closest unit using GIS technology.
Finding #11:	Calls generated between 5:30 pm and 7:00 pm often get backed up as the shifts transition.
Finding #12:	Medical call response by Patrol had been declining over a five-year period, only to return to its highest levels since 2015.
Finding #13:	Mental health calls are continuing to increase year over year.
Finding #14:	Between 2019 and 2022, there were 10,676 incidents that required some form of documentation or investigation, accounting for about 25 percent of the total public-generated CFS. Due to the fact that a police report can average an additional 45–60 minutes, the impact to officer time could be in excess of an estimated 10,000 hours over four years—an average of 2,500 hours per year.

Recommendation #7:	The current informal program to reduce and eliminate medical call response and transfer this responsibility to Fire personnel must be better planned and coordinated in sync with the City's ability to fund added Fire Department First Responders to all sections of the City.
Recommendation #8:	The Department should explore models and practices specific to mental health crisis response.

4.3.6 Patrol Schedule Assessment

The current practice of two assigned supervisors per shift is intended to ensure that at least one supervisor is available to deploy into the field. While this solution is functional and allows for administrative duties to be accomplished, it can cause some supervision challenges as teams work directly under two different supervisors simultaneously.

As the City has grown, Patrol staffing levels have increased. At one point in recent years, the minimum staffing for each shift was increased to five officers. While each shift is generally allocated seven officers, it became too difficult to maintain this increase in mandatory deployment due to annual leave usage, illnesses, injuries, and vacancies. The minimum level of Patrol staffing per shift was thus reduced back to four officers.

The current 12-hour Patrol structure maintains a staffing level that does not fluctuate with the increased demands for service during peak hours. While the Department has attempted to create a cover shift (Power Shift) to provide additional staffing resources during peak hours (often between 10 am and 8:00 pm) to overlap shifts and reduce service gaps, staffing shortages have all but eliminated this hybrid shift. Citygate learned that while this shift existed, the overlap improved internal communication and administrative support, reducing the "silo" effect that occurred as a result of a non-overlapping workforce. As the City grows, this is likely the greatest opportunity to address service needs from a Patrol standpoint as it provides increased staffing at peak service needs.

Additionally, while the current schedule provides certain benefits, it has limitations in that extended shifts have been shown to cause health, safety, and performance issues. A study conducted by the National Institute of Justice determined that 12-hour shifts, while popular, are not as useful or helpful to organizations as is typically assumed.[13] While 5/8 and 3/12 schedules align evenly with 24-hour service delivery needs, 3/12 schedules have been identified with fatigue and the risks associated with extended hours have been found to be problematic. Departments often need peak-hour support requiring a cover shift, making the 4/10 shift model a more balanced option between individual/department benefits while providing peak service hours and limiting fatigue risks.[14]

Police training impacts service deployment but is fundamental to the ongoing learning experience of all police organizations, including the Minnetonka Police Department. The current scheduling plan attempts to balance both needs. The mandatory blocks of training are provided outside normal

[13] National Institute of Justice, "10-Hour Shifts Offer Cost Savings and Other Benefits to Law Enforcement Agencies," January 23, 2012, https://nij.ojp.gov/

[14] Amendola, K. L., Weisburd, D., Hamilton, E. E., Jones, G., and Slipka, M., "The Shift Length Experiment: What We Know About 8-, 10-, and 12-Hour Shifts in Policing," 2011, https://www.policinginstitute.org/publication/shift-length-experiment/

service schedules and generally requires overtime to ensure the required instruction does not impact Patrol services.

Finding #15: Currently, Patrol teams operate in siloed environments as shifts and teams do not overlap in ways that build unity and consistency. Current practice limits communication and team building and requires training to be conducted while on duty or during days off.

Finding #16: As demand for training increases and professional standards expands, the Department must provide more time for training and a greater focus on the development, experience, and perishable skills knowledge of all employees.

Recommendation #9: Consider evaluating alternative Patrol schedules such as the 4/10 schedule that addresses fatigue, training, team building, ancillary duties, employee wellness, and City growth.

Recommendation #10: Re-implement a Power Shift with two Patrol officers per shift to respond to increased utilization during peak hours of the day (four total FTE officer positions).

Recommendation #11: Eliminate the Police response to medical calls and transition these services to Fire when possible.

Recommendation #12: Prioritize recruiting and retention efforts to minimize staffing deficiencies and deployment issues.

Recommendation #13: Consider pre-hiring officers to limit the staffing shortages caused by retirements.

Recommendation #14: Consider evaluating shift length and work hours to determine if alternate, compressed work schedules are more suitable in response to growth.

4.4 ADMINISTRATIVE SERGEANT

The Department has an Administrative Sergeant position that is utilized as a collection point for many projects and personnel groups associated with direct service to the community. The position reports to the Patrol Services Captain. The Administrative Sergeant supervises the following personnel:

- Traffic Officers – 2
- Community Service Officers (CSOs) – 3
  - Administrative / Crime Prevention – 1
  - General Duty – 2
- Cadets – 4

The role of Traffic Officers is primarily to perform proactive traffic enforcement and receive regular, directed patrol instructions from the Administrative Sergeant, who collects all traffic-related complaints from the public. Sources of traffic complaints are Patrol operations staff, called-in complaints, and online complaints that are collected through the GovQA software platform.

One CSO has a more directed role of serving as a crime prevention coordinator for the Department. Two CSOs serve a general function, managing a range of tasks:

- Animal control
- Moving speed trailers
- Assisting in the management of Department vehicles
- Impounding vehicles for Patrol officers
- Transportation of prisoners to jail
- Presence at community events.

Two additional personnel are starting work in 2023 as Cadets. This new position will be a recruitment tool targeting a more diverse group of people looking to begin a law enforcement career with the Department. Cadets must work a minimum of 30 hours per week and be involved in a post-secondary school for law enforcement. The Cadet program is a pipeline for future recruiting and hiring as these positions help offset current secondary and supportive assignments while creating opportunities for future employment as a police officer. This is similar to the intern programs commonly utilized within the private and government sectors.

The Administrative Sergeant also has numerous project-based duties:

- Tracking and delegating traffic complaints from the community

- Parking and neighborhood complaints
- Managing of state grant for traffic safety
- Managing of special events (Summer Fest, Tour de Tonka, City Open House)
- Setting and changing scheduling software for all Department in staff payroll system
- Coordinating onboarding process for newly hired staff, including the two-week orientation new employees
- Managing the vehicle fleet for the Department
- Managing the field training program for all new officers
- Managing billing and collections for City-supervised site security performed by off-duty officers.

Finding #17: The Administrative Sergeant position is a collection point for many projects and personnel groups associated with direct service to the community.

Finding #18: A new Cadet program was started in 2023 to target recruitment for the Department.

Recommendation #15: Rename the Administrative Sergeant position as Community Services Sergeant (reporting to the Patrol Captain) and have them retain the community-based elements of the position with the following direct reports: Traffic Officers (4), Community Engagement Officer (2), Community Service Officers (3), Police Cadets (2), and all Chaplains and Reserves.

4.5 TRAFFIC UNIT

Traffic Officers perform an essential function of traffic and improved pedestrian safety through proactive enforcement. The Unit structure and objectives are as follows.

- The Traffic Unit is supervised by the Administrative Sergeant within the Patrol Services Division.
- Traffic safety is provided through education, engineering, and enforcement.

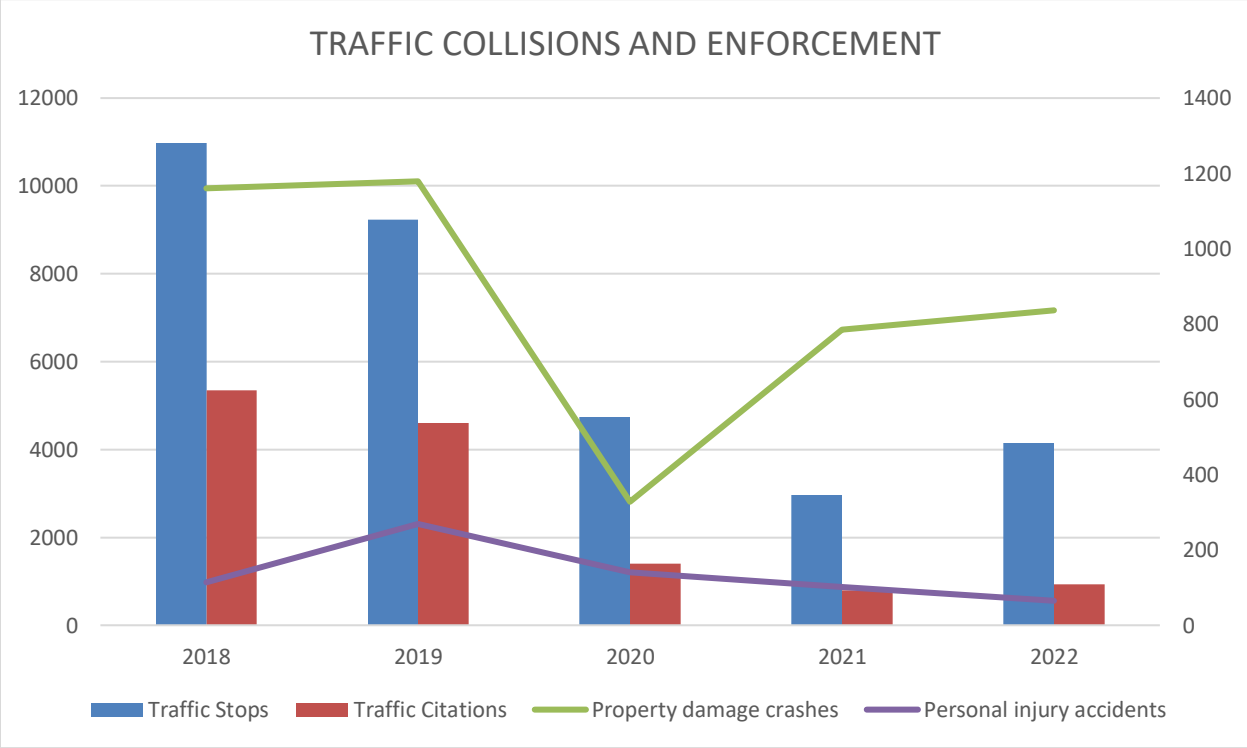
- The Unit is staffed with two Traffic Officers.
  - One Monday–Thursday from 7:00 am to 5:00 pm
  - One Tuesday–Friday from 12:00 pm to 10:00 pm
- The Unit oversees DWI Enforcement and the Education Grant.

While prevention and education are very important, a significant amount of the workload spills over to available Patrol officers. Patrol officers perform general traffic safety duties as part of their Patrol assignment. This generally consists of responding to traffic collisions and making proactive traffic stops when driver behaviors create unsafe conditions. As Patrol staffing is reduced or impacted by CFS, these duties interfere with other responses that may be of a higher priority, especially when conducting traffic collision investigations.

A more effective strategy in reducing the service demand on Patrol is adequately staffing the Traffic Unit and relinquishing more of the responsibility typically placed on Patrol. As the Unit is more available for more reactive traffic duties, Patrol service levels can be managed and predicted more effectively. The current Traffic Unit operates separately from the Patrol teams, which is not uncommon.

The following figure shows traffic collisions and enforcement data by year.

Figure 24—Traffic Collisions and Enforcement



As the figure shows, traffic enforcement has dramatically declined over the past five years, with significant drops in traffic education and enforcement. Traffic collisions have been declining over the same period but remain high. Traffic enforcement and education directly affect driver behavior and improve community safety. Without question, the last few years have been challenging in regard to police encounters with the public. It is important to find the right balance to ensure that traffic safety remains a priority.

The following table details traffic stops and citations issued over four recent years.

Table 9—Traffic Stops and Citations (2019–2022)

Year	Traffic Stops	Citations Issued
2019	9,239	4,606
2020	4,738	1,407
2021	2,972	788
2022	4,154	936

As the table shows, COVID-19 had a significant impact on these elements of police engagement.

Finding #19: Patrol Officers are often overutilized to perform traffic investigations and enforcement services when Traffic Officers are unavailable.

Recommendation #16: Consider expanding the Traffic Unit by two Traffic Officers and aligning work schedules with Patrol Schedules.

4.6 MENTAL HEALTH RESPONSE

A review of incident data indicates that mental health calls (including crisis and suicidal subjects) are increasing; however, data is incomplete as the officer assigned this duty has been promoted and transferred to other duties. This is a consistent trend that has been observed in virtually every community Citygate has recently reviewed. In Minnetonka, the Mental Health Program was developed in 2019 through a regional partnership effort. The Department employs one Master Social Worker (MSW) clinician—a position which is partially funded through a partnership with

the Hennepin County Social Services Department. In addition, the Department has trained five police officers as Mental Health Evaluation Team (MHET) members, which is an ancillary duty.

Although the Department's program is not setup as a "co-response" model where sworn officers accompany the MSW clinician to all mental health follow-up calls, Citygate recommends a re-consideration of this model.

Several City officers have received the Minnesota Crisis Intervention Training (CIT), which consists of a 40-hour block of instruction. This training is not standardized across the Department, however.

Finding #20: Mental health incident calls are trending upward both nationally and locally.

Finding #21: The City's mental health program is not a co-response model.

Finding #22: Data collection may be incomplete and/or inconsistent.

Finding #23: Not every sworn officer has formal Crisis Intervention Training.

Recommendation #17: Consider organizing a full-time Mental Health Unit under the Administrative Sergeant by adding two officers and assigning the Master Social Worker (MSW) to the Unit.

Recommendation #18: The Department should also reconsider this Unit operating under a co-response model.

Recommendation #19: Institutionalize mental health incident data collection.

Recommendation #20: Expand Minnesota Crisis Intervention Training to the entire Department.

4.7 ADMINISTRATIVE MANAGER

This is a professional civilian position that reports directly to the Chief of Police and has changed over time due to the abilities of the person who occupies the position. Originally starting as an administrative assistant position, the job now functions as an administrative assistant to the Chief, and also performs the following functions:

- Administrative function for policy and procedure
- Supervises an administrative assistant
- Acts as Department finance coordinator with the City
- Creates the annual report
- Works as foundation liaison
- Works with the Professional Standards Captain to coordinate the hiring process.

Finding #24: The Administrative Manager position has grown with the needs of the Department around the skillset of the person in the role. This position adds value to meet expectations of the community and City government.

Recommendation #21: Identify Administrative Manager position responsibilities and memorialize in written procedures all elements of the hiring, background, and on-boarding process to prevent role confusion by future employees in these positions.

4.8 Other Units, Positions, and Services

Citygate evaluated the following Patrol Services functions and recognized the significant value each provides to both internal and external police operations. Citygate further recommends the continuation of these services.

4.8.1 K-9 Operations

The Minnetonka K-9 program is well established and integrated within Patrol. Established in 1976, there are currently two K-9 teams assigned to Patrol, with each team assigned to respective night shifts with coverage seven days per week. K-9 teams are trained in human scent tracking, narcotics detection, and article location.

K-9 Officers are assigned a Patrol district and are responsible for general CFS in addition to specific K-9 duties, including training weekly with regional teams to maintain advanced skills.

4.8.2 Community Engagement Officer

This position focuses on community outreach, building trust and relationships between police and the public. One full-time staff member is dedicated to coordinating outreach and engagement. In light of the challenges communities are experiencing regarding trust and transparency in policing, this position can be invaluable in promoting outreach and engagement.

113 events and meetings were held in 2021, designed to foster positive sentiment and build supportive experiences with members of the community. Citygate believes this is an area that the Department should expand.

Finding #25: Community engagement is a critical component of modern policing.

Recommendation #22: Create a Community Engagement Unit by adding one sworn Community Engagement Officer. Organize the Unit under the supervision of the Community Services Sergeant.

4.8.3 Community Service Officers

The Community Service Officer (CSO) program consists of uniformed civilian staff comprised of two full-time and four part-time personnel who provide non-enforcement services including vehicle tows, animal complaints, arrestee transports, City park patrols, and found property recovery.

Part-time CSOs are being reclassified as Cadets in 2023 to promote a pathway to future police officer positions.

4.8.4 Police Explorers

Established in the 1980s, the Minnetonka Police Explorer Post is a youth organization through the Learning for Life affiliate of the Boy Scouts of America. Providing a hands-on learning experience for youth between 14–21, Police Explorers assist the Department during community events and provide training and awareness of the criminal justice system.

Annually, the group provides hundreds of hours of community service to the City.

4.8.5 Police Reserves

An auxiliary volunteer unit of the Department, 12 Police Reserves volunteers dedicated 800 cumulative hours of service in 2021. The Unit routinely assists licensed, sworn officers by

performing community service tasks and non-criminal police functions, house checks and check on parking complaints, traffic control at City and community events, assistance at accident scenes, and tours of the Department.

4.8.6 Bike Patrol

An ancillary assignment within Patrol, Bike Patrol consists of a team of 11 specially trained police officers with special assignments to supplement regular police patrols. The team maintains a focus on parks, trails, and retail areas, is utilized during special events within the community, provides bicycle safety education to children, and will see future utilization along the Southwest Light Rail Transit upon opening.

SECTION 5—INVESTIGATIVE/SUPPORT SERVICES REVIEW

5.1 DETECTIVES

5.1.1 Overview

The Detective Unit is comprised of Detectives spread over all competency areas of Investigative Services and is geographically decentralized due to the specific missions of certain Detectives. This Division is expected to address follow-up investigations for all CFS, along with directed requests from the Minnetonka School District and Ridgedale Mall security and retailers. Organizational structure entails all staff reporting to a Division Captain who reports to the Chief of Police. Staffing positions are listed in the following table.

Table 10—Detective Unit – Staffing

Position	Number of Personnel
Captain of Investigations	1
Detective Sergeants	2
Case Detectives	4
Retail Crime Detectives	2
School Resource Officers	2
Secret Service Work Group Detective	1
Southwest Hennepin Drug Task Force Officer	1
Crime Analyst	1
Property & Evidence Specialist	1
Rotating Detective (every 6 months)	--

5.1.2 Captain of Investigations

This is an executive leadership position held by a sworn officer who reports directly to the Chief of Police. The role of this Captain is to oversee all investigative services of the Department and to serve as a member of the overall leadership team with the other two Captain positions and the Chief of Police. A Captain's position managing a division of this size is appropriate for the size of the City's investigative function. As subordinate position, it appropriately bridges the span of control to the Chief of Police and serves as an appropriate peer to other agencies in the coordination of resources, grants, and combined initiatives.

The Captain of Investigations manages the following areas:

- Strategic response to investigations that affect the Department

- Supervision of two Detective Sergeants in Investigations
- High-level relationships with outside agencies concerning investigations and the Work Group Detective / Task Force Officer (TFO) positions of the agency
- MOUs related to the Work Group Detective / TFO positions.

Finding #26: In the organizational structure overseeing Investigations, the Captain rank establishes a proper span of control between the Chief of Police and supervising Sergeants.

Finding #27: The administrative role of the Captain of Investigations effectively manages relationships internally between divisions and is appropriate to manage the external relationships of this urban/suburban County.

Recommendation #23: Maintain the Captain of Investigations as a managerial role.

5.1.3 Detective Sergeants

All staff in the Unit report to two Detective Sergeants who, in turn, report to the Captain of Investigations. Sergeants work ten-hour days and cover weekdays Monday through Friday. The division of work for the Sergeant position is determined by the two Sergeants in the Unit. None of the Unit Detectives or civilian staff have a specified direct report supervisor.

Detective Sergeants divide daily work in the following areas:

- Review and screening of cases without solvability factors
- Review and assignment of cases with solvability factors to Detectives
- Review of submitted cases after investigations have been completed
- Supervision, advisement, and assistance to Detectives on cases that need supervisory assistance
- Supervision of the civilian Crime Analyst
- Supervision of the Property and Evidence Specialist
- Acting as backup staffing for the Property and Evidence Specialist.

Citygate found that Detective Sergeants do an excellent job of screening out cases that do not have solvability factors. As a result, 65–70 percent of all potential cases are removed from further assignment, which creates significant time savings for Detectives having to spend time discerning solvability for themselves or in conjunction with their supervisors.

5.1.4 Case Detectives

The main Detective Unit has four Detectives who are classified as Case Detectives, with the main unit schedule shown in the following table.

Table 11—Main Investigative Unit Schedule

Days of the Week	Rank/Position
Monday – Thursday	Detective Sergeant
Tuesday – Friday	Detective Sergeant
Monday –Thursday	Case Detective
Monday – Thursday	Case Detective
Tuesday – Friday	Case Detective
Tuesday – Friday	Case Detective

These positions are assigned the bulk of cases screened by the Detective Sergeants and the four Detectives are assigned new cases daily. Detective Sergeants work to assign cases in an equitable manner by balancing the complexity and number of cases as evenly as possible based on their screening of the cases prior to assignment. Case Detectives focus on a wide array of cases including death investigations, burglary, theft, assault, and criminal damage to property.

It has been reported to Citygate that assigned cases have solvability factors which often require one of more search warrants for physical locations and/or electronic devices (e.g., cell phones, computers), increasing the complexity of cases.

Prior to 2019, there were five Case Detectives; however, one position was transferred to a position on the Secret Service Work Group for digital forensics in that year.

In the course of Citygate's interviews, it was identified that while Detectives do receive training pertaining to investigations, there is no core, required curriculum for new Detectives. This has made the experience of each Detective very different when entering this type of work depending on the previous training and experience of each person. Feedback received would indicate that staff believe Detectives and the agency would both benefit from a standardized curriculum in the first year of work in the Detective Unit.

The following table shows investigative cases managed by the Unit over a four-year period.

Table 12—Investigative Services Case Management (2018–2022)

Year	Case Detectives	
	Total Cases	Cases per Detective
2018	592	118
2019	566	141
2020	476	119
2021	679	169.5
2022	720	180

As the table shows, the caseload for Case Detectives has risen in recent years, which coincided with the reallocation of one Case Detective position to the Secret Service Work Group.

Finding #28: No direct line of responsibilities for the Sergeants supervising the Detective Unit function; responsibilities are divided up amongst the two Sergeants informally.

Finding #29: Year-over-year numbers in Investigations have remained stable; the number of Detectives assigned as Case Detectives decreased by one in 2019.

Finding #30: Case complexity continues to increase due to search warrants required for cell phones and computers, along with review on almost every workable case.

Finding #31: Detective Sergeants screen out 65–70 percent of cases, only assigning cases with workable solvability factors.

Finding #32: Detectives do not have a case management system for organizing, distributing, or monitoring the progress of assigned cases.

Finding #33: There is currently no prescribed set of trainings/schools required for Detectives to attend to increase their competency curve once they join the Unit.

Recommendation #24:	Define clear responsibilities for each Detective Sergeant, including which Detectives or civilian professional staff are to be evaluated by each supervisor.
Recommendation #25:	Separate the duties and responsibilities of the Detective Sergeants into two distinct investigative units so that Detectives report to only one Sergeant.
Recommendation #26:	Continue the practice of Detective Sergeants screening out cases without solvability factors.
Recommendation #27:	Consider the addition of at least one Case Detective to Investigations to work on existing caseload.
Recommendation #28:	Incorporate case-management functionality into a new records management system to replace field-based reporting (FBR) or purchase a limited case-management system for Investigations.
Recommendation #29:	Develop a set of learning objectives for each new Detective, connecting them with training opportunities to meet the objectives, including digital forensics training (understand the capabilities), legal issues, writing search warrants, mobile banking and electronic crimes (how to investigate and write related warrants), and basic financial crimes.

5.1.5 Retail Crime Detectives:

The Ridgedale Mall shopping center is a hub of activity within the City that contains 113 stores and restaurants and has a perimeter of apartments in the area. This complex has two Detectives assigned to the location full-time that work a 4/10 schedule shown in the following table.

Table 13—Retail Crime Detective Schedule

Days of the Week	Rank/Position	Hours Worked
Monday – Thursday	Detective	1000–2000
Tuesday – Friday	Detective	1000–2000

This schedule provides partially overlapping coverage for the Retail Crime Detectives. The Detectives work closely with PSC Security as the on-site security company (two to four officers on-duty), and loss prevention for Nordstrom's, Apple, Macy's, Dick's, and with traveling loss prevention at JC Penney, Victoria's Secret, Gap, Old Navy, and Athleta. Additionally, they communicate directly with Target loss prevention at their north and south stores in the City.

Citygate found that the Retail Crime Detective positions work most effectively and safely on days when they are paired. The Monday and Friday workdays place these Detectives at a tactical disadvantage for calls for service within Ridgedale where they need to respond to interdict suspects. Often on those days, they must rely on loss prevention or mall security officers for assistance only, or Patrol officers must respond from an off-site location within the City.

Retail Crime Detectives serve three purposes at the mall:

1. As officers responding to CFS through dispatch at the mall or from direct communication with store merchants, loss prevention, or mall security staff.
2. As investigators of all of reported crimes of which they were the initial responding officer.
3. As the case Detectives on reported crimes that occur when no Detective is onsite, typically during weekends. Cases are assigned to them by the Detective Sergeants, with approximately 10–15 open cases at any one time, each taking one to two weeks of case management time before they can be closed and out of the system.

It was discovered by Citygate that any self-initiated case number or investigation by Retail Crime Detectives cannot be seen in the field-based reporting (FBR) system until after the case has been submitted at completion. As a result, Detective Sergeants only see half of the workload being managed by Retail Crime Detectives.

The following table shows cases managed by Retail Crime Detectives (as reported in FBR) over a four-year period.

Table 14—Retail Crime Detectives Case Management (2018–2022)

Year	Retail Crime Detectives	
	Total Cases	Cases per Detective
2018	199	99.5
2019	213	106.5
2020	129	64.5
2021	234	117
2022	162	81

Due to the workload of investigative follow-up and CFS for in-progress thefts and assault cases, Retail Crime Detectives do not have the opportunity to do proactive work. This work would include consulting with on-site loss prevention on strategies for dealing with repeat offenders that come onto the mall property.

Finding #34: Retail Crime Detectives are unable to provide "pro-active" patrol due to the requirement to respond to in-progress thefts and assaults, which is a unique situation for Detectives.

Finding #35: Retail Crime Detectives act as the "beat cops" of the mall, which functions as a small town inside of Minnetonka during operating hours.

Finding #36: On-site Detectives work from 10:00 am to 8:00 pm each day, which provides optimal coverage during open hours for the mall.

Finding #37: Retail Crime Detectives are regularly interrupted by in-progress incidents, which prevents proper investigative follow-up on cases generated while they are not on-shift (primarily weekends).

Finding #38: On-site Detectives do not have immediate sworn officer backup when incidents occur and, on days when operating this without their counterpart, this becomes an officer safety concern.

Finding #39: The current field-based reporting (FBR) system gives the Detective Sergeants only a partial understanding of caseload of Retail Crime Detectives.

Recommendation #30: Due to the volume of incidents, maintain the on-site presence of Detectives at the Ridgedale Mall. Removing Detectives from the mall location would require additional Patrol officers in this sector who would not have the relationships with store staff and loss prevention.

Recommendation #31: Maintain current hours for Retail Crime Detectives (1000–2000 hours) to provide optimal coverage while the mall is open.

Recommendation #32:	Consider the funding for these positions through a contractual agreement with mall ownership. Retail Crime Detectives only exist due to the presence of the facility.
Recommendation #33:	Add two Retail Crime Detectives, creating a four-person team with rotating responsibilities. Each month or quarter, one Detective would be responsible for investigating the caseload of incidents which occur while Detectives are not on-site, while the other three Detectives would work an overlapping schedule that provides two Detectives working all seven days of the week, thus allowing Detectives to work on in-progress calls for service, perform proactive work in the mall, and provide proper backup to one another.
Recommendation #34:	Create a digital platform that will allow the Detective Sergeants the ability to see the full caseload of Retail Crime Detectives.

5.1.6 Secret Service Work Group Detective

This position was put into place in 2019—in partnership with the United States Secret Service through an agreement signed between the federal government and the Minnetonka Police Department. The Work Group Detective position was taken from the complement of five Case Detectives, which then decreased to four Case Detectives as a result.

The agreement with the Secret Service creates a partnership between the two agencies and provides for an officer to be placed on loan to a digital forensics Work Group, with the Secret Service and officers from Minnetonka, Edina, and Saint Louis Park co-located at a federal government-provided site in Minneapolis. Extensive training, equipment, and ancillary resources are provided to the officers partnered in the task force. Due to the highly technical nature of cellular technology and computers, these trained forensic examiners are very valuable to the agencies involved. In almost every case referred to Investigations, there is a nexus involving cellular phones or computers which this position is trained and equipped to address.

The following table shows cases managed by the Secret Service Work Group Detective over a four-year period.

Table 15—Secret Service Work Group Detective Case Management (2018–2022)

Year	Secret Service Work Group Detective
	Total Cases
2018	N/A
2019	36
2020	78
2021*	24
2022	34

* Position vacant for portion of year

Citygate has learned that there is a lack of connection with the Work Group Detective position. Sergeants and Detectives indicate that, while work submitted to the Work Group Detective does get completed, a more complete understanding of what the Detective does on a daily basis is somewhat muddled. There is no daily log or weekly update that the Department is gathering from the Work Group Detective. This, coupled with the Detective being off-site in Minneapolis, has created a lack of understanding of the full scope of their activities for fellow Detectives working in the City at the Department's main facility.

Finding #40: The Department redirected a Detective position to the Secret Service Work Group.

Finding #41: There is a lack of definition and accountability coming back to the City regarding the full extent of the work being performed by the Secret Service Work Group Detective.

Recommendation #35: Define clear weekly reporting responsibilities for the Secret Service Work Group Detective; have a site visit on a monthly basis by a Detective Sergeant to create a more direct connection and improve understanding related to the work being performed by the Work Group Detective.

5.1.7 Southwest Hennepin Drug Task Force Officer

This position is a narcotics Detective attached to a drug task force and classified as a Task Force Officer (TFO). The position is part of a regional task force of suburban agencies that operate in Hennepin County. This is one of over 20 drug task forces in Minnesota that operate under the partial funding and audit compliance with the state of Minnesota. These task forces are highly regulated and are networked with other task forces. Supervision of the task force is done by a Sergeant supervisor from another participating agency.

The following table shows the cases reflected in FBR over a four-year period but does not represent all the work done by the TFO in relation to their duties as a member of the task force.

Table 16—Southwest Hennepin Drug Task Force Officer Case Management (2018–2022)

Year	Southwest Hennepin Drug Task Force Officer
	Total Cases
2018	38
2019	37
2020	20
2021	41
2022	13*

* 2022 was impacted by the TFO's extended leave (12 weeks) in addition to policy changes by the Hennepin County Attorney related to the prosecution of drug crime

Finding #42: The Department is involved in a suburban Drug Task Force interdicting drug trafficking activity in Hennepin County.

Finding #43: The City is a longstanding member of this Task Force.

Finding #44: The caseload as depicted is only a partial rendering of the activities of this Task Force.

Recommendation #36: Maintain the position of Drug Task Force Officer on the Southwest Hennepin Drug Task Force.

5.1.8 School Resource Officers (SROs)

The Minnetonka School District provides services to 35 percent of the City's geographical area, while 55 percent of the City is served by the Hopkins School District, and 10 percent by Wayzata Public Schools. The City has two public high schools—Minnetonka High School (Minnetonka School District) and Hopkins High School (Hopkins School District)—in addition to other private and charter high schools.

Prior to 2021, the Department had an SRO assigned to Hopkins High School. In 2020, the Hopkins School District made a policy determination to remove the SRO position. In 2021, Minnetonka High School contracted a second SRO position, which helped relieve the need for officer-provided traffic control at the high school each morning—a task which had been previously accomplished with overtime. In general, across Citygate's experience, SROs occupy a proactive and community-based role in schools today.

Finding #45: After the Hopkins School District made a policy determination to remove the SRO at Hopkins High School (located within City limits) in 2020, the overall number of formal investigations from both high schools declined in 2021 and started to rise again in 2022.

Recommendation #37: A strong partnership between the Department and schools is an essential component of increasing trust, safety, and security in the community. The Department should assist school administrators in building a safe environment for students and staff. By collaborating with educators and mental health professionals, school and community safety issues can be proactively addressed.

5.2 CRIME ANALYST

Due to the skills of the person filling the role, the Crime Analyst position is highly leveraged by the Department and is used by Case Detectives, Retail Crime Detectives, Patrol, and Administration. The Crime Analyst provides services to the Department in the following areas.

- Direct investigation support
- Criminal intelligence

- Real-time camera use, especially around Ridgedale Mall during daytime crime occurrences
- Data mining
- CFS analysis
- Officer performance indicators
- Data pulls for Records information
- Administrative requirements assistance
- Serves as the Department conduit to the Minnesota Fusion Center.

The Crime Analyst works on weekdays and provides data for specific criminal incidents, intel on specific persons, time-based trends, and specific crime trends by crime type. This data is relied on by the entire Department and shared with other agencies (as appropriate) for the purposes of criminal intelligence and investigations that benefit the City.

The Crime Analyst organizes and leads a biweekly crime analysis meeting that occurs on Mondays and Wednesdays. This meeting is attended by administrative staff, all Detectives, and any Patrol staff wishing to attend. The meeting is conducted with an in-person format, with online attendance as an option. This is a best practice for a community of this size and for the scope of crime-related issues in the community. It allows for discussions of individual cases of importance, crime trends, and collaboration among staff in real time.

The Department uses the following major platforms for gathering searchable data.

- LOGIS
- FBR
- Hennepin County CAD
- TicketWriter

All systems provide insufficient searchable data portals. LOGIS and Hennepin County require the vendor to create new data pulls, and each system provides different outcomes for the same type of data being mined. Citygate has found this to be a common problem among law enforcement agencies for several reasons:

- Systems are purchased by an agency to address previous technological challenges or data needs—not to leverage emerging technological opportunities.
- Systems are usually purchased with cost minimization in mind.

- Systems are not owned by the agency; therefore, organizations are not in control of the data they receive.

These reasons are at least partially present in the Department. LOGIS and Hennepin County CAD are controlled by outside organizations where City police have a very limited ability to change the inputs or outputs to these systems per the current user agreements the Department abides by as a customer.

The current lack of integration and consistency is limiting analysis and increases the time required to cull useful information.

5.2.1 Technology

Technology use by police departments continues to increase as agencies find ways to leverage information to communicate community concerns, patterns of behavior, share information within a department or between agencies, detect crimes, and solve crimes that were previously difficult to solve due to a lack of an identifiable suspect.

The Department uses systems to leverage information and has also established a truly paperless system of report writing.

Finding #46: The Crime Analyst position is heavily leveraged for use by Case Detectives, Retail Crime Detectives, Patrol, and Administration.

Finding #47: All major platforms in use by the Department provide insufficient searchable data portals. LOGIS and Hennepin County CAD require the vendor to create new data pulls, and each system provides different outcomes for the same type of data being mined.

Finding #48: Technology has proven to be a force multiplier when it comes to solving and preventing crimes.

Recommendation #38: Due to the force multiplier approach this position has within the organization, a second Crime Analyst position is recommended as a redundancy for time off, building organizational knowledge if a Crime Analyst leaves, and providing more information needed by the agency. This position will serve to address real-time information needs for Patrol, operate Ridgedale cameras into the evening, and extend the time frame the position offers to Detectives and officers in the Department.

Recommendation #39: Consolidate data into a new, comprehensive system that collects computer-aided dispatch (CAD), ticketing, and report information for faster, easier, and more consistent data collection and mining.

Recommendation #40: The Department should continue to invest in new and promising technologies that can be used to manage resources more efficiently to prevent, detect, and solve crimes.

5.3 PROPERTY AND EVIDENCE

The Property Room is managed by one person classified as a Property and Evidence Specialist. The position reports to the two Detective Sergeants, who also act as backup to the position. Sergeants assist when more than one person is needed to complete a task or when the Property and Evidence Specialist has time off.

The duties of this position include evidence processing, property dispositions, referrals to the Bureau of Criminal Apprehension (BCA) for further analysis, and the disposal of property based on either case disposition or state law. Citygate found that the processes in place represent best practice for Minnesota law enforcement as far as the separation of drugs, guns, and regular property; along with the accountability policies of the agency, are concerned.

Finding #49: One Property and Evidence Specialist oversees evidence processing, dispositions, referrals to BCA, and other associated work; backup to the position is provided by the two Detective Sergeants.

Recommendation #41: Hiring one (0.5 FTE) civilian employee to assist with workload, processes where two people are needed, and fill scheduling gaps when the full-time Property and Evidence Specialist is off the schedule would alleviate additional workload on Detective supervisors.

5.4 RECORDS

The Records Unit is comprised of three FTE staff members—one Records Supervisor and two Records Specialists. The Records Supervisor has a goal of being intentional with public contact and focused on customer service.

The Records Unit is adequately staffed for its current workload; however, this must be continually monitored into the future. As technology continues to advance, public capacity and ability in the realm of reporting will change, as will data requirements placed on agencies by state and federal laws and regulations, all of which will affect the time demands of Records Unit staff.

Currently, the Records Unit has a truly paperless report process, which is a significant achievement for a department of any size. Additionally, with the introduction of National Incident-Based Reporting System (NIBRS) crime reporting through MN BCA to the federal government, the decision was made to have officers classify any crimes in NIBRS while writing their initial reports.

The lobby system of access during regular business hours (8:00 am to 4:30 pm Monday through Friday) is an industry standard. During these times, the public has easy access to parking and the lobby; however, the bullet-resistant glass in the lobby does create a barrier to effective communication between members of the staff and public.

The Department does not have a direct system for filing a new report as a "walk-up" from the lobby of the police building. Due to officers being dispatched from the Hennepin County radio dispatch center, during daytime business hours, an intercom must be used at the outside of the building which contacts Hennepin County dispatch to make the initial report of a crime, which is then entered into CAD. From there, an officer is dispatched to meet the person(s) filing a report at the Department. Currently, there is no option for clerical staff at the Department to enter a call into CAD through a computer at the front desk.

Finding #50: The Records Unit is adequately staffed and has a truly paperless report process.

Finding #51: People filing a report as a "walk-up" during daytime business hours must use an outside intercom to call County dispatch and have a call entered into the computer-aided dispatch (CAD) system for an officer to meet them at the Department.

Finding #52: Officers classify the National Incident-Based Reporting System (NIBRS) data for their written reports.

Recommendation #42: Change the process for filing new reports so that members of the public can speak with Records Unit staff and calls can be entered into the computer-aided dispatch (CAD) system from a computer at the front desk.

Recommendation #43: For quality control, change the process to Records Unit staff classifying National Incident-Based Reporting System (NIBRS) data to avoid errors that create improper NIBRS reporting.

SECTION 6—PROFESSIONAL STANDARDS REVIEW

6.1 PROFESSIONAL STANDARDS

Professional Standards is comprised of one Captain position who is a direct report to the Chief of Police. This position manages the following business areas of the Department:

- The training function for all sworn and civilian training—this includes internal accountability and reporting to the Minnesota Peace Officer Standards and Training (POST) Board. Reporting includes officer conduct and licensure requirements.
- Coordination of recruitment and hiring.
- Receiving and investigation of citizen and internal complaints through an internal affairs investigative process.
- Compliance with all state and federal employer regulations and reporting.
- Reporting to the Minnesota Bureau of Criminal Apprehension and Federal Bureau of Investigation statistics.
- Management and execution of major projects directed by the Chief of Police.

This role requires the Professional Standards Captain to take responsibility for all professional compliance for peace officer licensure and training; however, *it does not include managerial control of the staff administering the training function*. In Minnesota, this function has become more time intensive in recent years, with greater time and curriculum requirements for police departments to fulfill than ever before. As a result, there are more opportunities for failure to comply with standards without the presence of any misfeasance on the part of staff.

The civilian position that was supposed to administrate the Department's training function was unsuccessful, and training has temporarily been assigned to a Detective Sergeant. Due to recent changes in state law, the amount of hands-on administrative time required to make sure all state requirements for training are met to maintain peace officer licensure has increased significantly. It is therefore Citygate's opinion that all training planning, execution, and reporting infrastructure should be housed under the Professional Standards Captain, and assigned to a newly created Sergeant position that reports directly to the Professional Standards Captain.

Finding #53: For an agency of this size, the Professional Standards Captain is correctly placed to receive and investigate employee complaints.

Finding #54: There is a rigorous level of reporting compliance that involves many different types of data being reported to both state and federal regulatory agencies.

Finding #55: The managerial workflows for the accountability and reporting of training compliance are separate from the operational function of training.

Finding #56: For years, management of Department training has been assigned to one of the Detective Sergeants. Recognizing the increased workload on Investigations, the need for additional supervision, and in an effort to align the job responsibilities of the two Detective Sergeants more closely, the training component was transferred from the Detective Sergeant to a non-sworn Administrative Assistant. The Department has realized that this transfer was not ideal, in part because of the non-sworn staff member's unfamiliarity with the nuances of police training and the compliance requirements of the MN POST Board. Management of the training responsibility was thus transferred back to one of the Detective Sergeants, with the non-sworn staff member remaining involved in coordination, logistics, and record keeping.

Recommendation #44: Maintain the current position of Professional Standards Captain.

Recommendation #45: Move the training function to a new Sergeant of Standards and Training; this position can report to the Captain of Professional Standards and address the new complexities of MN POST requirements.

SECTION 7—FACILITIES REVIEW

7.1 FACILITIES

Department facilities include two physical locations, with a third location for future consideration. The main offices of the Department are located within the main campus of City offices. These offices were reorganized and refurbished over the last two years. As a result, the current and near-future needs of the agency are well met.

The second office location for the Department is at the Ridgedale Mall. This is not a storefront location, but rather a "backstage" office co-located with mall security services. The current space is very small with no appreciable storage for equipment. As a result, any further expansion of staff will create space issues and, in comparison to the main offices, officers at Ridgedale have a much lower-grade space in which to work. Possible solutions may include remodeling and expanding the backstage office space of this sub-station, or creating a new space from unused storefront space within the retail area of the mall that would allow either sole use or a co-located space with mall security services.

Finally, a recurring theme brought to Citygate's attention by Department personnel, development staff, and community members was the establishment of a sub-station in the redeveloped Opus Park area. While development is still underway and light rail service is not scheduled to begin for a couple of years, Citygate recommends that a future sub-station site may be an important addition to this area—due to the indirect nature of travel to and from this area for police services, the future existence of a substantial high-density residential neighborhood, and the Southwest Light Rail service corridor stopping at this location. The scheduled opening of the Southwest Light Rail corridor in 2027 will continue to create demand for multi-family housing and contribute to increases in City population.

Finding #57: The main Police Department building is currently very well designed to accommodate staff needs.

Finding #58: The facility for Retail Crime Detectives at Ridgedale Mall is inadequate as an office space, both currently and with any new expansion of staff on-site.

Finding #59: Future growth may necessitate the establishment of a sub-station in the redeveloping Opus Park area.

Recommendation #46: Refurbish/remodel the Ridgedale investigative offices.

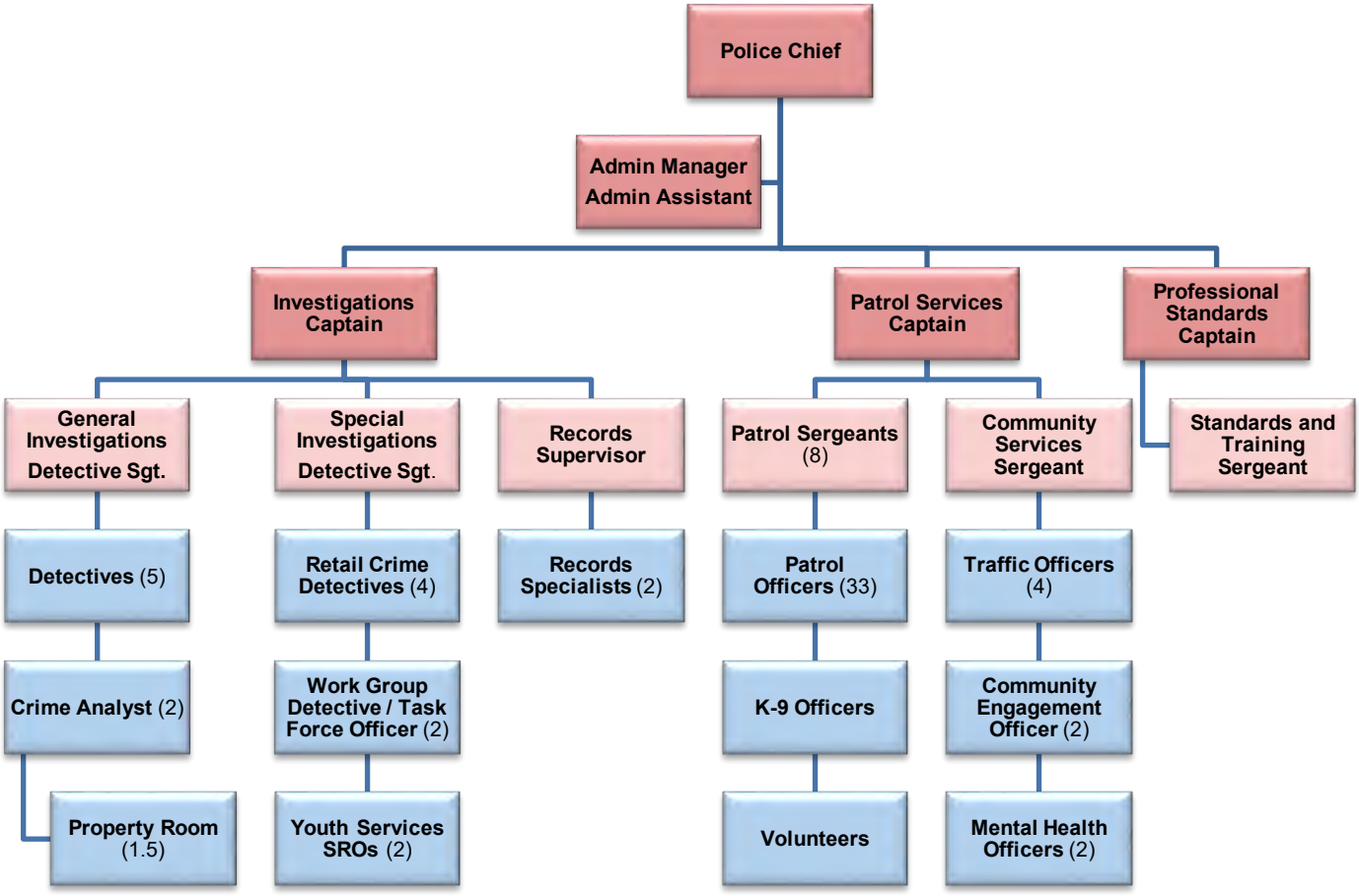
Recommendation #47: Plan for a potential future sub-station at Opus Park.

SECTION 8—SUMMARY OF PERSONNEL PRIORITIES AND FINDINGS AND RECOMMENDATIONS

8.1 PROPOSED ORGANIZATIONAL CHART

The following figure shows Citygate's recommended reorganization for the Department, including new FTEs.

Figure 25—Proposed Organizational Chart After Recommendations



8.2 PERSONNEL RECOMMENDATIONS AND PRIORITIES

The following table compares the total number of FTE positions the Department is currently authorized and/or funded for with the *current* vacancy status and the *total* recommended net new positions identified and recommended by Citygate in this report.

Table 17—Position Summary: Master Staffing Index

Position	Full-Time Equivalent (FTE) Personnel				
	Currently Filled	Authorized / Funded	Recommended by Citygate	Current Vacancy	Net Vacancy
Chief of Police	1	1	1	0	0
Police Captain	3	3	3	0	0
Police Sergeant (Patrol)	8	8	8	0	0
Police Sergeant (Admin Sergeant)	1	1	1	0	0
Police Sergeant (Standards and Training)	0	0	1	0	1
Police Sergeant (Detectives)	2	2	2	0	0
Police Officers (Patrol)	28	29	33	1	5
Police Officers (Traffic)	2	2	4	0	2
Community Engagement Officer (Patrol)	1	1	2	0	1
Police Officers (Mental Health)	0	0	2	0	2
Police Officer (Detective)	11	11	14	0	3
Crime Analyst	1	1	2	0	1
Property Room Specialist	1	1	1.5	0	0.5
Administrative Manager	1	1	1	0	0
Records Supervisor	1	1	1	0	0
Records Specialist	2	2	2	0	0
Community Service Officers[1]	2	2	2	0	0
Administrative Specialist	1	1	1	0	0
Total FTE Personnel	**66**	**67**	**81.5**	**1**	**15.5**

[1] In 2022, there were 4 part-time CSOs in addition to the 2 full-time CSOs; the part-time positions are being converted to Cadet positions in 2023

The following table details Citygate's recommendations pertaining to the addition of FTE personnel with funding priority level.

Table 18—Summary of Personnel Recommendations and Funding Priority

Source Rec.	FTE Position	Funding Priority 1	Funding Priority 2
10	Police Officers (Patrol)*	**X (4)**	
16	Police Officers (Traffic)		**X (2)**
17	Police Officers (Mental Health)		**X (2)**
22	Community Engagement Officer	**X (1)**	
27	Police Officer (Detective)	**X (1)**	
33	Police Officer (Retail Crime Detective)	**X (2)**	
38	Crime Analyst	**X (1)**	
41	Property Room Specialist		**X (.5)**
45	Police Sergeant (Standards and Training)	**X (1)**	
Total Recommended Personnel by Priority		**10**	**4.5**
Total Recommended Personnel		**14.5**	

** This number represents Citygate's additional recommendation, and thus does not include current Patrol vacancies in the Department; as of Citygate's writing of this report, no new uniformed staff had been added to the Department since 2018*

8.3 FINDINGS

The following is a comprehensive list of all findings contained within this report organized by section and division.

8.3.1 Organizational Review

Economic Growth and Development

Finding #1: The City represents a uniquely situated community and is a desired location for people of all income levels.

Finding #2: The City is now experiencing new infill development and larger-scale redevelopment that will increase demands over time on police services.

Finding #3: The City is projected to continue to grow, including with higher-density, multi-unit housing projects to accommodate the increase in population.

Finding #4: The Southwest Light Rail transit corridor that will begin operation in 2027 and will pass through (and stop) at Opus Park is already influencing higher-density infill housing development in the City.

8.3.2 Patrol Services Review

Organization and Staffing

Finding #5: If unplanned leave or vacancies were accounted for, current operational staffing could be managed more effectively.

Finding #6: Citygate observed through analysis that in 2022, Patrol was often operating at minimum strength. This practice, reduced response effectiveness, created fatigue, and reduced morale.

Workload Analysis

Finding #7: Analysis of police computer-aided dispatch (CAD) data indicates that there are too many "high-priority" call types in the "Priority 1" (high-priority) category. Thus, in addition to overloading Patrol teams with non-priority calls that impede the response to actual emergencies, it becomes difficult to identify what the actual emergency response times are as well as overloading Patrol teams with non-priority calls that impede the response to actual emergencies.

Finding #8: A significant amount of Department resources are directed to response to alarms, with the majority resulting in a false alarm.

Finding #9: Patrol calls for service have steadily declined over the last five years.

Finding #10: High-priority calls are dispatched by closest unit using GIS technology.

Finding #11: Calls generated between 5:30 pm and 7:00 pm often get backed up as the shifts transition.

Finding #12: Medical call response by Patrol had been declining over a five-year period, only to return to its highest levels since 2015.

Finding #13: Mental health calls are continuing to increase year over year.

Finding #14: Between 2019 and 2022, there were 10,676 incidents that required some form of documentation or investigation, accounting for about 25 percent of the total public-generated CFS. Due to the fact that a police report can average an additional 45–60 minutes, the impact to officer time could be in excess of an estimated 10,000 hours over four years—an average of 2,500 hours per year.

Finding #15: Currently, Patrol teams operate in siloed environments as shifts and teams do not overlap in ways that build unity and consistency. Current practice limits communication and team building and requires training to be conducted while on duty or during days off.

Finding #16: As demand for training increases and professional standards expands, the Department must provide more time for training and a greater focus on the development, experience, and perishable skills knowledge of all employees.

Administrative Sergeant

Finding #17: The Administrative Sergeant position is a collection point for many projects and personnel groups associated with direct service to the community.

Finding #18: A new Cadet program was started in 2023 to target recruitment for the Department.

Traffic Unit

Finding #19: Patrol Officers are often overutilized to perform traffic investigations and enforcement services when Traffic Officers are unavailable.

Mental Health Response

Finding #20: Mental health incident calls are trending upward both nationally and locally.

Finding #21: The City's mental health program is not a co-response model.

Finding #22: Data collection may be incomplete and/or inconsistent.

Finding #23: Not every sworn officer has formal Crisis Intervention Training.

Administrative Manager

Finding #24: The Administrative Manager position has grown with the needs of the Department around the skillset of the person in the role. This position adds value to meet expectations of the community and City government.

Community Engagement Officer

Finding #25: Community engagement is a critical component of modern policing.

8.3.3 Investigative/Support Services Review

Captain of Investigations

Finding #26: In the organizational structure overseeing Investigations, the Captain rank establishes a proper span of control between the Chief of Police and supervising Sergeants.

Finding #27: The administrative role of the Captain of Investigations effectively manages relationships internally between divisions and is appropriate to manage the external relationships of this urban/suburban County.

Case Detectives

Finding #28: No direct line of responsibilities for the Sergeants supervising the Detective Unit function; responsibilities are divided up amongst the two Sergeants informally.

Finding #29: Year-over-year numbers in Investigations have remained stable; the number of Detectives assigned as Case Detectives decreased by one in 2019.

Finding #30: Case complexity continues to increase due to search warrants required for cell phones and computers, along with review on almost every workable case.

Finding #31: Detective Sergeants screen out 65–70 percent of cases, only assigning cases with workable solvability factors.

Finding #32: Detectives do not have a case management system for organizing, distributing, or monitoring the progress of assigned cases.

Finding #33: There is currently no prescribed set of trainings/schools required for Detectives to attend to increase their competency curve once they join the Unit.

Retail Crime Detectives

Finding #34: Retail Crime Detectives are unable to provide "pro-active" patrol due to the requirement to respond to in-progress thefts and assaults, which is a unique situation for Detectives.

Finding #35: Retail Crime Detectives act as the "beat cops" of the mall, which functions as a small town inside of Minnetonka during operating hours.

Finding #36: On-site Detectives work from 10:00 am to 8:00 pm each day, which provides optimal coverage during open hours for the mall.

Finding #37: Retail Crime Detectives are regularly interrupted by in-progress incidents, which prevents proper investigative follow-up on cases generated while they are not on-shift (primarily weekends).

Finding #38: On-site Detectives do not have immediate sworn officer backup when incidents occur and, on days when operating this without their counterpart, this becomes an officer safety concern.

Finding #39: The current field-based reporting (FBR) system gives the Detective Sergeants only a partial understanding of caseload of Retail Crime Detectives.

Secret Service Work Group Detective

Finding #40: The Department redirected a Detective position to the Secret Service Work Group.

Finding #41: There is a lack of definition and accountability coming back to the City regarding the full extent of the work being performed by the Secret Service Work Group Detective.

Southwest Hennepin Drug Task Force Officer

Finding #42: The Department is involved in a suburban Drug Task Force interdicting drug trafficking activity in Hennepin County.

Finding #43: The City is a longstanding member of this Task Force.

Finding #44: The caseload as depicted is only a partial rendering of the activities of this Task Force.

School Resource Officers

Finding #45: After the Hopkins School District made a policy determination to remove the SRO at Hopkins High School (located within City limits) in 2020, the overall number of formal investigations from both high schools declined in 2021 and started to rise again in 2022.

Crime Analyst

Finding #46: The Crime Analyst position is heavily leveraged for use by Case Detectives, Retail Crime Detectives, Patrol, and Administration

Finding #47: All major platforms in use by the Department provide insufficient searchable data portals. LOGIS and Hennepin County CAD require the vendor to create new data

pulls, and each system provides different outcomes for the same type of data being mined.

Finding #48: Technology has proven to be a force multiplier when it comes to solving and preventing crimes.

Property Room and Evidence

Finding #49: One Property and Evidence Specialist oversees evidence processing, dispositions, referrals to BCA, and other associated work; backup to the position is provided by the two Detective Sergeants.

Records

Finding #50: The Records Unit is adequately staffed and has a truly paperless report process.

Finding #51: People filing a report as a "walk-up" during daytime business hours must use an outside intercom to call County dispatch and have a call entered in the computer-aided dispatch (CAD) system for an officer to meet them at the Department.

Finding #52: Officers classify the National Incident-Based Reporting System (NIBRS) data for their written reports.

8.3.4 Professional Standards Review

Finding #53: For an agency of this size, the Professional Standards Captain is correctly placed to receive and investigate employee complaints.

Finding #54: There is a rigorous level of reporting compliance that involves many different types of data being reported to both state and federal regulatory agencies.

Finding #55: The managerial workflows for the accountability and reporting of training compliance are separate from the operational function of training.

Finding #56: For years, management of Department training has been assigned to one of the Detective Sergeants. Recognizing the increased workload on Investigations, the need for additional supervision, and in an effort to align the job responsibilities of the two Detective Sergeants more closely, the training component was transferred from the Detective Sergeant to a non-sworn Administrative Assistant. The Department has realized that this transfer was not ideal, in part because of the non-sworn staff member's unfamiliarity with the nuances of police training and the compliance requirements of the MN POST Board. Management of the training responsibility was thus transferred back to one of the Detective Sergeants, with the

non-sworn staff member remaining involved in coordination, logistics, and record keeping.

8.3.5 Facilities Review

Facilities

Finding #57: The main Police Department building is currently very well designed to accommodate staff needs.

Finding #58: The facility for Retail Crime Detectives at Ridgedale Mall is inadequate as an office space, both currently and with any new expansion of staff on-site.

Finding #59: Future growth may necessitate the establishment of a sub-station in the redeveloping Opus Park area.

8.4 RECOMMENDATIONS

Citygate's recommendations from throughout this assessment will serve the Department in its effort to achieve the following goals:

- Update organizational structures to maximize effectiveness.
- Improve public and officer safety through increased supervisory oversight.
- Increase capacity in Patrol services, particularly during peak hours, to reduce response times and allow more time for officer-initiated proactive policing, community engagement, and investigative follow-up.
- Increase training to ensure compliance with the latest regulations and standards for safe, fair policing.
- Improve the type and volume of formal community engagement.

If this study's recommendations are implemented over several fiscal years, the Department will be well positioned to deepen its ability to provide proactive policing. The community will be able to increase interaction with partners in the Department to foster joint crime prevention strategies. The prevention of crime and disorder and the closure of investigations of serious incidents will increase. When the public interacts with Minnetonka police, they will *know them and trust them to be fair* and not assume they are representative of what is wrong with policing elsewhere in America.

The following is a comprehensive list of all recommendations contained within this report organized by section or division.

8.4.1 Organizational Review

Economic Growth and Development

Recommendation #1: Closely monitor the effect of new housing developments on the level of service being required of the Department.

Recommendation #2: Plan for the impact of increased traffic in the Opus Park area of people traveling to and living in proximity to the Southwest Light Rail transit corridor.

8.4.2 Patrol Services Review

Organization and Staffing

Recommendation #3: Consider a pre-hire program that smooths the operational impact of the Department without increasing the actual authorized (budgeted) number of officers.

Recommendation #4: Evaluate the actual depleted strength of operations due to non-deployable officer positions (vacancies/injuries) within the 24/7 Patrol operation. Plan for this as a buffer strength to maintain preferred operational staffing across each shift.

Workload Analysis

Recommendation #5: Consider methods of reducing the number of alarm call types through public awareness or enforcement of false alarm programs and reprioritizing this service to reclaim valuable police resources for other purposes.

Recommendation #6: Consider reprioritizing call priorities and create a true "Priority 1" that only includes emergency response that may typically include a response using emergency lights and sirens.

Recommendation #7: The current informal program to reduce and eliminate medical call response and transfer this responsibility to Fire personnel must be better planned and coordinated in sync with the City's ability to fund added Fire Department First Responders to all sections of the City.

Recommendation #8: The Department should explore models and practices specific to mental health crisis response.

Recommendation #9: Consider evaluating alternative Patrol schedules such as the 4/10 schedule that addresses fatigue, training, team building, ancillary duties, employee wellness, and City growth.

Recommendation #10: Re-implement a Power Shift with two Patrol officers per shift to respond to increased utilization during peak hours of the day (four total FTE officer positions).

Recommendation #11: Eliminate the Police response to medical calls and transition these services to Fire when possible.

Recommendation #12: Prioritize recruiting and retention efforts to minimize staffing deficiencies and deployment issues.

Recommendation #13: Consider pre-hiring officers to limit the staffing shortages caused by retirements.

Recommendation #14: Consider evaluating shift length and work hours to determine if alternate, compressed work schedules are more suitable in response to growth.

Administrative Sergeant

Recommendation #15: Rename the Administrative Sergeant position as Community Services Sergeant (reporting to the Patrol Captain) and have them retain the community-based elements of the position with the following direct reports: Traffic Officers (4), Community Engagement Officer (2), Community Service Officers (3), Police Cadets (2), and all Chaplains and Reserves.

Traffic Unit

Recommendation #16: Consider expanding the Traffic Unit by two Traffic Officers and aligning work schedules with Patrol Schedules.

Mental Health Response

Recommendation #17: Consider organizing a full-time Mental Health Unit under the Administrative Sergeant by adding two officers and assigning the Master of Social Work (MSW) to the Unit.

Recommendation #18: The Department should also reconsider this Unit operating under a co-response model.

Recommendation #19: Institutionalize mental health incident data collection.

Recommendation #20: Expand Minnesota Crisis Intervention Training to the entire Department.

Administrative Manager

Recommendation #21: Identify Administrative Manager position responsibilities and memorialize in written procedures all elements of the hiring, background, and on-boarding process to prevent role confusion by future employees in these positions.

Community Engagement Officer

Recommendation #22: Create a Community Engagement Unit by adding one sworn Community Engagement Officer. Organize the Unit under the supervision of the Community Services Sergeant.

8.4.3 Investigative/Support Services Review

Captain of Investigations

Recommendation #23: Maintain the Captain of Investigations as a managerial role.

Case Detectives

Recommendation #24: Define clear responsibilities for each Detective Sergeant, including which Detectives or civilian professional staff are to be evaluated by each supervisor.

Recommendation #25: Separate the duties and responsibilities of the Detective Sergeants into two distinct investigative units so that Detectives report to only one Sergeant.

Recommendation #26: Continue the practice of Detective Sergeants screening out cases without solvability factors.

Recommendation #27: Consider the addition of at least one Case Detective to Investigations to work on existing caseload.

Recommendation #28: Incorporate case-management functionality into a new records management system to replace field-based reporting (FBR) or purchase a limited case-management system for Investigations.

Recommendation #29: Develop a set of learning objectives for each new Detective, connecting them with training opportunities to meet the objectives, including digital forensics training (understand the capabilities), legal issues, writing search warrants, mobile banking and electronic crimes (how to investigate and write related warrants), and basic financial crimes.

Retail Crime Detectives

Recommendation #30: Due to the volume of incidents, maintain the on-site presence of Detectives at the Ridgedale Mall. Removing Detectives from the mall location would require additional Patrol officers in this sector who would not have the relationships with store staff and loss prevention.

Recommendation #31: Maintain current hours for Retail Crime Detectives (1000–2000 hours) to provide optimal coverage while the mall is open.

Recommendation #32: Consider the funding for these positions through a contractual agreement with mall ownership. Retail Crime Detectives only exist due to the presence of the facility.

Recommendation #33: Add two Retail Crime Detectives, creating a four-person team with rotating responsibilities. Each month or quarter, one Detective would be responsible for investigating the caseload of incidents which occur while Detectives are not on-site, while the other three Detectives would work an overlapping schedule that provides two Detectives working all seven days of the week, thus allowing Detectives to work on in-progress calls for service, perform proactive work in the mall, and provide proper backup to one another.

Recommendation #34: Create a digital platform that will allow the Detective Sergeants the ability to see the full caseload of Retail Crime Detectives.

Secret Service Work Group Detective

Recommendation #35: Define clear weekly reporting responsibilities for the Secret Service Work Group Detective; have a site visit on a monthly basis by a Detective Sergeant to create a more direct connection and improve understanding related to the work being performed by the Work Group Detective.

Southwest Hennepin Drug Task Force Officer

Recommendation #36: Maintain the position of Drug Task Force Officer on the Southwest Hennepin Drug Task Force.

School Resource Officers

Recommendation #37: A strong partnership between the Department and schools is an essential component of increasing trust, safety, and security in the community. The Department should assist school administrators in building a safe environment for students and staff. By collaborating with educators and mental health professionals, school and community safety issues can be proactively addressed.

Crime Analyst

Recommendation #38: Due to the force multiplier approach this position has within the organization, a second Crime Analyst position is recommended as a redundancy for time off, building organizational knowledge if a Crime Analyst leaves, and providing more information needed by the agency. This position will serve to address real-time information needs for Patrol, operate Ridgedale cameras into the evening, and extend the time frame the position offers to Detectives and officers in the Department.

Recommendation #39: Consolidate data into a new, comprehensive system that collects computer-aided dispatch (CAD), ticketing, and report information for faster, easier, and more consistent data collection and mining.

Recommendation #40: The Department should continue to invest in new and promising technologies that can be used to manage resources more efficiently to prevent, detect, and solve crimes.

Property and Evidence

Recommendation #41: Hiring one (0.5 FTE) civilian employee to assist with workload, processes where two people are needed, and fill scheduling gaps when the full-time Property and Evidence Specialist is off the schedule would alleviate additional workload on Detective supervisors.

Records

Recommendation #42: Change the process for filing new reports so that members of the public can speak with Records Unit staff and calls can be entered into the

computer-aided dispatch (CAD) system from a computer at the front desk.

Recommendation #43: For quality control, change the process to Records Unit staff classifying National Incident-Based Reporting System (NIBRS) data to avoid errors that create improper NIBRS reporting.

8.4.4 Professional Standards Review

Recommendation #44: Maintain the current position of Professional Standards Captain.

Recommendation #45: Move the training function to a new Sergeant of Standards and Training; this position can report to the Captain of Professional Standards and address the new complexities of MN POST requirements.

8.4.5 Facilities Review

Facilities

Recommendation #46: Refurbish/remodel the Ridgedale investigative offices.

Recommendation #47: Plan for a potential future sub-station at Opus Park.

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APPENDIX A

MINNETONKA COMMUNITY SURVEY SUMMARY

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APPENDIX A—COMMUNITY SURVEY SUMMARY

Citygate Associates, LLC (Citygate) conducted an internet-based customer survey for our Comprehensive Operations and Staffing Assessment for the Police Department (Department) engagement for the City of Minnetonka (City), Minnesota. The survey launched on December 21, 2022. The survey closed on January 20, 2023. The City invited the community to participate in this survey. In total, there were 354 valid responses.

Survey Summary	
Launch Date	December 21, 2022
Close Date	January 20, 2023
Total Valid Responses	**354**

Apart from several basic customer demographic questions, the survey mostly consisted of closed-ended statements regarding community involvement, safety, procedural justice, performance, and contact and satisfaction. For the most part, respondents were directed to select from a range five to six closed-ended answer options presented in a likert scale. Additionally, an open-ended request was made to provide customers with an opportunity to fully express their opinions, concerns, and suggestions.

ORGANIZATION OF ANALYSIS

The results for the survey are organized in the following order:

Community Involvement Results

- The raw data for all customer responses regarding community involvement included on the survey.

Safety Results

- The raw data for all customer responses regarding safety included on the survey.

Procedural Justice Results

- The raw data for all customer responses regarding procedural justice included on the survey.

Performance Results

- The raw data for all customer responses regarding performance included on the survey.

Contact and Satisfaction Results

- The raw data for all customer responses regarding contact and satisfaction included on the survey.

Demographic Results

- The raw data for all customer responses regarding demographic classification included on the survey.

Open-Ended Responses

- Open ended responses from customers as well as tally of response themes.

DEFINITION OF TERMS

The terms defined below are encountered in the information that follows:

- Mean: An arithmetic mean that is the sum of the responses for each statement divided by the number of responses for each statement.
- Standard Deviation: Standard deviation indicates how spread out the responses are from the arithmetic mean. A standard deviation close to zero indicates that most responses are close to the mean response and that a greater degree of agreement exists among respondents regarding the statement. A greater standard deviation indicates that there is a wider spread of variation in the responses and that a greater degree of disagreement exists among respondents regarding the statement.

COMMUNITY INVOLVEMENT

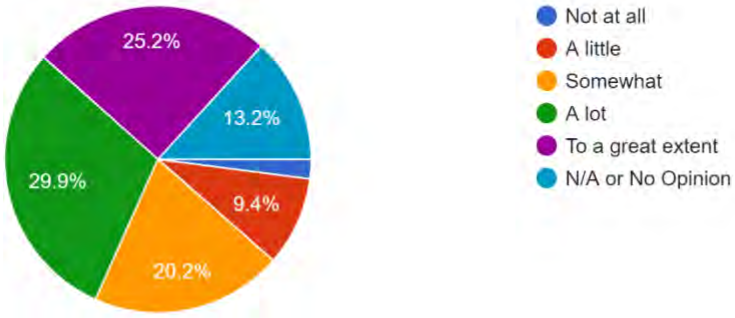
In the questions that follow, please select from the dropdown menu the answer that best represents your assessment of how the Minnetonka PD compares to your expectations for government service. (Answers range from "Not at all" to "To a great extent" and "N/A or No Opinion.")

Question	Mean	Std Dev	% Not at all	% A little	% Somewhat	% A lot	% To a great extent
To what extent does the Minnetonka Police Department develop relationships with community members (e.g., residents, organizations, and groups)?	2.8	1.1	2.1%	9.4%	20.3%	30.0%	25.0%
To what extent does the Minnetonka Police Department regularly communicate with community members (e.g., websites, e-mails, or public meetings)?	2.5	1.1	4.1%	14.5%	26.3%	25.4%	19.8%
To what extent does the Minnetonka Police Department make it easy for community members to provide input (e.g., comments, suggestions, and concerns)?	2.4	1.2	6.8%	10.1%	22.5%	23.7%	17.2%
To what extent does the Minnetonka Police Department work together with community members to solve local problems?	2.8	1.1	2.9%	9.4%	15.0%	24.7%	24.4%
Community policing involves officers in a law enforcement agency working with the community to address the causes of crime in an effort to reduce the problems themselves through a wide range of activities. Based on this definition, to what extent do you think the Minnetonka Police Department practices community policing?	2.7	1.1	3.5%	9.9%	20.6%	26.4%	26.1%

This information is presented in the following images.

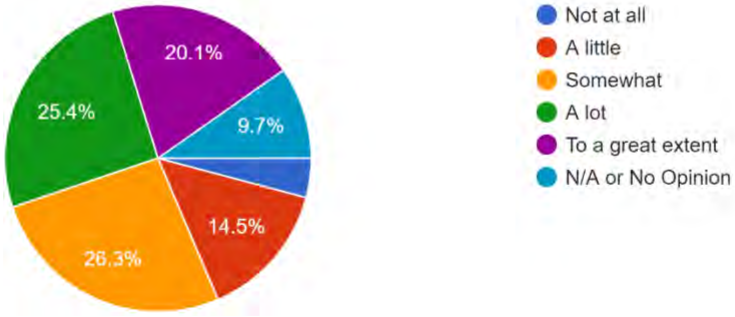
To what extent does the Minnetonka Police Department develop relationships with community members (e.g., residents, organizations, and groups)?

341 responses



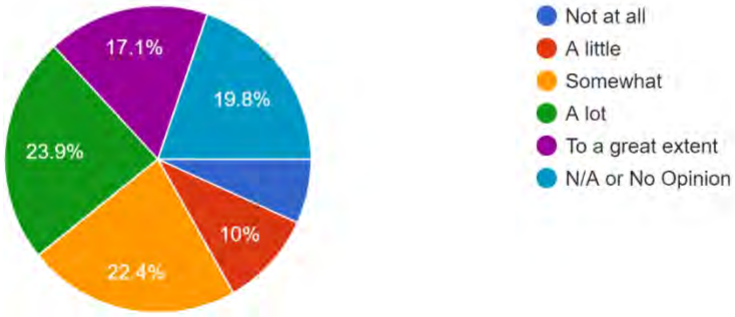
To what extent does the Minnetonka Police Department regularly communicate with community members (e.g., websites, e-mails, or public meetings)?

339 responses



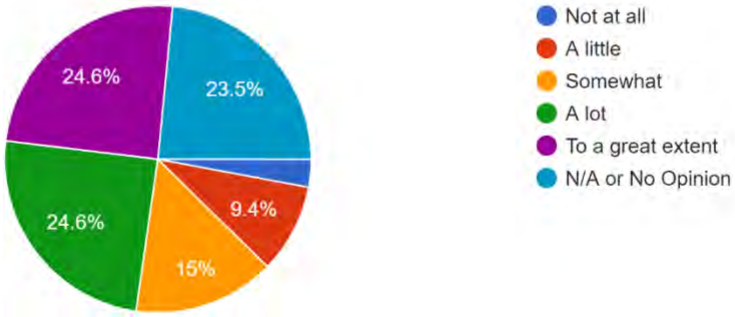
To what extent does the Minnetonka Police Department make it easy for community members to provide input (e.g., comments, suggestions, and concerns)?

339 responses



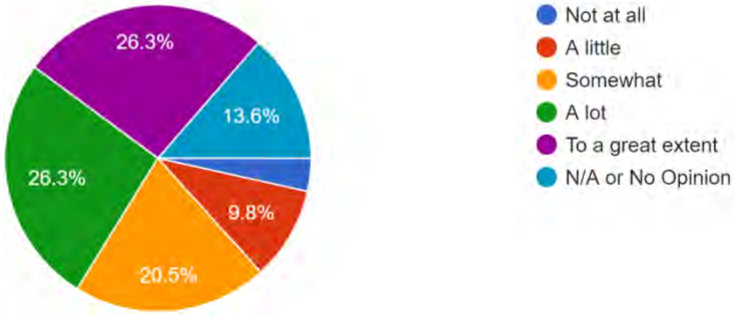
To what extent does the Minnetonka Police Department work together with community members to solve local problems?

341 responses



Community policing involves officers in a law enforcement agency working with the community to address the causes of crime in an effort to reduc... Police Department practices community policing?

346 responses



SAFETY

Please select the three (3) issues you think are the greatest problems within your community.

Response	# of Responses	Percent of Respondents
Burglaries/ thefts (auto)	213	59.8%
Burglaries/thefts (residential)	196	55.1%
Traffic issues / residential speeding	131	36.8%
Mental health problems	93	26.1%
Driving under the influence (i.e., alcohol or drugs)	91	25.6%
School safety (e.g., bullying, fighting, or weapons)	61	17.1%
Fraud / identity theft	50	14.0%
Drug abuse (e.g., manufacture, sale, or use of illegal or prescription drugs)	37	10.4%
Domestic violence (adult)	24	6.7%
Homeless- or transient-related problems (panhandling)	21	5.9%
Vandalism/graffiti	16	4.5%
Child sexual predators / Internet safety	15	4.2%
Disorderly conduct / public intoxication / noise violations	15	4.2%
Gun violence	15	4.2%
Hate crimes	12	3.4%
Disorderly youth (e.g., cruising or gathering)	11	3.1%
Underage drinking	7	2.0%
Homeland security problems	5	1.4%
Physical assault	4	1.1%
Sexual assault / rape (adult)	3	0.8%
Child abuse	2	0.6%
Gang activity	2	0.6%
Homicide	0	0.0%
Mugging	0	0.0%
Prostitution	0	0.0%

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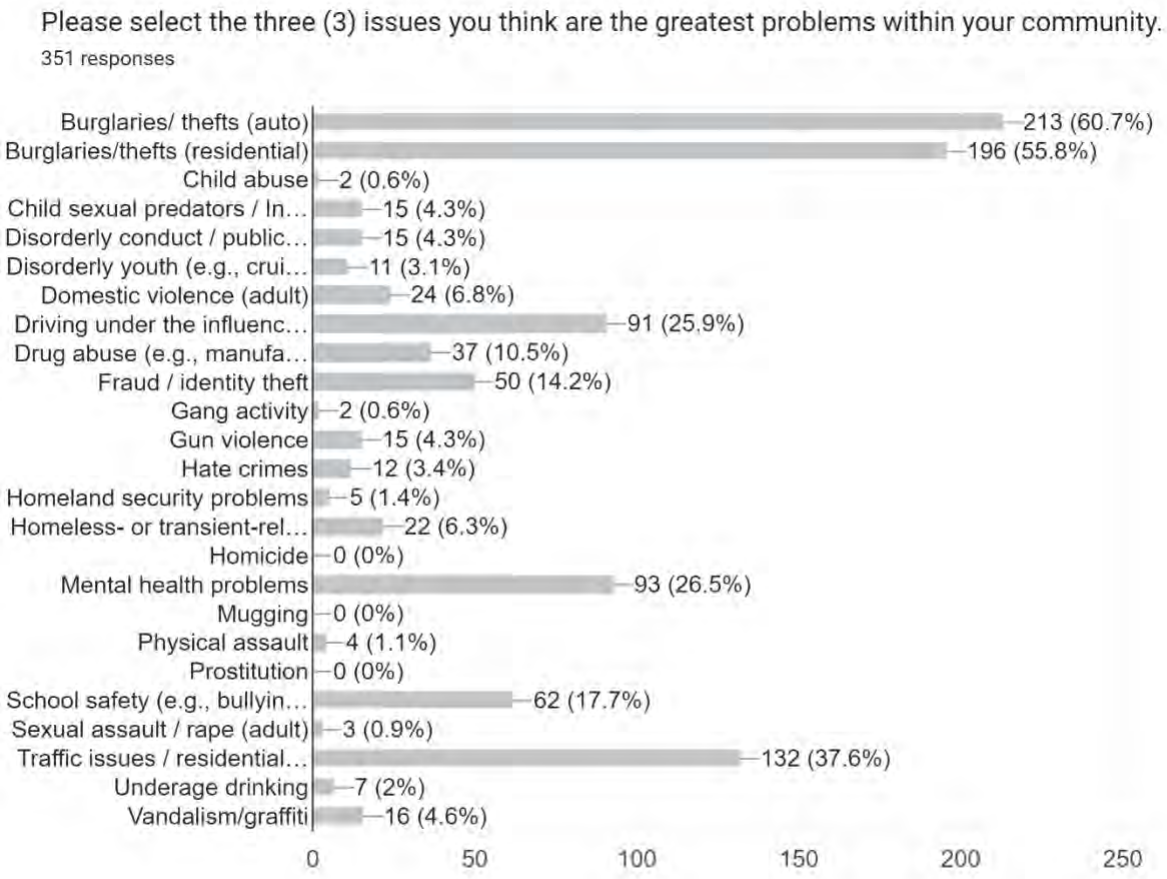

Please select the three (3) issues you think are the greatest problems within your community.
351 responses
Burglaries/ thefts (auto) 213 (60.7%)
Burglaries/thefts (residential) 196 (55.8%)
Child abuse 2 (0.6%)
Child sexual predators / In… 15 (4.3%)
Disorderly conduct / public… 15 (4.3%)
Disorderly youth (e.g., crui… 11 (3.1%)
Domestic violence (adult) 24 (6.8%)
Driving under the influenc… 91 (25.9%)
Drug abuse (e.g., manufa… 37 (10.5%)
Fraud / identity theft 50 (14.2%)
Gang activity 2 (0.6%)
Gun violence 15 (4.3%)
Hate crimes 12 (3.4%)
Homeland security problems 5 (1.4%)
Homeless- or transient-rel… 22 (6.3%)
Homicide 0 (0%)
Mental health problems 93 (26.5%)
Mugging 0 (0%)
Physical assault 4 (1.1%)
Prostitution 0 (0%)
School safety (e.g., bullyin… 62 (17.7%)
Sexual assault / rape (adult) 3 (0.9%)
Traffic issues / residential… 132 (37.6%)
Underage drinking 7 (2%)
Vandalism/graffiti 16 (4.6%)
0
50
100
150
200
250

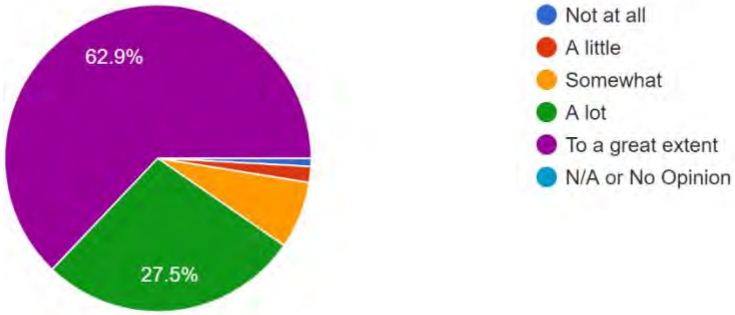
In the questions that follow, please select from the dropdown menu the answer that best represents how you feel when it comes to your own safety. (Answers range from "Not at all" to "To a great extent" unless otherwise specified.)

Question	Mean	Std Dev	% Not at all	% A little	% Somewhat	% A lot	% To a great extent
To what extent do you feel safe in your community when you are outside alone during the day?	3.5	0.8	0.9%	1.7%	7.1%	27.6%	62.8%
To what extent do you feel safe in your community when you are outside alone at night?	2.7	1.1	2.0%	13.1%	24.9%	33.7%	25.1%

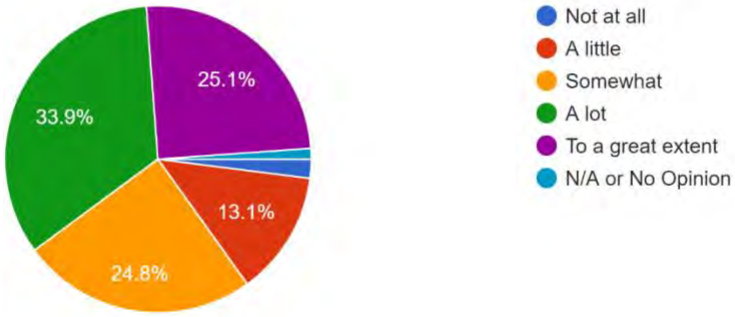
Question	Mean	Std Dev	% Decreased a lot	% Decreased some	% Stayed the same	% Increased some	% Increase a lot
Over the last 12 months, to what extent have your feelings of safety in your community increased, decreased, or stayed the same?	-0.3	0.8	7.1%	31.1%	51.1%	8.2%	2.5%

This information is presented in the following images.

To what extent do you feel safe in your community when you are outside alone during the day?
353 responses

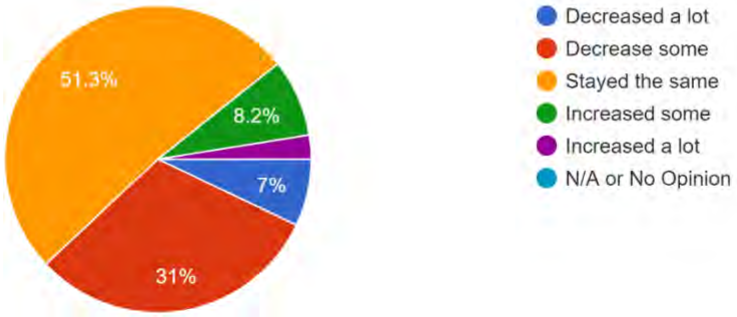


To what extent do you feel safe in your community when you are outside alone at night?
351 responses



Over the last 12 months, to what extent have your feelings of safety in your community increased, decreased, or stayed the same?

355 responses



PROCEDURAL JUSTICE

In the questions that follow, please select from the dropdown menu the answer that best represents your assessment of how the Minnetonka PD compares to your expectations for government service. (Answers range from "Not at all" to "To a great extent" unless otherwise specified.)

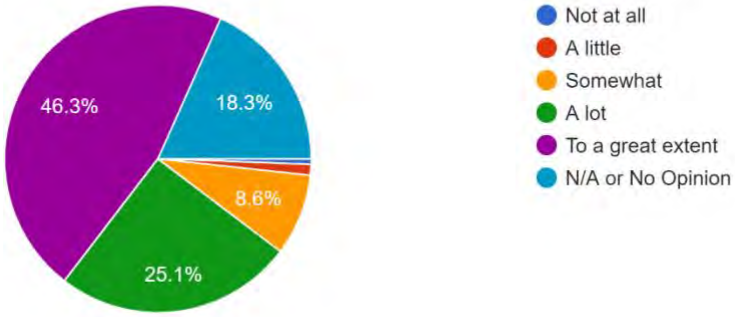
Question	Mean	Std Dev	% Not at all	% A little	% Somewhat	% A lot	% To a great extent	% N/A or No Opinion
To what extent do officers in the Minnetonka Police Department treat people fairly?	3.4	0.8	0.6%	1.1%	8.6%	25.2%	46.1%	18.3%
To what extent do officers in the Minnetonka Police Department show concern for community members?	3.4	0.9	1.1%	1.1%	10.9%	25.5%	47.9%	13.5%
To what extent are officers in the Minnetonka Police Department respectful?	3.5	0.8	0.9%	1.5%	7.6%	23.3%	58.1%	8.7%
To what extent is the Minnetonka Police Department responsive to the concerns of community members?	3.3	0.9	1.2%	2.1%	9.7%	29.8%	40.4%	16.8%
To what extent do you trust the Minnetonka Police Department?	3.4	0.9	2.0%	3.5%	7.8%	25.9%	60.2%	0.6%

Question	Mean	Std Dev	% Not at all	% A little	% Somewhat	% A lot	% To a great extent	% N/A
If you had contact with an officer in the Minnetonka Police Department during the past 12 months, to what extent did the officer sufficiently explain their actions and procedures?	3.3	1.1	2.4%	1.8%	3.5%	12.1%	25.6%	54.7%

This information is presented in the following images.

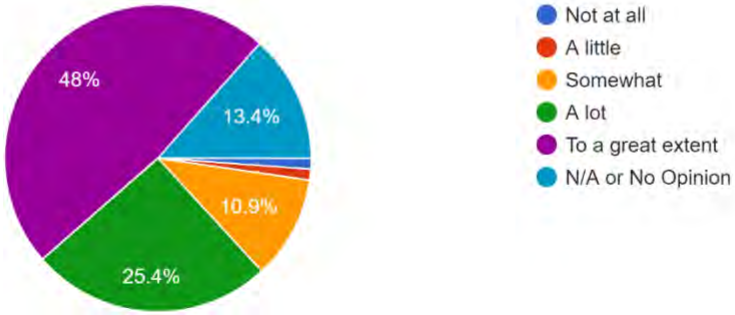
To what extent do officers in the Minnetonka Police Department treat people fairly?

350 responses



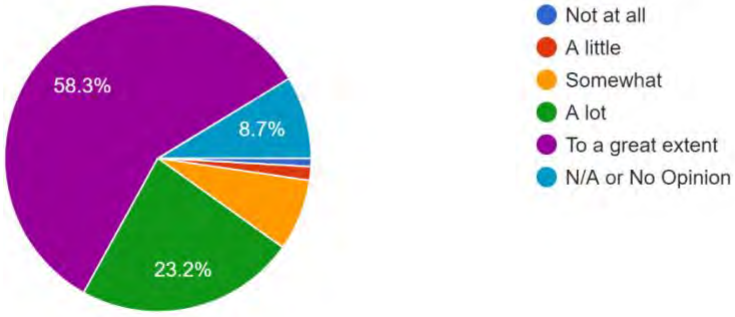
To what extent do officers in the Minnetonka Police Department show concern for community members?

350 responses



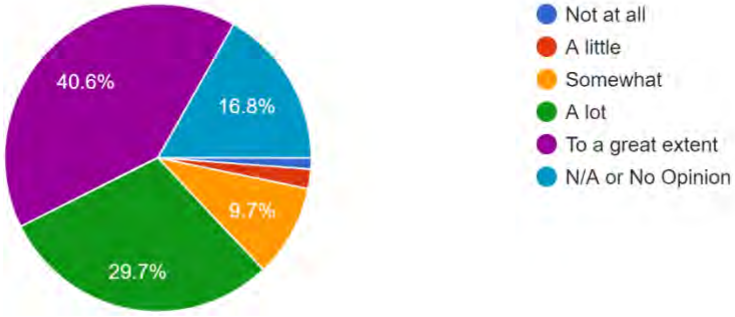
To what extent are officers in the Minnetonka Police Department respectful?

345 responses



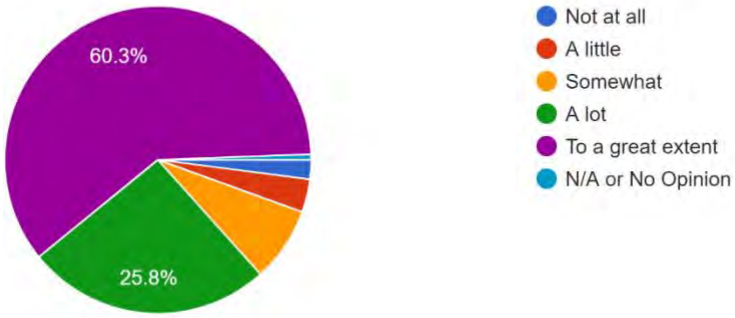
To what extent is the Minnetonka Police Department responsive to the concerns of community members?

340 responses



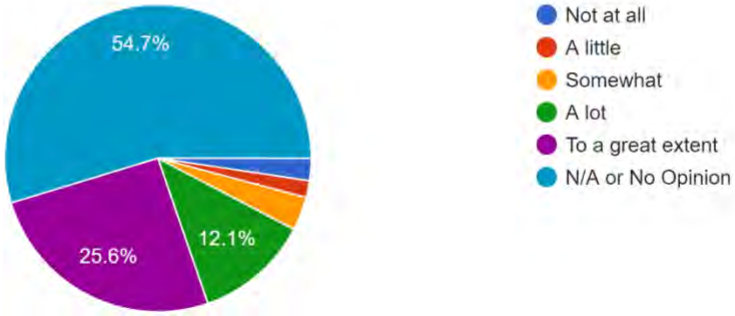
To what extent do you trust the Minnetonka Police Department?

345 responses



If you had contact with an officer in the Minnetonka Police Department during the past 12 months, to what extent did the officer sufficiently explain their actions and procedures?

340 responses



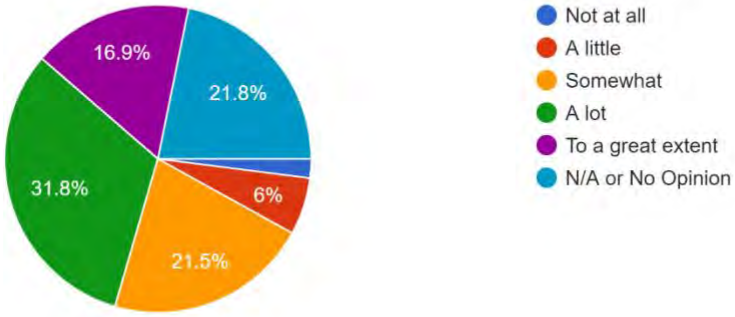
PERFORMANCE

In the questions that follow, please select from the dropdown menu the answer that best represents your assessment of how the Minnetonka PD compares to your expectations for government service. (Answers range from "Not at all" to "To a great extent" unless otherwise specified.)

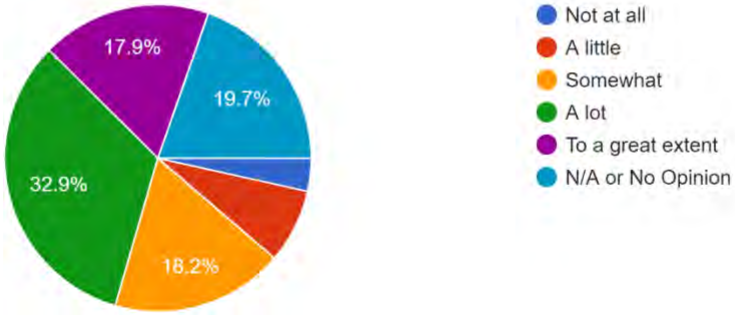
Question	Mean	Std Dev	% Not at all	% A little	% Somewhat	% A lot	% To a great extent	% N/A or No Opinion
To what extent is the Minnetonka Police Department effective at proactively preventing crime?	2.7	1.0	1.7%	6.1%	21.6%	31.7%	17.0%	21.9%
To what extent is the Minnetonka Police Department addressing the problems that really concern you?	2.7	1.1	3.2%	7.8%	18.3%	32.8%	18.0%	19.8%
To what extent are you satisfied with the overall performance of the Minnetonka Police Department?	3.2	0.9	1.4%	2.9%	11.0%	36.2%	44.6%	3.8%

This information is provided in the following images.

To what extent is the Minnetonka Police Department effective at proactively preventing crime?
349 responses

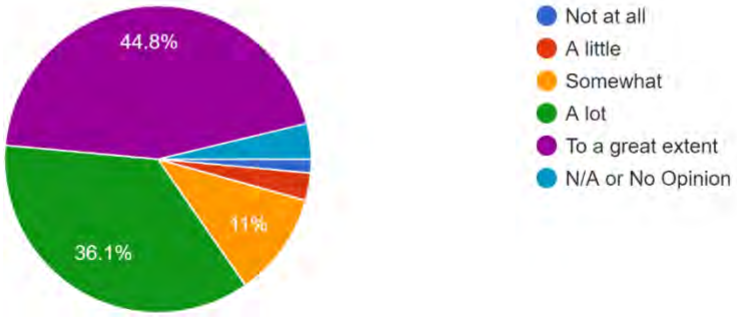


To what extent is the Minnetonka Police Department addressing the problems that really concern you?
346 responses



To what extent are you satisfied with the overall performance of the Minnetonka Police Department?

346 responses



CONTACT AND SATISFACTION

Question	Mean	Std Dev	% 0 times	% 1–2 Times	% 3–4 times	% 5–6 times	% 7 or more times
How many times in the past 12 months have you had contact with the Minnetonka Police Department for traffic issues (e.g., citation, warning, or vehicle crash)?			78.6%	13.4%	2.3%	0.0%	0.6%

Question	Mean	Std Dev	% Very Dissatisfied	% Dissatisfied	% Neither satisfied nor dissatisfied	% Satisfied	% Very Satisfied
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for traffic issues?	1.3	1.0	0.0%	6.8%	11.9%	18.6%	50.8%

Question	Mean	Std Dev	% 0 times	% 1–2 Times	% 3–4 times	% 5–6 times	% 7 or more times
How many times in the past 12 months have you had contact with the Minnetonka Police Department for 911 emergency calls?			76.8%	17.3%	0.8%	0.0%	0.0%

Question	Mean	Std Dev	% Very Dissatisfied	% Dissatisfied	% Neither satisfied nor dissatisfied	% Satisfied	% Very Satisfied
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for 911 emergency calls?	1.7	0.9	3.1%	1.6%	1.6%	10.9%	82.8%

Question	Mean	Std Dev	% 0 times	% 1–2 Times	% 3–4 times	% 5–6 times	% 7 or more times
How many times in the past 12 months have you had contact with the Minnetonka Police Department for non-emergency calls (e.g., to report a crime or suspicious activity)?			59.4%	31.1%	3.2%	0.9%	0.0%

Question	Mean	Std Dev	% Very Dissatisfied	% Dissatisfied	% Neither satisfied nor dissatisfied	% Satisfied	% Very Satisfied
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for non-emergency calls?	1.3	1.0	4.7%	2.3%	7.0%	25.8%	59.4%

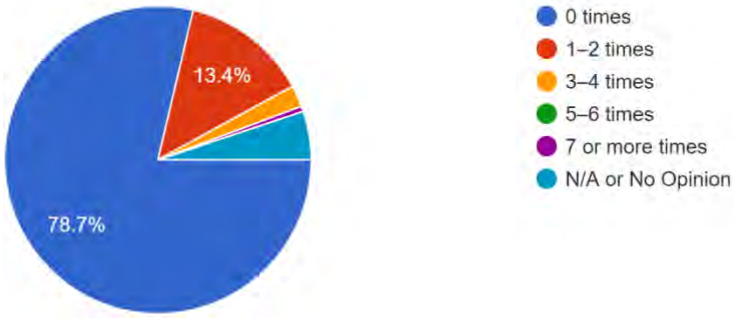
Question	Mean	Std Dev	% 0 times	% 1–2 Times	% 3–4 times	% 5–6 times	% 7 or more times
How many times in the past 12 months have you had contact with the Minnetonka Police Department for other contacts or interactions (e.g., attend a community meeting or talk to an officer on patrol)?			43.3%	40.5%	6.2%	0.8%	4.5%

Question	Mean	Std Dev	% Very Dissatisfied	% Dissatisfied	% Neither satisfied nor dissatisfied	% Satisfied	% Very Satisfied
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for other contacts or interactions?	1.5	0.8	1.1%	1.6%	7.1%	23.0%	65.0%

This information is presented in the following images.

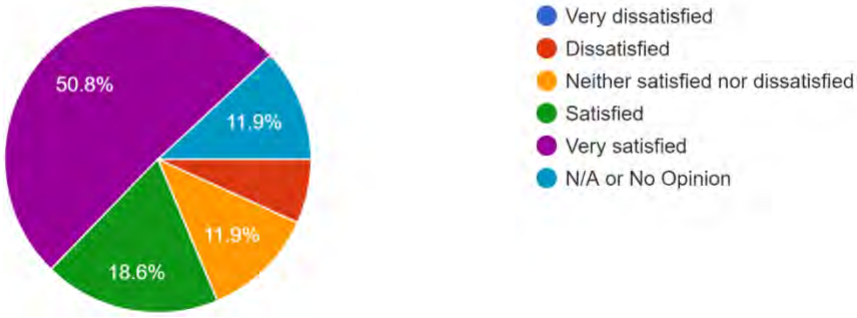
How many times in the past 12 months have you had contact with the Minnetonka Police Department for traffic issues (e.g., citation, warning, or vehicle crash)?

352 responses



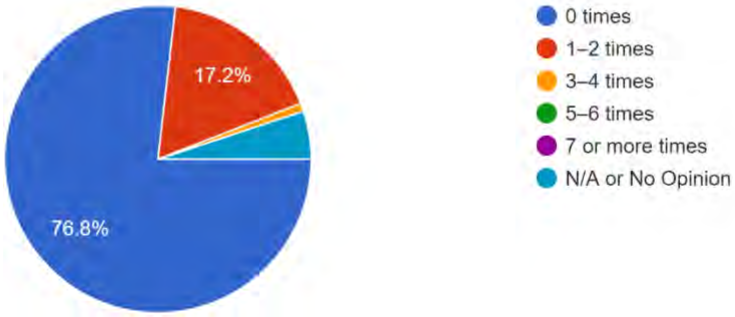
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for traffic issues?

59 responses



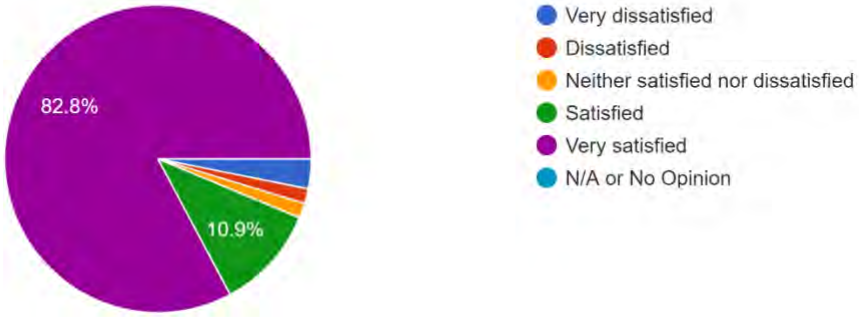
How many times in the past 12 months have you had contact with the Minnetonka Police Department for 911 emergency calls?

354 responses



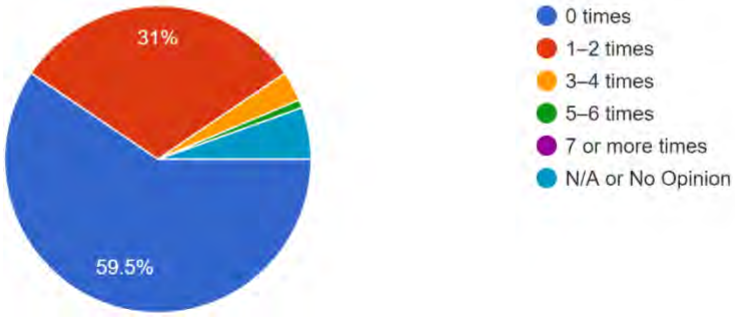
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for 911 emergency calls?

64 responses



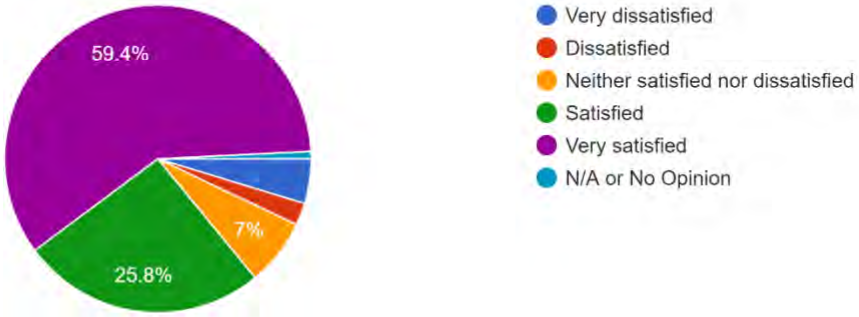
How many times in the past 12 months have you had contact with the Minnetonka Police Department for non-emergency calls (e.g., to report a crime or suspicious activity)?

348 responses



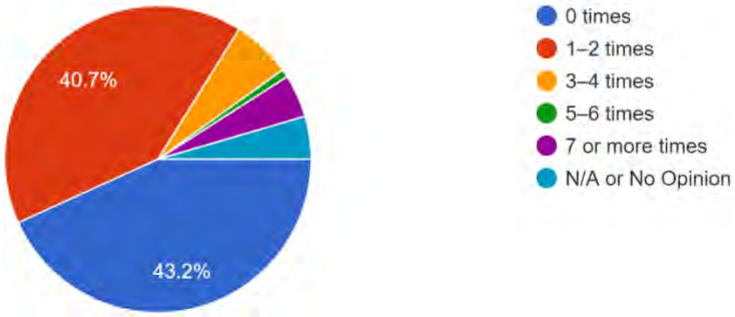
To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for non-emergency calls?

128 responses



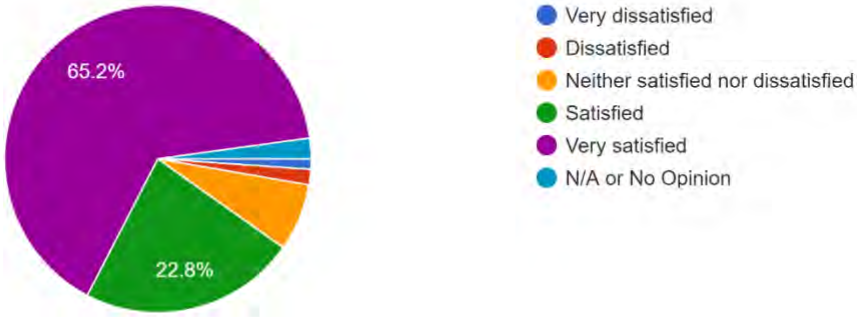
How many times in the past 12 months have you had contact with the Minnetonka Police Department for other contacts or interactions (e.g....mmunity meeting or talk to an officer on patrol)?

354 responses



To what extent are you satisfied with your interaction(s) with the Minnetonka Police Department for other contacts or interactions?

184 responses



DEMOGRAPHICS

How many years have you lived in your community?

Response	Responses	Response Ratio
0–5 years	42	11.9%
6–10 years	55	15.5%
11–20 years	62	17.5%
21+ years	193	54.5%
Other / Prefer not to answer	4	.6%

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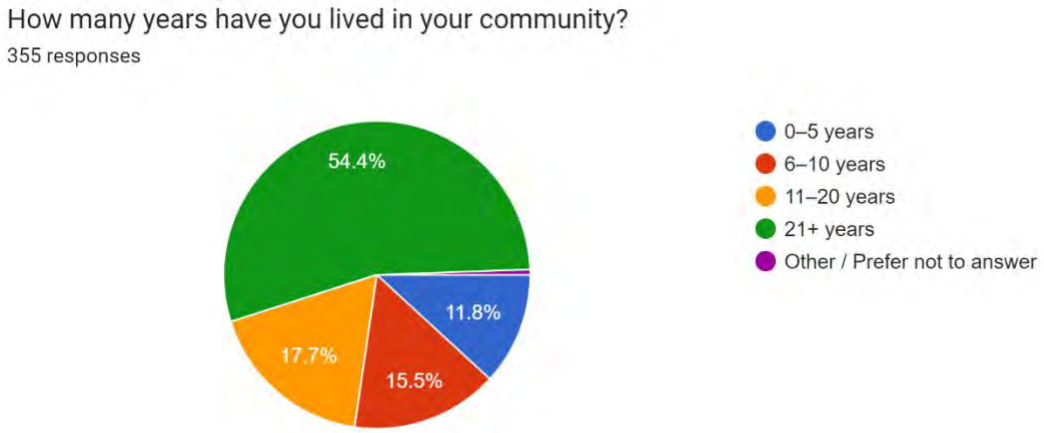
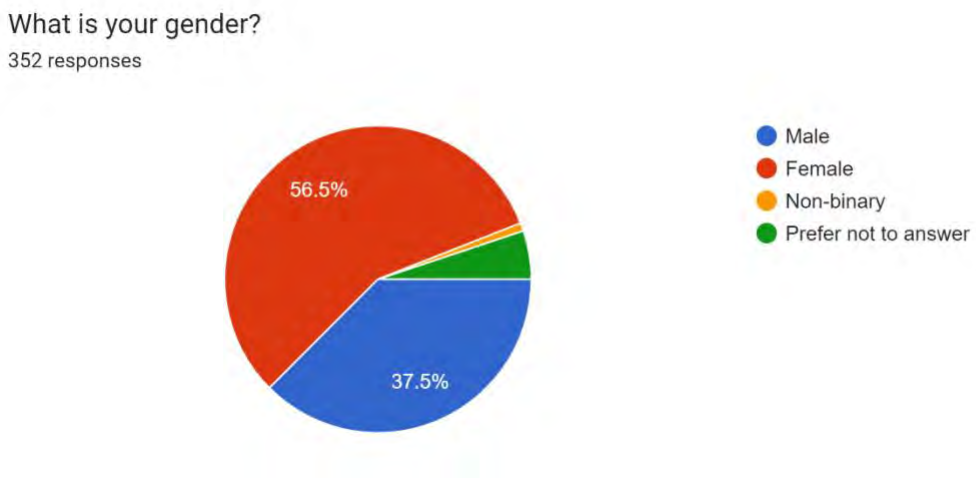


What is your gender?

Response	# of Responses	Response Ratio
Male	132	37.6%
Female	198	56.4%
Non-binary	3	.9%
Other / Prefer not to answer	18	5.1%

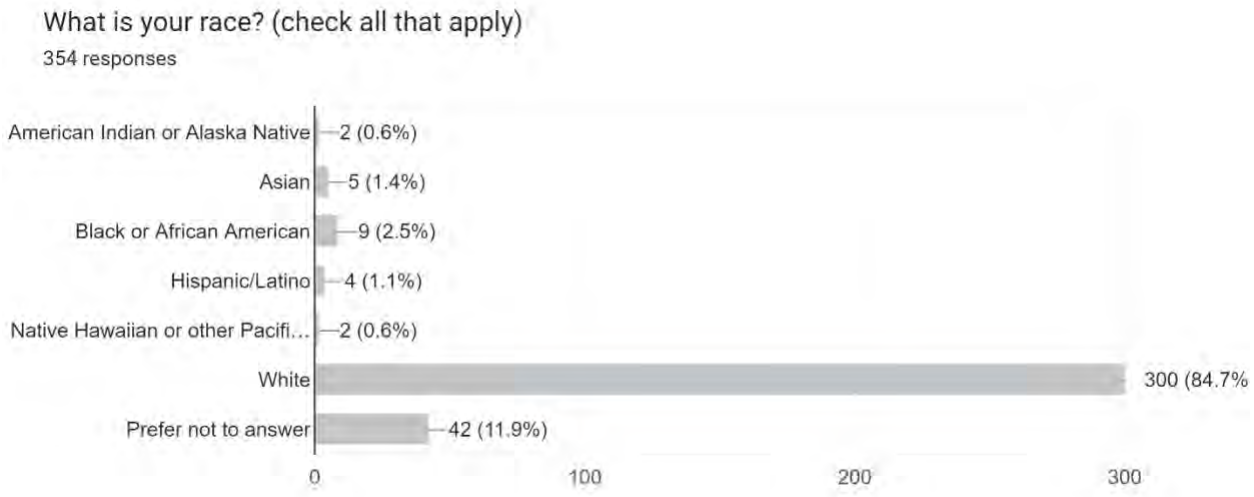
This information is presented in the following image:



What is your race?

Response	# of Responses	Response Ratio
American Indian or Alaska Native	2	.6%
Asian	5	1.6%
Black or African American	9	2.8%
Hispanic/Latino	4	1.2%
Native Hawaiian or other Pacific Islander	2	.6%
White	300	93.2%
Other / Prefer not to answer	41	13.7%

This information is presented in the following image:

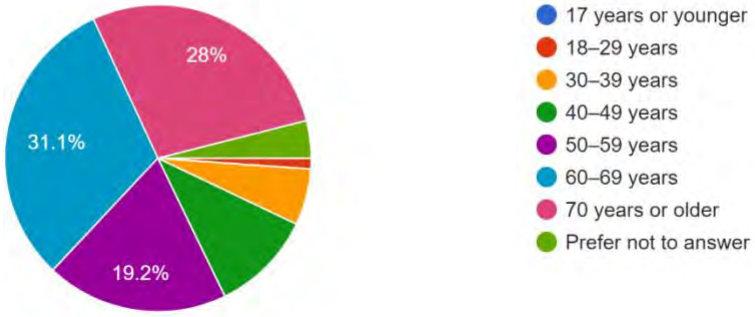


What is your age group?

Response	# of Responses	Response Ratio
17 years or younger	0	0.0%
18–29 years	4	1.1%
30–39 years	21	5.9%
40–49 years	38	10.8%
50–59 years	67	19.0%
60–69 years	110	31.2%
70 years or older	99	28.0%
Prefer not to answer	14	4.0%

This information is presented in the following image.

What is your age group?
354 responses



General Open-Ended Response Summary

Do you have any other comments?

A summary of responses by theme is provided in the following table.

Count	Comment
Generally Positive	
37	The Department does a good job
22	Thank you.
20	I am grateful for the police.
11	Minnetonka police officers are professional, kind and caring, friendly, courteous, helpful, patient, etc.
9	All my interactions with the police have been positive.
8	The Department is responsive.
7	Policing is a tough job.
7	I feel safe in Minnetonka
2	The Department does a good job connecting with the community.
1	I am grateful for the police chief.
1	I am pleased that my taxes are directed toward the Police Department.
1	I love the bike helmet outreach dairy queen prize; my kids were thrilled to be rewarded for wearing their helmets.
1	Our group requested a meeting with the Police Chief and he made time for us.
1	The Chief has positive intentions.

Count	Comment
1	The Department did a good thing in hiring a social worker to aid with mental health crises.
1	The Department does a good job educating students in schools about its role.
1	The Department does a good job supporting people returning from incarceration.
1	The Department does a good job treating everyone equally and working in a diverse community.
1	The engagement of the officers at National Night Out was fantastic.
Suggested Improvements or Critique	
8	More traffic enforcement is needed to resolve speeding.
8	The Department should provide more and more-visible patrols, especially in neighborhoods.
1	More traffic enforcement is needed to resolve distracted driving (cell phones).
5	The Department should do more to engage the community.
4	The Department should enforce the law equally.
3	Local politicians should not interfere with the Police Department.
3	More traffic enforcement is needed to resolve the running of red lights and stop signs.
2	I had a very poor experience calling the non-emergency line.
2	I would like the Department to follow up with me better after an incident involving me.
2	The City and/or the Department should utilize more mental health professionals.
2	The Department could do a better job of communicating with the community about their different initiatives and how they are progressing.
2	The Department should be more transparent and accountable to oversight.
2	The Department should have a strong School Resource Officer program, and/or initiate friendly school visits.
2	The Department should put Minnetonka residents first.
1	I feel increasingly unsafe in my neighborhood
1	African American senior citizens need more support from the Department.
1	Crime prevention initiatives, such as community and mental health, should receive more funding.
1	Department personnel need or should continue training. (Interpersonal Mediation and De-escalation).
1	Department personnel pay should be increased.
1	Funds should be transferred from the Health Tsar to the Police Department.
1	Funds should be transferred from the Police Department budget into non-policing public safety, such as community support, social services, education, healthcare, etc.
1	Having more dogs and horses involved in community policing would be a good thing.

Count	Comment
1	I do not trust the Department to resolve my issue due to its poor performance.
1	I would like to attend the coffee chats with police officers, but they are during work hours.
1	I would like to host a neighborhood conversation for my neighborhood and officers.
1	It would be nice if there was a way to proactively receive periodic updates regarding specific cases.
1	Police officers feel unapproachable.
1	The City is soft on crime.
1	The City should install traffic cameras to help enforce traffic laws.
1	The Department did not respond to my call for service regarding parking overnight.
1	The Department should be more present around synagogues.
1	The Department should better enforce domestic violence issues.
1	The Department should communicate more on social media about its work.
1	The Department should coordinate better with other City departments
1	The Department should do a better job of enforcing the parking overnight ordinance.
1	The Department should enforce minor offenses better, such as expired tags.
2	The Department should hire more officers.
1	The Department should initiate a D.A.R.E program, or something similar, again.
1	The Department should leave patrolling I494 to State troopers so that it can be more present in the City.
1	The Department should not be stopping vehicles for having a child-facing mirror affixed to the front windshield as a way of harassing minority drivers or to find more infractions
1	The Department should not charge an annual fee to have a security system. Instead, it should charge a false alarm fee.
1	The Department should patrol Purgatory park more often to give tickets to illegal off-leash dogs.
1	The Department should restart Neighborhood Watch.
1	The Department should voice its concern about the proliferation of guns.
1	The Department was demeaning and not responsive to my call for service regarding a sexual incident.
1	The Department should better enforce basic livability issues, such as trash bins in public view, parking violations, or noisy businesses being run out of garages.
1	The police did not show up when I called about a shooting.
1	The police should spend less time on speeding and more time on property crimes.
Issues of Concern	
3	I'm concerned about mental health issues in Minnetonka.

Count	Comment
2	I'm concerned about crime near the light rail system in Minnetonka.
1	I'm concerned that crime is increasing in Minnetonka as "overflow" from Eden Prairie, Hopkins, and Minneapolis.
1	I'm concerned about the violence in the Hopkins School District in the past 2 years.
1	I'm concerned about the violence in the Twin Cities Area in the past 2 years.
1	I'm concerned that making housing more affordable will inevitably bring more crime to Minnetonka.
1	I'm concerned about property crime Minnetonka.
1	I'm concerned about the racism experienced by African Americans.
1	I'm concerned about substance abuse and addiction in Minnetonka.
1	The ordinance requiring control of pets appears to be enforced more stringently on dogs; cats seem free to wander.
1	Unconscious bias is one of the biggest issues our community faces.
1	We need a tougher stance on prosecuting juvenile crimes.
Not Regarding the Department	
23	No, N/A, or I don't know.
7	The criminal justice system does not put/keep criminals behind bars and/or accountable.
3	I am grateful for the fire department and or EMS workers.
3	I enjoy living in Minnetonka
1	9-1-1 dispatch did not understand Minnetonka geography or processes.
1	Local politicians and school boards don't deal with real problems in Minnetonka, and this is the Police Department's biggest problem.
1	Minnetonka is a well-run community.
1	Our local governments feed the problems in our community with poor policy making, artificial DEI problems, mandates, and separation.
1	Parents should raise their children better.
1	People who are not content with policing are in the minority.
1	The speed limits on Minnetonka roads are too varied and should be made more consistent.
About the Survey	
2	I have many things I wish to write but there is not enough space in this survey response.
1	I hope that the Department receives a representative sample from this survey.
1	I hope the Department finds this survey helpful.

Count	Comment
1	The survey should have asked about transferring funds from the Police Department budget into non-policing public safety, such as community support, social services, education, healthcare, etc.
1	The survey was too long
1	There is more criminal activity than people are aware of.
1	This survey appears to be an attempt to stir up controversy.
1	This survey is great.
Other	
1	I receive police updates via text message.
2	I utilized the catalytic converter program.

CITYGATE
FIRE & EMS

STANDARDS OF COVER AND PHYSICAL ASSET STUDY

VOLUME 1 OF 2: TECHNICAL REPORT

CITY OF MINNETONKA, MN

APRIL 18, 2023

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FIRE & EMS

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CITY OF MINNETONKA

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TABLE OF CONTENTS

VOLUME 1 of 2 – Technical Report (this volume)

Table of Tables

Table of Figures

VOLUME 2 of 2 – Map Atlas (separately bound)

EXECUTIVE SUMMARY

The City of Minnetonka (City) Fire Department (Department) retained Citygate Associates, LLC (Citygate) to conduct a Standards of Cover and Operational Study to guide future delivery of fire and rescue services for the Minnetonka community.

This report is presented in two volumes. The Technical Report (**Volume 1**) includes: this Executive Summary, which contains a summary of our analysis and suggested next steps; a Standards of Coverage (SOC) Assessment supported by maps and response statistics; and a review and evaluation of the Department's physical fire stations condition and capacity to meet current and projected longer-term needs of the Department. A Map Atlas of deployment coverage measures is provided in **Volume 2.**

Throughout this report, Citygate makes key findings and, where appropriate, specific action item recommendations. Overall, there are 21 findings and 5 actionable recommendations.

POLICY CHOICES FRAMEWORK

There are no mandatory federal or state regulations directing the level of fire service staffing, response times, or outcomes. The level of service provided, and any resultant cost, is a local policy choice. The body of regulations on fire service suggests that if fire services are provided, they must be provided with the safety of firefighters and the public in mind. Thus, there is often a constructive tension between the desired level of fire services and the level that can be funded, and many communities may not have the level of fire services they desire. The City's investments in fire services over the past decades serve as its baseline commitment today.

This study identifies that additional investment in fire services is still necessary, with expanded and additional services from the Department as the City continues to evolve. The fundamental policy choices that drive a city's investment in fire services are derived from two key questions:

1. What outcomes are desired for the emergencies to which the Department responds? Is it the desire to provide emergency medical care in time to lessen the possibility of preventable death and severe disability, and to keep a building fire to the room, building, or block of origin?

2. Should equitable response time coverage be provided to all neighborhoods with similar risks (building types and population density) to protect?

Once desired outcomes are identified, fire and emergency medical services (EMS) first responder and ambulance deployment can then be designed to cover the most geography in the fewest travel minutes to meet the stated outcome goals. In communities such as in Minnetonka that need more than one fire station, the design of the fire services delivery system should address whether

similarly populated areas should receive similar response time performance for both fire *and* ambulance services.

FIRE DEPARTMENT SERVICES EVALUATION SUMMARY

Citygate finds the Department adequately organized to accomplish its mission to serve a diverse urban population over a large service area. The Department is using best practices where possible and is committed to continuous improvement. Citygate found a caring, committed workforce that is *strongly dedicated* to anticipating and meeting the risks to be protected within the City. Citygate finds many positive factors regarding how the Department leadership, career, and paid-on-call personnel are providing quality services within staffing capacity constraints.

The Department serves an urban population with a mixed residential and non-residential land-use pattern across 28 square miles typical of other larger cities in the Twin Cities area. The risks the Department must be prepared to protect are significant: 55,000 residents, 25,500 residential dwelling units, nearly 3,000 businesses, and 34 critical infrastructure facilities.

People, of course, are the primary risk the Department must protect. Daytime population in the City increases by 45.9 percent—a significant amount. A full third of residents—33.5 percent—are under 10 years or over 65 years of age. These populations need a strong emergency response when at risk for serious or life-threatening injury.

Minnetonka is still growing. The Twin Cities Metropolitan Council projects the City's population will increase by 6.5 percent to 58,000 by 2030, and by 13 percent to 61,500 by 2040. Larger development projects include the Opus Park residential development project with 1,600 projected housing units, and the Minneapolis Mart site with potential for 350 additional residential housing units. The Ridgedale Center shopping complex is thriving, and further mixed-use development is anticipated in that area.

There is a proud and valuable tradition of Paid-on-Call (volunteer) fire departments in Minnesota. This fire services study addresses not only the present but future strength of this staffing plan in an increasingly urban city. The Department's current deployment model provides a minimum of eight full-time and part-time response personnel on duty from two of five fire stations daily, plus a chief officer, augmented by 64 part-time Paid-on-Call firefighters as available from home or work. The Paid-on-Call force responds to one of the five stations to staff and then respond with the appropriate type of fire apparatus.

Historically, the Fire Department only responded to fires and technical rescues. The Police Department Patrol officers served as EMS first responders to support the regional paramedic ambulance service. However, as police incident growth occurred, so did an increased demand for EMS. In the United States over the last two decades, EMS demand has exploded as EMS and hospital emergency rooms became the primary health care option for the uninsured and under

insured populations. Minnetonka is no exception, as fire service annual incident demand has been increasing year over year—more so in this study's data year 2021–22.

Part of this EMS growth in the Fire Department is directly due to the Police Department no longer having the Patrol time capacity and medical training to respond to all EMS requests where the patient has a low-acuity or non-acute problem. Further, hiring fully trained Emergency Medical Technician (EMT-1) police officers became difficult and the Police Department no longer requires this certification for hiring. This has meant an increasing shift to the Fire Department responding to as many EMS first responder requests as possible. The demand for fire and EMS services is a constant one, requiring a prompt and equitable response to all populated areas of the City. But even with recent additions of a few career staff in the Fire Department, the total full-time firefighter count has only been enough to staff two of the five fire stations daily.

The Department's administrative support staff includes 10.5 full-time equivalent (FTE) personnel appropriately organized with sufficient capacity to support a five-station combination full-time / Paid-on-Call organization. This level of administrative support capacity is unusual in Citygate's Midwest combination department experience and reflects the City's strategic goals of a safe community and operational excellence. Thus, this study's recommendations center on adding field responders as "boots on the ground" are the urgent need.

The challenges the Department and City face are like those in many other jurisdictions, and this study should be received as a forward-looking planning framework. The City has funded and operated an effective Paid-on-Call fire department for many years. More recently, the City has made modest investments by adding a small number of full-time career firefighters. As this study will discuss, fire departments across the US that are dependent on volunteer / Paid-on-Call firefighters are under severe stress to recruit, train, retain, and deploy enough personnel to meet operational needs due to today's changing socioeconomics in the workforce and family needs.

The current Paid-on-Call firefighter staffing challenges are the result of changes in the US that the City cannot avoid. Due to the support of its community-based Paid-on-Call personnel, the City has benefited for decades from low-cost fire services. However, for the reasons identified in this study, total Paid-on-Call participation and response availability have diminished to the point where the City will need additional full-time response personnel to meet operational staffing capacity needs for simultaneous calls for service and Effective Response Force (ERF) staffing to emergencies needing multiple units given the needs of an urban service area with diverse values to protect.

The most significant issues facing the Minnetonka's leadership can be summarized in three challenges: (1) response performance, (2) staffing capacity, and (3) fire station physical limitation(s).

CHALLENGE #1 – RESPONSE TIMES

Fire service deployment, simply summarized, is about the ***speed*** and ***weight*** of response. *Speed* refers to initial response resources—typically engines, ladder trucks, rescues, or ambulances—strategically deployed across a jurisdiction within a specified time interval to mitigate routine-to-moderate emergencies to achieve desired outcomes. *Weight* refers to multiple-unit responses for more serious emergencies such as building fires, multiple-patient medical emergencies, vehicle collisions with extrication required, or technical rescue incidents where enough firefighters must be assembled within a time interval to safely control the emergency and prevent it from escalating into an even more serious event.

Adequate incident response is not defined by the number of physical apparatus responding to a particular emergency; rather it is defined as the appropriate number of firefighters with the right training and equipment to safely mitigate the emergency. Within the fire service deployment process, positive outcomes are the goal. From that, staffing and travel time can be calculated to determine appropriate fire station spacing (distribution and concentration). Serious medical emergencies and building fires have the most severe time constraints.

Even where state or local fire codes require fire sprinklers in residential dwellings, it will be many more decades before enough homes are remodeled with automatic fire sprinklers. If desired outcomes include limiting building fire damage to only part of the inside of an affected building or minimizing permanent impairment or death resulting from a medical emergency, then the City will need both first-due unit and multiple-unit Effective Response Force (ERF or First Alarm) coverage consistent with Citygate's response performance recommendations, starting with a first-due unit arrival within 8:30 minutes of a 9-1-1 dispatch notification, and an ERF arrival within 11:30 minutes of 9-1-1 notification, all at 90 percent or better reliability.

As can be seen in the following table, the City's current deployment system struggles to provide outcome-based best practice response times to an urban city.

Table 1—90th Percentile Response Performance Summary (RY 21/22)

Response Component	Best Practice		90th Percentile Performance RY 21/22	Performance Versus Best Practice and Current Goal
	Time	Reference		
Call Processing / Dispatch	1:30	NFPA	1:16	**- 0:14**
Duty Crew Turnout	2:00	Citygate	2:24	**+ 0:24**
First-Unit Travel	4:00	NFPA	8:44	**+ 4:44**
First-Unit Call to Arrival	7:30	Citygate	11:02	**+ 3:32**
ERF Call to Arrival	11:30	Citygate	16:50	**+ 5:20**
Paid-on-Call Notification to On-Scene (Avg. Paid-on-Call Count / Minutes)	--	--	--	**5 / 10:00** **8 / 15:00**

In this study period, most fire unit responses were from the duty crew at Station 1. The addition of the second duty crew at Station 3 occurred in September 2022. Therefore, from one staffed station and four volunteer staffed stations, the 90th percentile first-unit travel time performance, at 8:44 minutes, was inadequate and more than double the recommended 4:00-minute best practice goal for urban areas to facilitate desired outcomes. This is primarily due to only one staffed station serving a 28 square mile service area with a challenging road network layout in many areas of the City. Peak demand hours also are impacted by a simultaneous incident rate of two or more simultaneous calls for service occurring 22.8 percent of the time.

The multiple-unit Effective Response Force (ERF) to handle serious emergencies call to arrival performance at the 90th percentile was 16:50 minutes, fully 5:20 minutes slower than Citygate's recommended 11:30-minute best practice goal to facilitate positive outcomes in urban areas. This slower-than-desired performance is predominantly due to only one fully staffed station, so most of the needed staffing was provided by Paid-on-Call personnel or mutual aid.

CHALLENGE #2 – STAFFING

The City is large enough to need five fire stations to provide the response times needed to facilitate desired urban outcomes, which is common in Citygate's experience. However, the City's population and call-for-service growth has surpassed the decades long Paid-on-Call program's ability to deliver urban response times.

The Department's current daily staffing model of a minimum of eight response personnel on duty daily—four full-time and three part-time—plus one chief officer, augmented by 64 Paid-on-Call firefighters and off-duty full-time response personnel (as available when paged), is ***insufficient*** to (1) deliver enough personnel to complete all the critical tasks necessary to mitigate a single moderate-hazard fire, a multiple-patient EMS incident, or technical rescue in time to achieve urban typical desired outcomes, and (2) maintain on-duty staff availability for simultaneous incidents.

To its credit, the City deployed a second duty crew at Fire Station 3 in 2022. Citygate understands that a committed cadre of part-time Paid-on-Call personnel provides great value to the City and Department, and a combination of full-time and part-time personnel will be needed over the foreseeable future to ensure an adequate first unit "speed of response" and ERF "weight of response."

While most Paid-on-Call personnel meet a five-duty-shift-per-month requirement, only one-third are working more than that. If, for example, the City wanted to staff three fire engines daily with two Paid-on-Call personnel each, doing so would require 2,190 Paid-on-Call shifts annually. Given the current total of 64 Paid-on-Call firefighters in the Department, this equates to *34 shifts per year where each Paid-on-Call firefighter would have to guarantee attendance.* Yet the Paid-on-Call program is incurring turnover, with 50 percent of the force having less than five years with Minnetonka. Most critical incidents only received an average of five Paid-on-Call personnel in 10:00 minutes over the four years studied. Based on these factors, Citygate doubts that Paid-on-Call personnel alone can increase dedicated staffing beyond the current requirement.

The Department cannot, in Citygate's opinion, continue to rely solely on Paid-on-Call personnel to provide the staffing needed to mitigate more serious incidents *quickly*. Rather, the City should plan to incrementally fund a modest quantity of additional full-time personnel to ensure a *minimum immediate* response force for first-unit incidents and small fire ERF demands, with sufficient additional staffing coming from the Paid-on-Call personnel for more serious and or simultaneous incidents.

Given these Paid-on-Call program limitations, the transfer of first responder EMS from the police department to the fire department, the risks and demographics to be protected as identified in **Appendix A**, the City's annual service demand, projected growth, simultaneous incident rate, insufficient immediate staffing capacity, and typically desired urban community outcomes, Citygate recommends that the City incrementally fund three additional fire crews, with all five fire crews using a mix of career and Paid-on-Call staffing.

As the following table illustrates, the City could staff six units per day with a crew of two career firefighters (Company Officer and Driver Operator), with the third crew member being a scheduled Paid-on-Call. Thus, the daily minimum career and scheduled Paid-on-Call staffing and apparatus deployed would eventually grow as shown in the following table.

Table 2—Recommended Daily Deployment Staffing Goal

Station	Address	Response Resources	Minimum Daily Career Staffing Goal	Paid-on-Call Staffing Goal	Total Daily Unit Staffing Goal
1	14550 Minnetonka Blvd.	Engine Rescue/Ladder Battalion Chief	2 2 1	1 1	*3* *3* *1*
2	1815 Hopkins Crossroad	Engine	2	1	*3*
3	5700 Rowland Rd.	Engine	2	1	*3*
4	17125 Excelsior Blvd.	Engine	2	1	*3*
5	15155 Wayzata Blvd.	Engine	2	1	*3*
***Current* Minimum Daily Response Staffing:** **Master Plan Staffing Goal:**			**8** **13**	**--** **6**	**--** **19**

This conceptual solution requires the current quantity of 64 Paid-on-Call personnel to commit to five duty crew 24-hour shifts per month. However, with two career firefighters on the unit, if Paid-on-Call personnel cannot make the shift, the unit can respond with at least the minimum of two personnel.

At the last step in this conceptual plan, the two-firefighter rescue would transition to a ladder truck located at Station 1 in the center of the City. However, stations 2 and 4 were not designed to accommodate 24-hour staffing; thus, the planned staffing would need be phased as staffing funding increases and modifications/improvements can be made at these two stations. The total increase of career staffing on a three-crew rotating system would be six per day, or 18 total. Career staff absences due to earned time off or injury leave could be covered by Paid-on-Call personnel or career staff on overtime.

In the near term, Citygate recommends these phased staffing and apparatus changes:

1. The current rescue should operate from Station 2 from 9:00 am to 8:00 pm, seven days a week, with the other hours being from Station 1.

2. The two recently added career personnel at Station 3, plus a third Paid-on-Call scheduled firefighter, should *cross-staff* an engine or a ladder from Station 3. Doing so would immediately make the ERF to serious incidents one engine, one ladder, a rescue, and the Battalion Chief.

3. Staff Station 5 with another 24/7 crew unless preceded by modifications/improvements to Station 2, in which case we would recommend Station 2 be the third staffed engine. At that time, the rescue would transition to

ladder staffing at Station 1. Thus, the City would then deploy three engines, one truck, and one Battalion Chief totaling a minimum daily staff of 13 personnel.

Challenge #3 – Fire Station Physical Limitations

All fire departments that built fire stations unable to accommodate 24/7 staffing are challenged to convert them or replace them where full-time crews are now needed. In Minnetonka, these conversions will not be easy or inexpensive. The two fire stations not meeting 24/7 crew needs must be studied by qualified consultants regarding the cost effectiveness to remodel, replace, or relocate, with the cost focus on the City's needs over decades, not just a few years. Citygate's fire station adequacy review (**Section 2.10**) provides recommended facility improvement priority, including staffing recommendations. The various details regarding cost, current parcel suitability, the time needed to repair/rebuild, and where the next duty crew should be staffed 24/7, must be part of the triage decision.

Findings and Recommendations

Following are all findings and recommendations from this study.

Finding #1: The Department's response apparatus types are appropriate to protect against the *most frequent* hazards likely to impact the City.

Finding #2: The Department has not established expected useful service life criteria for its various apparatus / automotive vehicle types.

Finding #3: The City and Department have *not* established response performance goals consistent with best practice recommendations as published by the Commission on Fire Accreditation International and the National Fire Protection Association. Doing so will guide future fire crew staffing, apparatus types, and deployment effectiveness.

Finding #4: The Department's current deployment model provides a minimum of eight response personnel on duty daily—four full-time and three part-time plus a chief officer—currently augmented by 64 part-time Paid-on-Call firefighters as available.

Finding #5: The Department has a standard response plan that considers risk and establishes an appropriate initial response for each incident type; each type of call for service receives the combination of engines, specialty units, and command officers customarily needed to effectively control that type of incident based on Department experience.

Finding #6: The Department's current fire station location can only deliver 4:00-minute urban best practice first-unit travel time coverage to 62.6 percent of City's public road miles, which is weak coverage to deliver positive outcomes. Increasing that travel time goal to 5:00 minutes, however, increases coverage to 91.8 percent of total City road miles, which is extremely good urban-level coverage.

Finding #7: The Department's current fire station locations can only be expected to deliver 8:00-minute urban/suburban best practice ERF travel time coverage to 21 percent of the public road segments, which is inadequate if the goal is to contain a building fire to the room/compartment of origin.

Finding #8: The three ladder trucks are not well located to deliver good response times to the highest population and building risk areas.

Finding #9: The station location scenarios demonstrate that the City is large enough to need five fire stations. A relocation of Station 3 to the east could be beneficial if other considerations can be met.

Finding #10: Annual service demand has been increasing year over year, and more so in RY 21/22, largely due to the dedicated staffed fire units taking more first-responder EMS calls instead of the Police Department.

Finding #11: EMS service demand is increasing significantly as the Police Department slows its first-responder EMS responses due to workload and staffing limitations.

Finding #12: The demand for fire and EMS services is a constant one, 24/7/365, requiring a prompt and equitable response system year-round to all populated areas of the City.

Finding #13: Two or more simultaneous calls for service occur 22.8 percent of the time, which means that when two of the three staffed units are committed, only one unit is left for immediate response to a third simultaneous incident.

Finding #14: Call processing / dispatch performance, at 1:21 minutes over the three-year study period, was *slightly better* than Citygate's 1:30-minute best practice goal.

Finding #15: At 2:24 minutes, dedicated staffed duty-crew turnout performance is slightly slower than the recommended 2:00-minute best practice goal; crew awareness and accountability will likely improve performance.

Finding #16: 90th percentile first-unit travel time performance, at 8:42 minutes, was *more than double* (118 percent) the recommended 4:00-minute best practice goal for urban areas to facilitate desired outcomes; primarily due to only two staffed stations serving a 28-square-mile service area with a challenging road network in many areas of the City.

Finding #17: 90th percentile call to first-unit arrival performance, at 11:03 minutes, was *47 percent slower* than the 7:30-minute (including a 4:00-minute travel time) best practice goal to facilitate positive outcomes in urban areas; this is predominantly due to the slower-than-desired travel time performance resulting from only two staffed stations serving a 28-square-mile service area with a challenging road network in many areas of the City.

Finding #18: 90th percentile call to ERF arrival performance was *8:36 minutes slower* (83 percent) than Citygate's recommended 11:30-minute best practice goal to facilitate desired outcomes in urban areas; this slower than desired performance is predominantly due to only three on-duty crew units within the City and the response time of Paid-on-Call and/or automatic aid resources.

Finding #19: In 2021, 97 percent of the Paid-on-Call personnel met or exceeded the five duty-crew shifts per month requirement, with 28 percent averaging 10 or more shifts per month.

Finding #20: Over the four-year study period from 2019 through 2022, an average of only five Paid-on-Call firefighters arrived at the emergency incident within the urban/suburban best practice goal of 10:00 minutes from the time of callout.

Finding #21: Nearly half (46.3 percent) of the Paid-on-Call firefighters hired since 2015 have left the department for various reasons.

Finding #22: More than 50 percent of the Paid-on-Call force has less than five years seniority with the Department; only 23 percent has more than 15 years.

Recommendation #1: The City or Department should establish expected useful service life / replacement criteria consistent with fleet management and fiscal best practices.

Recommendation #2: **Adopt Updated Deployment Policies:** The City Council should adopt complete performance measures to aid deployment planning and to monitor response performance. The measures of time should be designed to deliver outcomes that will save EMS patients, when possible, upon arrival and keep small but serious fires from becoming more serious. With this is mind, Citygate recommends the following measures:

2.1 **First-Due Unit:** To treat pre-hospital medical emergencies and control small fires, the first-due unit should arrive within 8:30 minutes, 90 percent of the time, from the receipt of the 9-1-1 call at Hennepin County 9-1-1 to incidents in the City. This equates to a 1:30-minute call processing / dispatch time, a 2:00-minute crew turnout time, and a 5:00-minute travel time.

2.2 **Multiple-Unit Effective Response Force for Serious Emergencies:** To confine building fires near the room or rooms of origin, keep vegetation fires under one acre in size, and treat multiple medical patients at a single incident, a multiple-unit ERF of at least **13–19** personnel, including at least one Chief Officer, should arrive within 11:30 minutes in the City from the time of call receipt at County Fire Dispatch at 90 percent or better reliability. This equates to a 1:30-minute call processing / dispatch time, a 2:00-minute crew turnout time, and an 8:00-minute travel time, respectively.

2.3 **Hazardous Materials Response:** To protect the City from hazards associated with uncontrolled release of hazardous and toxic materials, the fundamental mission of the Department's response is to isolate the hazard, deny entry into the hazard zone, and minimize impacts on the community. This can be achieved with a first-due total response time of 8:30 minutes or less to provide initial hazard evaluation and mitigation actions. After the initial evaluation is completed, a determination can be made whether to request additional resources to mitigate the hazard.

2.4 **Technical Rescue:** To respond to technical rescue emergencies as efficiently and effectively as possible with enough trained personnel to facilitate a successful rescue, a first-due total response time of 8:30 minutes or less is to evaluate the situation and initiate rescue actions. Additional resources should assemble as needed within a total response time of 11:30 minutes in the City to safely complete rescue/extrication and delivery of the victim to the appropriate emergency medical care facility.

Recommendation #3: Direct staff to return in 90 days with a staffing enhancement plan, to include costs and input from the Paid-on-Call personnel regarding their ability to cover some or all the envisioned Paid-on-Call shifts.

Recommendation #4: As soon as is operationally feasible, begin deploying the rescue at Station 2 during peak demand hours of the day.

Recommendation #5: Direct staff to develop a scope of work and solicit bids to start, no later than the start of the next fiscal year, evaluating remodel or replacement costs for stations 2, 3 and 4.

Recommendation #6: Improve duty crew turnout time with increased focus and crew accountability, and by providing turnout time data to all Department personnel.

NEXT STEPS

Near-Term

- Review and absorb the content, findings, and recommendations of this report.
- Adopt response performance goals as recommended.

Longer-Term

- Develop a plan to fund additional daily response staffing as identified in this report.
- Study and develop a plan and costs to remodel or replace the two fire stations that currently can't house 24/7 staffing.
- Monitor response times to goals and outcomes.
- Monitor how much prescheduled station assignments and callback staffing the Paid-on-Call firefighter program provides in meeting the City's outcome-driven needs.

SECTION 1—INTRODUCTION AND BACKGROUND

The City of Minnetonka, Minnesota (City) Fire Department (Department) retained Citygate Associates, LLC (Citygate) to conduct a Standards of Cover (SOC) and Operational Study based on nationally recognized guidelines and best practices, federal and state mandates, and relevant local and regional operating procedures. This study is intended to guide future delivery of fire and rescue services for the Minnetonka community.

Citygate's Work Plan reflects Citygate's Project Team members' experience in fire administration and deployment. Citygate utilizes various National Fire Protection Association (NFPA) and Insurance Services Office (ISO) publications as best practice guidelines, along with the self-assessment criteria of the Commission on Fire Accreditation International (CFAI). This is a systems-based approach using local risk and demographics to determine the level of protection best fitting the Department's needs.

1.1 REPORT ORGANIZATION

This report is organized into the following sections. **Volume 2** (Map Atlas) is separately bound.

Executive Summary A summary of current services and significant challenges, including key findings and recommendations.

Section 1: **Introduction and Background**: An introduction to the study and background information about the City and Department.

Section 2: **Standards of Coverage Assessment and Facility Adequacy Review**: An overview of the SOC process and detailed analysis of the Department's existing deployment model, emergency outcome expectations, community risk assessment summary, staffing needed for different emergencies (critical tasks), geographical distribution and concentration effectiveness of fire crew locations, reliability and historical response measures effectiveness, and a concluding overall deployment evaluation. This section will also include a macro-level review and evaluation of the Department's facilities' condition and capacity to meet current projected long-term space and operational needs.

Appendix A: **Community Risk Assessment**: A comprehensive assessment of the values at risk to be protected within the

community and evaluation of the fire and non-fire hazards likely to impact the service area as related to services provided by the Department.

Appendix B: **Facility Assessment Worksheets**: Detailed worksheets regarding numerous assessment factors as well as facility features and condition.

1.1.1 Goals of the Report

This report cites findings and makes recommendations, as appropriate, related to each finding. Throughout the report, findings and recommendations are sequentially numbered.

This document provides technical information about how fire services are provided and legally regulated and how the Department is currently operating. This information is presented in the form of recommendations and policy choices for the City and Department to consider.

The result is a solid technical foundation upon which to understand the advantages and disadvantages of the choices facing City leadership faces regarding the best way to provide services and, more specifically, at what level of desired outcome and expense.

1.1.2 Limitations of the Report

There are no federal or state regulations mandating the level of fire service staffing, response performance, or outcomes. Through the public policy process, each community is expected to understand local fire and non-fire risks and its ability to pay for fire services, and then choose its level of services accordingly. *If* fire services are provided at all, federal and state regulations specify how to safely provide them, both for the public and the personnel providing services.

While this report and technical explanation can provide a framework for the discussion of Department services, neither this report nor the Citygate team can make the final decisions or cost out every possible alternative in detail. Once final policy choices receive City Council direction, City staff can conduct any final cost and fiscal analyses as typically completed in the City's normal operating and capital budget preparation cycle.

1.2 Project Approach and Scope of Work

1.2.1 Project Approach and Research Methods

Citygate utilized multiple sources to gather, understand, and model information about the City and Department. Citygate requested a large amount of relevant background data and information to better understand current costs, service levels, the history of service level decisions, and other prior studies.

In virtual meetings, Citygate conducted focused interviews of the Department's project team members and other project stakeholders. Citygate reviewed demographic information about the

City, including the potential for future growth and development. Citygate also obtained map and response data from which to model current and projected fire service deployment, with the goal to identify the location(s) of stations and crew quantities required to best serve the City and facilitate future deployment planning.

Once Citygate gained an understanding of the Department's current deployment model and its fire and non-fire risks, Citygate developed a model of fire services that was tested against the travel time mapping and prior response data to ensure an appropriate fit. Citygate also considered future City growth and service demand to develop a potential approach to address both current and longer-term needs. The result is a framework for enhancing Department services while meeting reasonable community expectations and fiscal realities.

1.2.2 Project Scope of Work

Citygate's approach to this assessment involved:

1. Reviewing data and information provided by the Department and City and conducting focused listening interviews with project stakeholders.
2. Utilizing Esri ArcGIS, a Geographic Information System (GIS) software mapping program, to model fire station travel time coverage.
3. Using StatsFD™, an incident response time analysis program, to review prior incident service demand and response performance and plot the results on graphs and geographic mapping exhibits.
4. Identifying and evaluating future City population and related development growth.
5. Recommending appropriate risk-specific response performance goals.
6. Utilizing the Commission on Fire Accreditation International (CFAI) self-assessment criteria and *National Fire Protection Association (NFPA) 1201 – Standard for Providing Emergency Services to the Public* (as well as other NFPA standards) as the basis for evaluating the Department's administrative support staffing capacity.

1.3 CITY OVERVIEW

Located approximately ten miles west of downtown Minneapolis, the City of Minnetonka was founded in 1852 and incorporated in 1956. With a population approaching 55,500 residents,[1] the City encompasses 28 square miles and is home to Cargill, the country's largest privately owned corporation, and United Health Group, the state's largest publicly owned company. As part of the

[1] Source: Esri Community Profile (2022 data).

greater Twin Cities Metropolitan Area, Minnetonka is an inclusive community committed to excellence, sustainability, and quality, dependable city services.

Operating under a council-manager form of government, with a Mayor and six council members elected to staggered four-year terms, the City provides a full range of urban community services including economic development, planning, engineering, building, police, fire, parks, recreation, streets, utilities, and library services.

The City's diverse economic base is led by professional, scientific, and technical services sectors, followed by healthcare, finance/insurance, retail trade, and educational services. The City's adopted 2023 budget is $116.6 million.

1.3.1 Future Growth and Development

The City has numerous planned development projects, including apartment units, single-family residential units, independent senior living units, assisted living and memory care units, and multiple commercial and industrial projects.[2] Larger development projects include the Opus Park residential development project with 1,600 projected housing units, and the Minneapolis Mart site with potential for 350 additional residential housing units.

The Twin Cities Metropolitan Council projects the City's population will increase by 6.5 percent to 58,000 by 2030, and by 13 percent to 61,500 by 2040.[3]

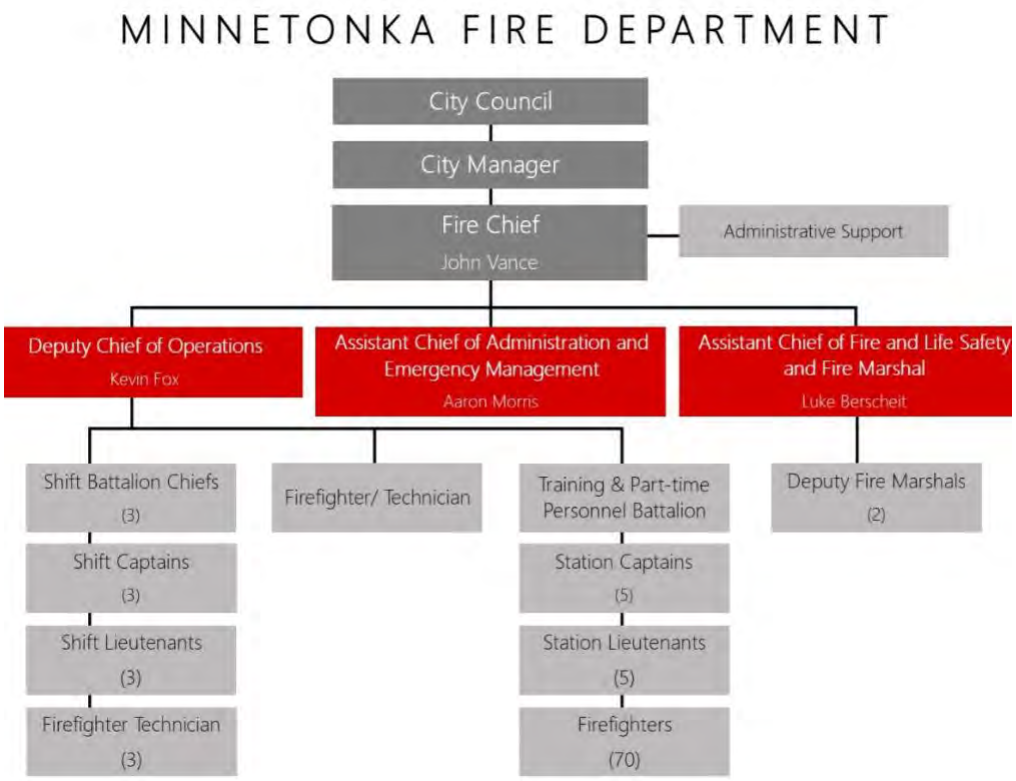
1.4 Fire Department Overview

1.4.1 Organization

The Department, operating under authority of the City Council, provides fire suppression, Basic Life Support (BLS) pre-hospital emergency medical, ice/water rescue, initial hazardous materials response, fire prevention, and related fire and life safety services with a staff of 23.5 full-time equivalent personnel and (currently) 64 part-time Paid-on-Call firefighters[4], down from an authorized force of 70, organized as shown in the following figure.

[2] Source: City of Minnetonka Community Development Department.
[3] Source: Housing Market Assessment: City of Minnetonka (Summer 2017), page 2.
[4] Source: Minnetonka Fire Department.

Figure 1—Organizational Chart – Minnetonka Fire Department



1.4.2 Facilities, Response Resources, and Staffing

The Department provides services from five fire stations with a combination of full-time and part-time Paid-on-Call personnel, as summarized in the following table.

Table 3—Fire Department Facilities, Response Resources, and Daily Response Staffing

Station Number	Address	Assigned Response Resources	Minimum Daily Staffing*
1	14550 Minnetonka Blvd.	Engine 8 Rescue 1 Battalion Chief Engine 1 Tower 1 Air 2 Boat 1 Boat 2 ESU Utility 1 Ranger 1	2 2 1 ** ** ** ** ** ** ** **
2	1815 Hopkins Crossroad	Engine 2 Engine 9	**** ****
3	5700 Rowland Rd.	Engine 3 Utility 3	3 **
4	17125 Excelsior Blvd.	Engine 4 Ladder 4 Grass 4 Ranger 2	**** **** **** **** ****
5	15155 Wayzata Blvd.	Engine 5 Ladder 5 Rescue 5	**** **** ****
Total Minimum Daily Response Staffing			**8**

Each day there are five career personnel and three scheduled Paid-on-Call personnel on duty
** Cross-staffed by on-duty or Paid-on-Call callout personnel depending on need
**** Staffed by callout Paid-on-Call personnel as available depending on incident type

If the prescheduled Paid-on-Call personnel cannot make their shift, the daily minimum staffing falls to five career personnel, two on each of the two engines, plus a career chief officer.

If there are simultaneous calls for service, there may not be Paid-on-Call personnel called out with the inherent response time delay, and the 40-hour chief officers will staff an engine or rescue, which takes them away from their other management duties.

1.4.3 Service Capacity

Service capacity refers to the Department's available response force; the size, type, and condition of its response fleet and any specialized equipment; core and specialized performance capabilities

and competencies; resource distribution and concentration; availability of automatic or mutual aid; and any other agency-specific factors influencing its ability to meet current and prospective future service demand relative to the risks to be protected.

The Department's service capacity for fire and non-fire hazards consists of a minimum of eight personnel on duty daily staffing an engine and rescue at Station 1, an engine at Station 3, and a Battalion Chief supported by 64 part-time Paid-on-Call personnel as available for response to emergency incidents from home or work. Additional response apparatus are available at each of the Department's five fire stations, including engines, ladder/towers, rescues, boats, grass rigs, and Ranger ATVs that are staffed as needed for emergency incident response by Paid-on-Call and/or off-duty full-time personnel. Paid-on-Call personnel are required to live within 15 minutes of a City fire station, respond to at least 25 percent of all callouts, work a minimum of five duty crew shifts per month, and attend at least 75 percent of offered training.

All response personnel are minimally trained to the Emergency Medical Technician B (EMT-B) level able to provide Basic Life Support (BLS) pre-hospital emergency medical care. The Department also has several pharmacological and non-pharmacological medical variances to provide enhanced pre-hospital emergency medical services. In addition, the Department provides first responder support to the private-sector ambulance services operating within the City.

Response personnel are also trained to the US Department of Transportation Hazardous Material First Responder Operational level to provide initial hazardous material incident assessment, hazard isolation, and support for a hazardous material response team. Hazardous material emergency response is provided by the Hopkins/State Chemical Assessment Team.

Response personnel are further trained to the Confined Space Awareness, Trench Rescue Awareness, and Ice Rescue Operations level. The Department provides surface water and ice rescue services; additional technical rescue capacity is available from the City of Edina Fire Department through mutual aid.

The Department also has automatic aid or mutual-aid agreements with neighboring fire agencies.

1.4.4 Apparatus / Automotive Fleet

The fire service generally groups the automotive vehicles it uses into the following categories.

- **Engines** – Basic fire service apparatus with water pump, hose, and ground ladders for fire suppression. May also carry EMS, forcible entry, extrication, ventilation, and other specialized equipment as needed for its intended mission.

- **Ladder Towers or Trucks** – Provide longer ground ladders and an aerial ladder or platform for rescue, accessing building windows/roofs, and providing aerial fire suppression water streams. Ladder trucks also typically carry forcible entry, ventilation, salvage, and other specialized tools and equipment not carried by other department apparatus.

- **Quint Apparatus** – Combination engine/ladder truck typically incorporating a shorter aerial ladder and less storage space for specialized tools and equipment than carried on a single-function ladder truck.

- **Support Apparatus** – Serve a specialized need or function, including:
  - **Water Tenders** to provide water for fire suppression in areas without fire hydrants or to supplement the available water supply.
  - **Rescue Squads** to provide the specialized tools and equipment for technical rescues.
  - **Ambulances** to provide treatment and/or ground transportation of medical patients.
  - **Lighting Units** to provide high-intensity lighting for nighttime incident operations.
  - **Air Units** to provide additional Self-Contained Breathing Apparatus (SCBA) tanks and refill capability at emergency incidents.
  - **Boats** to perform waterborne recues and fire suppression.
  - **Personal Watercraft** (PWC) to perform near-shore rescues.
  - **Hazardous Materials Units** to provide the technical tools and resources to identify unknown substance spills or releases and the tools and equipment to abate the hazard and decontaminate personnel and equipment.
  - **Command/Communications Units** to provide additional incident communications support and/or secure workspace for larger Incident Command staffs.
  - **Trailers** to store and transport specialized tools and equipment as needed.
  - **Light-Duty Vehicles** – Sedans, pickup trucks, SUVs, and light vans for staff and support use.

The Department's automotive fleet consists of 20 vehicles as summarized in the following table.

Table 4—Fire Department Fleet Summary

Vehicle Category	Number
Engine	8
Ladder Tower/Truck	3
Rescue Squad	2
Air Unit	1
Emergency Support Unit	1
Boat	2
Ranger	2
Light-Duty Vehicle	3
Total	**20**

Source: Minnetonka Fire Department

While there is no standard best-practice for fire apparatus replacement, a nationally recognized consensus standard[5] outlines the recommended criteria for placing an apparatus out-of-service, and notes that safety shall be the primary consideration in determining when to retire an emergency vehicle. In Citygate's experience, most public agencies use expected useful service life as the criteria for fire apparatus replacement planning, with 15 years of front-line service and an additional five years in reserve status as the typical expected useful service life. Jurisdictions with very high-use vehicles, such as ambulances or rescues, often use a shorter service life criterion. It is also important to note that the NFPA updates its consensus standards approximately every four to six years, with a focus on safety of fire department personnel and the public, and over a typical 20-year useful service life, older fire apparatus typically lack many safety features of newer apparatus conforming with the most current standard. Depending on the manufacturer, some parts may have been discontinued or may be difficult to obtain for older models.

In Citygate's experience, most agencies use years, mileage, or a combination of both as replacement criterion. Citygate recommends a more comprehensive approach considering multiple factors including age, mileage/hours of use, type of use, reliability, maintenance and repair costs, and overall condition, as suggested in the following table.

[5] NFPA 1911 – Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles (2017 Edition).

Table 5—Suggested Service Life Scoring

Service Life Factor	Scoring	Score
Age	1 point per year based on in-service date	
Miles/Hours	1 point for every 10,000 miles or 250 hours of use	
Type of Use	Front-line emergency response = 5 points Reserve emergency response/surge capacity = 4 points Specialized apparatus/infrequent use = 3 points Light duty support vehicle = 2 points Apparatus/equipment with no planned replacement = 1 point	
Reliability	Percent of total time out of service, excluding preventive maintenance: 5 points for less than 80% reliability 4 points for 80% – 89% reliability 3 points for 90% – 94% reliability 2 points for 95% – 98% reliability 1 point for greater than 98% reliability	
Maintenance / Repair Costs	Total lifetime maintenance/repair costs excluding accident repairs: 1 point = Less than $15,000 2 points = $15,000 – $24,999 3 points = $25,000 – $49,999 4 points = $50,000 – $75,000 5 points = more than $75,000	
Overall Condition	Using the criteria in **Error! Reference source not found.**: 1 point = Very Good 2 points = Good 3 points = Fair 4 points = Poor	
	Total Score	

Reference: American Public Works Association (APWA), *Planned Fleet Replacement* (2021)

Using these service life factors and scoring criteria, an agency can set its own replacement threshold by establishing a maximum service life score depending on apparatus / equipment / vehicle type. The following table provides sample service life replacement scores by type. The agency would then update each apparatus or vehicle's service life score annually to project an expected replacement date for capital replacement planning.

Table 6—Sample Expected Useful Service Life by Vehicle Type

Apparatus/Equipment / Vehicle Type	Suggested Maximum Service Life Score
Engine, Type-1	**40**
Engine, Type-3 Wildland	**35**
Engine, Type-6 Wildland	**35**
HazMat Response Apparatus	**40**
Ladder Truck/Quint	**40**
Rescue Squad – Heavy	**40**
Rescue Squad – Light	**35**
Light-Duty Vehicle	**40**
Water Tender	**40**

Citygate's review of the Department's automotive fleet finds the apparatus types appropriate to protect the values at risk in the City. Citygate further finds the support fleet configuration appropriate for its intended uses. In Citygate's experience, one reserve engine for every 3–5 front-line engines and one reserve truck for every 1–5 front-line trucks provides sufficient reserve capacity for most agencies. For the City, Citygate recommends two engines for reserve/surge capacity. The City/Department should also establish an expected useful service life for each vehicle type consistent with fleet management and fiscal best practices.

Pursuant to the assessment, Citygate makes the following findings and recommendation relative to Department's fleet.

Finding #1: The Department's response apparatus types are appropriate to protect against the most frequent hazards likely to impact the City.

Finding #2: The Department has not established expected useful service life criteria for its various apparatus / automotive vehicle types.

Recommendation #1: The City or Department should establish expected useful service life / replacement criteria consistent with fleet management and fiscal best practices.

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SECTION 2—STANDARDS OF COVERAGE ASSESSMENT AND FACILITY ADEQUACY REVIEW

This section provides a detailed report of the Department's current ability to deploy and mitigate emergency hazards within its service area. The response analysis uses prior response statistics and geographic mapping to help the Department and the community visualize the capabilities and limitations of the current response system.

2.1 STANDARDS OF COVERAGE PROCESS OVERVIEW

The core methodology used by Citygate in the scope of its deployment analysis work is *Standards of Cover*, fifth and sixth editions, which is a systems-based approach to fire department deployment published by the CFAI. This approach uses local risk and demographics to determine the level of protection best fitting a community's needs.

The SOC method evaluates deployment as part of a fire agency's self-assessment process. This approach uses risk and community expectations on outcomes to help elected officials make informed decisions on fire and EMS first responder deployment levels. Citygate has adopted this methodology as a comprehensive tool to evaluate fire station locations. Depending on the needs of the assessment, the depth of the components may vary.

Such a systems-based approach to deployment, rather than a one-size-fits-all prescriptive formula, allows for local determination of service level. In this comprehensive approach, each agency can match local needs (risks and expectations) with the costs of various levels of service. In an informed public policy debate, a governing board "purchases" the fire and emergency medical service levels the community needs and can afford.

While working with multiple components to conduct a deployment analysis is admittedly more work, it yields a much better result than using only a singular component. For instance, if only travel time is considered and frequency of multiple calls is not, the analysis could miss over-worked companies. If a risk assessment for deployment is not considered and deployment is based only on travel time, a community could under-deploy to incidents.

The following table describes the eight elements of the SOC process.

Table 7—Standards of Coverage Process Elements

SOC Element		Description
1	Existing Deployment	Describing the current deployment model and response performance goals the agency has in place today.
2	Community Outcome Expectations	Reviewing the expectations of the community for responses to emergencies.
3	Community Risk Assessment	Identifying and quantifying the assets at risk to fire and non-fire hazards likely to impact the community. (For this report, see Appendix A—Community Risk Assessment.)
4	Critical Task Analysis	Reviewing the tasks that must be performed and the personnel required to deliver the stated outcome expectation.
5	Distribution Analysis	Reviewing the spacing of first-due response resources (typically engines) to control routine emergencies.
6	Concentration Analysis	Reviewing the spacing of fire stations so that more complex emergencies can receive sufficient resources and personnel in a timely manner (First Alarm Assignment or ERF).
7	Reliability and Historical Response Effectiveness Analysis	Using prior response statistics to determine the percent of compliance the existing system delivers.
8	Overall Evaluation	Proposing Standard of Coverage statements by risk type, as necessary.

Source: CFAI, *Standards of Cover*, Fifth Edition

Simply summarized, fire service deployment is about the ***speed*** and ***weight*** of the response. *Speed* refers to initial response (first-due), all-risk intervention resources (typically engines, ladder trucks, rescues, or ambulances) strategically deployed across a jurisdiction for response to emergencies within a specified travel time interval to control routine-to-moderate emergencies to achieve desired outcomes and prevent the incident from escalating to greater size or severity. *Weight* refers to multiple-unit responses for more serious emergencies, such as building fires, multiple-patient medical emergencies, vehicle collisions with extrication required, or technical rescue incidents where enough firefighters must be assembled within a time interval to safely control the emergency and prevent it from escalating into a more serious event. The following table illustrates this deployment paradigm.

Table 8—Fire Service Deployment Paradigm

Element	Description	Purpose
Speed of Response	Travel time of first-due, all-risk intervention units strategically located across a jurisdiction.	Controlling routine-to-moderate emergencies without the incident escalating in size or complexity.
Weight of Response	Number of firefighters in a multiple-unit response for serious emergencies.	Assembling enough firefighters within a time frame to safely control a more complex emergency without escalation.

Thus, smaller fires and less complex emergencies require a single-unit or two-unit response (fully staffed engine or specialty resource) within a relatively short response time. Larger or more complex incidents require more units and personnel to control. In either case, if the crews arrive too late or the total number of personnel is too few for the emergency, they are drawn into an escalating and more dangerous situation. The science of fire crew deployment is to spread crews out across a community or jurisdiction for quick response to keep emergencies small with positive outcomes without spreading resources so far apart that they cannot assemble quickly enough to effectively control more serious emergencies.

2.2 Current Deployment

SOC Element 1 of 8
Existing Deployment Policies

Nationally recognized standards and best practices suggest using several incremental measurements to define response time. Ideally, the clock starts when the Hennepin County Sheriff's Department Emergency Communication Center dispatcher receives the emergency call. Response time increments include 9-1-1 call processing / dispatch, crew response unit boarding (commonly called crew turnout), and actual driving (travel) time. Response performance best practices include specific time goals for each of these three increments, which combined equal total response time, or call-to-arrival time, which is a fire agency's true customer service metric. Response performance goals should also address response performance to other risks within the service area, such as hazardous materials and technical rescue, as recommended by the CFAI. While the Department has not adopted a response time goal, it has a service-level history that can be documented in response times, number of response companies, and minimum staffing, which were evaluated for this study.

Currently, NFPA Standard 1710, a recommended deployment standard for *career* fire departments in urban areas, recommends initial (first-due) intervention unit arrival within a 4:00-minute travel

time and recommends arrival of all the resources comprising the multiple-unit First Alarm within 8:00 minutes' travel at 90 percent or better reliability.[6]

NFPA Standard 1720, a recommended deployment standard for substantially *volunteer*-staffed fire departments, recommends initial (first-due) intervention units arrive within 14:00 minutes of receipt of the dispatch notification at 80 percent or better reliability. Although 9-1-1 dispatch center call processing time is *not* included in this deployment standard, the most recent published NFPA best practices have decreased the dispatch processing time to 1:00 minute for events with an imminent threat to life or significant property damage and 1:30 minutes for hazardous materials or technical rescue incidents, for joint response with law enforcement involving weapons, or for language barriers.[7]

For a growing community that is beginning to add career staff to strengthen the Paid-on-Call force, Citygate does not recommend fully adopting either NFPA 1710 or 1720. The purpose of an SOC is for the City to choose *how* to protect its risks.

Regarding which response time measures advice best fits the City, in Citygate's extensive experience, we find few dispatch centers can meet a 1:00-minute performance standard, thus we continue to recommend 1:30 minutes as an achievable best-practice goal for dispatch / call processing. As for crew turnout time, while 1:00 minute to 1:20 minutes is recommended by some best practice advice sources, Citygate has long found that 1:20-minute turnout times are not achievable due to the type of protective clothing that must be donned. Citygate thus recommends a 2:00-minute turnout time as an achievable goal for on-duty staffing.

As for travel time, Citygate finds the City to be served by an increasing blend of career and Paid-on-Call personnel in an urban setting. As such, Citygate will recommend a more *urban* travel time of 5:00 minutes to fit Minnetonka.

If the travel time measures recommended by Citygate are added to call processing and crew turnout times recommended by Citygate and best practices, then a realistic 90 percent first-unit total response time goal for urban response zones is 8:30 minutes from receipt of the call at the 9-1-1 dispatch center. This includes 1:30 minutes for call processing / dispatch, 2:00 minutes for crew turnout, and 5:00 minutes for travel.

[6] Source: NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments (2020 Edition).

[7] NFPA 1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition).

Finding #3:	The City and Department have *not* established response performance goals consistent with best practice recommendations as published by the Commission on Fire Accreditation International and the National Fire Protection Association. Doing so will guide future fire crew staffing, apparatus types, and deployment effectiveness.

2.2.1 Current Deployment Model

The Department's current deployment model provides a minimum of eight full-time and part-time response personnel on duty daily: five at Station 1 in the central area of the City, and two at Station 3 in the southeast section of the City, plus a Battalion Chief at Station 1, augmented by a roster of up to 64 Paid-on-Call personnel as available. All Paid-on-Call personnel are required to live within 15 minutes of a City fire station and respond to at least 25 percent of emergency callouts.

Finding #4:	The Department's current deployment model provides a minimum of eight response personnel on duty daily—four full-time and three part-time plus a chief officer—currently augmented by 64 part-time Paid-on-Call firefighters as available.

While the Department has a high number of Paid-on-Call firefighters, few are immediately available for immediate dispatch from home or work. The Paid-on-Call program and its ability to provide timely staffing assistance is reviewed in depth in **Section 2.9** of this study, as well as the need for a minimum number of firefighters to control a rapidly escalating emergency.

Response Plan

The Department is an all-risk fire agency providing the people it protects with services that include fire suppression, pre-hospital BLS emergency medical, and initial hazardous material and technical rescue. Given these risks, the Department utilizes a tiered response plan calling for different types and numbers of resources depending on incident/risk type. The Hennepin County 9-1-1 CAD system selects and dispatches the most appropriate resource types pursuant to the Department's response plan, as shown in the following table. Other than on-duty personnel, the number of Paid-on-Call personnel responding to any given call for service is unpredictable and variable depending on availability.

Table 9—Response Plan by Incident Type

Incident Type	Resources Dispatched	Total Personnel*
EMS	1 Engine/Rescue	2 or 3
Vehicle Accident	1 Engine, 1 Rescue, BC	6
Vehicle Fire	1 Engine, 1 Rescue, BC	6
Building Fire	3 Engines, 1 Ladder Truck, 1 Rescue, BC Career staffing Paid-on-Call firefighters	8–12 5**
Vegetation Fire	1 Engine, 1 Rescue, BC	6
Water Rescue	1 Engine, 1 Rescue, BC	6
Hazardous Material Release	1 Engine, 1 Rescue, BC	6

* Number of personnel above on-duty crew(s) is variable and unpredictable

** Average count within 10:00 minutes arrival at incident after dispatch alert, ranging from a low of two Paid-on-Call personnel (one time) to a high of 11 (twice) for 41 incidents over the three-year study period

Finding #5: The Department has a standard response plan that considers risk and establishes an appropriate initial response for each incident type; each type of call for service receives the combination of engines, specialty units, and command officers customarily needed to effectively control that type of incident based on Department experience.

2.3 Outcome Expectations

SOC Element 2 of 8
Community Outcome Expectations

The SOC process begins by reviewing existing emergency services outcome expectations. This includes determining for what purpose the response system exists and whether the governing body has adopted any response performance measures. If it has, the time measures used must be understood and sound data must be available to evaluate performance.

Current national best practice is to measure percent completion of a goal (e.g., 90 percent of responses) instead of an average measure. Mathematically, this is called a fractile measure.[8]

[8] A *fractile* is that point below which a stated fraction of the values lie. The fraction is often given in percent; the term percentile may then be used.

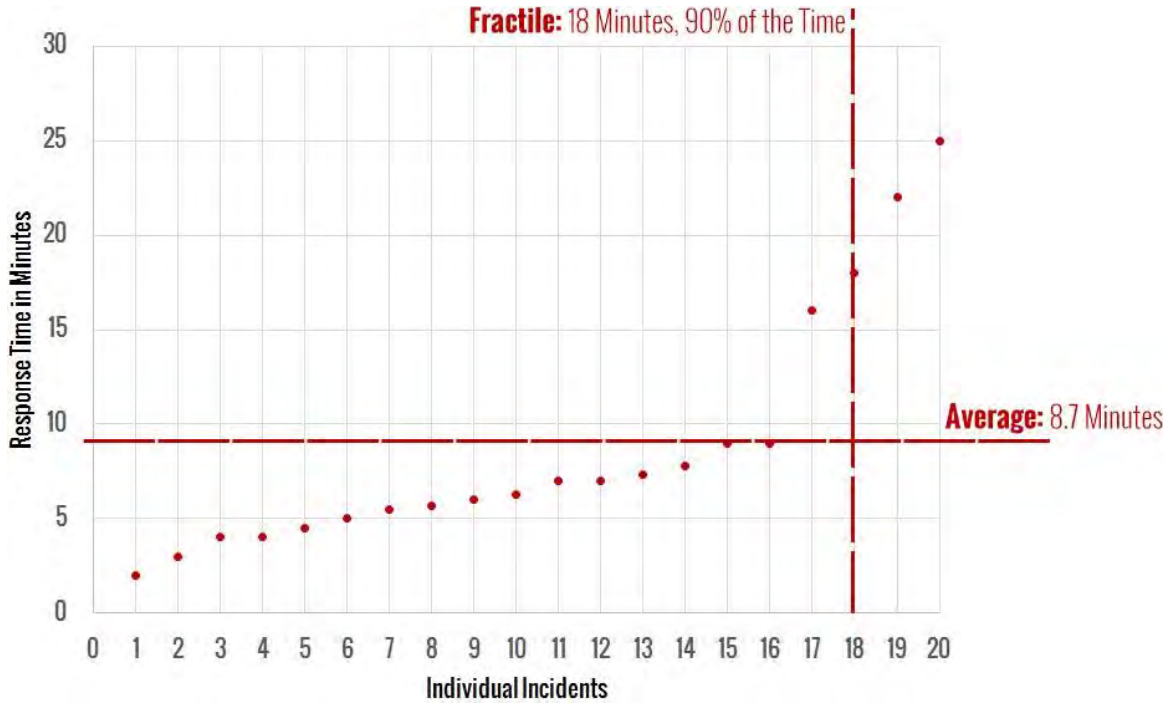
Measuring the average only identifies the central or middle point of response time performance for all calls for service in the data set. Using an average makes it impossible to know how many incidents had response times that were far above or just above the average.

For example, the following figure shows response times for a fictitious fire department. This a small agency receives 20 calls for service each month, and each response time has been plotted on the following graph from shortest response time to longest response time.

The graph shows the average response time is 8.7 minutes. However, the average response time fails to properly account for four calls for service with response times far exceeding a threshold in which positive outcomes could be expected. In fact, it is evident in that 20 percent of responses are far too slow and that this jurisdiction has a potential life-threatening service delivery problem. Average response time as a measurement tool for fire services is simply not sufficient. This is a significant issue in larger cities if hundreds or thousands of calls are answered far beyond the average point.

By using the fractile measurement with 90 percent of responses in mind, this small example jurisdiction has a response time of 18:00 minutes, 90 percent of the time. This fractile measurement is far more accurate at reflecting the service delivery situation of this small fictitious agency.

Figure 2—Fractile versus Average Response Time Measurements



More importantly, within the SOC process, positive outcomes are the goal. From that goal, crew size and response time can be calculated to allow appropriate fire station spacing (distribution and

concentration). Emergency medical incidents include situations with the most severe time constraints. The human brain can only survive 4:00 to 6:00 minutes without oxygen. Cardiac arrest and other events can cause oxygen deprivation to the brain. While cardiac arrests make up a small percentage, drowning, choking, trauma constrictions, or other similar events have the same effect. In a building fire, a small incipient fire can grow to involve the entire room in a 3:00- to 5:00-minute period. If fire service response is to achieve positive outcomes in severe emergency medical situations and incipient fire situations, *all* responding crews must arrive, assess the situation, and deploy effective measures before brain death occurs or the fire spreads beyond the room of origin.

Thus, from the time the 9-1-1 call is received by the dispatch center, an effective deployment system is *beginning* to manage the problem within a 7:00- to 8:00-minute total response time. This is right at the point that brain death is becoming irreversible, and the fire has grown to the point of leaving the room of origin and becoming very serious. Thus, the City needs a first-due response goal that is within a range to give hope for a positive outcome. It is important to note that the fire or medical emergency continues to deteriorate from the time of inception, not from the time the fire engine starts to drive the response route. Ideally, the emergency is noticed immediately, and the 9-1-1 system is activated promptly. In the best of circumstances, this step of awareness—calling 9-1-1 and giving the dispatcher accurate information—takes 1:00 minute. Crew notification and travel time take additional minutes. Upon arrival, the crew must approach the injured party or emergency, assess the situation, and appropriately deploy its skills and tools. Even in easy-to-access situations, this step can take 2:00 minutes or more. This period may be increased considerably due to long driveways, apartment buildings with limited access, multiple-story buildings or office complexes, or shopping centers.

Unfortunately, there are times when the emergency has become too severe, even before the 9-1-1 notification or fire department response, for the responding crew to reverse; however, when an appropriate response time policy is combined with a well-designed deployment system, then only anomalies like bad weather, poor traffic conditions, or multiple emergencies slow down the response system. Consequently, a properly designed system will give the public hope of a positive outcome for their tax dollar expenditure.

For this report, total response time is the sum of 9-1-1 call processing / dispatch, crew turnout, and travel time, which is consistent with CFAI and NFPA best practice recommendations.

2.4 Community Risk Assessment

The third element of the SOC process is a community risk assessment. Within the context of an SOC study, the objectives of a community risk assessment are to:

SOC Element 3 of 8
Community Risk Assessment

1. Identify the values at risk to be protected within the community or service area.

2. Identify the specific hazards with the potential to adversely impact the community or service area.

3. Quantify the overall risk associated with each hazard.

4. Establish a foundation for current/future deployment decisions and risk-reduction/hazard mitigation planning and evaluation.

A *hazard* is broadly defined as a situation or condition that can cause or contribute to harm. Examples include fire, medical emergency, vehicle collision, earthquake, flood, etc. *Risk* is broadly defined as the *probability of hazard occurrence* in combination with the *likely severity* of *resultant impacts* to people, property, and the whole community.

2.4.1 Risk Assessment Methodology

The methodology employed by Citygate to assess community risks as an integral element of an SOC study incorporates the following elements:

1. Identification of geographic planning sub-zones (risk planning zones) appropriate to the community or jurisdiction.

2. Identification and quantification to the extent data is available of the values at risk to various hazards within the community or service area.

3. Identification of the fire and non-fire hazards to be evaluated.

4. Determination of the probability of occurrence for each identified hazard.

5. Determination of *probable* impact severity of a hazard occurrence by risk planning zone.

6. Determination of overall risk by hazard and risk planning zone considering probability of occurrence and impact severity.

2.4.2 Values at Risk to Be Protected

Broadly defined, *values at risk* are those tangibles of significant importance or value to the community or jurisdiction that are potentially at risk of harm or damage from a hazard occurrence. Values at risk typically include people, critical facilities/infrastructure, buildings, and key economic, cultural, historic, and natural resources.

People

Residents, employees, visitors, and travelers through a community or jurisdiction are vulnerable to harm from a hazard occurrence. Particularly vulnerable are specific at-risk populations, including those unable to care for themselves or self-evacuate in the event of an emergency. Key demographic data for Minnetonka includes:

- 33.5 percent of the population is under 10 years or over 65 years of age.
- Daytime population in the City increases by 45.9 percent—a significant increase for any agency providing emergency services to be aware of.
- The City's population is predominantly White (83 percent); followed by other/two or more ethnicities (8 percent); Black / African American (5 percent); and Asian (5 percent), with those of Hispanic/Latino ethnicity representing 4 percent of the population.
- Of the population over 24 years of age, nearly 98 percent have a high school or equivalent level of education.
- Of the population over 24 years of age, 63.4 percent has an undergraduate degree and 24.9 percent has a graduate or professional degree.
- Nearly 98 percent of the population 15 years of age or older is in the workforce; slightly over 2 percent is unemployed.
- Median household income is $108,000.
- 3.5 percent of the population is below the federal poverty level.
- 2.3 percent of the population below age 65 does not have health insurance coverage.

Critical Infrastructure / Key Resources

The U.S. Department of Homeland Security defines critical infrastructure and key resources (CIKR) as those physical assets essential to the public health and safety, economic vitality, and resilience of a community, such as lifeline utilities infrastructure, telecommunications infrastructure, essential government services facilities, public safety facilities, schools, hospitals, airports, etc. The Department has identified 34 critical facilities as identified in **Appendix A**. A hazard occurrence with significant impact severity affecting one or more of these facilities would likely adversely impact critical public or community services.

Buildings

The service area includes more than 25,500 residential dwelling units, and nearly 3,000 businesses, including offices, professional services, retail sales, restaurants/bars, motels, churches, schools, government facilities, healthcare facilities, and other business types as described in **Appendix A**.

2.4.3 Hazard Identification

Citygate utilized prior risk studies where available, fire and non-fire hazards as identified by the CFAI, and agency/jurisdiction-specific data and information to identify the hazards to be evaluated for this study.

Following an evaluation of the hazards identified in the 2018 Hennepin County Hazard Multi-Jurisdictional Hazard Mitigation Plan,[9] and the fire and non-fire hazards as identified by the CFAI as they relate to services provided by the Department, Citygate evaluated the following six hazards for this assessment:

1. Building fire
2. Vegetation/wildland fire
3. Medical emergency
4. Hazardous material release/spill
5. Technical rescue
6. Marine incident

Because building fires and medical emergencies have the most severe time constraints if positive outcomes are to be achieved, the following is a brief overview of building fire and medical emergency risk. **Appendix A** contains the full risk assessment for all six hazards.

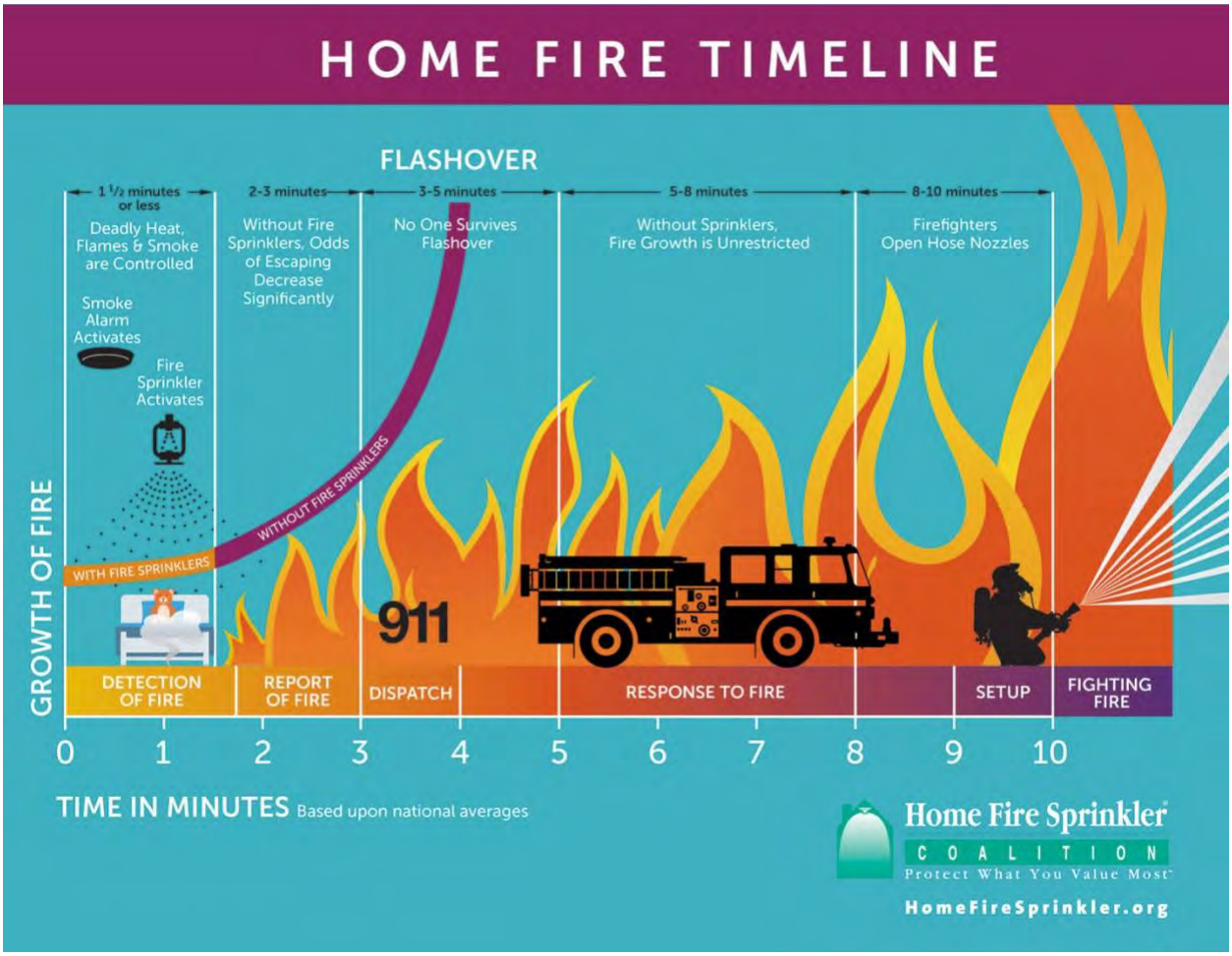
Building Fire Risk

One of the primary hazards in any community is building fire. Building fire risk factors include building density, size, age, occupancy, and construction materials and methods, as well as the number of stories, the required fire flow, the proximity to other buildings, built-in fire protection/alarm systems, an available fire suppression water supply, building fire service capacity, fire suppression resource deployment (distribution/concentration), staffing, and response time.

The following figure illustrates the building fire progression timeline and shows that flashover, which is the point at which the entire room erupts into fire after all the combustible objects in that room reach their ignition temperature, can occur as early as 3:00 to 5:00 minutes from the initial ignition. Human survival in a room after flashover is extremely improbable. While, according to the Fire Marshal, nearly all single-family and two-family residential dwelling units in Minnetonka are *not* protected by an automatic fire sprinkler system, automatic fire sprinklers have been proven over many decades to be an effective safety tool. Under state statutes, Minnetonka is allowed to locally adopt more stringent residential sprinkler requirements. Thus, local determination to require sprinklers in all types of new housing is possible.

[9] Reference: 2018 Hennepin County Multi-Jurisdictional Hazard Mitigation Plan, Volume 2, Section 4.

Figure 3—Building Fire Progression Timeline

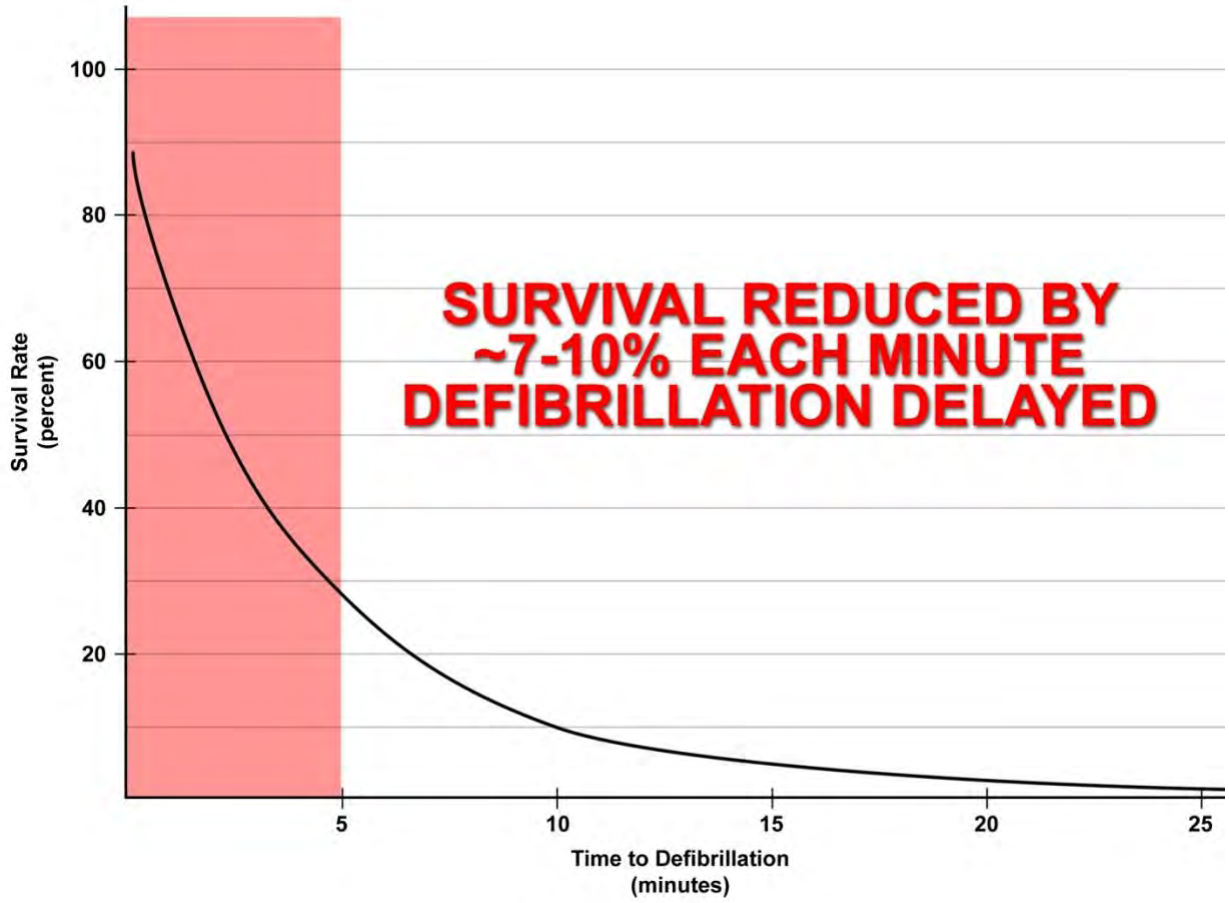


Source: http://www.firesprinklerassoc.org

Medical Emergency Risk

Fire agency service demand in most jurisdictions is predominantly for medical emergencies. The following figure illustrates the reduced survivability of a cardiac arrest victim as time to defibrillation increases.

Figure 4—Survival Rate versus Time of Defibrillation



The Department provides BLS pre-hospital emergency medical services with response personnel trained to the EMT-B level. The Department's EMT-Bs also have several pharmacological and non-pharmacological medical variances to provide enhanced pre-hospital emergency medical services.

2.4.4 Risk Assessment Summary

The Department's overall risk for six hazards related to emergency services provided by the Department range from **Low** to **High**, as summarized in the following table. See **Appendix A** for the full risk assessment.

Table 10—Overall Risk by Hazard

Hazard	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Building Fire	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Vegetation/Wildfire	*Low*	*Low*	*Low*	*Low*	*Low*
Medical Emergency	*High*	*High*	*High*	*High*	*High*
Hazardous Materials	*Low*	*Low*	*Low*	*Low*	*Low*
Technical Rescue	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Marine Incident	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*

2.5 Critical Task Time Measures—What Must Be Done over What Time Frame to Achieve the Stated Outcome Expectation?

SOC Element 4 of 8
Critical Task Time Study

SOC studies use critical task information to determine the number of firefighters needed within a time frame to achieve desired objectives on fire and emergency medical incidents. Table 11 and Table 12 illustrate critical tasks typical of building fire and medical emergency incident, including the minimum number of personnel required to complete each task. These tables are composites from Citygate clients in urban/suburban departments like Minnetonka, with units staffed with two to four personnel per apparatus. It is important to understand the following relative to these tables:

1. It can take a considerable amount of time after a task is ordered by command to complete the task and achieve the desired outcome.

2. Task completion time is usually a function of the number of personnel that are *simultaneously* available. The fewer firefighters available, the longer some tasks will take to complete. Conversely, with more firefighters available, some tasks are completed concurrently.

3. Some tasks must be conducted by a minimum of two firefighters to comply with safety regulations. For example, two firefighters are required to search a smoke-filled room for a victim.

2.5.1 Critical Firefighting Tasks

Table 11 illustrates the critical tasks required to control a typical, single-family dwelling fire, which is the predominate building type in the country, generating a high number of civilian fire deaths annually. The Effective Response Force (ERF) to a house fire in the City includes six

response units—three engines, one ladder truck, one rescue, and one Battalion Chief for a total *Minnetonka* ERF of 7–12+ personnel. These tasks are taken from typical fire departments' operational procedures, which are consistent with the customary findings of other agencies using the SOC process. No conditions exist to override the Occupational Safety and Health Administration (OSHA) two-in/two-out safety policy, which requires that firefighters enter atmospheres such as building fires that are immediately dangerous to life and health in teams of two while two more firefighters are outside and immediately ready to rescue them should trouble arise.

Scenario: Simulated approximately 2,000 square-foot, two-story, single-family residential fire with unknown rescue situation. Responding companies receive dispatch information typical for a witnessed fire. Upon arrival, they find approximately 50 percent of the second floor involved in fire.

Table 11—First Alarm Residential Fire Critical Tasks (7–12+ Personnel)

Critical Task Description		Personnel Required
First-Due Engine (3 Personnel)		
1	Conditions report	1
2	Establish supply line to hydrant	2
3	Deploy initial fire attack line to point of building access	1–2
4	Operate pump and charge attack line	1
5	Establish incident command	1
6	Conduct primary search	2
Rescue (2 Personnel)		
1	If necessary, establish supply line to hydrant	1–2
2	Deploy a backup attack line	1–2
3	Establish Initial Rapid Intervention Crew	2
Battalion Chief		
1	Transfer of incident command	1
2	Establish exterior command and scene safety	1
Second-Due Engine (2–3 Personnel)		
1	Establish Initial Rapid Intervention Crew	3
2	Secure utilities	2
3	Deploy second attack line as needed	2
4	Conduct secondary search	2
First-Due Ladder Truck (Paid-on-Call Personnel)		
1	Conduct initial search and rescue, if not already completed	2
2	Deploy ground ladders to roof	1–2
3	Establish horizontal or vertical building ventilation	1–2
4	Open concealed spaces as required	2

Grouped together, these duties form an ERF, or First Alarm Assignment. These distinct tasks must be performed to effectively achieve the desired outcome; arriving on-scene does not stop the emergency from escalating. While firefighters accomplish these tasks, the incident progression clock keeps running.

Many studies have shown that a small fire can spread to engulf an entire room in fewer than 3:00 to 5:00 minutes after free burning has started. Once the room is completely superheated and involved in fire (known as flashover), the fire will spread quickly both vertically and horizontally

throughout the structure. For this reason, it is imperative that fire suppression and search/rescue operations commence before the flashover point occurs if the outcome goal is to keep the fire damage in or near the room of origin and to rescue persons unable to self-evacuate. In addition, flashover presents a life-threatening situation to both firefighters and any occupants of the building. Fire fatalities typically include persons under 10 and over 65 years of age and those unable to self-evacuate, and 33.5 percent of the service area population falls within those age groups.

2.5.2 Critical Medical Emergency Tasks

The Department responds to more than 3,000 EMS incidents annually, including vehicle accidents, strokes, heart attacks, difficulty breathing, falls, childbirths, and other medical emergencies. For comparison, the following table summarizes the critical tasks required for a cardiac arrest patient.

Table 12—Cardiac Arrest Critical Tasks – 1 Engine and 1 Ambulance (2–4 Personnel)

Critical Task		Personnel Required	Critical Task Description
1	Chest compressions	1–2	Compression of chest to circulate blood
2	Ventilate/oxygenate	1–2	Mouth-to-mouth, bag-valve-mask, apply O_2
3	Airway control	1–2	Manual techniques/intubation/cricothyroidotomy
4	Defibrillate	1–2	Electrical defibrillation of dysrhythmia
5	Establish I.V.	1–2	Peripheral or central intravenous access
6	Control hemorrhage	1–2	Direct pressure, pressure bandage, tourniquet
7	Splint fractures	2–3	Manual, board splint, HARE traction, spine
8	Interpret ECG	2	Identify type and treat dysrhythmia
9	Administer drugs	2	Administer appropriate pharmacological agents
10	Spinal immobilization	2–5	Prevent or limit paralysis to extremities
11	Extricate patient	3–4	Remove patient from vehicle, entrapment
12	Patient charting	1–2	Record vitals, treatments administered, etc.
13	Hospital communication	1–2	Receive treatment orders from physician
14	Treat en route to hospital	2–3	Continue to treat/monitor/transport patient

2.5.3 Critical Task Analysis and Effective Response Force (ERF) Size

What does a deployment study derive from a critical task analysis? The time required to complete the critical tasks necessary to stop the escalation of an emergency (as shown in Table 11 and Table 12) must be compared to outcomes. As stated, after approximately 3:00 to 5:00 minutes of free burning a room, fire will escalate to the point of flashover. At this point, the entire room is engulfed in fire, the entire building becomes threatened, and human survival near or in the room of a fire's origin becomes impossible. Additionally, brain death begins to occur within 4:00 to 6:00 minutes

of the heart stopping. Thus, the ERF must arrive in time to prevent these emergency events from becoming worse.

The Department's current deployment plan is *generally adequate* to deliver a recommended ERF of 16–17 firefighters[10] to a low/medium hazard building fire dependent on the response time and quantity of Paid-on-Call personnel, which is discussed in detail in **Section 2.8**. Mitigating an emergency event is a team effort once the units have arrived. This refers to the *weight* of response analogy; if too few personnel arrive too slowly, the emergency will escalate instead of improving. The outcome times, of course, will be longer and yield less-desirable results if the arriving force is later or smaller.

The number of personnel and the arrival time frame can be critical in a serious fire. Fires in older or multiple-story buildings could require the initial firefighters to rescue trapped or immobile occupants. If the ERF is too small, rescue and fire suppression tasks *cannot* be conducted simultaneously. Thus, achieving good performance requires *adequate available staffing* with appropriate training arriving within a reasonable time frame.

Fires and complex medical incidents require additional units to arrive in time to complete an effective intervention. Time is one factor that comes from *proper station placement and the staffing model used*. When fire stations are spaced too far apart and one unit must cover another unit's area or multiple units are needed, the units may be too far away, and the emergency will escalate and result in a less-than-desirable outcome. When only one, or a subset of fire stations are staffed, response times are frequently inadequate to meet the speed or weight metrics outlined earlier to achieve positive outcomes.

Previous critical task studies conducted by Citygate and NFPA Standard 1710 identify that all units need to arrive at a building fire with 16–17 firefighters within 11:30 minutes (from the time of a 9-1-1 call) to perform the tasks of rescue, fire suppression, and ventilation *simultaneously and effectively*.

If fewer firefighters arrive, all tasks may not be completed. Most likely, the search team would be delayed, as would ventilation. The attack lines would only consist of two firefighters, which does not allow for rapid movement of the hose line above the first floor in a multiple-story building. Because rescue is conducted with at least two two-person teams, when rescue is essential, other tasks are not completed in a simultaneous, timely manner. Therefore, effective deployment is about the **speed** *(travel time)* and the **weight** *(number of firefighters)* of the response.

While eight on-duty initial response personnel may begin to manage a moderate risk, confined residential fire, even a full ERF of 8–12+ personnel will be seriously slowed if the fire is above

[10] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments (2020 Edition).

the first floor in a low-rise apartment building or commercial/industrial building. This is where the capability to add additional personnel and resources to the standard response becomes critical.

The fact that it takes the Department at least 16:50 minutes in 2020/2021[11] to deliver an ERF of 7-12+ personnel to a moderate risk building fire within the City reflects the real-world difficulty of confining serious building fires to or near the room of origin and preventing the spread of fire to adjoining buildings. This is a typical desired outcome in urban areas and requires more firefighters more quickly than the typical rural outcome of keeping the fire contained to the building, rather than the room, of origin.

2.6 Distribution and Concentration Studies—How the Location of First-Due and First Alarm Resources Affects Emergency Incident Outcomes

SOC Element 5 of 8
Distribution Study

SOC Element 6 of 8
Concentration Study

The City is currently served by five fire stations. When using geographic mapping tools, it is appropriate to understand what the existing station does and does not cover within travel time goals; if there are any coverage gaps needing one or more additional stations; and what, if anything, to do about them.

In brief, there are two geographic perspectives to fire station deployment:

1. Distribution – the spacing of first-due fire units to control routine emergencies and achieve desired outcomes before they escalate and require additional resources.

2. Concentration – the spacing of fire stations sufficiently close to each other so that more complex emergency incidents can quickly receive sufficient resources from multiple fire stations. As indicated, this is known as the Effective Response Force (ERF) or, more commonly, the First Alarm Assignment—the collection of a sufficient number of firefighters on scene, delivered within the concentration time goal to stop the escalation of the problem.

To analyze first-due fire unit travel time coverage, Citygate used a geographic mapping tool that measures theoretical travel time over a road network. For this calculation, Citygate used the base map and street travel speeds calibrated to actual fire apparatus travel times from previous responses to simulate real-world travel time coverage. Using these tools, Citygate ran several deployment tests and measured their impact on various parts of the service area. An urban best practices outcome goal of 4:00-minute first-due and 8:00-minute ERF *travel* time were used for the following baseline measures, consistent with best practice response performance goals for positive

[11] Reference: Table 1.

outcomes in urban/suburban areas. The Department and City do not currently have any adopted measures.

2.6.1 Deployment Baselines

Map #1 – General Geography, Station Locations, and Response Resource Types

Map #1 shows the Department's service area boundary and the five fire station locations, including neighboring fire agency stations. This is a reference map for other maps that follow. The map also shows something unique and important for Minnetonka; only three of the five fire stations—stations 1, 3, and 5—can physically accommodate 24-per-hour-day staffing. The other two stations are basically parking and support garages for the apparatus that Paid-on-Call personnel utilize.

Map #2 – Risk Assessment: Planning Zones

The risk assessment portion of this study quantifies risk by smaller planning areas. For Minnetonka, the planning zones are the five first-due fire station coverage areas.

Map #2a – Risk Assessment: Population Density

Map #2a shows the resident population density across the service area. People drive EMS incident demand, so the higher population density areas are typically the higher EMS demand locations. As the map shows, many of the highest population density areas are in the corners of the City, and all but one area close to Station 3 are served by Paid-on-Call-only stations. This alignment of population density to primarily Paid-on-Call stations will create challenges to deliver prompt response times to life threatening emergencies.

Map #3 – Distribution: 4:00-Minute First-Due Travel Time Coverage

Map #3 shows the 62.6 percent of the total public road miles in the City that a fire engine should be expected to reach within a 4:00-minute *travel time* if it encounters no weather or traffic congestion impacts. In Citygate's experience and opinion, this level of coverage is *weak* considering the large areas of the City beyond a 4:00-minute travel time.

The purpose of response time modeling is to determine response time coverage across a jurisdiction's geography and station locations. This geo-mapping design is then validated against dispatch time data to reflect actual response times. The road design of Minnetonka is difficult to serve efficiently given a more curvilinear road network (unlike a right-angle grid street system) that must move traffic around open spaces, streams, railroad, and highways.

Map #3a – Distribution: 5:00-Minute First-Due Travel Time Coverage

Map #3a shows the major increase in travel time coverage by adding one more minute to be 5:00-minute travel time coverage. While Citygate more typically recommends 5:00-minute travel time in very congested urban cities, due to Minnetonka's coverage challenges, the fifth minute coverage increases to **91.8 percent** of the public road network, which is extremely good coverage.

Map #3b – Distribution: 5:00-Minute First-Due Travel Time Coverage – Staffed Stations

Map #3b shows a 5:00-minute travel time coverage from only the two dedicated staffed stations. As can be seen, the coverage is totally inadequate in several of the most populated areas. This map also shows coverage from mutual aid fire stations, and this coverage enters the City in only four small areas and cannot replace the need for Minnetonka-based coverage.

Map #4 – Insurance Services Office (ISO) 1.5-Mile Coverage Areas

Map #4 displays the ISO recommendation that urban stations cover a 1.5-mile *distance* response area. Depending on a jurisdiction's road network, the 1.5-mile measure usually equates to a 3:30- to 4:00-minute travel time. However, a 1.5-mile measure is a reasonable indicator of station spacing and overlap. For Minnetonka, 1.5-mile ISO travel *distance* coverage is constrained by the road network to only 46.7 percent of the public roads. Adding more stations to meet this measure would not be cost effective given the risks and emergency incident history in the City.

Map #5 – Concentration: 8:00-Minute ERF Travel Coverage from Four Stations

Map #5 shows where the Department's current response plan should deliver an initial ERF of three engines, one ladder truck, one rescue, and one chief officer from four of five stations (assuming adequate Paid-on-Call response) within a travel time of 8:00 minutes. Only 21percent of the City's road miles near the core of the City are covered, which is inadequate if the goal is to contain a building fire from destroying the building.

Map #5a – Concentration: 8:00-Minute ERF Travel Coverage from 2-Staffed Stations

Map #5a shows that the 8:00-minute ERF travel time from one of the two dedicated staffed stations only reaches 31.3 percent of the City's public roads. This clearly shows that a multi-unit force for building fires and other serious events requires coverage from at least four of the stations given the City's size.

Map #6 – 8:00-Minute Ladder Truck Travel Time Coverage

Map #6 shows that the three aerial ladder trucks from stations 1, 4 and 5 can be expected to reach 89.5 percent all public road segments in the City within the desired 8:00-minute urban travel time goal. However, these trucks are only staffed by the Paid-on-Call recall force, and neither are in the highest population density areas of the eastern City, and neither can reach the southeast corner of the City.

Map #7 – 8:00-Minute Chief Officer Travel Time Coverage

This map shows that a chief officer should be expected to reach 73.8 percent of the public road segments in the City within the desired 8:00-minute urban/suburban travel time goal from Station 1. This is good coverage for a city if this size with only one Battalion Chief for incident command and safety functions. This would *also be the ladder coverage* if one of the three ladders were to be

relocated to Station 1 where the dedicated staffing could staff it for building fires and let the fire engines come from Station 3 and the Paid-on-Call-staffed stations.

Map #8 – All Incident Locations

Map #8 shows the location of all incidents from June 2019 through May 2022. Incidents occur on nearly all road segments throughout the entire city.

Map #9 – Emergency Medical Services and Rescue Incident Locations

Map #9 shows the emergency medical and rescue incident locations over the three-year study period. With 70.4 percent of all calls for service being EMS-related in 2021/2022, this map illustrates the need for pre-hospital emergency medical services throughout the service area.

Map #10 – All Fire Locations

Map #10 shows the location of all fires within the service area over the three-year period. All fires include any type of fire call, from vehicle to dumpster to vegetation to building. While there are obviously fewer fires than medical or rescue calls, this map illustrates that fires occur throughout the entire service area, although more occur on the northeast and southwest areas of the City.

Map #11 – Building Fire Locations

Map #11 displays the location of all building fire incidents over the three-year study. While the number of building fires is a smaller subset of all fires, the building fires are spread across all areas, with more concentration in the far southeast corner and the entire northeast area.

Map #12 – Emergency Medical Services and Rescue Incident Location Densities

Map #12 shows, by mathematical density, where clusters of EMS and rescue incident activity occurred over the three data years. The darker density color plots the highest concentration of EMS/rescue incidents. This type of map makes the location of frequent workload more meaningful than simply mapping the locations of all EMS/rescue incidents, as was shown in Map #9. This density map also shows more demand for EMS service where the population densities are the highest.

Map #13 – All Fire Location Densities

Map #13 is like Map #12 but shows the hot spots of activity for all types of fires.

Map #14 – Structure Fire Location Densities

Map #14 is like Map #11 but shows the hot spot locations for building fires only. The density of these incidents is also greater in the north and southeast corners, the farthest away from the ladder trucks who also have delayed response times due to waiting for Paid-on-Call staffing to arrive.

2.6.2 Travel Time Road Mile Coverage Measures

In addition to the visual displays of travel time coverage the maps provide, the Esri ArcGIS software also calculates the miles of public streets covered, as was cited in the travel time map descriptions and summarized in the following table.

Table 13—Service Area Travel Time Coverage Summary

Map No.	Travel Time Measure	Total Public Road Miles	Miles Covered	Percent of Total Miles Covered
3	**4:00-Minute First-Due with Auto Aid**	363	**227**	**62.6%**
3a	**5:00-Minute First-Due with Auto Aid**	363	**334**	**91.8%**
3b	**5:00-Minute First-Due with Auto Aid, Staffed Stations 1 and 3**	363	**162**	**44.6%**
4	**ISO 1.5-Mile Station Spacing**	363	**170**	**46.7%**
5	**8:00-Minute ERF**	363	**76**	**21.0%**
5a	**8:00-Minute ERF – Staffed Stations 1 and 3**	363	**114**	**31.3%**
6	**8:00-Minute Truck from Stations 4 and 5**	363	**325**	**89.5%**
7	**8:00-Minute BC from Station 1**	363	**268**	**73.8%**

As the table shows, only 62.6 percent of City's public road network can be reached by a first responding unit from the current fire station locations within the 4:00-minute urban/suburban best practice travel time goal; however, increasing that goal to 5:00 minutes increases coverage to 91.8 percent, which is excellent urban-level coverage to deliver positive outcomes. In addition, the Department's current multiple-unit ERF deployment of three engines, one aerial ladder truck, one rescue, and one chief officer can only be expected to reach 21 percent of all public road segments in the City within the 8:00-minute urban/suburban best practice goal. The limiting factor for this is the tower ladder truck coming from either Station1 in the center, Station 4 in the far southwest quadrant, or Station 5 in the far northwest quadrant.

2.6.3 Alternative Station Location Tests

Given that two of the fire stations are not built for full-time crews on a 24-hour shift, the GIS tools were used to test the following scenarios, moving, or combining stations to lessen remodel or rebuild facility costs.

GIS Scenario #1 – Combine Stations 2 and 5 into a New Site Near Ridgedale Mall

Considering the 5:00-minute travel coverage results, this study was run at 5:00 minutes travel time. A more easterly combined site does not materially reach any local streets west of I-494, thus showing the City is too wide to have only one northern station.

GIS Scenario #2 – Relocate Station 3 or Combine with Hopkins Fire Station

Considering the current location of Station 3 and the challenging reach into the southeast corner of the City, this map set scenario tests three possibilities as provided by City staff. They are to hypothetically house the engine at the Hopkins Station or relocate to a former fire station site at Excelsior Blvd. and Woodhill Rd., or to a new site near Shady Oak Rd. and Bren Rd.

The Hopkins location does not provide sufficient coverage. The Excelsior Blvd. site is too far to the west. The Shady Oak Road site extends coverage into other station areas in the fifth and sixth minute of travel but leaves the far southeast uncovered at the 5:00 minutes. The current Station 3 site also has small pockets past the fifth minute, but in the far east corner there is some mutual aid coverage.

In conclusion, there is no best fit. The final choice should be between the current site (or near it) or the Shady Oak Road site. The decision should be multifaceted based on parcel size, cost, and traffic safety for a fire engine to enter the roadway and turn either direction, or proximity to primary response travel routes.

2.6.4 Mapping Coverage Findings

Finding #6:	The Department's current fire station location can only deliver 4:00-minute urban best practice first-unit travel time coverage to 62.6 percent of City's public road miles, which is weak coverage to deliver positive outcomes. Increasing that travel time goal to 5:00 minutes, however, increases coverage to 91.8 percent of total City road miles, which is extremely good urban-level coverage.
Finding #7:	The Department's current fire station locations can only be expected to deliver 8:00-minute urban/suburban best practice ERF travel time coverage to 21 percent of the public road segments, which is inadequate if the goal is to contain a building fire to the room/compartment of origin.
Finding #8:	The three ladder trucks are not well located to deliver good response times to the highest population and building risk areas.
Finding #9:	The station location scenarios demonstrate that the City is large enough to need five fire stations. A relocation of Station 3 to the east could be beneficial if other considerations can be met.

2.7 Statistical Analysis

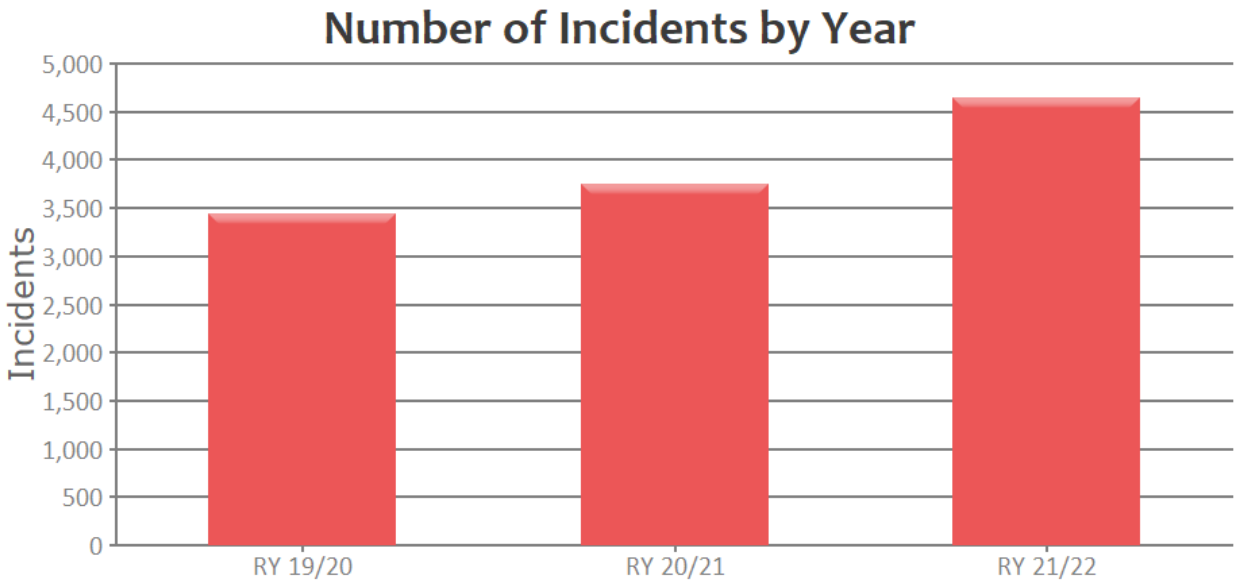
SOC Element 7 of 8
Reliability and Historical Response Effectiveness Studies

The maps described in **Section 2.6.1** and presented in **Volume 2** show the ideal situation for response times and response effectiveness given perfect conditions with no competing calls, units out of place, or simultaneous calls for service. Examination of the actual response time data provides a picture of actual response performance with simultaneous calls, rush hour traffic congestion, units out of position, and delayed travel time for events such as periods of severe weather. The following subsections provide summary statistical information regarding the Department and its services.

2.7.1 Demand for Service

Over the three-year study period, the Department responded to 11,842 calls for service as summarized in the following figure. Overall service demand increased significantly in the 2021/2022 data year.

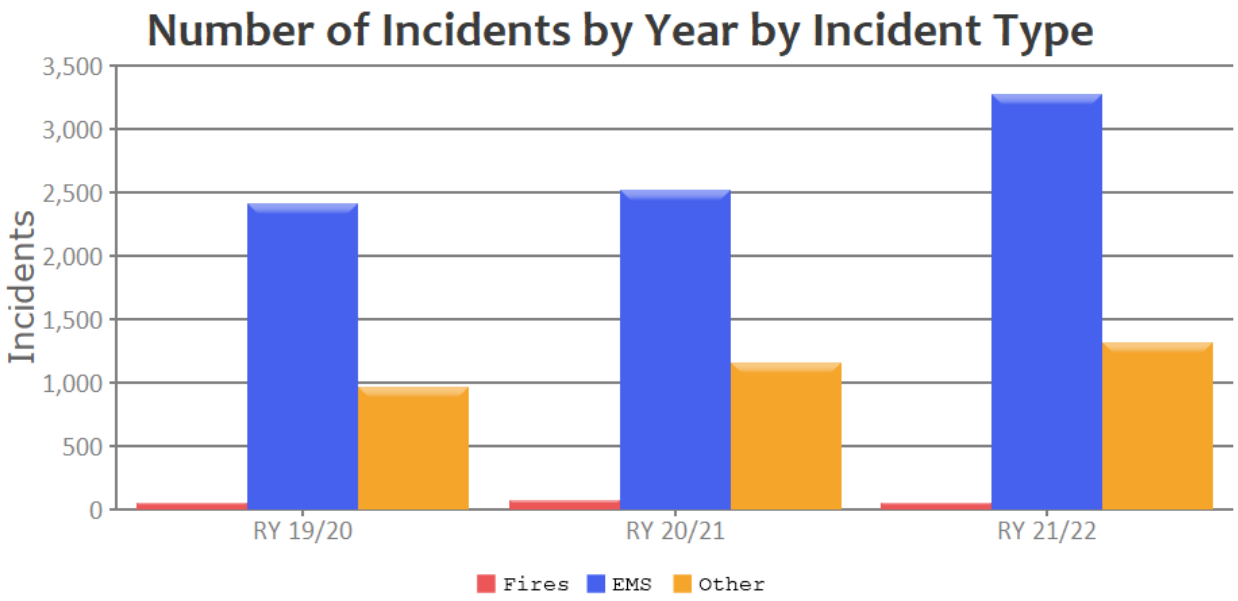
Figure 5—Annual Service Demand by Year



Finding #10: Annual service demand has been increasing year over year, and more so in RY 21/22, largely due to the dedicated staffed fire units taking more first-responder EMS calls instead of the Police Department.

The following figure illustrates annual service demand by incident type and shows the EMS service demand growth over the three-year study period.

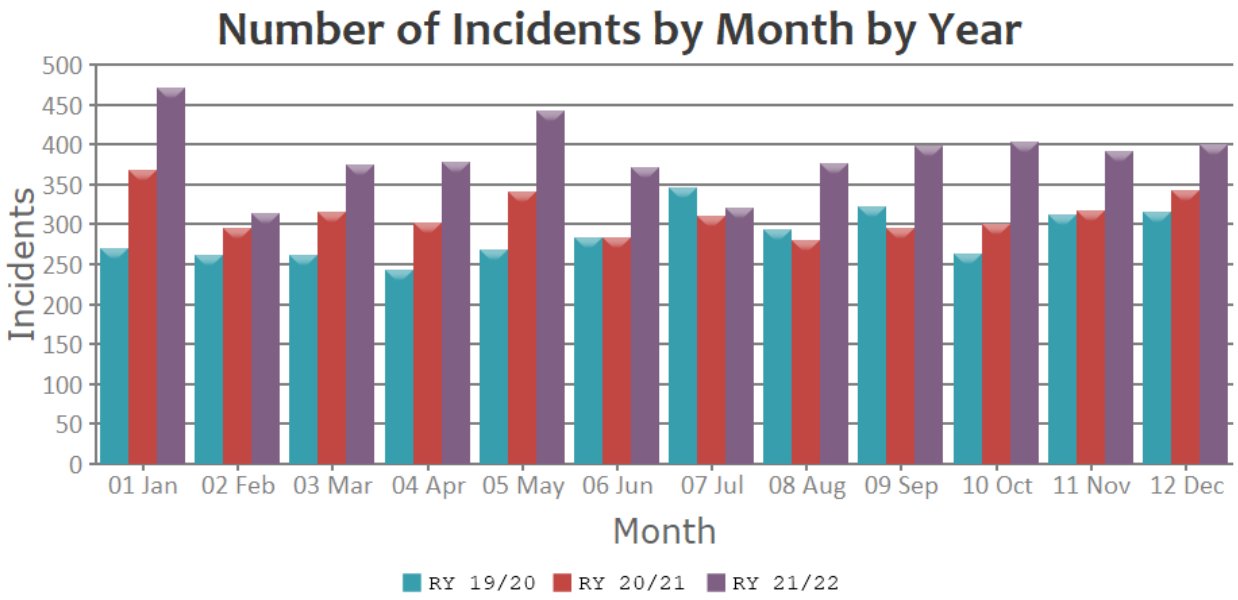
Figure 6—Annual Service Demand by Incident Type



Finding #11: EMS service demand is increasing significantly as the Police Department slows its first-responder EMS responses due to workload and staffing limitations.

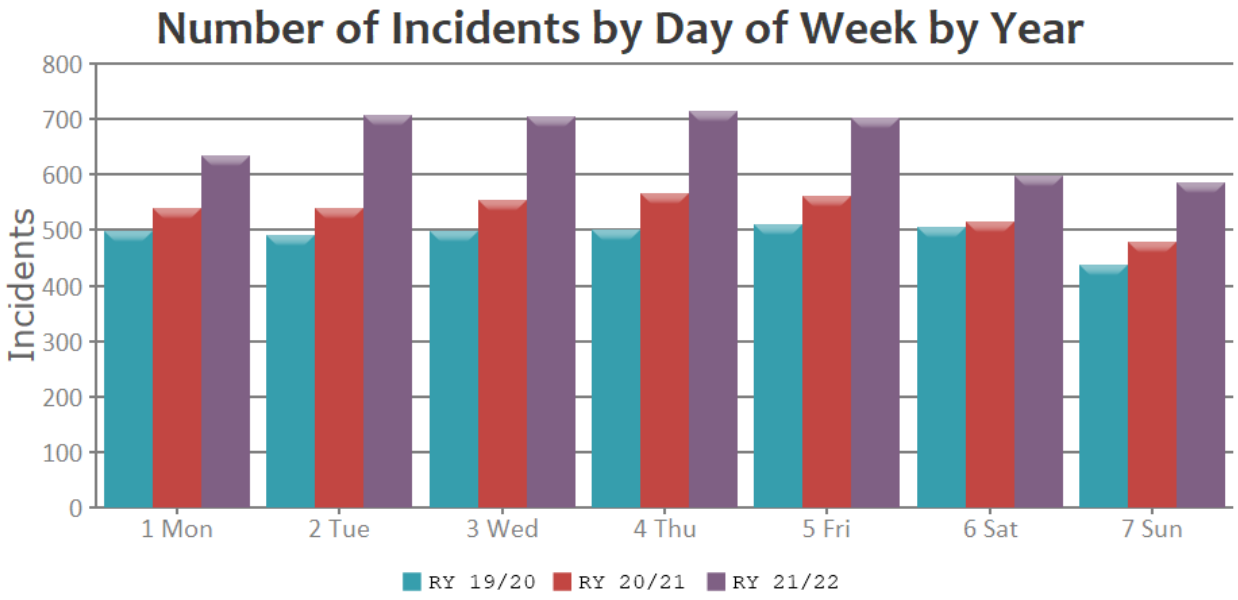
The following figure shows service demand by month. For RY 21/22, service demand peaked in January, followed by the lowest demand of the year the following month.

Figure 7—Service Demand by Month



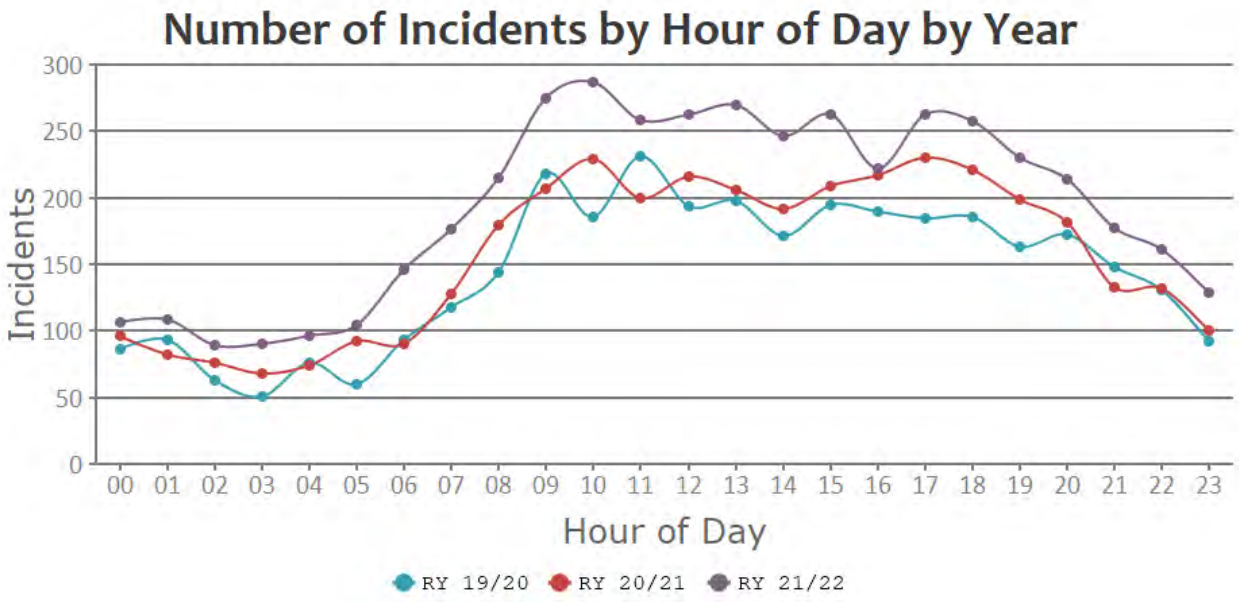
The following figure shows annual service demand by day of week. For RY 21/22, service demand was lower on Saturdays, Sundays, and Mondays than the other days of the week.

Figure 8—Service Demand by Day of Week



The following figure illustrates the breakdown of service demand by hour of the day by year. The number of calls for service in the morning, afternoon, and evening hours increased in RY 21/22.

Figure 9—EMS Service Demand by Hour of Day and Year



Finding #12: The demand for fire and EMS services is a constant one, 24/7/365, requiring a prompt and equitable response system year-round to all populated areas of the City.

2.7.2 Incident Quantity by Incident and Property Types

Following are the activity rankings of incidents by type of incident. There is a high number of EMS incidents as a subset of total calls for service. Incidents designated as "assist invalid" also represent a large portion of overall calls. Building fires, comparatively, rank at a distant 23rd place by incident volume, averaging just over one per month.

Table 10—Incident Type Summary – Three Years

Incident Type	RY 19/20	RY 20/21	RY 21/22	Total
311 Medical assist, assist EMS crew	1,908	2,383	3,081	7,372
554 Assist invalid	316	388	435	1,139
321 EMS call, excluding vehicle accident with injury	326	9	13	348
745 Alarm system sounded, no fire - unintentional	55	90	107	252
322 Vehicle accident with injuries	89	61	76	226
412 Gas leak (natural gas or LPG)	64	49	55	168
651 Smoke scare, odor of smoke	42	60	65	167
571 Cover assignment, standby, move up	50	44	58	152
743 Smoke detector activation, no fire – unintentional	35	57	53	145
445 Arcing, shorted electrical equipment	13	37	70	120
444 Power line down	24	41	49	114
735 Alarm system sounded due to malfunction	54	28	20	102
736 CO detector activation due to malfunction	33	22	31	86
353 Removal of victim(s) from stalled elevator	22	24	32	78
424 Carbon monoxide incident	29	22	24	75
324 Motor vehicle accident no injuries	19	19	35	73
746 Carbon monoxide detector activation, no CO	22	22	27	71
741 Sprinkler activation, no fire - unintentional	18	19	31	68
733 Smoke detector activation due to malfunction	15	15	29	59
740 Unintentional transmission of alarm, other	11	20	27	58
744 Detector activation, no fire - unintentional	11	18	19	48
600 Good intent call, other	30	8	6	44
111 Building fire	**14**	**15**	**12**	**41**
551 Assist police or another governmental agency	6	13	16	35
131 Passenger vehicle fire	7	18	8	33
381 Rescue or EMS standby	30			30
421 Chemical hazard (no spill or leak)	2	17	10	29
731 Sprinkler activation due to malfunction	8	13	6	27
440 Electrical wiring/equipment problem, other	15	7	4	26

The following tables shows a ranking of incidents by property type. The highest frequency of incidents by property type occurs in one- and two-family dwellings, with multi-family dwellings

ranking second for incident frequency. This table also summarizes the property types with 25 or more occurrences across all three years.

Table 11—Incident Type by Property Use – Three Years

Property Use	RY 19/20	RY 20/21	RY 21/22	Total
419 One- or two-family dwelling	1,036	1,266	1,486	3,788
429 Multi-family dwellings	979	1,124	1,434	3,537
311 24-hour care nursing homes, four or more persons	351	377	470	1,198
961 Highway or divided highway	78	82	82	242
962 Residential street, road, or residential driveway	64	88	84	236
340 Clinics, doctors' offices, hemodialysis centers	71	55	102	228
599 Business office	64	50	55	169
400 Residential, other	101	28	28	157
965 Vehicle parking area	40	42	68	150
960 Street, other	47	28	55	130
459 Residential board and care	36	45	44	125
460 Dormitory type residence, other	23	41	38	102
449 Hotel/motel, commercial	16	38	41	95
963 Street or road in commercial area	41	30	22	93
519 Food and beverage sales, grocery store	27	28	35	90
161 Restaurant or cafeteria	27	22	40	89
500 Mercantile, business, other	30	15	28	73
300 Health care, detention, and correction, other	33	16	23	72
580 General retail, other	24	18	27	69
900 Outside or special property, other	10	23	31	64
215 High school/junior high school/middle school	19	11	29	59
321 Mental retardation / developmental disability facility	17	8	27	52
700 Manufacturing, processing	22	18	11	51
931 Open land or field	18	11	17	46
581 Department or discount store	14	10	20	44
571 Service station, gas station	13	10	13	36
331 Hospital – medical or psychiatric	11	10	14	35
322 Alcohol or substance abuse recovery center	8	12	15	35
342 Doctor, dentist, or oral surgeon's office	13	6	12	31
141 Athletic/health club	12	6	11	29

Property Use	RY 19/20	RY 20/21	RY 21/22	Total
363 Reformatory, juvenile detention center	5	7	15	27
213 Elementary school, including kindergarten	7	9	10	26
579 Motor vehicle or boat sales, services, repair	10	10	5	25

2.7.3 Simultaneous Incident Activity

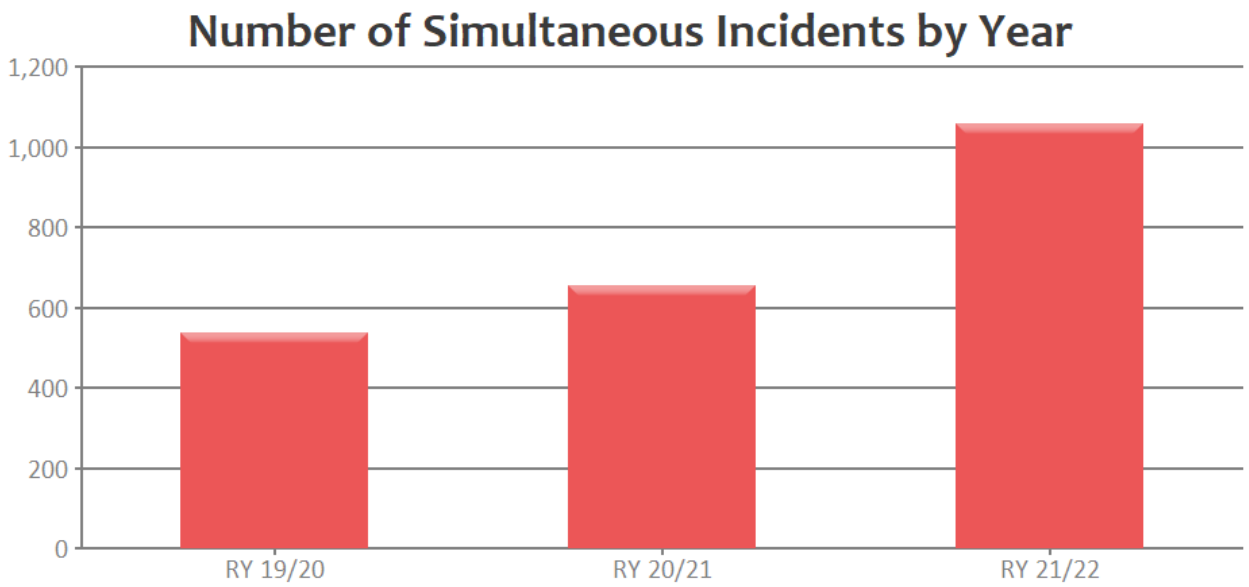
Simultaneous incidents occur when other incidents are underway at the time a new incident begins. During RY 21/22, **22.83 percent** of the City's incidents occurred while one or more other incidents were underway. Thus, when the three duty crews are committed (mostly peak demand hours of the day), the City has no additional response capacity other than using 40-hour chief officers or trusting that Paid-on-Call personnel will be available in sufficient quantity for an immediate response.

Table 14—Simultaneous Incident Activity (RY 20/21)

Number of Simultaneous Incidents	Percent of Occurrence
2 or more	22.83%
3 or more	3.42%

This following figure shows that the number of simultaneous incidents is increasing each year, with a significant increase in the most recent reporting year.

Figure 10—Simultaneous Incident Activity by Year



Finding #13: Two or more simultaneous calls for service occur 22.8 percent of the time, which means that when two of the three staffed units are committed, only one unit is left for immediate response to a third simultaneous incident.

2.7.4 Unit Workload Demand

The following table summarizes unit workload *for the dedicated staffed units* by hour of day for RY 21/22. The percentage shown is the percent of the time the unit was assigned to an active incident during that hour of day. The percentage considers both the number and the duration of incidents.

Table 15—Dedicated Staffed Unit-Hour Demand (RY 21/22)

Hour	E-8	R-1
00:00	4.80%	4.98%
01:00	5.87%	5.74%
02:00	4.49%	4.25%
03:00	5.05%	4.85%
04:00	4.49%	5.76%
05:00	3.89%	6.97%
06:00	6.17%	8.79%
07:00	6.48%	10.20%
08:00	7.94%	12.72%
09:00	11.55%	14.99%
10:00	9.76%	14.73%
11:00	8.40%	15.42%
12:00	9.63%	15.36%
13:00	9.07%	12.87%
14:00	8.55%	14.17%
15:00	8.44%	14.23%
16:00	7.56%	11.06%
17:00	11.58%	13.36%
18:00	8.57%	14.94%
19:00	7.07%	13.47%
20:00	8.81%	10.76%
21:00	5.82%	10.73%
22:00	5.79%	8.00%
23:00	5.55%	5.98%
Overall	**7.31%**	**10.60%**
Runs	**1,706**	**2,617**

The previous table shows how busy the two staffed units were over the most recent data year. While the demand is highest during daylight hours, there is demand *Citywide* 24 hours per day. The recent increased daily staffing (at Station 3) will help with the peak-hour demands.

2.7.5 Operational Performance

Measurements for the performance of the first response apparatus to arrive at emergency incidents are the number of minutes and seconds necessary for 90 percent completion of the following response components:

- Call processing / dispatch
- Crew turnout
- First-unit travel
- Call to arrival

Call Processing / Dispatch

Call processing measures the time from the first incident timestamp at Hennepin County 9-1-1 until completion of the crew notification (dispatch) process. Although the latest edition of the nationally recognized best practice standard[12] reduces the call processing / dispatch time for incidents with an imminent threat to life or property from 1:30 minutes 90 percent of the time to 60 seconds 90 percent of the time, Citygate has found that few regional dispatch centers can achieve that level of performance, and thus continues to recommend 1:30 minutes or less at 90 percent reliability as an achievable goal.

Call processing performance depends on what is being measured. If the first incident timestamp takes place at the time the public-safety answering point (PSAP) physically answers a 9-1-1 call (at times, calls can be briefly held in queue), then call processing begins at *PSAP Time*.

In addition, not all requests for assistance are received via landline 9-1-1. Generally, there are numerous ways that requests for assistance are received, including landline telephone, cellular telephone, SMS text message, fire, or police officer-initiated requests, TTY/TDD operator, etc., that each have a separate timestamp at a different point in the processing operation. This is not as much of a factor if most requests are received via 9-1-1 PSAP.

The following table shows call processing / dispatch performance from time of call receipt at the Hennepin County 9-1-1 Communications Center. As the table shows, 90th percentile call processing performance over the three-year study period was slightly faster than the 1:30-minute best practice goal.

Table 16—90th Percentile Call-Processing Performance (Fire/EMS Incidents)

Crew/Station	Overall	RY 19/20	RY 20/21	RY 21/22
Department-Wide	**01:21**	01:27	01:22	01:16

[12] NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (2019 Edition).

Finding #14: Call processing / dispatch performance, at 1:21 minutes over the three-year study period, was *slightly better* than Citygate's 1:30-minute best practice goal.

Crew Turnout

Crew turnout measures the time interval from completion of the dispatch notification until the start of vehicle movement to the emergency incident. While the NFPA[13] recommends 1:00 to 1:20 minutes for crew turnout depending on the type of protective clothing that must be donned, Citygate has found that few agencies can meet that performance standard and has thus long recommended 2:00 minutes averaged over a 24-hour day as an achievable goal for on-duty station personnel. The following table summarizes crew turnout performance.

Table 17—90th Percentile Duty Crew Turnout Performance

Crew/Station	Overall	RY 19/20	RY 20/21	RY 21/22
Department-Wide	**02:24**	02:20	02:30	02:24

As the table shows, the dedicated staffed duty-crew turnout performance is 20 *percent slower* than the 2:00-minute recommended best practice goal; however, crew awareness and accountability will likely improve performance.

Finding #15: At 2:24 minutes, dedicated staffed duty-crew turnout performance is slightly slower than the recommended 2:00-minute best practice goal; crew awareness and accountability will likely improve performance.

First-Unit Travel

First-unit travel measures the time interval from the start of apparatus travel until arrival at the emergency incident. In most urban jurisdictions, a 90th percentile first-unit travel time of 4:00 minutes or less would be considered highly desirable to achieve positive outcomes. As the following table shows, over the three-year study period, 90th percentile first-unit travel was 8:42 minutes. This travel time performance is *more than double* the recommended 4:00-minute best practice goal for urban/suburban areas, primarily due to only two staffed stations serving a 28-square-mile service area with a challenging road network in many areas of the City.

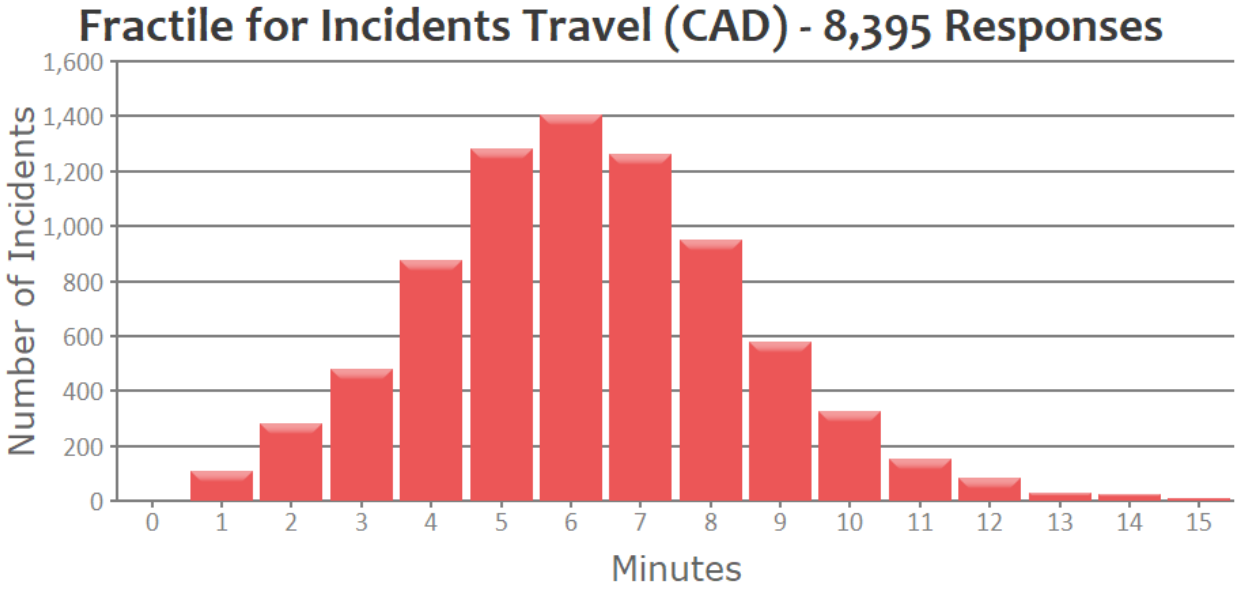
[13] NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operation to the Public by Career Fire Departments (2020 Edition).

Table 18—90th Percentile First-Unit Travel Performance

Crew/Station	Overall	RY 19/20	RY 20/21	RY 21/22
Department-Wide	**08:42**	08:31	08:44	08:44

The following figure shows peak travel occurs at 6:00 minutes, with many calls taking much longer.

Figure 11—Fractile for Incidents Travel



Finding #16: 90th percentile first-unit travel time performance, at 8:42 minutes, was *more than double* (118 percent) the recommended 4:00-minute best practice goal for urban areas to facilitate desired outcomes; primarily due to only two staffed stations serving a 28-square-mile service area with a challenging road network in many areas of the City.

Call to First-Unit Arrival

Call to first-unit arrival measures the time interval from receipt of the 9-1-1 call in the regional dispatch center until arrival of the first unit at the emergency incident and includes all three response performance components: call processing/dispatch, crew turnout, and travel time. This is also a fire agency's true customer service measure. To facilitate positive outcomes in urban areas, Citygate recommends a 7:30-minute call to first-unit arrival goal at 90 percent reliability. As the

following table shows, 90th percentile call to first-unit performance over the three-year study period was 11:03 minutes, 47 percent slower than the 7:30-minute goal. This is predominantly due to the slower-than-desired travel time performance resulting from only two staffed stations serving a 28-square-mile service area across a challenging, non-grid type road network in many areas of the City.

Table 19—90th Percentile Call to First-Unit Arrival Performance

Crew/Station	Overall	RY 19/20	RY 20/21	RY 21/22
Department-Wide	**11:03**	10:54	11:13	11:02

Finding #17: 90th percentile call to first-unit arrival performance, at 11:03 minutes, was *47 percent slower* than the 7:30-minute (including a 4:00-minute travel time) best practice goal to facilitate positive outcomes in urban areas; this is predominantly due to the slower-than-desired travel time performance resulting from only two staffed stations serving a 28-square-mile service area with a challenging road network in many areas of the City.

2.7.6 Effective Response Force (ERF) Concentration Measurements

The Department's minimum ERF for building fires is three engines, one ladder truck, one rescue, one Battalion Chief, and available Paid-on-Call personnel for a total of 7–12+ personnel depending on Paid-on-Call availability and response. Over the three-year study period, there were only 24 building fires where the *entire* ERF arrived at the incident within outlier time limits. As the following table shows, 90th percentile call to ERF arrival performance was 21:06 minutes, *83 percent slower* than Citygate's recommended 11:30-minute best practice goal to facilitate desired outcomes in urban/suburban areas. This slower-than-desired performance is predominantly due to only two on-duty crews within the City and the response time of Paid-on-Call and/or automatic aid resources. It should also be noted that small data sets such as this can produce quite variable results.

Table 20—90th Percentile Call to ERF Arrival Performance

Station	Overall	RY 19/20	RY 20/21	RY 21/22
Department-Wide	**21:06**	21:06	18:02	16:50

Finding #18: 90th percentile call to ERF arrival performance was *8:36 minutes slower* (83 percent) than Citygate's recommended 11:30-minute best practice goal to facilitate desired outcomes in urban areas; this slower than desired performance is predominantly due to only three on-duty crew units within the City and the response time of Paid-on-Call and/or automatic aid resources.

2.8 Ambulance Program Review

Paramedic ambulance services in Minnesota are heavily regulated at the state and county level and, in most urban areas, are provided by private companies and hospital-based firms. Fire Departments provide First Responder services with firefighters trained at the Emergency Medical Technician B level (EMT-B). The ambulances are deployed in regional zones called Primary Service Areas (PSAs) for response time and capacity needs. They are not tied to city or fire district limits. Given the regulatory framework, the City of Minnetonka has no regulatory or even formal partnership input in the provision of ambulance services. Fire departments coordinate with the ambulance providers and dispatch centers where needed.

The City of Minnetonka Fire Department is a BLS first responder agency at the EMT-B level. The provision of EMT training, personnel certification, logistic supplies, and quality of care coordination are managed by a Battalion Chief. The Department receives EMS education and physical directed medical control from Hennepin Health Care (also known as HCMC) via a contract.

The Department's EMT-Bs are allowed by medical direction to provide the following enhanced EMS-B types of care:

- Epinephrin pen
- Baby aspirin
- Oral glucose
- Blood sugar check
- Narcan
- Eleguard
- All first response units carry Lucas CPR support devices
- All front-line apparatus are equipped with an EMS tool bag and Automatic External Defibrillator (AED)

The 9-1-1 answering point is the Hennepin County Sherriff's Office. After a brief interrogation and ascertainment of the nature of the call, the callers are transferred to the appropriate paramedic ambulance provider for emergency medical dispatch sorting and response. As needed, a local government public safety-first responder is co-dispatched.

Historically in Minnesota, the police departments were, and still are to varying degrees, the first responders. Fire departments, being largely volunteer, could not staff the high volume of calls for service or provide prompt response times to serious or critical patients. The Minnetonka Police Department either co-responds or responds on certain calls (according to dispatch severity sorting) without the Fire Department. For years, the MPD required officers to hold EMT certification. Most police responses were higher acuity calls. The Police Department will also send the Fire Department to lower acuity calls if their Patrol units are committed to police 9-1-1 calls. For fires and other emergencies, the police Patrol units receive a dispatch for every response that the Fire Department is dispatched. It is at the supervisor's or officer's discretion whether the Police Department respond or how many units respond.

Current Challenges and Opportunities for Change

MPD has stopped responding to all EMS calls as their Patrol workload increased. In addition, due to challenges in recruiting police officers and the expense of certification, MPD no longer hires or trains officers to the EMT level. These changes have resulted in the two newer fire department duty-crew-staffed 24/7 units being the primary first responder for EMS.

Also, the COVID-19 pandemic created multiple challenges for paramedic staffing. Training schools shutting down, normal turnover, and COVID-19 issues caused reductions in active paramedics that cannot be replaced. As the pandemic wanes, calls for service and health care have regained or surpassed pre COVID-19 levels. This is happening all over the Country and Hennepin Health is not immune.

Currently, Hennepin Health will hold non-emergency calls (code 2) until ambulances become available, leaving Minnetonka police or fire units on the scene for an extended period, from 20 to 40 minutes. Hennepin Health does not operate Basic Life Support (BLS) ambulances, it does not use other private providers for non-acute overflow, and it staffs all ambulances with two paramedics due to a union agreement. In other words, it does not operate a tiered service model as is commonly operated elsewhere in the country.

On June 7, 2022, the Hennepin County Board of Commissioners approved ambulance service changes forwarded by the EMS Council and Hennepin County Public Health. The amendment kept the Staffing Standards subsection of the EMS ordinance suspended until Dec. 31, **2025,** while a study is conducted to evaluate staffing models' impacts on responses to unscheduled requests for 9-1-1 service in Hennepin County. Preliminary and final reports will be due to the board by July 2024 and July 2025, respectively.

While this research is being conducted, the issue remains that the ambulance system is not operating at the needed response time and capacity levels. In a meeting at the end of 2022, Hennepin Health listened with interest to the Minnetonka Fire Chief's idea to place a BLS ambulance into service at a Minnetonka fire station that would be "cross-staffed" by the engine crew. The unit with firefighter EMT-Bs would be dispatched to low acuity patients when Hennepin Health cannot deliver an ambulance to the scene in a timely manner. When these occasional "fire overflow" units are used, some of the billed revenue would be paid to the City.

Citygate believes this is an excellent "bandage on the wound" that both agencies should execute as soon as possible.

2.9 Paid-on-Call Firefighter Program Review

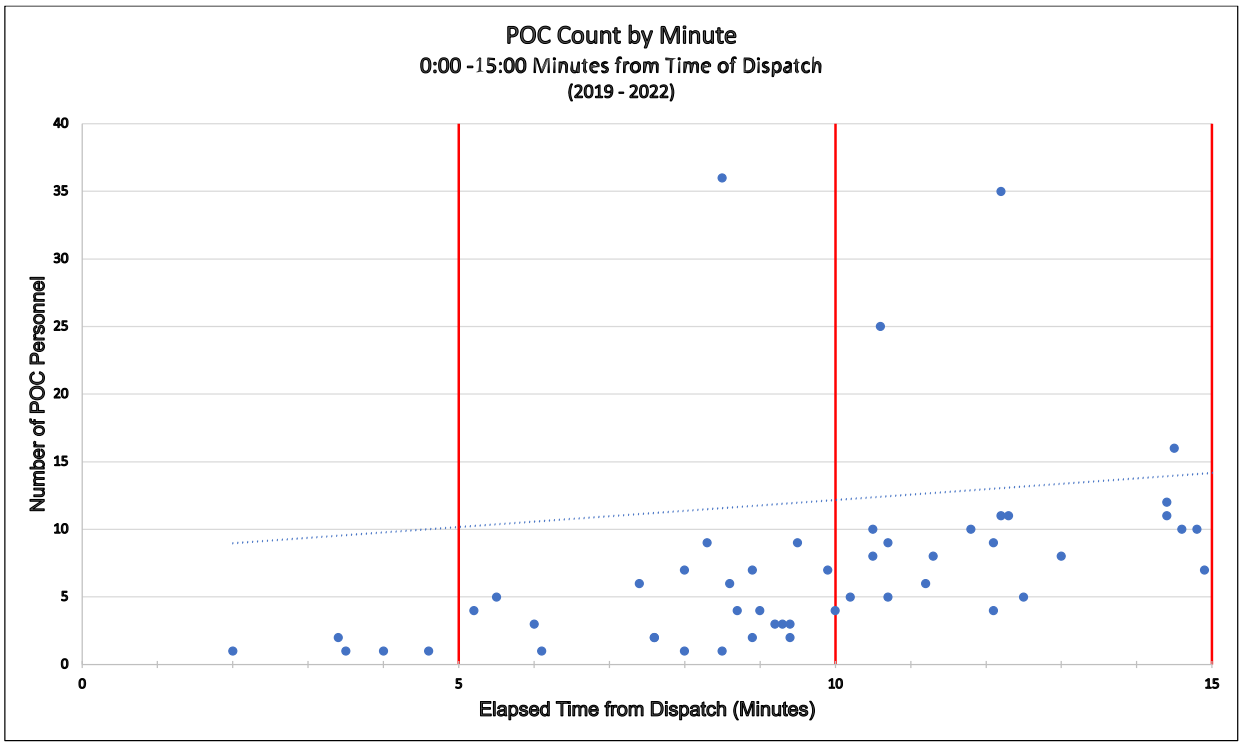
Since its inception in 1959, the Department has evolved from an all-volunteer organization to a combination department of full-time career and part-time Paid-on-Call personnel. The Department is budgeted for 80 Paid-on-Call personnel, including five Captains, five Lieutenants, and 70 Firefighters; however, at the time of this review, there were only 64 Paid-on-Call personnel due to retirements and resignations. All Paid-on-Call personnel are required to work a minimum of five duty crew shifts per month and respond to 25 percent of all incident callouts.

Citygate's review of Department records found that for calendar year 2021, the most recent data available, 97 percent of the Paid-on-Call personnel averaged five duty crew shifts per month or more, 28 percent averaged 10 or more shifts per month, and two Paid-on-Call personnel averaged more than 20 shifts per month, reflecting excellent compliance with the Department's minimum duty shift requirement.[14]

Citygate's review of Paid-on-Call records further showed that while an average of nearly 34 Paid-on-Call personnel responded to 95 incident callouts in 2021, an average of only five Paid-on-Call personnel arrived within the urban best practice goal of 10:00 minutes, as illustrated in the following figure over the four-year period from 2019-2022.

[14] Source: Minnetonka Fire Department

Figure 12—Paid-on-Call Incident Count by Minute



It is also important to understand the Paid-on-Call turnover rate. From January 2015 through December 2021, the Department hired 95 new Paid-on-Call personnel, 46 percent of whom have left the Department for various reasons, including taking a full-time position with another agency (17 percent), too much time required (11 percent), moving outside the area (nine percent), inability to meet the program requirements (five percent), and Covid-related reasons (two percent). At the time of this review, 55 percent of the Paid-on-Call force had less than five years with the Department, and only 23 percent had more than 15 years seniority.[15]

This situation is not unique to Minnetonka. While Paid-on-Call firefighters are used across the nation, Minnesota has the second-highest percentage of volunteer / Paid-on-Call fire departments in the nation, with only two to three percent of all departments in the state fully staffed with career personnel, and another approximately 10 percent, including Minnetonka, being "combination" departments (i.e., varying blends of career and volunteer / Paid-on-Call staffing). The remaining 85–88 percent of departments are all staffed by volunteers, except for a paid Fire Chief in such an agency.

In Minnesota, 45 percent of firefighters are ages 35–49. Another 22 percent are age 50 or older. Only four percent are under age 25, while 27 percent are ages 25–34. The volunteer / Paid-on-Call

[15] Source: Minnetonka Fire Department

force is aging as multi-income families with commuter-based jobs are increasingly prevalent. However, when needed, structural firefighting is *extremely strenuous* and requires excellent health and physical fitness for a firefighter to last more than a few minutes. The required protective clothing, helmet, boots, and breathing apparatus weigh at least 45 pounds, and body heat builds rapidly due to both the weight and non-breathability of fire-resistive fabrics. The average middle-aged person is not capable of exercising *at or near maximum heart rates* wearing 45 pounds—all while being encapsulated in clothing that does not readily release heat from exertion—for even the time to expend one breathing air cylinder (anywhere from 12 to 21 minutes).

Firefighters are required to pass an annual medical examination to use self-contained breathing equipment. Health, fitness, and training time commitments have all contributed to a decline of available volunteers / Paid-on-Call personnel across America at rates that have become alarming. According to a 2016 NFPA analysis of volunteer firefighter injuries on the fireground, volunteers are nine percent more likely to be injured than career personnel (52 percent of the time for volunteers compared to 41 percent for career personnel). Another 2016 NFPA report stated that the number of volunteer firefighters per 1,000 population has declined since 1986.

In Minnetonka, the latest 2022 census data indicates that nearly 25 percent of the population is age 65 or older. Another 20 percent of the population is age 18 or less. This means 45 percent of the population is unavailable for a possible Paid-on-Call recruitment pool if one assumes a firefighter can serve in a fire suppression (not support) role up to age 65. Thus, Paid-on-Call firefighters must be recruited and retained from approximately 55 percent of the population. In Citygate's experience, older communities, especially retirement destinations and those with a very high percentage of commuter jobs, are under the most severe strain for Paid-on-Call firefighters.

Serving as a Paid-on-Call firefighter also necessitates being self-employed with flexible hours or having a very flexible employer. Decades ago, most employment was local. Local business owners and their employees volunteered for love of community, and their employment circumstances allowed for that. Across the nation today, many families rely on two incomes and commute from suburban areas to metropolitan centers for work. Even many service and retail sales jobs have become internet-based, or "nomadic," where the person providing the service travels to visit clients. Most of these employment situations do not allow the time off for volunteer firefighting. In addition, volunteer / Paid-on-Call firefighters must meet the same training requirements as full-time career personnel.

The cost to hire a new Paid-on-Call firefighter is expensive, with pre-hire screenings, training, and personal protective equipment costs exceeding $11,000 per employee.[16] In addition, the City budget allocates approximately $1.6 million for Paid-on-Call salaries and retirement benefits, exclusive of workers' compensation and other Paid-on-Call-related program costs.

[16] Source: Minnetonka Fire Department

Overall, while the Paid-on-Call program provides particularly good value to the City and Department with supplemental on-duty and major incident staffing, attrition and response availability have diminished the effectiveness of the program to ensure a sufficient number of personnel arriving at emergency incidents within a timeframe to facilitate desired outcomes. The City should strive to maintain at least 70 Paid-on-Call firefighters and consider slightly increasing the required number of shifts per month to ensure coverage of the shifts. However, if attrition continues to erode Paid-on-Call availability, the City will need to consider additional full-time personnel to meet service demand and community outcome expectations.

Finding #19: In 2021, 97 percent of the Paid-on-Call personnel met or exceeded the five duty-crew shifts per month requirement, with 28 percent averaging 10 or more shifts per month.

Finding #20: Over the four-year study period from 2019 through 2022, an average of only five Paid-on-Call firefighters arrived at the emergency incident within the urban/suburban best practice goal of 10:00 minutes from the time of callout.

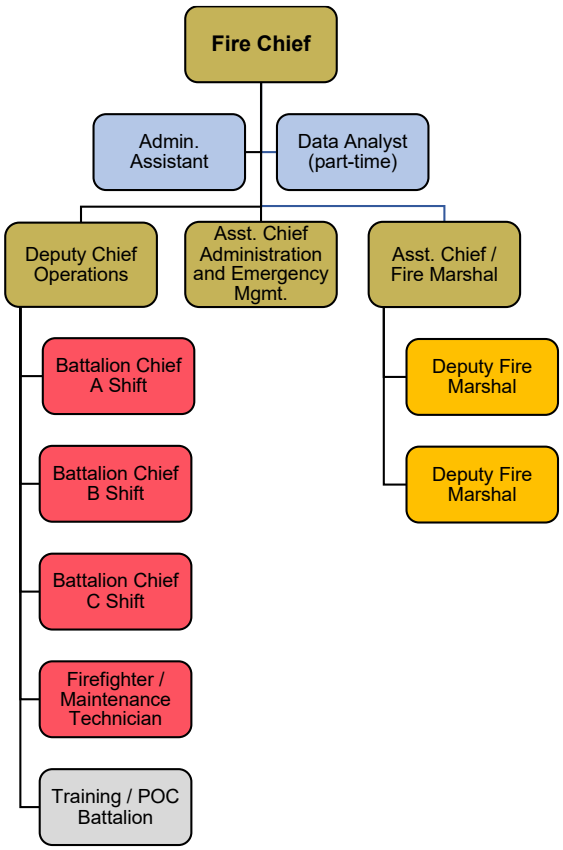
Finding #21: Nearly half (46.3 percent) of the Paid-on-Call firefighters hired since 2015 have left the department for various reasons.

Finding #22: More than 50 percent of the Paid-on-Call force has less than five years seniority with the Department; only 23 percent has more than 15 years.

2.10 Administrative Staff Organization

The Department's administrative support staffing includes 10.5 full-time equivalent (FTE) personnel organized as shown in the following figure.

Figure 13—Fire Department Administrative Support Organization



In Citygate's experience, this headquarters model is appropriately organized with sufficient capacity to support a five-station combination full-time / Paid-on-Call organization. This level of administrative support capacity is unusual in Citygate's experience with Midwest combination departments and reflects the City's strategic goals of a safe community and operational excellence.

2.11 Fire Station Adequacy Review

Citygate's review of the Department's physical fire station facilities focused on current and projected future needs relative to use, location, functional space needs, employee and public health, safety, security, employee access and privacy, future building/site expansion potential, and deployment recommendations.

2.11.1 Regulatory Standards

International Building Code

The International Code Council (ICC) launched the International Codes Series (I-codes) at the end of the 1990s as a singular replacement for regional building codes. Local jurisdictions typically adopt the International Building Code (IBC) with any desired local amendments. On March 31,

2003, the state adopted the year 2000 ICC code series, with state amendments. The City also adopts these codes by ordinance with new editions adopted as they are published.

The IBC provides a tiered approach for the required structural performance of a building, and as an "essential facility," fire stations are subject to the strictest structural requirements. While an office building is required to be constructed to protect life in the event of a disaster, which means the occupants survive but the building may be condemned, a fire station must be designed and constructed to protect life and be immediately occupiable post-disaster. This means that a fire station will be better able to resist the shaking of an earthquake or the high winds of a hurricane.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA), enacted in 1990, established a series of standards for accessibility for persons with identified disabilities (e.g., 2010 ADA Standards). Requirements for fire stations as public buildings are scoped under Title 2 of the Act, and public facilities are subject to higher accessibility standards than commercial and residential developments.

With a few exceptions for building support spaces, fire station facilities, as Title 2 public buildings, are required to be fully accessible for disabled staff and the public. Cogent arguments have been made for why some areas within a fire station should not be considered public or accessible, like sleeping areas. Similarly convincing cases have been made relative to the mandatory fitness requirements for firefighters. Nonetheless, the ADA law is clear: spaces are not exempt based on a policy that excludes persons with disabilities from certain work, and a fire facility is considered a public building in its entirety.

NFPA 1500

NFPA 1500 – *Standard on Fire Department Occupational Safety, Health, and Wellness Program* is a non-mandated, generally accepted best practice consensus standard for fire station design relative to cancer prevention, firefighter fitness, and space for firefighters to unwind from the stresses of the job.

Newly built fire stations include differential air pressure zones where positive-pressure airflow, or an air curtain, can prevent contaminants in the apparatus bays from entering the station's living and work areas.

Since departments are required to have fitness programs, many departments opt for a separate physical fitness space. Indoor and outdoor fitness areas have been used when space is limited; however, they should have easy access to the apparatus bays in the event of a dispatch while exercising.

Training rooms allow crews to learn about the latest safety and health programs, so ample space that provides a functional learning space is part of this standard.

Personal protective equipment (PPE) should be stored in areas away from the sun and with little fluorescent lighting. The space also needs to have ventilation to remove particulates from the area and needs to be physically isolated from indoor living, sleeping, and work areas. Most of the PPE storage spaces in City fire stations are in the apparatus bays.

NFPA 1851

NFPA 1851 – *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* provides non-mandated consensus best practice guidelines for the maintenance and care of firefighter PPE. This standard recommends separate laundry facilities for contaminated PPE from facilities used to launder personal clothing/uniforms, bedding, and bath towels. Laundry areas continue to evolve and are being separated where personal belongings can be cleaned in the living areas, and PPE is laundered in a separate room or adjacent to the apparatus bays so that it does not enter the living spaces of the facility.

NFPA 1710

NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments provides guidelines for fire station design to include access to the apparatus bays from first and second floor (as applicable) interior living/work areas.

2.11.2 Assessment Methodology

For this review, Department staff completed a Citygate Facility Assessment Worksheet. After review and discussion of each worksheet, and considering all the facility information provided, Citygate assessed the overall condition and adequacy of each facility to meet current and projected future Department needs using the following criteria.

Table 21—Facility Assessment Criteria

Condition	General Criteria
Excellent	• Less than 10 years old • Design and space meet current and anticipated future operational needs • Meets health and safety requirements for human habitation/use • Building and/or major systems require only minor routine maintenance to maintain continued operational use • No near-term capital improvement/renewal needs anticipated
Good	• Design and space adequate for current and anticipated near-future operational needs • Meets health and safety requirements for human habitation/use • Building and/or major systems require regular routine maintenance/repairs to maintain continued operational use • May require some capital improvement/renewal over next five years
Fair	• Design and space may not meet current/anticipated future operational needs • May have some health and safety issues relative to human habitation/use • Building and/or major systems require more than routine maintenance/repairs to maintain continued operational use • Major capital improvement/renewal needed or anticipated in near future
Poor	• Design and space do not meet current/anticipated future operational needs • May have health and safety issues relative to human habitation/use • Building and/or major systems require frequent major repairs to maintain continued operational use • Major capital improvement/restoration needed for continued operational use

2.11.3 Facilities Assessment

The following table summarizes Citygate's assessment of the Department's fire station facilities. A detailed assessment worksheet for each facility can be found in **Appendix B.**

Table 22—Facility Assessment Summary

Facility	Overall Assessment	Comments
Fire Station1	**Excellent**	New facility in central section of City completed in 2022. Design meets all current regulatory and best practice standards.
Fire Station 2	**Fair**	Oldest fire station facility (46 years) in northeast quadrant designed as a Paid-on-Call facility. Adequate location but cannot accommodate 24-hour staffing as currently designed. Parcel could accommodate a larger facility.
Fire Station 3	**Poor**	Second oldest facility with Station 4 (34 years). Good location in southeast quadrant relative to risks to be protected but not proximal to primary response routes. Significant health safety/maintenance issues relative to water, mildew/mold, and insect infestations. Site unable to accommodate larger facility.
Fire Station 4	**Fair**	Third oldest facility with Station 3 (34 years) designed as a Paid-on-Call facility and unable to accommodate 24-hour staffing without improvements. Good location in southwest quadrant relative to risks and response routes.
Fire Station 5	**Good**	Second newest facility (30 years). Good location in northwest quadrant relative to response routes however too close to northern and western city boundaries for optimal response time coverage. Can accommodate 24-hour staffing; no space for expansion if needed.

2.11.4 Facility Upgrade/Replacement Priority

From this assessment and collaboration with Department staff, Citygate recommends the following priority order for major capital facility improvement/replacement based on facility age, overall condition, location relative to risks and primary response routes, size adequacy for current/future needs, site expansion potential, 24-hour crew accommodations, apparatus bay capacity, dedicated physical fitness workout capacity, conformance with current health and safety regulations and best practices, and deployment recommendations from the following section.

Table 23—Recommended Fire Station Capital Facility Improvement/Replacement Priority Assessment Summary

Fire Station	Facility Improvement / Replacement Priority Scoring Summary									Total Score	Capital Improvement or Replacement Priority
	Age	Overall Condition	Location Relative to Response Routes / Population Centers	Building size adequacy at buildout	Site Expansion Potential	Crew Living and Sleeping Facilities	Apparatus Bay Capacity	Dedicated Physical Fitness Workout Space	Conformance with Current Health & Safety Regulations		
2	4	3	1	4	3	4	4	4	4	31	1
3	3	4	2	4	4	3	4	3	3	30	2
4	3	3	3	3	4	3	2	3	4	28	3
5	2	2	2	3	4	2	3	3	3	24	4

Factor Score	Assessment Rating
1	Very Good
2	Good
3	Fair
4	Poor
5	Very poor

2.12 Overall Deployment Evaluation

SOC Element 8 of 8
Overall Evaluation

The Department serves an urban population with a mixed residential and non-residential land-use pattern across 28 square miles typical of other larger cities in the Twin Cities area. The risks the Department must be prepared to protect are significant: 55,000 residents, 25,500 residential dwelling units, nearly 3,000 businesses, and 34 critical infrastructure facilities.

People, of course, are the primary risk the Department must protect. Daytime population in the City increases by 45.9 percent—a significant amount. A full third of residents—33.5 percent—are under 10 years or over 65 years of age. These populations need a strong emergency response when at risk for serious or life-threatening injury.

Minnetonka is still growing. The Twin Cities Metropolitan Council projects the City's population will increase by 6.5 percent to 58,000 by 2030, and by 13 percent to 61,500 by 2040. Larger development projects include the Opus Park residential development project with 1,600 projected housing units, and the Minneapolis Mart site with potential for 350 additional residential housing units. The Ridgedale Center shopping complex is thriving, and further mixed-use development is anticipated in that area.

There is a proud and valuable tradition of volunteer fire departments in Minnesota. This fire services study addresses not only the present but future strength of this staffing plan in an increasingly urban city. The Department's current deployment model provides a minimum of eight

response personnel on duty from two of five fire stations daily, plus a chief officer, augmented by 64 part-time Paid-on-Call firefighters as available from home or work. The Paid-on-Call force responds to one of the five stations to staff and then respond with the appropriate type of fire apparatus.

Historically, the Fire Department only responded to fires and technical rescues. The Police Department Patrol officers served as EMS first responders to support the regional paramedic ambulance service. However, as police incident growth occurred, so did an increased demand for EMS. In the United States over the last two decades, EMS demand has exploded as EMS and hospital emergency rooms became the primary health care option for the uninsured and under insured populations. Minnetonka is no exception, as fire service annual incident demand has been increasing year over year, and more so in this study's data year 2021/22.

Part of this EMS growth in the Fire Department is directly due to the Police Department no longer having the Patrol time capacity and medical training to respond to all EMS requests where the patient has a low-acuity or non-acute problem. Further, hiring fully trained Emergency Medical Technician (EMT-1) police officers became difficult and the Police Department no longer requires this certification for hiring. This has meant an increasing shift to the Fire Department responding to as many EMS first responder requests as possible. The demand for fire and EMS services is a constant one, requiring a prompt and equitable response to all populated areas of the City. But even with recent additions of a few career staff in the Fire Department, the total full-time firefighter count has only been enough to staff two of the five fire stations daily.

Even where state or local fire codes require fire sprinklers in residential dwellings, it will be many more decades before enough homes are remodeled with automatic fire sprinklers. If desired outcomes include limiting building fire damage to only part of the inside of an affected building or minimizing permanent impairment or death resulting from a medical emergency, then *urban* population density areas will need both first-due unit and multiple-unit Effective Response Force (ERF or First Alarm) coverage consistent with Citygate's response performance recommendations, starting with a first-due unit arrival within 8:30 minutes of a 9-1-1 dispatch notification, and an ERF arrival within 11:30 minutes of 9-1-1 notification, all at 90 percent or better reliability.

In summary Citygate notes three fire service deployment challenges for Minnetonka to focus on over time as funding permits:

Challenge #1 – Response Times

As shown in the following table, the City's current deployment system struggles to provide outcome-based best practice response times to an urban city.

Table 24—90th Percentile Response Performance Summary (RY 21/22)

Response Component	Best Practice		90th Percentile Performance RY 21/22	Performance Versus Best Practice and Current Goal
	Time	Reference		
Call Processing / Dispatch	1:30	NFPA	1:16	**- 0:14**
Duty Crew Turnout	2:00	Citygate	2:24	**+ 0:24**
First-Unit Travel	4:00	NFPA	8:44	**+ 4:44**
First-Unit Call to Arrival	7:30	Citygate	11:02	**+ 3:32**
ERF Call to Arrival	11:30	Citygate	16:50	**+ 5:20**
Paid-on-Call Notification to On-Scene (Avg. Paid-on-Call Count / Minutes)	--	--	--	**5 / 10:00** **8 / 15:00**

In this study period, most fire unit responses were from the duty crew at Station 1. The addition of the second duty crew at Station 3 occurred in September 2022. Therefore, from one staffed station and four Paid-on-Call staffed stations, the 90th percentile first-unit travel time performance, at 8:44 minutes, was inadequate and more than double the recommended 4:00-minute best practice goal for urban areas to facilitate desired outcomes. This is primarily due to only one staffed station serving a 28 square mile service area with a challenging road network layout in many areas of the City. Peak demand hours also are impacted by a simultaneous incident rate of two or more simultaneous calls for service occurring 22.8 percent of the time.

The multiple-unit ERF call to arrival performance to serious emergencies at the 90th percentile was 16:50 minutes, fully 5:20 minutes slower than Citygate's recommended 11:30-minute best practice goal to facilitate positive outcomes in urban areas. This slower-than-desired performance is predominantly due to only one fully staffed station, so most of the needed staffing was provided by Paid-on-Call personnel or mutual aid. Even with the addition of a full-time crew at Station 3, both first unit and ERF response times can be expected to be slower than desired in much of the City.

Challenge #2 – Staffing

The City is large enough to need five fire stations to provide desired response times, which is common in Citygate's experience. However, the City's population and call-for-service growth has surpassed the decades long Paid-on-Call program's ability to deliver urban response times.

The Department's current daily staffing model of a minimum of eight response personnel on duty, supported by the current cadre of 64 Paid-on-Call firefighters and off-duty full-time response personnel (as available when paged), is ***insufficient*** to (1) deliver enough personnel to complete all the critical tasks necessary to mitigate a single moderate-hazard fire, a multiple-patient EMS incident, or technical rescue in time to achieve urban typical desired outcomes, and (2) maintain on-duty staff availability for simultaneous incidents.

To its credit, the City deployed a second duty crew at Fire Station 3 in 2022. Citygate understands that a committed cadre of part-time Paid-on-Call personnel provides great value to the City and Department, and a combination of full-time and part-time personnel will be needed over the foreseeable future to ensure an adequate first unit "speed of response" and ERF "weight of response."

While most Paid-on-Call personnel meet a five-duty-shift-per-month requirement, only one-third are working more than that. If, for example, the City wanted to staff three fire engines daily with two Paid-on-Call personnel each, doing so would require 2,190 Paid-on-Call shifts annually. Given the current total of 64 Paid-on-Call firefighters in the Department, this equates to *34 shifts per year where each Paid-on-Call firefighter would have to guarantee attendance.* Yet the Paid-on-Call program is incurring turnover, with 50 percent of the force having less than five years with Minnetonka. Most critical incidents only received an average of five Paid-on-Call personnel in 10:00 minutes over the four years studied. Based on these factors, Citygate doubts that Paid-on-Call personnel alone can increase dedicated staffing beyond the current requirement.

The Department cannot, in Citygate's opinion, continue to rely solely on Paid-on-Call personnel to provide the staffing needed to mitigate more serious incidents *quickly*. Rather, the City should plan to incrementally fund a modest quantity of additional full-time personnel to ensure a *minimum immediate* response force for first-unit incidents and small fire ERF demands, with sufficient additional staffing coming from the Paid-on-Call personnel for more serious and or simultaneous incidents.

Given these Paid-on-Call program limitations, the transfer of first responder EMS from the police department to the fire department, the risks and demographics to be protected as identified in **Appendix A**, the City's annual service demand, projected growth, simultaneous incident rate, insufficient immediate staffing capacity, and typically desired urban community outcomes, Citygate recommends that the City incrementally fund three additional fire crews, with all five fire crews using a mix of career and Paid-on-Call staffing.

As the following table illustrates, the City could staff six units per day with a crew of two career firefighters (Company Officer and Driver Operator), with the third crew member being a scheduled Paid-on-Call. Thus, the daily minimum career and scheduled Paid-on-Call staffing would eventually provide a minimum of 19 personnel on duty daily. This solution still requires the current quantity of 64 Paid-on-Call personnel to commit to five 24-hour shifts per month. But, with two

career firefighters on the unit, if the Paid-on-Call cannot make the shift, at least the unit can respond with at least the minimum of two personnel.

Table 25—Recommended Daily Deployment Staffing Goal

Station	Address	Response Resources	Minimum Daily Career Staffing Goal	Paid-on-Call Staffing Goal	Total Daily Unit Staffing Goal
1	14550 Minnetonka Blvd.	Engine Rescue/Ladder Battalion Chief	2 2 1	1 1	*3* *3* *1*
2	1815 Hopkins Crossroad	Engine	2	1	*3*
3	5700 Rowland Rd.	Engine	2	1	*3*
4	17125 Excelsior Blvd.	Engine	2	1	*3*
5	15155 Wayzata Blvd.	Engine	2	1	*3*
Current Minimum Daily Response Staffing			**8**	--	--
Master Plan Staffing Goal			**13**	**6**	**19**

At the last step in this plan, the two-firefighter rescue would transition to a ladder truck located at Station 1 in the center of the City. However, Fire stations 2 and 4 were not designed to accommodate 24-hour staffing; thus, the planned staffing would need be phased as staffing funding increases and modifications/improvements can be made at these two stations. The total increase of career staffing on a three-crew rotating system would be six per day, or 18 total. Career staff absences due to earned time off or injury leave could be covered by Paid-on-Call personnel or career staff on overtime.

In the near term, Citygate recommends these phased staffing and apparatus changes such as:

1. The current rescue should operate from Station 2 from 9:00 am to 8:00 pm. Other hours would be from Station 1.

2. The two recently added career personnel at Station 3, plus a third Paid-on-Call-scheduled firefighter, should *cross-staff* an engine or a ladder from Station 3. Doing so would immediately make the ERF to serious incidents one engine, one ladder, a rescue, and the Battalion Chief.

3. Staff Station 5 with another 24/7 crew unless preceded by modifications/improvements to Station 2, in which case we would recommend Station 2 be the third staffed engine. At that time, the rescue would transition to ladder staffing at Station 1. Thus, the City would then deploy three engines, one

ladder truck, and one Battalion Chief totaling a minimum daily staff of 13 personnel.

Challenge #3 – Fire Station Physical Limitations

All fire departments that built fire stations unable to accommodate 24/7 staffing are challenged to convert them or replace them where full-time crews are now needed. In Minnetonka, these conversions will not be easy or inexpensive. The two fire stations not meeting 24/7 crew needs must be studied by qualified consultants regarding the cost effectiveness to remodel, replace, or relocate, with the cost focus on the City's needs over decades, not just a few years. Citygate's fire station adequacy review (**Section 2.10**) provides recommended facility improvement priority, including staffing recommendations. The various details regarding cost, current parcel suitability, the time needed to repair/rebuild, along with where the next duty crew should be staffed 24/7, must be part of the triage decision.

2.12.1 Recommendations

Based on the technical analysis and findings contained in this study, Citygate makes the following deployment recommendations.

Recommendation #2:	**Adopt Updated Deployment Policies:** The City Council should adopt complete performance measures to aid deployment planning and to monitor response performance. The measures of time should be designed to deliver outcomes that will save EMS patients, when possible, upon arrival and keep small but serious fires from becoming more serious. With this is mind, Citygate recommends the following measures:
2.1	**First-Due Unit:** To treat pre-hospital medical emergencies and control small fires, the first-due unit should arrive within 8:30 minutes, 90 percent of the time, from the receipt of the 9-1-1 call at Hennepin County 9-1-1 to incidents in the City. This equates to a 1:30-minute call processing / dispatch time, a 2:00-minute crew turnout time, and a 5:00-minute travel time.

2.2 **Multiple-Unit Effective Response Force for Serious Emergencies:** To confine building fires near the room or rooms of origin, keep vegetation fires under one acre in size, and treat multiple medical patients at a single incident, a multiple-unit ERF of at least **13–19** personnel, including at least one Chief Officer, should arrive within 11:30 minutes in the City from the time of call receipt at County Fire Dispatch at 90 percent or better reliability. This equates to a 1:30-minute call processing / dispatch time, a 2:00-minute crew turnout time, and an 8:00-minute travel time, respectively.

2.3 **Hazardous Materials Response:** To protect the City from hazards associated with uncontrolled release of hazardous and toxic materials, the fundamental mission of the Department's response is to isolate the hazard, deny entry into the hazard zone, and minimize impacts on the community. This can be achieved with a first-due total response time of 8:30 minutes or less to provide initial hazard evaluation and mitigation actions. After the initial evaluation is completed, a determination can be made whether to request additional resources to mitigate the hazard.

2.4 **Technical Rescue:** To respond to technical rescue emergencies as efficiently and effectively as possible with enough trained personnel to facilitate a successful rescue, a first-due total response time of 8:30 minutes or less is to evaluate the situation and initiate rescue actions. Additional resources should assemble as needed within a total response time of 11:30 minutes in the City to safely complete rescue/extrication and delivery of the victim to the appropriate emergency medical care facility.

Recommendation #3: Direct staff to return in 90 days with a staffing enhancement plan, to include costs and input from the Paid-on-Call personnel regarding their ability to cover some or all the envisioned Paid-on-Call shifts.

Recommendation #4: As soon as is operationally feasible, begin deploying the rescue at Station 2 during peak demand hours of the day.

Recommendation #5:	Direct staff to develop a scope of work and solicit bids to start, no later than the start of the next fiscal year, evaluating remodel or replacement costs for stations 2, 3 and 4.
Recommendation #6:	Improve duty crew turnout time with increased focus and crew accountability, and by providing turnout time data to all Department personnel.

APPENDIX A—COMMUNITY RISK ASSESSMENT

A.1 COMMUNITY RISK ASSESSMENT

SOC ELEMENT 3 OF 8
COMMUNITY RISK ASSESSMENT

The third element of the Standards of Coverage (SOC) process is a community risk assessment. Within the context of an SOC study, the objectives of a community risk assessment are to:

1. Identify the values at risk to be protected within the community or service area.
2. Identify the specific hazards with the potential to adversely impact the community or service area.
3. Quantify the overall risk associated with each hazard.
4. Establish a foundation for current and future deployment decisions and risk-reduction / hazard-mitigation planning and evaluation.

A hazard is broadly defined as a situation or condition that can cause or contribute to harm. Examples include fire, medical emergency, vehicle collision, earthquake, flood, etc. Risk is broadly defined as the *probability of hazard occurrence* in combination with the *likely severity of resultant impacts* to people, property, and the broader community.

A.1.1 Risk Assessment Methodology

The methodology employed by Citygate to assess community risks as an integral element of an SOC study incorporates the following elements:

1. Identification of geographic planning sub-zones (risk zones) appropriate to the community or jurisdiction.
2. Identification and quantification (to the extent data is available) of the specific values at risk to various hazards within the community or service area.
3. Identification of the fire and non-fire hazards to be evaluated.
4. Determination of the probability of occurrence for each identified hazard.
5. Determination of *probable* impact severity of a hazard occurrence by planning zone.
6. Determination of overall risk by hazard using the following template.

Table 26—Overall Risk Template

Probability of Occurrence	Impact Severity				
	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	*Low*	*Low*	*Low*	*Moderate*	*High*
Unlikely	*Low*	*Low*	*Low*	*Moderate*	*High*
Possible	*Low*	*Low*	*Moderate*	*High*	*Extreme*
Probable	*Low*	*Low*	*Moderate*	*High*	*Extreme*
Frequent	*Low*	*Moderate*	*High*	*Extreme*	*Extreme*

For this study, Citygate used the following data sources to understand the hazards and values to be protected within the City of Minnetonka, MN:

- US Census Bureau population and demographic data
- City and County General Plan and zoning information
- City and County geographical information systems (GIS) data
- Hennepin County 2016 All-Hazard Mitigation Plan (AHMP)
- City and County Emergency Management Plans
- Department data and information

A.1.2 Risk Assessment Summary

Citygate's evaluation of the values at risk and hazards likely to impact the Department's service area yields the following:

1. The Department serves a diverse urban population, with densities ranging from less than 1,300 to more than 11,000 people per square mile over a widely varied land-use pattern.
2. The City's population is projected to increase by 6.5 percent to 58,000 by 2030, and by 13 percent to 61,500 by 2040.
3. The City has a large inventory of residential and non-residential buildings to protect.
4. The City has economic and other resource values to be protected, as identified in this assessment.
5. Hennepin County has mass emergency notification systems to alert the public of disaster or emergency information in a timely manner.

6. The City's overall risk for six hazards related to emergency services provided range from **Low** to **High**, as summarized in the following table.

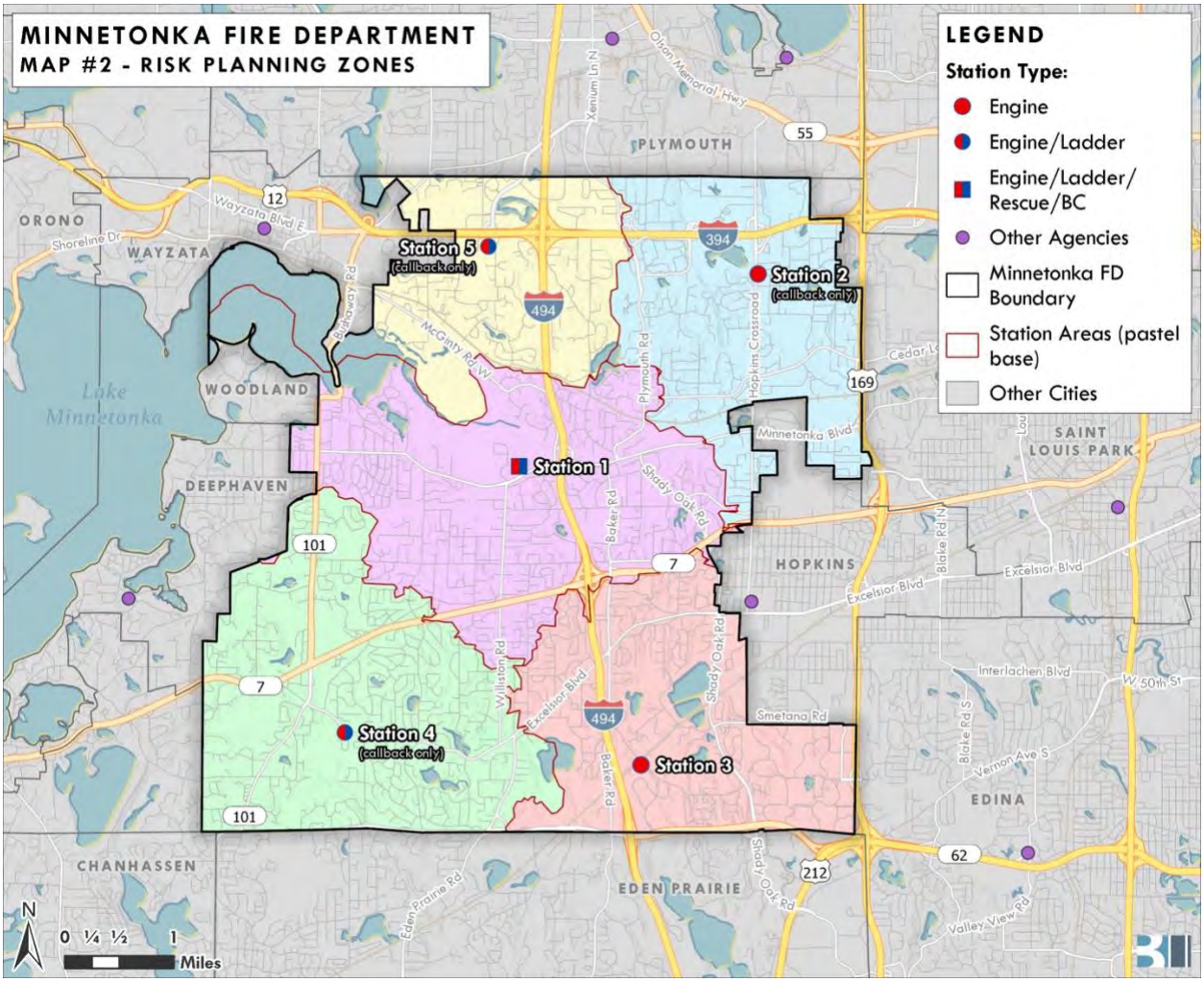
Table 27—Overall Risk by Hazard

Hazard	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Building Fire	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Vegetation/Wildfire	*Low*	*Low*	*Low*	*Low*	*Low*
Medical Emergency	*High*	*High*	*High*	*High*	*High*
Hazardous Materials	*Low*	*Low*	*Low*	*Low*	*Low*
Technical Rescue	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Marine Incident	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*

A.1.3 Planning Zones

The Commission on Fire Accreditation International (CFAI) recommends jurisdictions establish geographic planning zones to better understand risk at a sub-jurisdictional level. For example, portions of a jurisdiction may contain predominantly moderate-risk building occupancies, such as detached single-family residences, while other areas contain high- or maximum-risk occupancies, such as commercial and industrial buildings with a high hazard fire load. If risk were to be evaluated on a jurisdiction-wide basis, the predominant moderate risk could outweigh the high or maximum risk and may not be a significant factor in an overall assessment of risk. If, however, those high- or maximum-risk occupancies are a larger percentage of the risk in a smaller planning zone, then it becomes a more significant risk factor. Another consideration in establishing planning zones is that the jurisdiction's record management system must also track the specific zone for each incident to be able to appropriately evaluate service demand and response performance relative to each specific zone. For this assessment, Citygate utilized five planning zones corresponding with each fire station's first-due response area, as shown in the following map.

Figure 14—Risk Planning Zones



A.1.4 Values at Risk to Be Protected

Values at risk, broadly defined, are tangibles of significant importance or value to the community or jurisdiction potentially at risk of harm or damage from a hazard occurrence. Values at risk typically include people; critical facilities/infrastructure; buildings; and key economic, cultural, historic, or natural resources.

People

Residents, employees, visitors, and travelers in a community or jurisdiction are vulnerable to harm from a hazard occurrence. Particularly vulnerable are specific at-risk populations, including those unable to care for themselves or self-evacuate in the event of an emergency. At-risk populations typically include children younger than 10 years of age, the elderly, and people housed in institutional settings. The following table summarizes key demographic data for the City.

Table 28—Key Demographic Data – Minnetonka

Demographic	2022
Population	**54,437**
Under 10 Years	9.00%
10–14 Years	5.50%
15–64 Years	61.20%
65–74 Years	13.80%
75 Years and Older	10.70%
Median Age	47.1
Daytime Population	79,458
Housing Units	**25,552**
Owner-Occupied	65.80%
Renter-Occupied	28.00%
Vacant	6.10%
Average Household Size	2.86
Median Home Value	$391,436
Race/Ethnicity	
White only	83.00%
Black / African American only	4.70%
Asian only	4.70%
Other / Two or More Races	7.60%
Hispanic Origin	3.60%
Diversity Index	35.1
Education (Population over 24 Years of Age)	**40,987**
High School Graduate or Equivalent	97.70%
Undergraduate Degree	63.40%
Graduate/Professional Degree	24.90%
Employment (Population over 15 Years of Age)	**29,785**
In Labor Force	97.60%
Unemployed	2.40%
Median Household Income	$108,127
Population below Poverty Level	3.50%
Population without Health Insurance Coverage	2.30%

Source: ESRI Community Analyst, US Census Bureau

Of note from the table:

1. 33.5 percent of the population is under 10 years or over 65 years of age.
2. Daytime population in the City increases by 45.9 percent—a significant increase for any agency providing emergency services to be aware of.
3. The City's population is predominantly White (83 percent); followed by other/two or more ethnicities (8 percent); Black / African American (5 percent); and Asian (5 percent), with those of Hispanic/Latino ethnicity representing 4 percent of the population.
4. Of the population over 24 years of age, nearly 98 percent have a high school or equivalent level of education.
5. Of the population over 24 years of age, 63.4 percent has an undergraduate degree and 24.9 percent has a graduate or professional degree.
6. Nearly 98 percent of the population 15 years of age or older is in the workforce; slightly over 2 percent is unemployed.
7. Median household income is $108,000.
8. 3.5 percent of the population is below the federal poverty level.
9. 2.3 percent of the population below age 65 does not have health insurance coverage.

Projected Growth

The Twin Cities Metropolitan Council projects the City's population will increase by 6.5 percent to 58,000 by 2030, and by 13 percent to 61,500 by 2040.[17]

Buildings

The service area includes more than 25,500 residential housing units and nearly 3,000 businesses with nearly 60,000 employees, including office, professional services, retail sales, restaurants/bars, motels, churches, schools, government facilities, healthcare facilities, and other business types.[18]

Building Occupancy Risk Categories

The CFAI identifies the following four risk categories that relate to building occupancy:

Low Risk – includes detached garages, storage sheds, outbuildings, and similar building occupancies that pose a relatively low risk of harm to humans or the community if damaged or destroyed by fire.

[17] Source: Housing Market Assessment: City of Minnetonka (Summer 2017), page 2.
[18] Source: ESRI Community Analyst Business Summary (2021).

Moderate Risk – includes detached single-family or two-family dwellings, mobile homes, commercial and industrial buildings less than 10,000 square feet without a high hazard fire load, aircraft, railroad facilities, and similar building occupancies where loss of life or property damage is limited to the single building.

High Risk – includes apartment/condominium buildings, commercial and industrial buildings more than 10,000 square feet without a high hazard fire load, low-occupant load buildings with high fuel loading or hazardous materials, and similar occupancies with potential for substantial loss of life or unusual property damage or financial impact.

Maximum Risk – includes buildings or facilities with unusually high risk requiring an Effective Response Force (ERF) involving a significant augmentation of resources and personnel and where a fire would pose the potential for a catastrophic event involving large loss of life or significant economic impact to the community.

The Department identified 198 high/maximum-risk building uses as they relate to the CFAI building fire risk categories, as summarized in the following table.

Table 29—Building Occupancy Inventory by Risk Category

Building Occupancy Classification		Number[1]	Risk Category[2]
A-1	Assembly	2	***High***
H	Hazardous	1	***Maximum***
I	Institutional	29	***High***
R-1	Hotel/Motel	6	***High***
R-2	Apartment/Condominium	156	***High***
R-4	Residential Care	4	***High***
Total		**198**	

[1] Source: City of Minnetonka
[2] Source: CFAI *Standards of Cover* (Fifth Edition)

Critical Facilities

The US Department of Homeland Security defines critical infrastructure and key resources as those physical assets essential to the public health and safety, economic vitality, and resilience of a community, such as lifeline utilities infrastructure, telecommunications infrastructure, essential government services facilities, public safety facilities, schools, hospitals, airports, etc. The Department has identified 34 critical facilities, as shown in the following table. A hazard occurrence with significant impact severity affecting one or more of these facilities would likely adversely impact critical public or community services.

Table 30—Critical Facilities

Critical Facility Category	Number of Facilities
Education	11
Government Services	2
Healthcare	4
Infrastructure	1
Public Safety	6
Utility	10
Total	**34**

Source: Minnetonka Fire Department

Economic Resources

Key property taxpayers by ranking include:[19]

- United Health Group
- Ridgedale Center, LLC
- Medica Health Plans
- Carlson Towers
- Cargill, Inc.
- Wells Real Estate Funds

Key employers with more than 1,000 employees include:[20]

- United Health Group
- Cargill, Inc.
- Independent School District No. 276
- Abbott / St. Jude Medical
- Medica Health Plans

[19] Source: City of Minnetonka 2021 Annual Comprehensive Financial Report.
[20] Ibid.

Natural Resources

Key natural resources within the City include:[21]

- Lake Minnetonka
- Libbs Lake
- Glen Lake
- Minnehaha Creek
- Shady Oak Lake
- Crane Lake
- Lone Lake
- Crane Preserve Park
- Minnehaha Creek Preserve

Cultural/Historic Resources

Cultural and historical resources include:

- Burwell House

A.1.5 Hazard Identification

Citygate utilizes prior risk studies where available, fire and non-fire hazards as identified by the CFAI, and agency- and jurisdiction-specific data and information to identify the hazards to be evaluated for this study. The Hennepin County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) identifies and addresses the following 19 hazards:[22]

1. **Geological Hazards**
    a. Landslides
    b. Sinkholes
    c. Soil frost
    d. Volcanic ash
2. **Hydrological Hazards**

[21] Ibid.

[22] Source: 2018 Hennepin County Multi-Jurisdictional Hazard Mitigation Plan, Volume 2.

a. Urban flooding

b. River flooding

3. **Meteorological Hazards**

a. Climate change

b. Tornado

c. Extreme winds

d. Hail

e. Lightning

f. Extreme rainfall

g. Extreme heat

h. Drought

i. Dust storm

j. Extreme cold

k. Winter storm

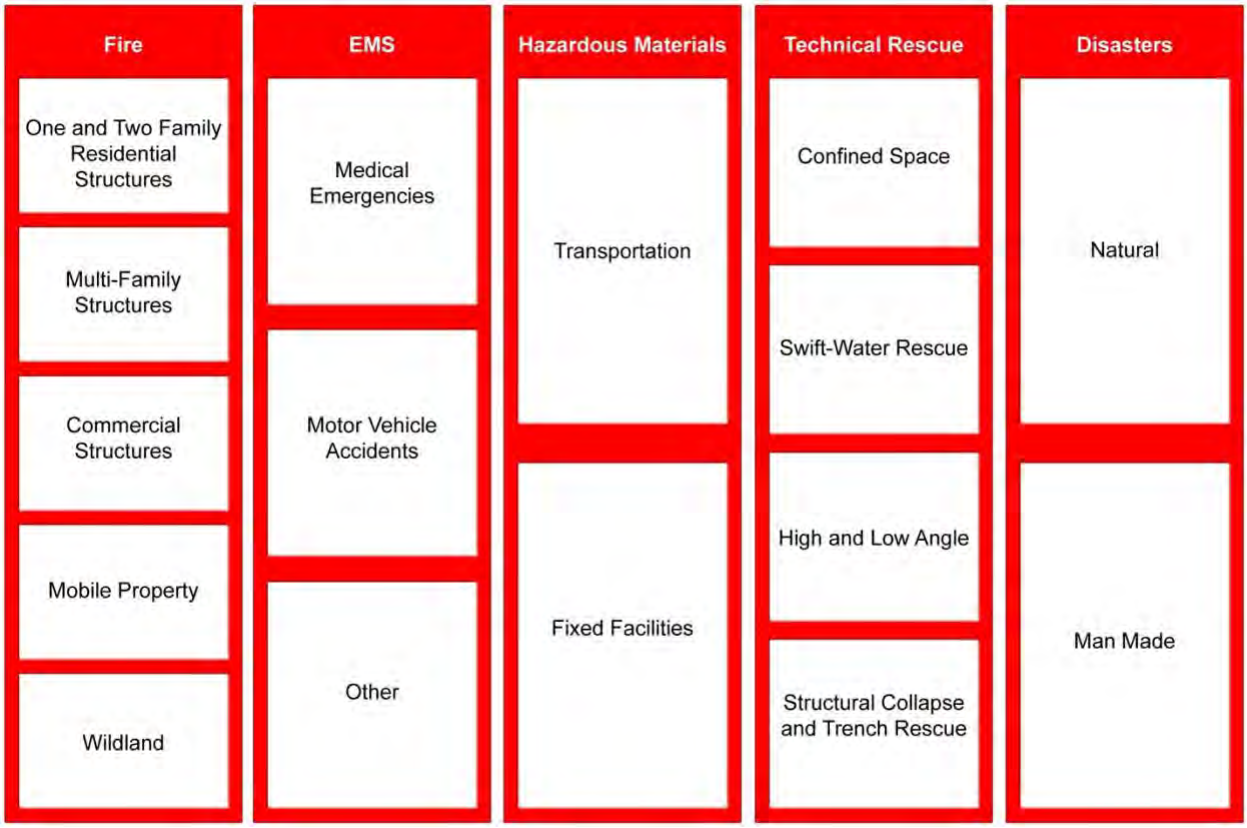
l. High winds

m. Ice storm

Although the Department has no legal authority or responsibility to mitigate any of these hazards, it does provide services related to each hazard, including fire suppression, emergency medical services, technical rescue, and hazardous materials response.

The CFAI groups hazards into fire and non-fire categories, as shown in the following table. Identification, qualification, and quantification of the various fire and non-fire hazards are important factors in evaluating how resources are or can be deployed to mitigate those risks.

Figure 15—Commission on Fire Accreditation International Hazard Categories



Source: CFAI *Standards of Cover* (Fifth Edition)

Pursuant to review and evaluation of the hazards identified in the Hennepin County MJHMP and the fire and non-fire hazards as identified by the CFAI as they relate to services provided by the Department, Citygate evaluated the following six hazards for this risk assessment:

1. Building fire
2. Vegetation/wildland fire
3. Medical emergency
4. Hazardous material release/spill
5. Technical rescue
6. Marine incident

A.1.6 Service Capacity

Service capacity refers to the Department's available response force, including the size, types, and condition of its response fleet and any specialized equipment; core and specialized performance capabilities and competencies; resource distribution and concentration; availability of automatic

and mutual aid; and any other agency-specific factors influencing its ability to meet current and prospective future service demand relative to the risks to be protected.

The Department's service capacity for fire and non-fire hazards consists of a minimum of eight full-time and part-time personnel on duty daily—staffing an engine and rescue at Station 1 and an engine at Station 3—and a Battalion Chief supported by 64 part-time Paid-on-Call personnel as available for response to emergency incidents from home or work. Additional response apparatus are available at each of the Department's five fire stations, including engines, ladder/towers, rescues, boats, grass rigs, and Ranger ATVs that are staffed as needed for emergency incident response by Paid-on-Call and/or off-duty full-time personnel. Paid-on-Call personnel are required to respond to at least 25 percent of all callouts and work a minimum of five duty crew shifts per month.

All response personnel are minimally trained to the Emergency Medical Technician B (EMT-B) level able to provide Basic Life Support (BLS) pre-hospital emergency medical care. The Department also has several pharmacological and non-pharmacological medical variances to provide enhanced pre-hospital emergency medical services. In addition, the Department provides first responder support to the private-sector ambulance services operating within the City.

Response personnel are also trained to the US Department of Transportation Hazardous Material First Responder Operational level to provide initial hazardous material incident assessment, hazard isolation, and support for a hazardous material response team. Hazardous material emergency response is provided by the Hopkins/State Chemical Assessment Team.

Response personnel are further trained to the Confined Space Awareness, Trench Rescue Awareness, and Ice Rescue Operations level. The Department provides surface water and ice rescue services; additional technical rescue capacity is available from the City of Edina Fire Department through mutual aid.

A.1.7 Probability of Occurrence

Probability of occurrence refers to the probability of a future hazard occurrence during a specific period. Because the CFAI agency accreditation process requires annual review of an agency's risk assessment and baseline performance measures, Citygate recommends using the 12 months following completion of an SOC study as an appropriate period for the probability of occurrence evaluation. The following table describes the five probability of occurrence categories and related general characteristics used for this analysis.

Table 31—Probability of Occurrence

Probability	General Characteristics	Expected Frequency of Occurrence
Rare	• Hazard *may occur* under exceptional circumstances.	>10 years
Unlikely	• Hazard *could occur* at some time. • No recorded or anecdotal evidence of occurrence. • Little opportunity, reason, or means for hazard to occur.	2–10 years
Possible	• Hazard *should occur* at some time. • Infrequent, random recorded, or anecdotal evidence of occurrence. • Some opportunity, reason, or means for hazard to occur.	1–23 months
Probable	• Hazard will *probably occur* occasionally. • Regular recorded or strong anecdotal evidence of occurrence. • Considerable opportunity, reason, or means for hazard to occur.	1–4 weeks
Frequent	• Hazard is *expected to occur* regularly. • High level of recorded or anecdotal evidence of regular occurrence. • Strong opportunity, reason, or means for hazard to occur. • Frequent hazard recurrence.	Daily to weekly

Citygate's SOC assessments use recent, multiple-year hazard response data to determine the probability of hazard occurrence for the ensuing 12-month period.

A.1.8 Impact Severity

Impact severity refers to the extent a hazard occurrence impacts people, buildings, lifeline services, the environment, and the broader community. The following table describes the five *probable* impact severity categories and related general criteria used for this analysis.

Table 32—Impact Severity

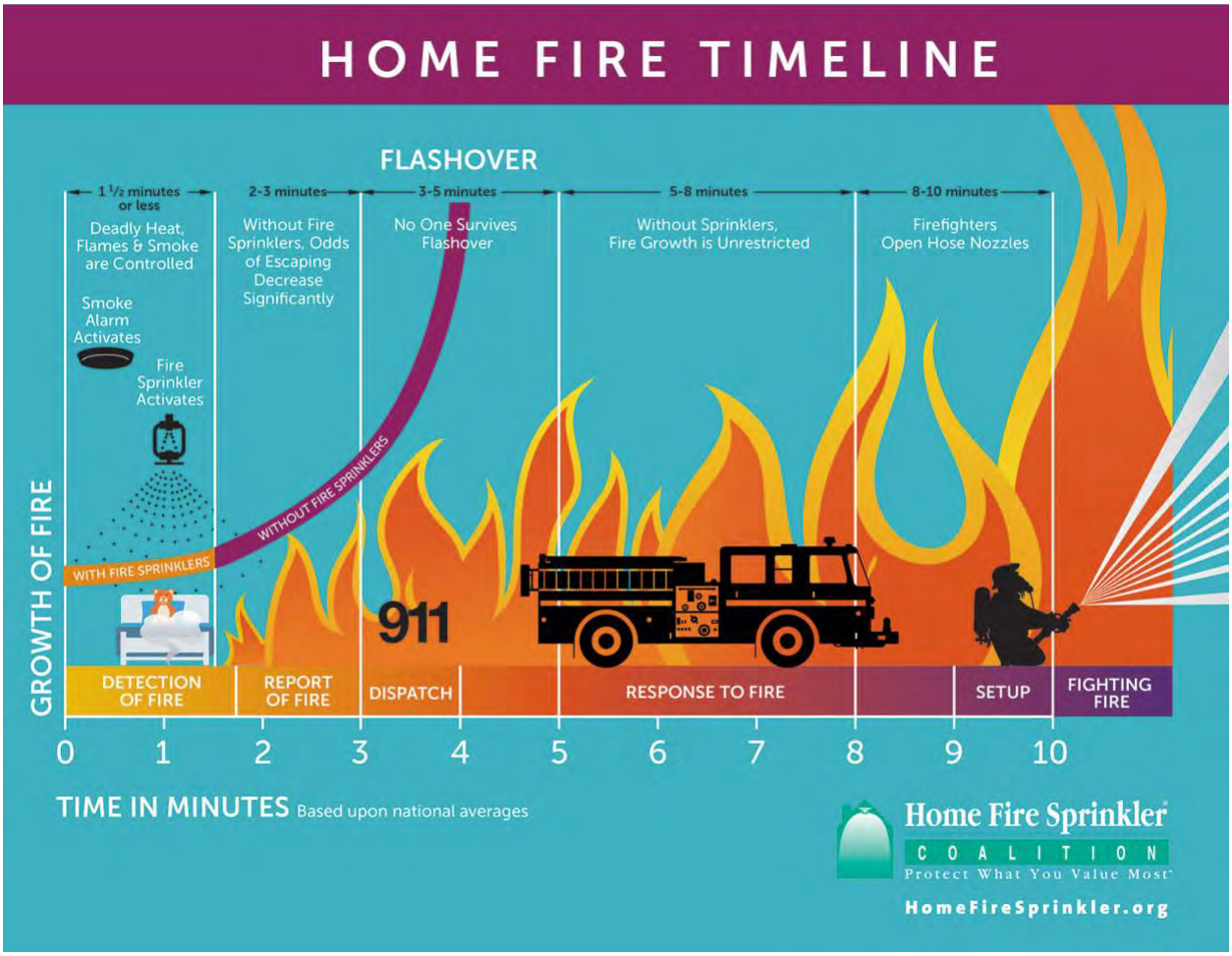
Impact Category	Characteristics
Insignificant	• No injuries or fatalities • Few to no persons displaced for short duration • Little or no personal support required • Inconsequential to no damage • Minimal to no community disruption • No measurable environmental impacts • Minimal to no financial loss • No wildland Fire Hazard Severity Zones (FHSZs)
Minor	• Few injuries; no fatalities; minor medical treatment only • Some displacement of persons for less than 24 hours • Some personal support required • Some minor damage • Minor community disruption of short duration • Small environmental impacts with no lasting effects • Minor financial loss • No wildland FHSZs
Moderate	• Medical treatment required; some hospitalizations; few fatalities • Localized displaced of persons for less than 24 hours • Personal support satisfied with local resources • Localized damage • Normal community functioning with some inconvenience • No measurable environmental impacts with no long-term effects, or small impacts with long-term effect • Moderate financial loss • Less than 25% of area in *Moderate* or *High* wildland FHSZs
Major	• Extensive injuries; significant hospitalizations; many fatalities • Large number of persons displaced for more than 24 hours • External resources required for personal support • Significant damage • Significant community disruption; some services not available • Some impact to environment with long-term effects • Major financial loss with some financial assistance required • More than 25% of area in *Moderate* or *High* wildland FHSZs; less than 25% in *Very High* wildland FHSZs
Catastrophic	• Large number of severe injuries requiring hospitalization; significant fatalities • General displacement for extended duration • Extensive personal support required • Extensive damage • Community unable to function without significant external support • Significant impact to environment and/or permanent damage • Catastrophic financial loss; unable to function without significant support • More than 50% of area in *High* wildland FHSZs; more than 25% of area in *Very High* wildland FHSZs

A.1.9 Building Fire Risk

One of the primary hazards in any community is building fire. Building fire risk factors include building size, age, construction type, density, occupancy, number of stories above ground level, required fire flow, proximity to other buildings, built-in fire protection/alarm systems, available fire suppression water supply, building fire service capacity, fire suppression resource deployment (distribution/concentration), staffing, and response time. Citygate used available data from the Department and the US Census Bureau in determining building fire risk.

The following figure illustrates the building fire progression timeline and shows that flashover, which is the point at which the entire room erupts into fire after all the combustible objects in that room reach their ignition temperature, can occur as early as three to five minutes from the initial ignition. Human survival in a room after flashover is extremely improbable. While, according to the Fire Marshal, nearly all single-family and two-family residential dwelling units in Minnetonka are *not* protected by an automatic fire sprinkler system, automatic fire sprinklers have been proven over many decades to be an effective safety tool.

Figure 16—Building Fire Progression Timeline



Source: http://www.firesprinklerassoc.org

Population Density

Population density within the service area ranges from less than 1,300 to more than 11,000 people per square mile. Although risk analysis across a wide spectrum of other Citygate clients shows no direct correlation between population density and building fire *occurrence*, it is reasonable to conclude that building fire *risk* relative to potential impact on human life is greater as population density increases, particularly in areas with high density, multiple-story buildings.

Water Supply

A reliable public water system providing adequate volume, pressure, and flow duration near all buildings is a critical factor in mitigating the potential impact severity of a community's building fire risk. Potable water within the Department's service area is provided by the City, and according to Department staff, available fire flow and pressure is adequate throughout the City.

Building Fire Service Demand

Over the three-year study period from July 1, 2019, through June 30, 2022, the Department responded to 87 building fire incidents comprising 0.73 percent of total service demand over the same period, as summarized in the following table.

Table 33—Building Fire Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other[1]		
Building Fire	RY 19/20	4	10	7	8	2	0	31	0.90%
	RY 20/21	6	7	10	5	2	1	31	0.83%
	RY 21/22	4	8	2	6	3	2	25	0.54%
Total		14	25	19	19	7	3	87	0.73%
Percent Total Station Demand		0.64%	0.64%	0.90%	0.79%	0.84%	0.75%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

Building Fire Risk Assessment

The following table summarizes Citygate's assessment of the City's building fire risk by planning zone.

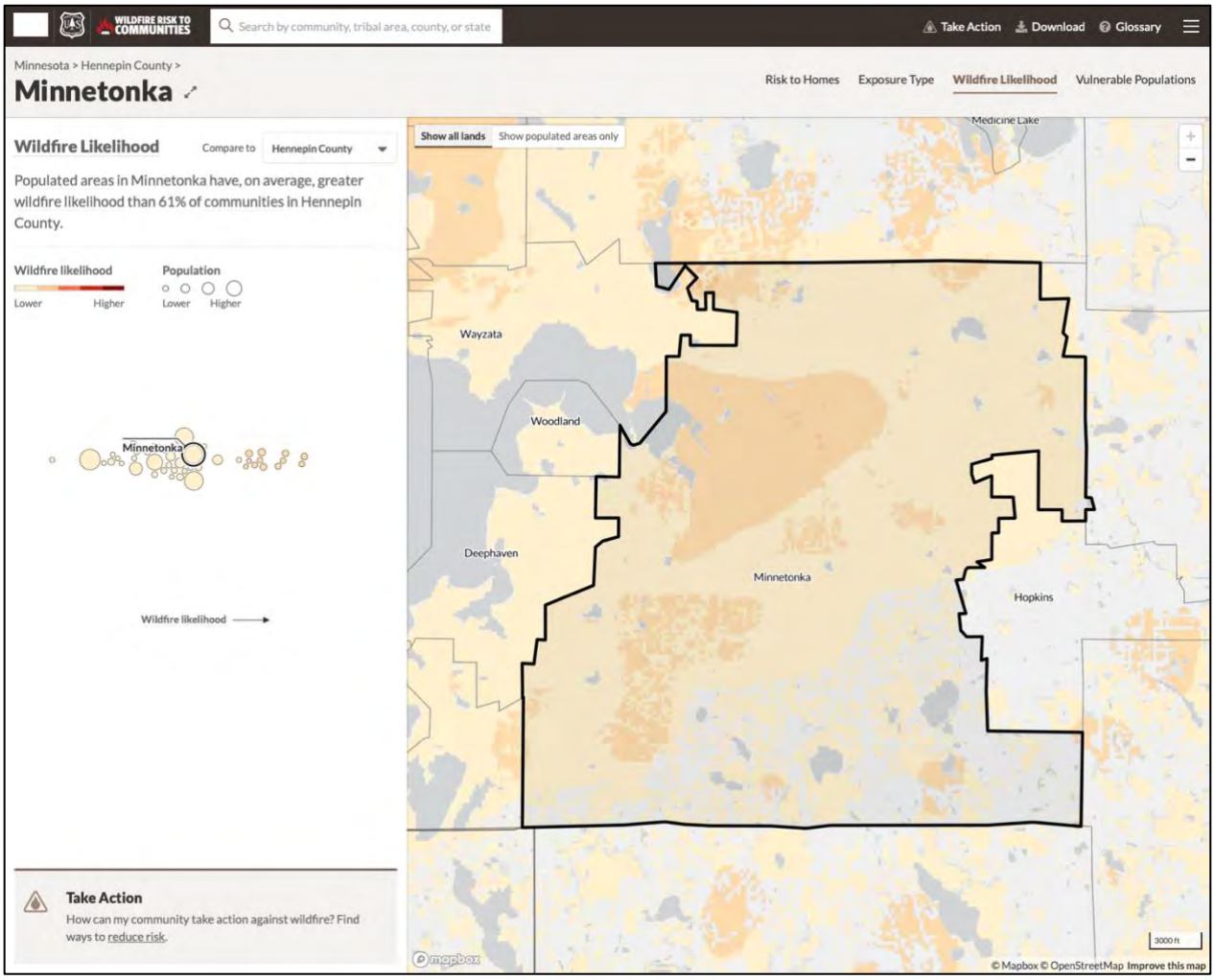
Table 34—Building Fire Risk Assessment

Building Fire Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	*Possible*	*Possible*	*Possible*	*Possible*	*Possible*
Probable Impact Severity	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Overall Risk	***Moderate***	***Moderate***	***Moderate***	***Moderate***	***Moderate***

A.1.10 Vegetation/Wildfire Risk

Some areas of the City are susceptible to a vegetation/wildland fire, as identified in the following map from the Minnesota Department of Natural Resources (DNR) that shows the populated areas of the City having, on average, *greater* likelihood of a wildfire occurrence than 61 percent of the communities in Hennepin County. Vegetation/wildfire risk factors include vegetative fuel types and configuration, weather, topography, prior service demand, water supply, mitigation measures, and vegetation fire service capacity.

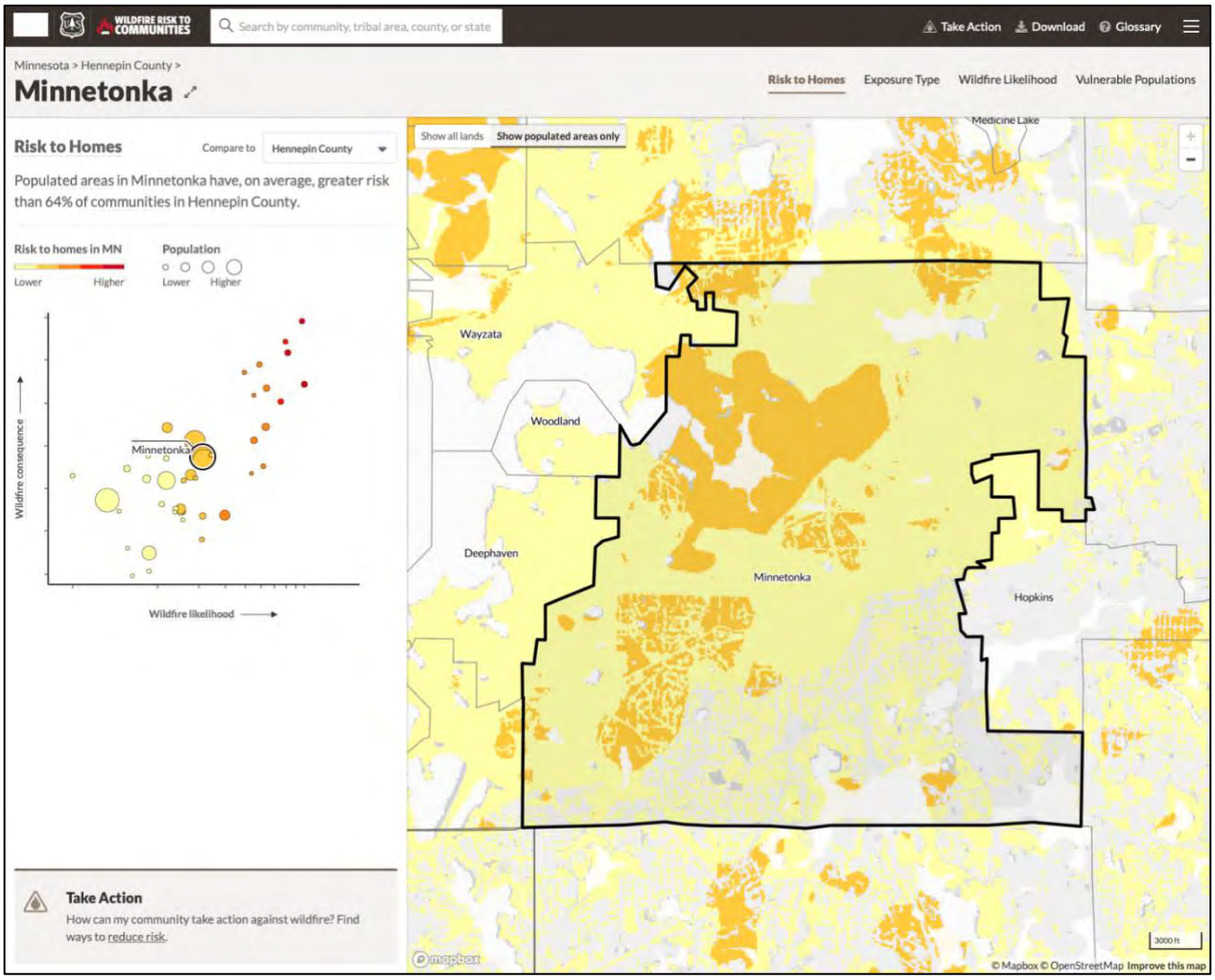
Figure 17—Wildfire Likelihood Areas – Minnetonka



Source: www.wildfirerisk.org

The DNR also identifies the risk to homes from a wildfire, as shown in the following figure for the City. As the map shows, populated areas in the City have, on average, *greater* risk of a wildfire damaging homes than 64 percent of the communities in Hennepin County.

Figure 18—Wildfire Risk to Homes – Minnetonka



Source: www.wildfirerisk.org

Vegetative Fuels

Vegetative fuel factors influencing fire intensity and spread include fuel type (vegetation species), height, arrangement, density, and moisture. In addition to decorative landscape species, vegetative fuels within the City include both native and non-native annual and perennial plant species, including grasses, weeds, brush, and mostly deciduous and mixed hardwood and conifer tree species. Once ignited, vegetation fires can burn intensely and contribute to rapid fire spread under the right fuel, weather, and topographic conditions.

Weather

Weather elements, including temperature, relative humidity, wind, and lightning, also affect vegetation/wildland fire potential and behavior. High temperatures and low relative humidity dry out vegetative fuels, creating a situation where fuels will more readily ignite and burn more

intensely. Wind is the most significant weather factor influencing vegetation/wildfire behavior, with higher wind speeds increasing fire spread and intensity. Wildfire season, when vegetation fires are most likely to occur due to fuel and weather conditions, occurs from approximately April through September/October in Hennepin County. Summer weather within the City typically includes cooler mornings and warm afternoons and evenings. Occasional summer gradients produce higher daytime temperatures, lower relative humidity, and higher winds. While these conditions elevate the wildfire potential, typical City weather is not conducive to significant vegetation/wildfires.

Topography

Vegetation/wildfires tend to burn more intensely and spread faster when burning uphill and up-canyon, except for a wind-driven downhill or down-canyon fire. The City's generally flat topography minimally influences vegetation/wildfire behavior and spread.

Water Supply

Another significant vegetation fire impact severity factor is water supply being immediately available for fire suppression. According to Department staff, all areas of the City have adequate fire flow and pressure.

Vegetation/Wildfire Service Demand

Over the three-year period of data studied, the Department responded to 33 vegetation/wildfires, comprising just 0.28 percent of total service demand over the same period, as summarized in the following table.

Table 35—Vegetation/Wildfire Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other[1]		
Vegetation/Wildfire	RY 19/20	3	2	2	1	1	0	9	0.26%
	RY 20/21	2	2	2	3	0	1	10	0.27%
	RY 21/22	4	6	1	0	3	0	14	0.30%
Total		9	10	5	4	4	1	33	0.28%
Percent Total Station Demand		0.41%	0.26%	0.24%	0.17%	0.48%	0.25%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

Vegetation/Wildfire Risk Assessment

The following table summarizes Citygate's assessment of vegetation/wildfire risk by planning zone.

Table 36—Vegetation/Wildfire Risk Assessment

Vegetation/Wildfire Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	Possible	Possible	Possible	Possible	Possible
Probable Impact Severity	Minor	Minor	Minor	Minor	Minor
Overall Risk	**Low**	**Low**	**Low**	**Low**	**Low**

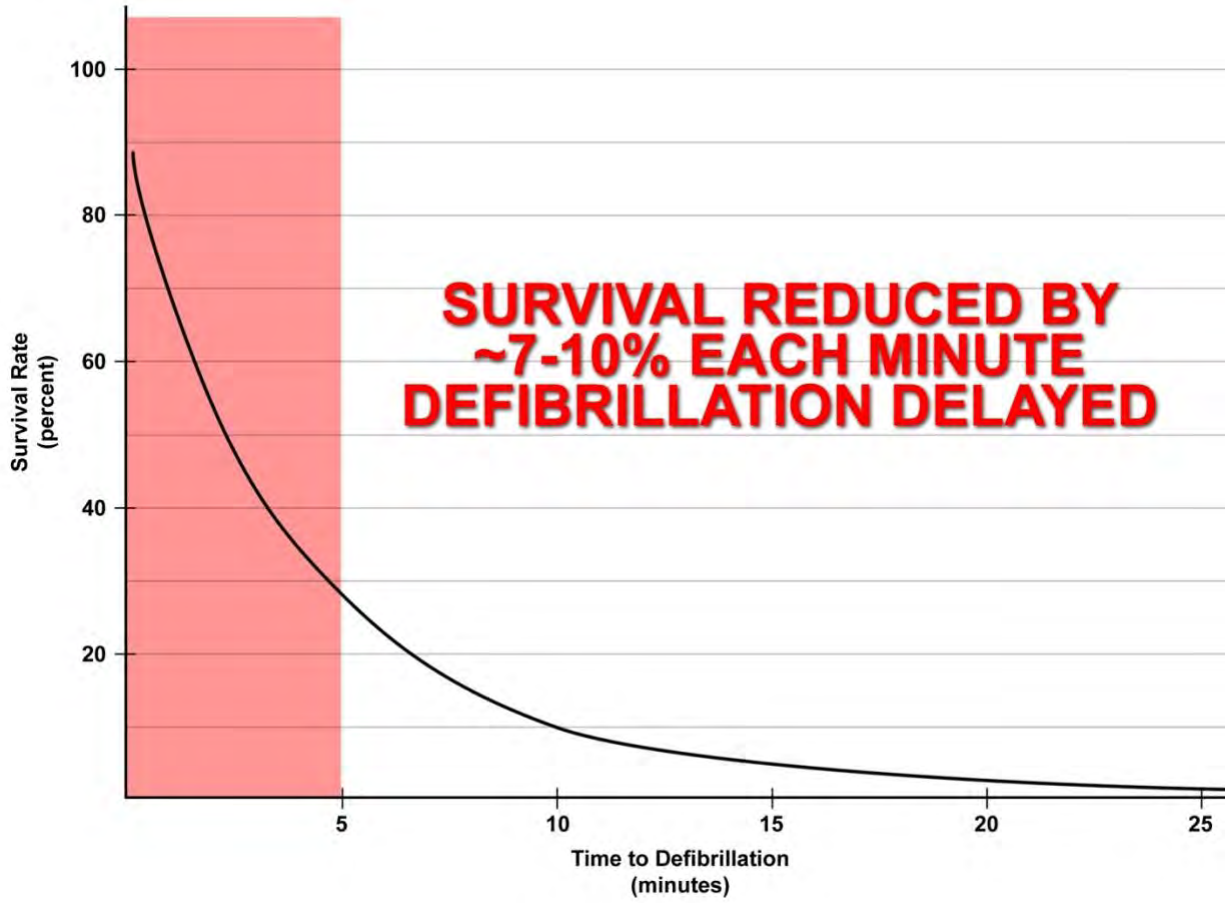
A.1.11 Medical Emergency Risk

Medical emergency risk in most communities is predominantly a function of population density, demographics, violence, health insurance coverage, and vehicle traffic.

Medical emergency risk can also be categorized as either a medical emergency resulting from a traumatic injury or a health-related condition or event. Cardiac arrest is one serious medical emergency among many where there is an interruption or blockage of oxygen to the brain.

The following figure illustrates the reduced survivability of a cardiac arrest victim as time to defibrillation increases. While early defibrillation is one factor in cardiac arrest survivability, other factors can influence survivability as well, such as early CPR and pre-hospital ALS interventions.

Figure 19—Survival Rate versus Time to Defibrillation



Population Density

Population density within the service area ranges from less than 1,300 to more than 11,000 people per square mile. Risk analysis across a wide spectrum of other Citygate clients shows a direct correlation between population density and the *occurrence* of medical emergencies, particularly in high urban population density zones.

Demographics

Medical emergency risk tends to be higher among older, poorer, less educated, and uninsured populations. As shown in Table 28, 24.5 percent of the City population is 65 and older, 2.3 percent over 24 years of age has less than a high school or equivalent education, 3.5 percent of the population is at or below poverty level, and 2.3 percent of the population under age 65 does not have health insurance coverage.[23]

[23] Source: Esri Community Analyst and US Census Bureau.

Vehicle Traffic

Medical emergency risk tends to be higher in those areas of a community with high daily vehicle traffic volume, particularly those areas with high traffic volume traveling at high speeds. Major travel routes through the City include Interstates 394 and 494, State Highways 7 and 169, and County Highway 101 carrying an aggregate annual average daily traffic volume of more than 312,000 vehicles.[24]

Burlington Northern Santa Fe (BNSF), Chicago and North Western (CNW), Union Pacific (UP), and Dakota Railroad (DAKR) also operate railways with approximately 17 train movements daily into or through the City.[25]

Medical Emergency Service Demand

Emergency medical service demand over the three-year period of data studied included more than 8,000 calls for service, comprising 68.1 percent of total service demand over the same period, as summarized in the following table.

Table 37—Medical Emergency Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other1		
Medical Emergency	RY 19/20	463	738	421	540	197	19	2,378	69.11%
	RY 20/21	474	817	431	521	157	73	2,473	65.82%
	RY 21/22	624	1,062	558	694	198	77	3,213	69.19%
Total		1,561	2,617	1,410	1,755	552	169	8,064	68.10%
Percent Total Station Demand		71.18%	67.10%	67.11%	72.61%	66.43%	42.25%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

As the table shows, annual overall medical emergency service demand increased 35 percent over the three-year study, including a 30 percent increase in reporting year (RY) 21/22 from the previous year.

Medical Emergency Risk Assessment

The following table summarizes Citygate's assessment of medical emergency risk by planning zone.

[24] Source: Minnesota Department of Transportation (2021 data).
[25] Source: US Department of Transportation Federal Railroad Administration.

Table 38—Medical Emergency Risk Assessment

Medical Emergency Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	*Frequent*	*Frequent*	*Frequent*	*Frequent*	*Frequent*
Probable Impact Severity	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Overall Risk	***High***	***High***	***High***	***High***	***High***

A.1.12Hazardous Material Risk

Hazardous material risk factors include fixed facilities that store, use, or produce hazardous chemicals or waste; underground pipelines conveying hazardous materials; aviation, railroad, maritime, and vehicle transportation of hazardous commodities into or through a jurisdiction; vulnerable populations; emergency evacuation planning and related training; and specialized hazardous material service capacity.

Fixed Hazardous Materials Facilities

Department staff identified 12 occupancies within the City using, storing, and/or generating reportable quantities of hazardous materials.

Transportation-Related Hazardous Materials

The City has transportation-related hazardous material risks as a function of vehicle and railway traffic. Vehicle traffic volume is the greatest of these factors within the City with Interstates 394 and 494, State Highways 7 and 169, and County Highway 101 carrying an aggregate annual average daily traffic volume of more than 312,000 vehicles, many of which are commercial trucks transporting hazardous commodities. There are also four railroad companies operating within the City transporting a variety of hazardous commodities.

Population Density

Because hazardous material emergencies have the potential to adversely impact human health, it is logical that the higher the population density, the greater the potential population exposed to a hazardous material release or spill. Population density within the City ranges from less than 1,300 to more than 11,000 people per square mile.

Vulnerable Populations

Persons vulnerable to a hazardous material release/spill include those individuals or groups unable to self-evacuate, generally including children under the age of 10, the elderly, and persons confined to an institution or other setting where they are unable to leave voluntarily. As shown in Table 28, 33.5 percent of the service area population is under 10 years of age or is 65 years of age and older.

Emergency Evacuation Planning, Training, Implementation, and Effectiveness

Another significant hazardous material impact severity factor is a jurisdiction's shelter-in-place / emergency evacuation planning and training. In the event of a hazardous material release or spill, time can be a critical factor in notifying potentially affected persons, particularly at-risk populations, to either shelter-in-place or evacuate to a safe location. Essential to this process is an effective emergency plan that incorporates one or more mass emergency notification capabilities, as well as pre-established evacuation procedures. It is also essential to conduct regular, periodic exercises involving these two emergency plan elements to evaluate readiness and to identify and remediate any planning or training gaps to ensure ongoing emergency incident readiness and effectiveness.

Although the City does not have a formal evacuation plan, Hennepin County utilizes a commercial mass emergency notification system (Everbridge) based on a reverse 9-1-1 system, as well as the federal Integrated Public Alert and Warning System (IPAWS) and social media to provide emergency alerts, notifications, and other emergency information to email accounts, cell phones, smartphones, tablets, and landline telephones.

Hazardous Material Service Demand

The Department responded to 307 hazardous material incidents over the three-year period of data studied, comprising 2.59 percent of total service demand over the same period, as summarized in the following table.

Table 39—Hazardous Material Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other[1]		
Hazardous Material	RY 19/20	27	17	25	27	10	2	108	3.14%
	RY 20/21	16	22	19	25	16	2	100	2.66%
	RY 21/22	26	20	13	28	11	1	99	2.13%
Total		69	59	57	80	37	5	307	2.59%
Percent Total Station Demand		3.15%	1.51%	2.71%	3.31%	4.45%	1.25%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

Hazardous Material Risk Assessment

The following table summarizes Citygate's assessment of hazardous material risk by planning zone.

Table 40—Hazardous Material Risk Assessment

Hazardous Material Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	*Probable*	*Probable*	*Probable*	*Probable*	*Probable*
Probable Impact Severity	*Minor*	*Minor*	*Minor*	*Minor*	*Minor*
Overall Risk	***Low***	***Low***	***Low***	***Low***	***Low***

A.1.13Technical Rescue Risk

Technical rescue risk factors include active construction projects; structural collapse potential; confined spaces, such as tanks and underground vaults; bodies of water, including rivers and streams; industrial machinery use; transportation volume; floods; and landslide potential.

Construction Activity

There is some residential, commercial, and/or infrastructure construction activity occurring within the City on a regular basis.

Confined Spaces

There are occasional tanks, vaults, and temporary open trenches within the City.

Bodies of Water

Bodies of water within the City include Crane Lake, Glen Lake, Libbs Lake, Lone Lake, Lake Minnetonka, Minnehaha Creek, Shady Oak Lake, and numerous other smaller bodies of water and waterways.

Transportation Volume[26]

Another technical rescue risk factor is transportation-related incidents requiring technical rescue. This risk factor is primarily a function of vehicle and railway traffic. Vehicle traffic volume is the greatest of these factors with Interstates 394 and 494, State Highways 7 and 169, and County Highway 101 carrying an aggregate annual average daily traffic volume of more than 312,000 vehicles. There are also four railroad companies operating within the City with approximately 17 train movements daily.

Flood Risk[27]

Urban flooding is a consistent problem in Hennepin County due to torrential rainfall associated with spring and summer thunderstorm activity. Six flood declarations have been issued in the

[26] Source – Minnesota Department of Transportation Traffic Analysis: https://mndot.maps.arcgis.com/apps/webappviewer/index.html?id=7b3be07daed84e7fa170a91059ce63bb

[27] Source: Hennepin County Multi-Jurisdictional Hazard Mitigation Plan, Volume 2, Section 4.2.1.

county since 1873, all involving urban flooding with road and bridge closures. Urban flooding is expected to become even more problematic in the future due to intensified land use and climate change.

Tornado Risk[28]

Hennepin County has a strong history of tornadoes dating back to 1820. This hazard is a consistent threat to both life safety and property.

Technical Rescue Service Demand

Over the three-year period of data studied, the Department responded to 125 technical rescue incidents comprising 1.06 percent of total service demand for the same period as summarized in the following table.

Table 41—Technical Rescue Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other[1]		
Technical Rescue	RY 19/20	6	12	5	7	1	1	32	0.93%
	RY 20/21	4	12	11	6	5	4	42	1.12%
	RY 21/22	4	15	21	6	2	3	51	1.10%
Total		14	39	37	19	8	8	125	1.06%
Percent Total Station Demand		0.64%	1.00%	1.76%	0.79%	0.96%	2.00%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

Technical Rescue Risk Assessment

The following table summarizes Citygate's assessment of technical rescue risk by planning zone.

Table 42—Technical Rescue Risk Assessment

Technical Rescue Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	*Possible*	*Possible*	*Possible*	*Possible*	*Possible*
Probable Impact Severity	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Overall Risk	***Moderate***	***Moderate***	***Moderate***	***Moderate***	***Moderate***

[28] Source: Hennepin County Multi-Jurisdictional Hazard Mitigation Plan, Volume 2, Section 4.3.2.

A.1.14Marine Incident Risk

Marine incident risk factors include open water and near-shore recreational activities and watercraft storage and use in or on service area waterways. Marine incidents include watercraft fires, searches for person(s) in water, and water and watercraft rescues.

Waterways

Crane Lake, Glen Lake, Libbs Lake, Lone Lake, Lake Minnetonka, Minnehaha Creek, Shady Oak Lake, and numerous other smaller bodies of water and waterways.

Recreational Activity

City waterways are used for boating, fishing, and other open-water recreational activities.

Marine Incident Service Demand

Over the three-year study period, the Department responded to 14 marine incidents comprising 0.12 percent of total service demand over the same period, as shown in the following table.

Table 43—Marine Incident Service Demand

Hazard	Year	Planning Zone						Total	Percent Annual Service Demand
		Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Other[1]		
Marine Incident	RY 19/20	4	1	0	0	0	0	5	0.15%
	RY 20/21	1	1	1	1	0	1	5	0.13%
	RY 21/22	2	0	0	0	2	0	4	0.09%
Total		7	2	1	1	2	1	14	0.12%
Percent Total Station Demand		0.32%	0.05%	0.05%	0.04%	0.24%	0.25%		

[1] Incident located outside City of Minnetonka or geo-coordinates not provided

Marine Incident Risk Assessment

The following table summarizes Citygate's assessment of marine incident risk by planning zone.

Table 44—Marine Incident Risk Assessment

Marine Incident Risk	Planning Zone				
	Station 1	Station 2	Station 3	Station 4	Station 5
Probability of Occurrence	*Possible*	*Possible*	*Possible*	*Possible*	*Possible*
Probable Impact Severity	*Moderate*	*Moderate*	*Moderate*	*Moderate*	*Moderate*
Overall Risk	***Moderate***	***Moderate***	***Moderate***	***Moderate***	***Moderate***

APPENDIX B

FACILITY ASSESSMENT WORKSHEETS

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FACILITY ASSESSMENT

Fire Station #1

Address:	**14550 Minnetonka Blvd.**		
Ownership:	**City of Minnetonka**		
Parcel Size (acres)	**9.59**		
Building Size (sq. ft.)	**32,000**		
Number of Stories	**1.5**		
Building Age (years)	**2**		
Daily Staffing	Min. **5**	Max. **9**	
Number of Apparatus	Min. **2**	Max. **3**	
Apparatus Bays	Indoor: **7**	Outdoor: **0**	

Assessment Factor	Finding			
Essential Services Facility	**Yes**	**No**	**Unknown or N/A**	**Comments**
Meets ESA Seismic Requirements			**X**	
Meets ADA Access Requirements	**X**			
Backup Electrical Generator	**X**			Size: / Fuel: **Diesel**
On-Site Vehicle Fueling		**X**		
Facility Safety/Security				
Fire Sprinkler System	**X**			
Smoke Detectors	**X**			
CO Detectors	**X**			
Vehicle Exhaust Capture System	**X**			
PPE allowed in living/sleeping areas		**X**		
Smoking and tobacco free	**X**			
Pole hole secured			**X**	
Apparatus door safety features	**X**			
Station Alerting System Conformance with NFPA 1500	**X**			
Carcinogen Contamination Control Zones	**X**			
PPE Storage Conformance with NFPA 1851	**X**			
Dedicated PPE Cleaning Equipment	**X**			
Ice Machines Isolated from Red/Yellow Zones	**X**			
PPE Cleaning Capacity	**X**			
Dedicated Medical Waste Disposal		**X**		
Dedicated EMS Equipment/Supply Storage	**X**			
Secured Building Access	**X**			
Secured Employee Parking		**X**		
Annual Safety Inspections			**X**	Last Inspection:

Major Facility Systems/Components	Last Serviced or Repaired	Last Replaced	Condition	Notes
HVAC			**New**	
Roof			**New**	
Asphalt Surfaces			**New**	
Standby Generator			**New**	800 KWA
SCBA Air Compressor	**2022**		**New**	
PPE Washer	**2022**		**New**	

Functional Areas	Yes	No	Number	Total Area (Sq. Ft.)	Meets Current Needs	Meets Anticipated Future Needs
Office/Workspace	**X**		**21**	**UNK**	**Yes**	**Yes**
Restroom(s)	**X**		**10**	**UNK**	**Yes**	**Yes**
Sleeping	**X**		**8**	**UNK**	**Yes**	**Yes**
Kitchen/Dining	**X**		**1**	**UNK**	**Yes**	**Yes**
Living Area / Day Room	**X**		**1**	**UNK**	**Yes**	**Yes**
Physical Fitness Workout Space	**X**		**1**	**800**	**Yes**	**Yes**
Storage Space	**X**		**5**	**UNK**	**Yes**	**Yes**
Workshop	**X**		**1**	**350**	**Yes**	**Yes**
Training Room	**X**		**1**	**UNK**	**Yes**	**Yes**
SCBA Storage	**X**		**1**	**UNK**	**Yes**	**Yes**
SCBA Refill Station	**X**		**2**	**UNK**	**Yes**	**Yes**
Emergency Vehicle Parking/Storage						
Drive-Through Apparatus Bays	**X**		**7**	**UNK**	**Yes**	**Yes**
Front Apparatus Apron	**X**		**1**	**UNK**	**Yes**	**Yes**
Rear Apparatus Apron / Parking	**X**		**1**	**UNK**	**Yes**	**Yes**

Comments/Recommendations	
	New facility completed in 2020.

FACILITY ASSESSMENT

Fire Station #2

Address:	**1815 Hopkins Crossroad**	
Ownership:	**City of Minnetonka**	
Parcel Size (acres)	**.92**	
Building Size (sq. ft.)	**7,050**	
Number of Stories	**1**	
Building Age (years)	**12/31/1974**	
Daily Staffing	Min. **0**	Max. **0**
Number of Apparatus	Min. **2**	Max. **3**
Apparatus Bays	Indoor: **2**	Outdoor: **0**

Assessment Factor	Finding			
Essential Services Facility	**Yes**	**No**	**Unknown or N/A**	**Comments**
Meets ESA Seismic Requirements			**X**	
Meets ADA Access Requirements		**X**		
Backup Electrical Generator	**X**			Size:**30 KWA** Fuel: **NATURAL GAS**
On-Site Vehicle Fueling		**X**		
Facility Safety/Security				
Fire Sprinkler System	**X**			
Smoke Detectors	**X**			
CO Detectors	**X**			
Vehicle Exhaust Capture System		**X**		
PPE allowed in living/sleeping areas		**X**		
Smoking and tobacco free	**X**			
Pole hole secured			**X**	
Apparatus door safety features		**X**		
Station Alerting System Conformance with NFPA 1500		**X**		
Carcinogen Contamination Control Zones		**X**		
PPE Storage Conformance with NFPA 1851		**X**		
Dedicated PPE Cleaning Equipment		**X**		
Ice Machines Isolated from Red/Yellow Zones			**X**	
PPE Cleaning Capacity		**X**		
Dedicated Medical Waste Disposal		**X**		
Dedicated EMS Equipment/Supply Storage		**X**		
Secured Building Access	**X**			
Secured Employee Parking		**X**		
Annual Safety Inspections		**X**		Last Inspection:

Major Facility Systems/Components	Last Serviced or Repaired	Last Replaced	Condition	Notes
HVAC	**2022**	**2016**	**Good**	
Roof	**9/22**		**B**	
Asphalt Surfaces				
Standby Generator	**2022**	**2008**	**Fair**	40 KWA
SCBA Air Compressor	**NA**	**NA**	**NA**	NA
PPE Washer	**NA**	**NA**	**NA**	NA

Functional Areas	Yes	No	Number	Total Area (Sq. Ft.)	Meets Current Needs	Meets Anticipated Future Needs
Office/Workspace	**X**		**1**	**20**	**No**	**No**
Restroom(s)	**X**		**2**		**Yes**	**No**
Sleeping		**X**				
Kitchen/Dining	**X**		**1**		**Yes**	**No**
Living Area / Day Room	**X**		**1**		**Yes**	**No**
Physical Fitness Workout Space		**X**				
Storage Space	**X**		**2**		**No**	**No**
Workshop		**X**				
Training Room	**X**				**Yes**	**No**
SCBA Storage		**X**				
SCBA Refill Station		**X**				
Emergency Vehicle Parking/Storage						
Drive-Through Apparatus Bays	**X**		**2**		**No**	**No**
Front Apparatus Apron	**X**		**1**		**No**	**No**
Rear Apparatus Apron / Parking	**X**		**1**		**No**	**No**

Comments/Recommendations	

FACILITY ASSESSMENT

Fire Station #3

Address:	**5700 Rowland Road**	
Ownership:	**City of Minnetonka**	
Parcel Size (acres)	**.79**	
Building Size (sq. ft.)	**7560**	
Number of Stories	**2**	
Building Age (years)	**1985**	
Daily Staffing	Min. **2**	Max. **4**
Number of Apparatus	Min. **1**	Max. **2**
Apparatus Bays	Indoor: **2**	Outdoor: **0**

Assessment Factor	Finding			
Essential Services Facility	**Yes**	**No**	**Unknown or N/A**	**Comments**
Meets ESA Seismic Requirements			**X**	
Meets ADA Access Requirements		**X**		
Backup Electrical Generator	**X**			Size:**30 KVA** Fuel: **Natural Gas**
On-Site Vehicle Fueling		**X**		
Facility Safety/Security				
Fire Sprinkler System	**X**			
Smoke Detectors	**X**			
CO Detectors	**X**			
Vehicle Exhaust Capture System	**X**			
PPE allowed in living/sleeping areas		**X**		
Smoking and tobacco free	**X**			
Pole hole secured			**X**	
Apparatus door safety features		**X**		
Station Alerting System Conformance with NFPA 1500	**X**			Scheduled to be installed in 2023
Carcinogen Contamination Control Zones		**X**		
PPE Storage Conformance with NFPA 1851		**X**		
Dedicated PPE Cleaning Equipment	**X**			
Ice Machines Isolated from Red/Yellow Zones			**X**	
PPE Cleaning Capacity	**X**			
Dedicated Medical Waste Disposal		**X**		
Dedicated EMS Equipment/Supply Storage		**X**		
Secured Building Access	**X**			

Secured Employee Parking		X		
Annual Safety Inspections			UNK	Last Inspection:

Major Facility Systems/Components	Last Serviced or Repaired	Last Replaced	Condition	Notes
HVAC	2022	2009	Fair	
Roof	9/2022		C	Total area is graded as Like new to Poor depending on section.
Asphalt Surfaces	UNK	UNK	Poor	Concrete apron is crumbling
Standby Generator	2022	1987	Poor	30 KWA Scheduled for replacement 2023
SCBA Air Compressor	NA	NA	NA	
PPE Washer	2022	2018	Good	

Functional Areas	Yes	No	Number	Total Area (Sq. Ft.)	Meets Current Needs	Meets Anticipated Future Needs
Office/Workspace	X		2		No	No
Restroom(s)	X		3		No	No
Sleeping	X		3		No	No
Kitchen/Dining	X		1		No	No
Living Area / Day Room	X		1		Yes	No
Physical Fitness Workout Space		X				
Storage Space	X		2		No	No
Workshop		X				
Training Room	X		1		Yes	No
SCBA Storage		X				
SCBA Refill Station		X				
Emergency Vehicle Parking/Storage						
Drive-Through Apparatus Bays		X	Poor			
Front Apparatus Apron	X		Poor			
Rear Apparatus Apron / Parking		X				

Comments/Recommendations	
	This station is inadequate for 24 hour staffing
	This building is built into a hill which results in issues with mold, mildew and insect infestations

FACILITY ASSESSMENT

Fire Station #4

Address:	**17125 Excelsior Blvd.**	
Ownership:	**City of Minnetonka**	
Parcel Size (acres)	**1.96**	
Building Size (sq. ft.)	**7560**	
Number of Stories	**2**	
Building Age (years)	**1985**	
Daily Staffing	Min. **0**	Max. **0**
Number of Apparatus	Min. **2**	Max. **3**
Apparatus Bays	Indoor: **2**	Outdoor: **0**

Assessment Factor	Finding			
Essential Services Facility	**Yes**	**No**	**Unknown or N/A**	**Comments**
Meets ESA Seismic Requirements			X	
Meets ADA Access Requirements		X		
Backup Electrical Generator	X			Size:**40 KVA** Fuel: **Natural Gas**
On-Site Vehicle Fueling		X		
Facility Safety/Security				
Fire Sprinkler System	X			
Smoke Detectors	X			
CO Detectors	X			
Vehicle Exhaust Capture System		X		
PPE allowed in living/sleeping areas		X		
Smoking and tobacco free	X			
Pole hole secured			X	
Apparatus door safety features		X		
Station Alerting System Conformance with NFPA 1500		X		
Carcinogen Contamination Control Zones		X		
PPE Storage Conformance with NFPA 1851		X		
Dedicated PPE Cleaning Equipment		X		
Ice Machines Isolated from Red/Yellow Zones			X	
PPE Cleaning Capacity		X		
Dedicated Medical Waste Disposal		X		
Dedicated EMS Equipment/Supply Storage		X		
Secured Building Access	X			

Secured Employee Parking		X		
Annual Safety Inspections			X	Last Inspection:

Major Facility Systems/Components	Last Serviced or Repaired	Last Replaced	Condition	Notes
HVAC	2022	2003	Fair	
Roof	9/2022		C	Areas graded from like new to poor depending on section
Asphalt Surfaces	UNK	UNK	Poor	Potholes and areas failing
Standby Generator	9/2022	2016	Good	40 KWA
SCBA Air Compressor	NA	NA	NA	
PPE Washer	NA	NA	NA	Scheduled install 2023

Functional Areas	Yes	No	Number	Total Area (Sq. Ft.)	Meets Current Needs	Meets Anticipated Future Needs
Office/Workspace	X		2		Yes	No
Restroom(s)	X		3		No	No
Sleeping		X				
Kitchen/Dining	X		1		No	No
Living Area / Day Room	X		1		No	No
Physical Fitness Workout Space		X				
Storage Space	X		2		No	No
Workshop		X				
Training Room	X		1		No	No
SCBA Storage		X				
SCBA Refill Station		X				
Emergency Vehicle Parking/Storage						
Drive-Through Apparatus Bays	X				Yes	Yes
Front Apparatus Apron	X				No	No
Rear Apparatus Apron / Parking	X				Yes	No

Comments/Recommendations	

FACILITY ASSESSMENT

Fire Station #5

Address:	**15155 Wayzata Blvd.**		
Ownership:	**City of Minnetonka**		
Parcel Size (acres)	**1.09**		
Building Size (sq. ft.)	**8,185**		
Number of Stories	**2**		
Building Age (years)	**1991**		
Daily Staffing	Min. **0**	Max. **0**	
Number of Apparatus	Min. **2**	Max. **3**	
Apparatus Bays	Indoor: **2**	Outdoor: **0**	

Assessment Factor	Finding			
Essential Services Facility	**Yes**	**No**	**Unknown or N/A**	**Comments**
Meets ESA Seismic Requirements			X	
Meets ADA Access Requirements		X		
Backup Electrical Generator	X			Size:**40 KVA** Fuel: **Natural Gas**
On-Site Vehicle Fueling		X		
Facility Safety/Security				
Fire Sprinkler System	X			
Smoke Detectors	X			
CO Detectors	X			
Vehicle Exhaust Capture System	X			
PPE allowed in living/sleeping areas		X		
Smoking and tobacco free	X			
Pole hole secured			X	
Apparatus door safety features		X		
Station Alerting System Conformance with NFPA 1500		X		
Carcinogen Contamination Control Zones		X		
PPE Storage Conformance with NFPA 1851		X		
Dedicated PPE Cleaning Equipment		X		Scheduled install 2023
Ice Machines Isolated from Red/Yellow Zones			X	
PPE Cleaning Capacity		X		
Dedicated Medical Waste Disposal		X		
Dedicated EMS Equipment/Supply Storage		X		
Secured Building Access	X			

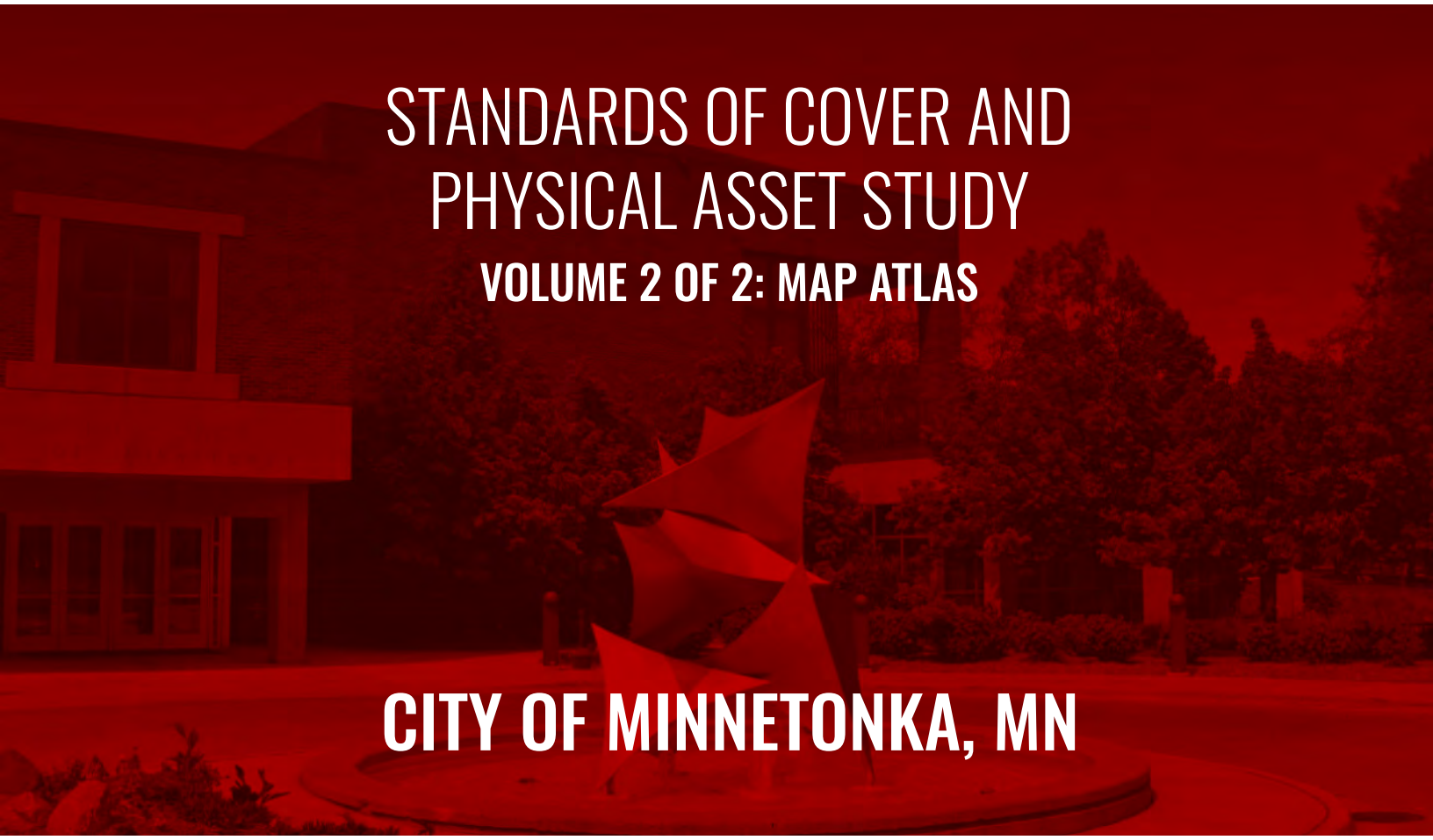
Secured Employee Parking		X		
Annual Safety Inspections			X	Last Inspection:

Major Facility Systems/Components	Last Serviced or Repaired	Last Replaced	Condition	Notes
HVAC	2022	2013	Good	
Roof		2021	A	Roof is new
Asphalt Surfaces	Unk	Unk	Fair	
Standby Generator	2022	1991	Poor	35 KWA Scheduled for replacement in 2023
SCBA Air Compressor	2022	2020	Good	
PPE Washer				Scheduled for 2023 Install

Functional Areas	Yes	No	Number	Total Area (Sq. Ft.)	Meets Current Needs	Meets Anticipated Future Needs
Office/Workspace	X		2		No	No
Restroom(s)	X		3		No	No
Sleeping	X		4		Yes	No
Kitchen/Dining	X		1		No	No
Living Area / Day Room	X		1		Yes	No
Physical Fitness Workout Space		X				
Storage Space	X		3		No	No
Workshop		X				
Training Room	X		1		Yes	No
SCBA Storage		X				
SCBA Refill Station	X				Yes	Yes
Emergency Vehicle Parking/Storage						
Drive-Through Apparatus Bays		X				
Front Apparatus Apron	X		1		Yes	Yes
Rear Apparatus Apron / Parking		X				

Comments/Recommendations	

CITYGATE
FIRE & EMS



STANDARDS OF COVER AND PHYSICAL ASSET STUDY

VOLUME 2 OF 2: MAP ATLAS

CITY OF MINNETONKA, MN

APRIL 18, 2023

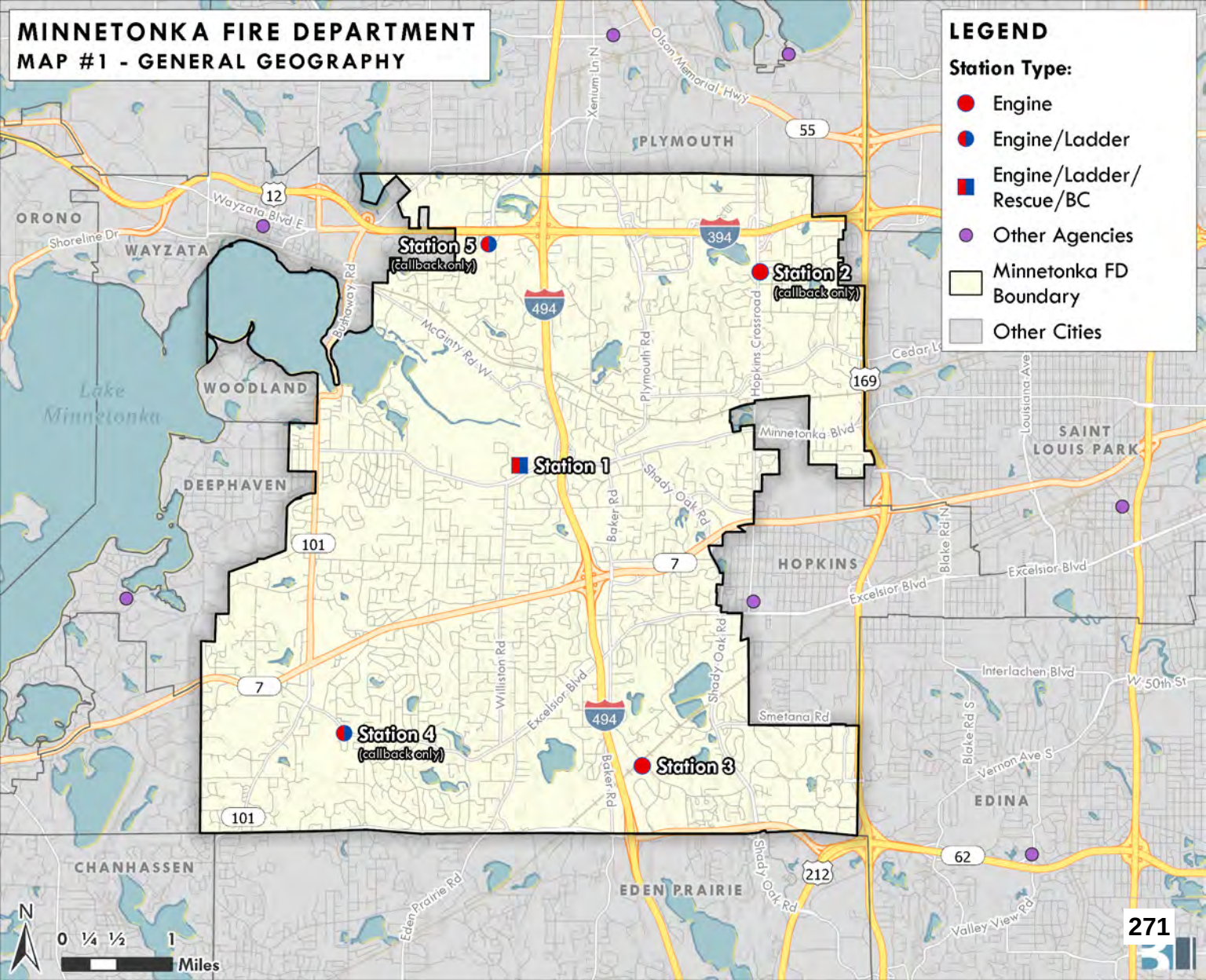
CITYGATE
FIRE & EMS

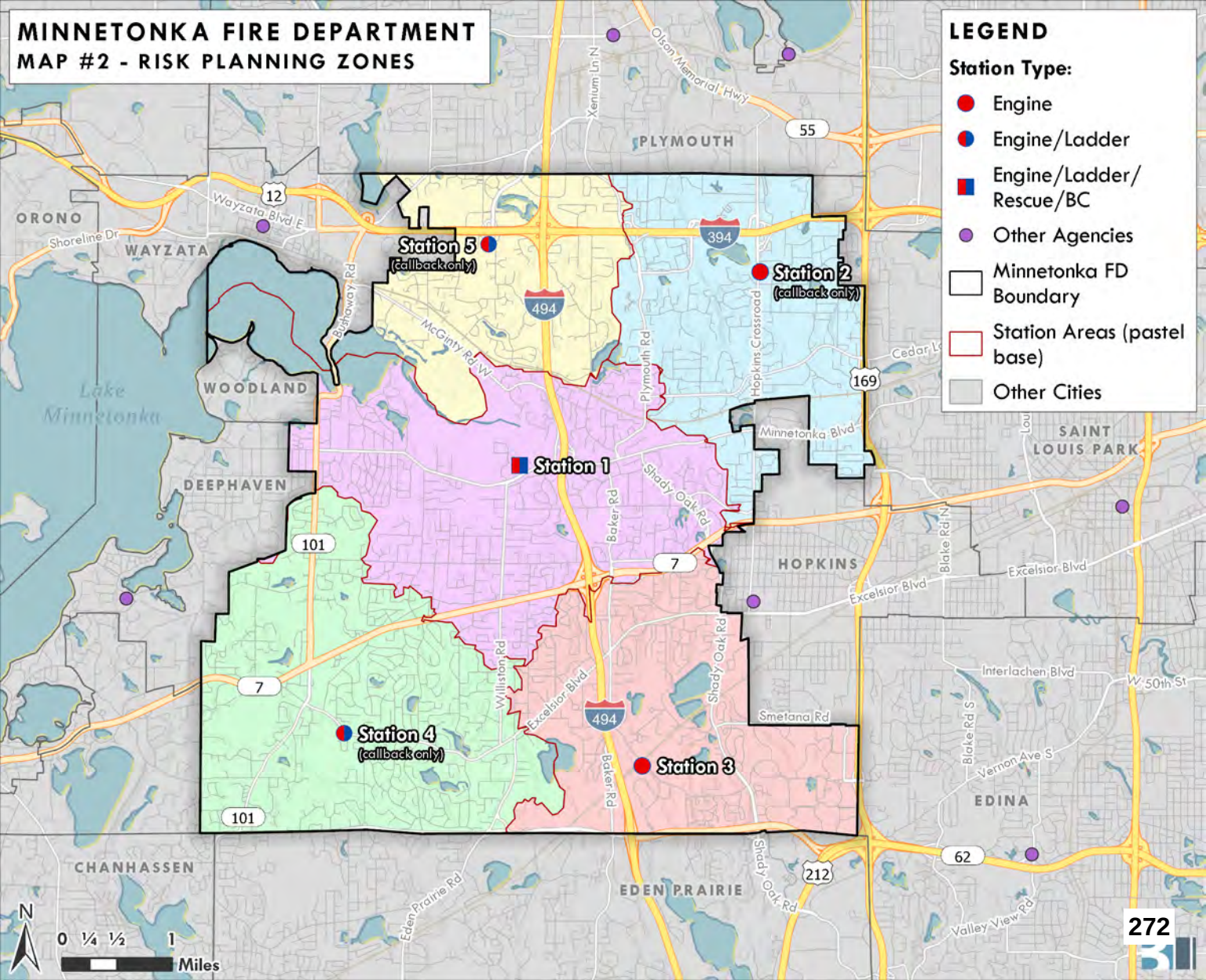
WWW.CITYGATEASSOCIATES.COM

600 COOLIDGE DRIVE, SUITE 150
FOLSOM, CA 95630

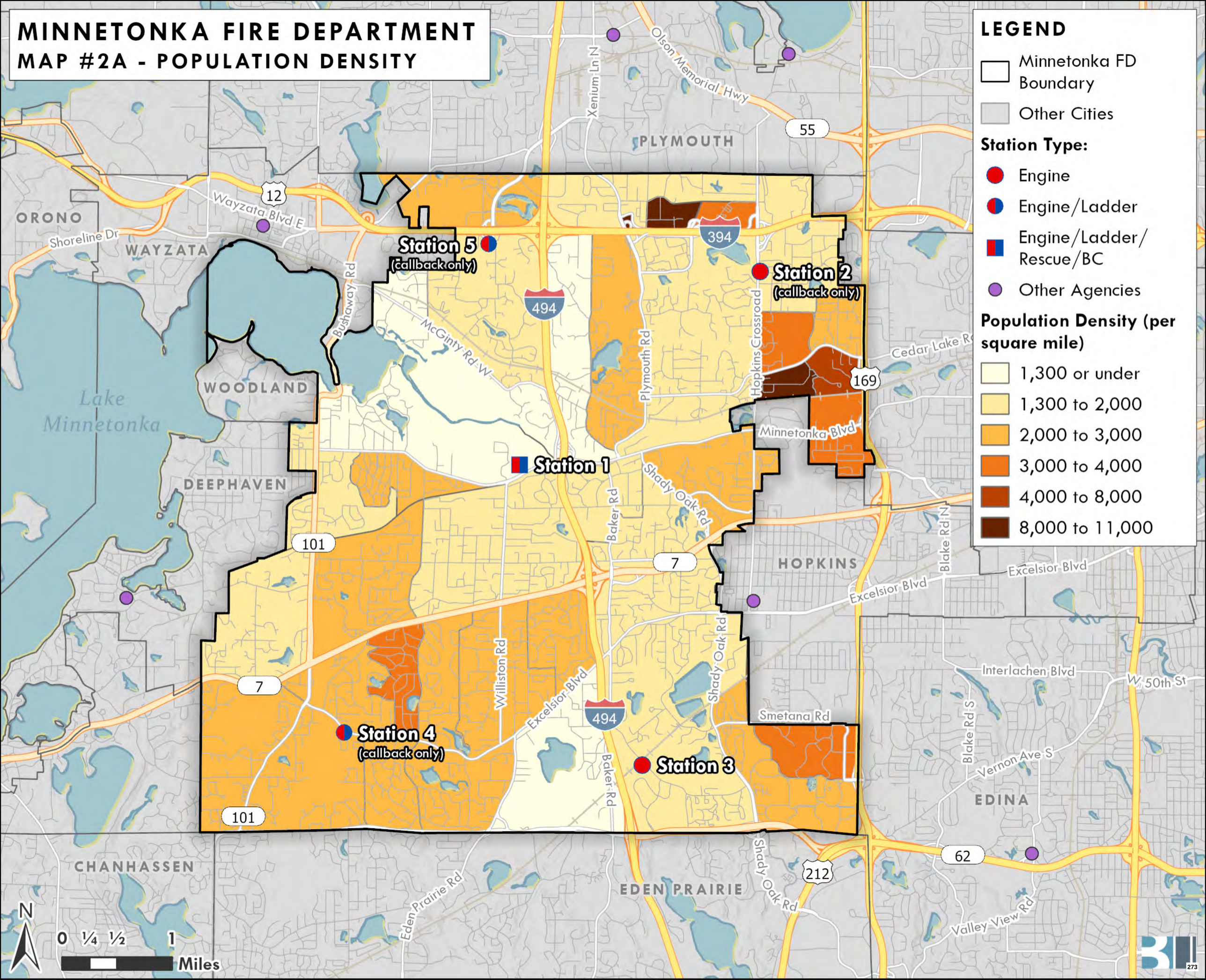
PHONE: (916) 458-5100
FAX: (916) 983-2090

CITY OF MINNETONKA


MINNETONKA FIRE DEPARTMENT
MAP #1 - GENERAL GEOGRAPHY
LEGEND
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
Lake Minnetonka
SAINT LOUIS PARK
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Xerium Ln N
Olson Memorial Hwy
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Louisiana Ave
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles
271


MINNETONKA FIRE DEPARTMENT
MAP #2 - RISK PLANNING ZONES
LEGEND
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Station Areas (pastel base)
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
Lake Minnetonka
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Xerium Ln N
Olson Memorial Hwy
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles

MINNETONKA FIRE DEPARTMENT
MAP #2A - POPULATION DENSITY



LEGEND

- Minnetonka FD Boundary
- Other Cities

Station Type:

- Engine
- Engine/Ladder
- Engine/Ladder/ Rescue/BC
- Other Agencies

Population Density (per square mile)

- 1,300 or under
- 1,300 to 2,000
- 2,000 to 3,000
- 3,000 to 4,000
- 4,000 to 8,000
- 8,000 to 11,000

MINNETONKA FIRE DEPARTMENT

MAP #3 - 4:00-MINUTE FIRST DUE ENGINE TRAVEL TIME

LEGEND

- 4-Minute First Due
- 4-Minute Auto Aid

Station Type:

- Engine
- Engine/Ladder
- Engine/Ladder/ Rescue/BC
- Other Agencies
- Minnetonka FD Boundary
- Other Cities

Station 5 (callback only)

Station 2 (callback only)

Station 1

Station 4 (callback only)

Station 3

ORONO
WAYZATA
WOODLAND
DEEPHAVEN
PLYMOUTH
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Xenium Ln N
Olson Memorial Hwy
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Cedar L
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Blake Rd N
Excelsior Blvd
Williston Rd
Smetana Rd
Interlachen Blvd
W 50th St
Blake Rd S
Vernon Ave S
Eden Prairie Rd
Valley View Rd
55
12
394
494
169
101
7
212
62

N

0 ¼ ½ 1 Miles

MINNETONKA FIRE DEPARTMENT

MAP #3A - 5:00-MINUTE FIRST DUE ENGINE TRAVEL TIME WITH AUTO AID

LEGEND

- 5-Minute First Due
- 5-Minute Auto Aid

Station Type:

- Engine
- Engine/Ladder
- Engine/Ladder/ Rescue/BC
- Other Agencies
- Minnetonka FD Boundary
- Other Cities

Station 5 (callback only)

Station 2 (callback only)

Station 1

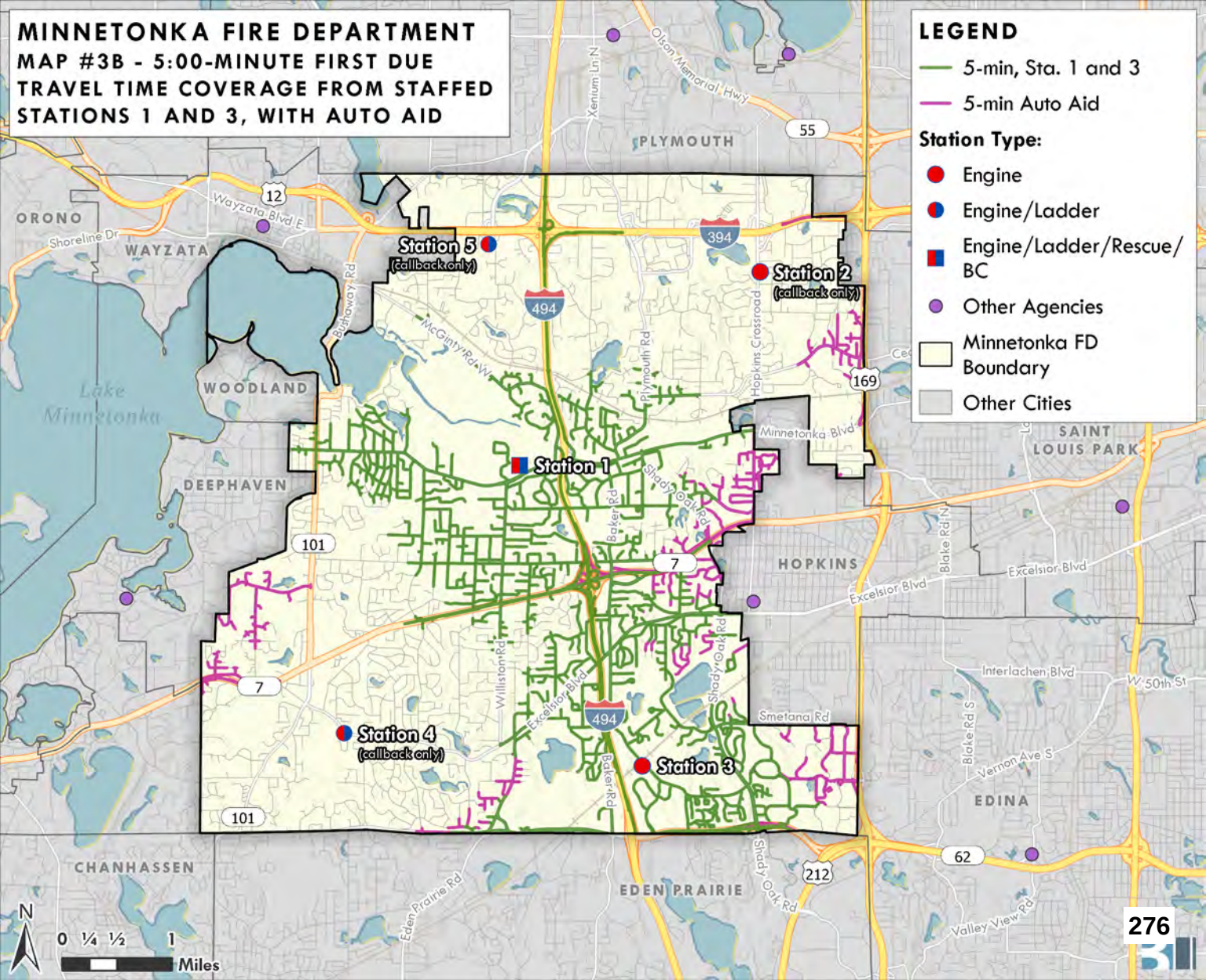
Station 4 (callback only)

Station 3

N

0 ¼ ½ 1 Miles

275


MINNETONKA FIRE DEPARTMENT
MAP #3B - 5:00-MINUTE FIRST DUE TRAVEL TIME COVERAGE FROM STAFFED STATIONS 1 AND 3, WITH AUTO AID
LEGEND
5-min, Sta. 1 and 3
5-min Auto Aid
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
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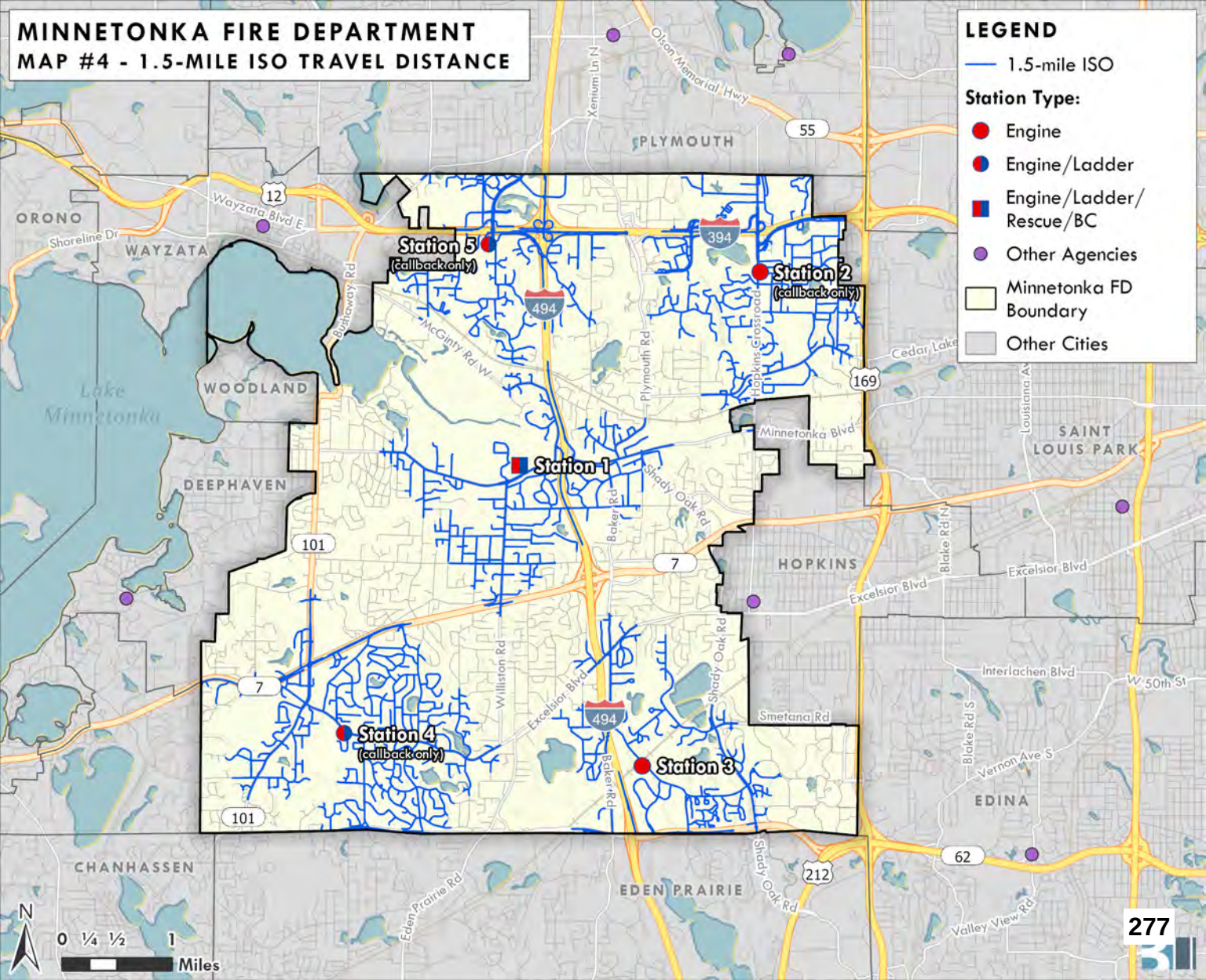
Miles


MINNETONKA FIRE DEPARTMENT
MAP #4 - 1.5-MILE ISO TRAVEL DISTANCE
LEGEND
1.5-mile ISO
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
EDEN PRAIRIE
CHANHASSEN
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Cedar Lake
Minnetonka Blvd
Louisiana Ave
Shady Oak Rd
Baker Rd
Blake Rd N
Excelsior Blvd
Williston Rd
Interlachen Blvd
W 50th St
Blake Rd S
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xenium Ln N
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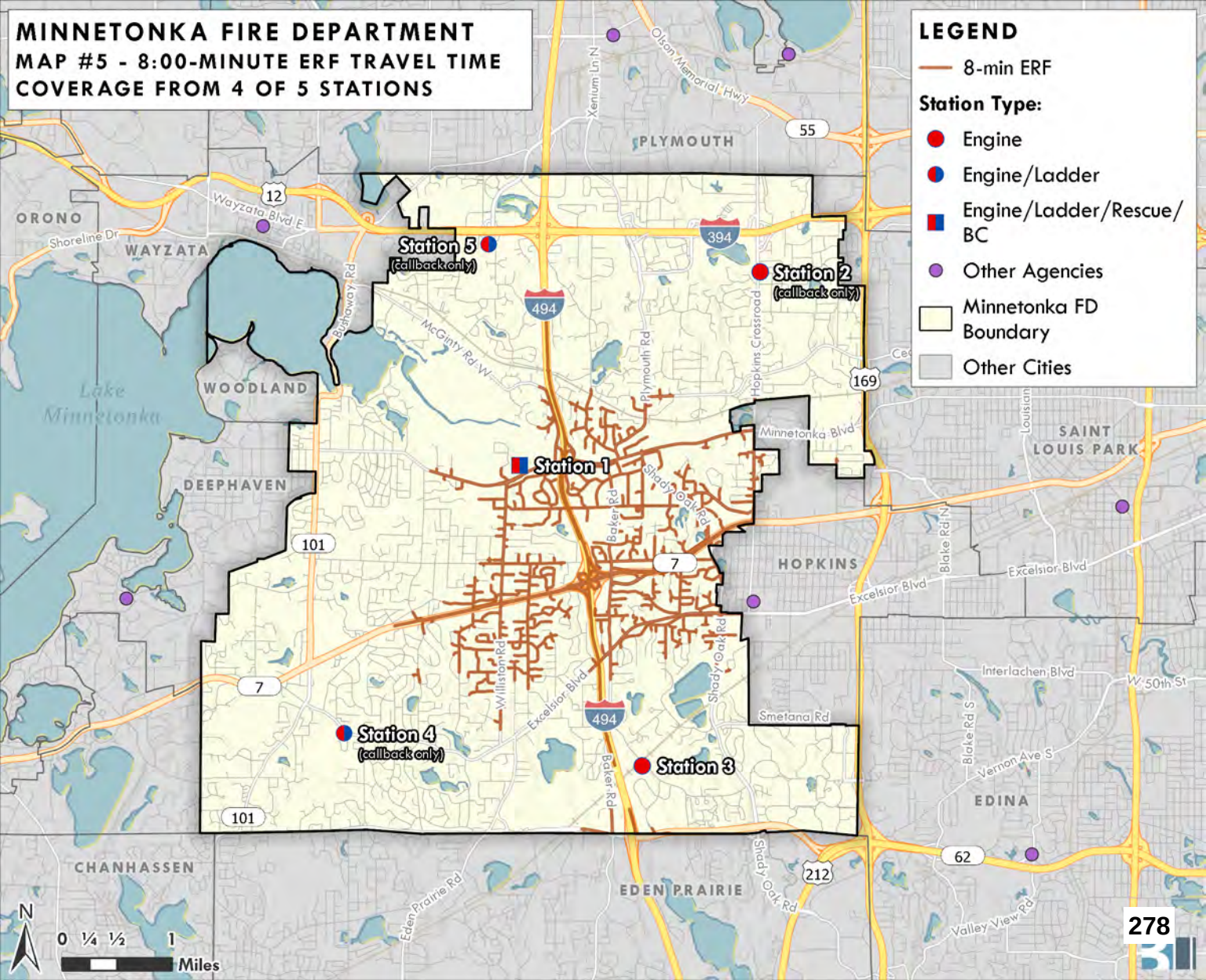
212
62
N
0 ¼ ½ 1
Miles
277


MINNETONKA FIRE DEPARTMENT
MAP #5 - 8:00-MINUTE ERF TRAVEL TIME
COVERAGE FROM 4 OF 5 STATIONS
LEGEND
8-min ERF
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
Lake Minnetonka
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Xerium Ln N
Olson Memorial Hwy
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Louisiana
Baker Rd
Shady Oak Rd
Blake Rd N
Excelsior Blvd
Interlachen Blvd
W 50th St
Blake Rd S
Vernon Ave S
Smetana Rd
Willston Rd
Eden Prairie Rd
Valley View Rd
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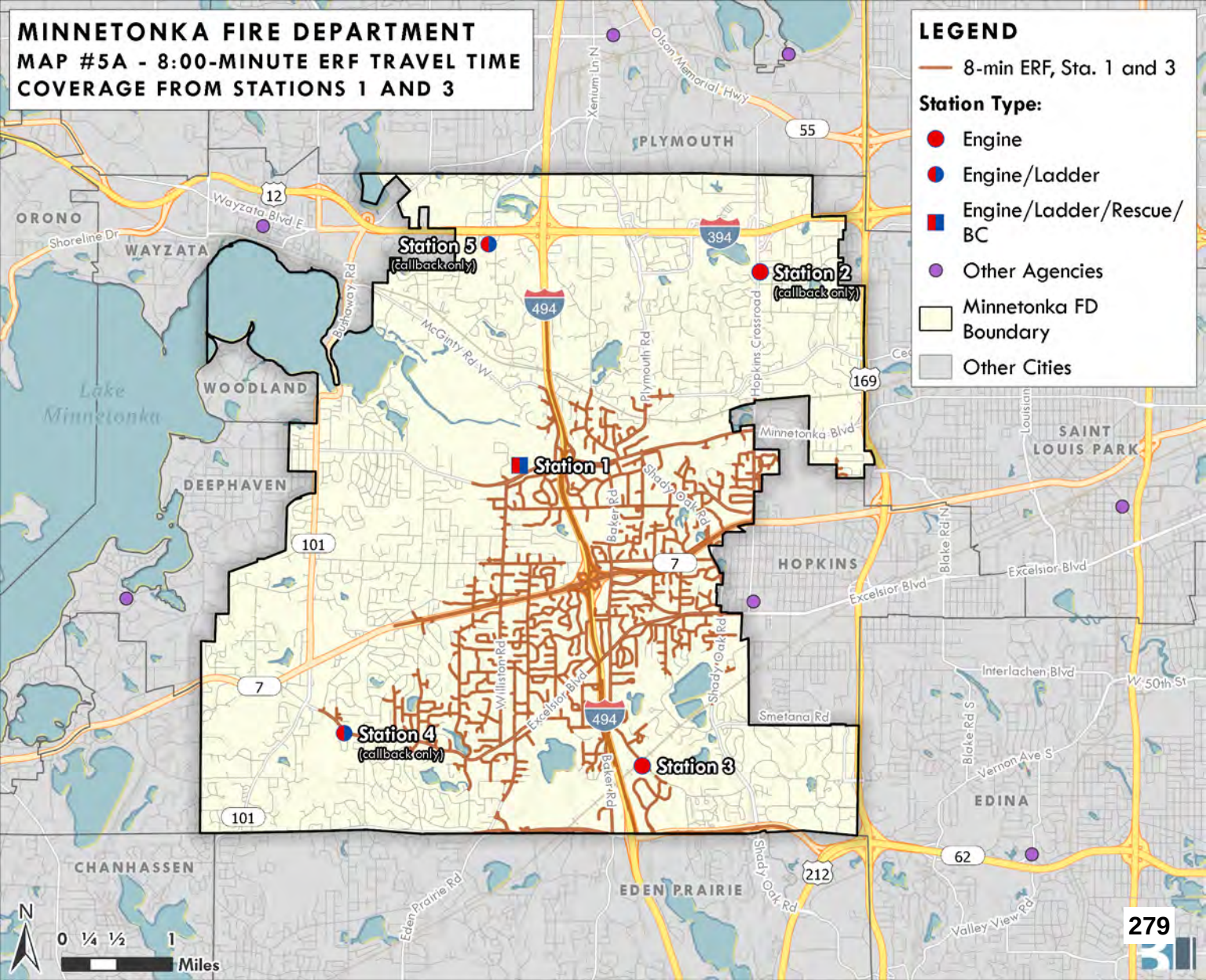
Miles


MINNETONKA FIRE DEPARTMENT
MAP #5A - 8:00-MINUTE ERF TRAVEL TIME COVERAGE FROM STATIONS 1 AND 3
LEGEND
8-min ERF, Sta. 1 and 3
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
12
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394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles
279

MINNETONKA FIRE DEPARTMENT

MAP #6 - 8:00-MINUTE TRUCK/LADDER TRAVEL TIME

LEGEND

- 8-Minute Truck/ Ladder Travel

Station Type:

- Engine
- Engine/Ladder
- Engine/Ladder/ Rescue/BC
- Other Agencies
- Minnetonka FD Boundary
- Other Cities

Station 5 (callback only)

Station 2 (callback only)

Station 1

Station 4 (callback only)

Station 3

ORONO
WAYZATA
WOODLAND
DEEPHAVEN
PLYMOUTH
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Shoreline Dr
Wayzata Blvd E
Bushaway Rd
McGinty Rd W
Xenium Ln N
Olson Memorial Hwy
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Cedar L
Shady Oak Rd
Baker Rd
Blake Rd N
Excelsior Blvd
Williston Rd
Smetana Rd
Blake Rd S
Interlachen Blvd
W 50th St
Vernon Ave S
Eden Prairie Rd
Valley View Rd
12
55
394
494
169
101
7
212
62

N

0 ¼ ½ 1 Miles

MINNETONKA FIRE DEPARTMENT
MAP #7 - 8:00-MINUTE BATTALION CHIEF TRAVEL TIME

LEGEND

- 8-Minute Battalion Chief Travel

Station Type:

- Engine
- Engine/Ladder
- Engine/Ladder/ Rescue/BC
- Other Agencies
- Minnetonka FD Boundary
- Other Cities

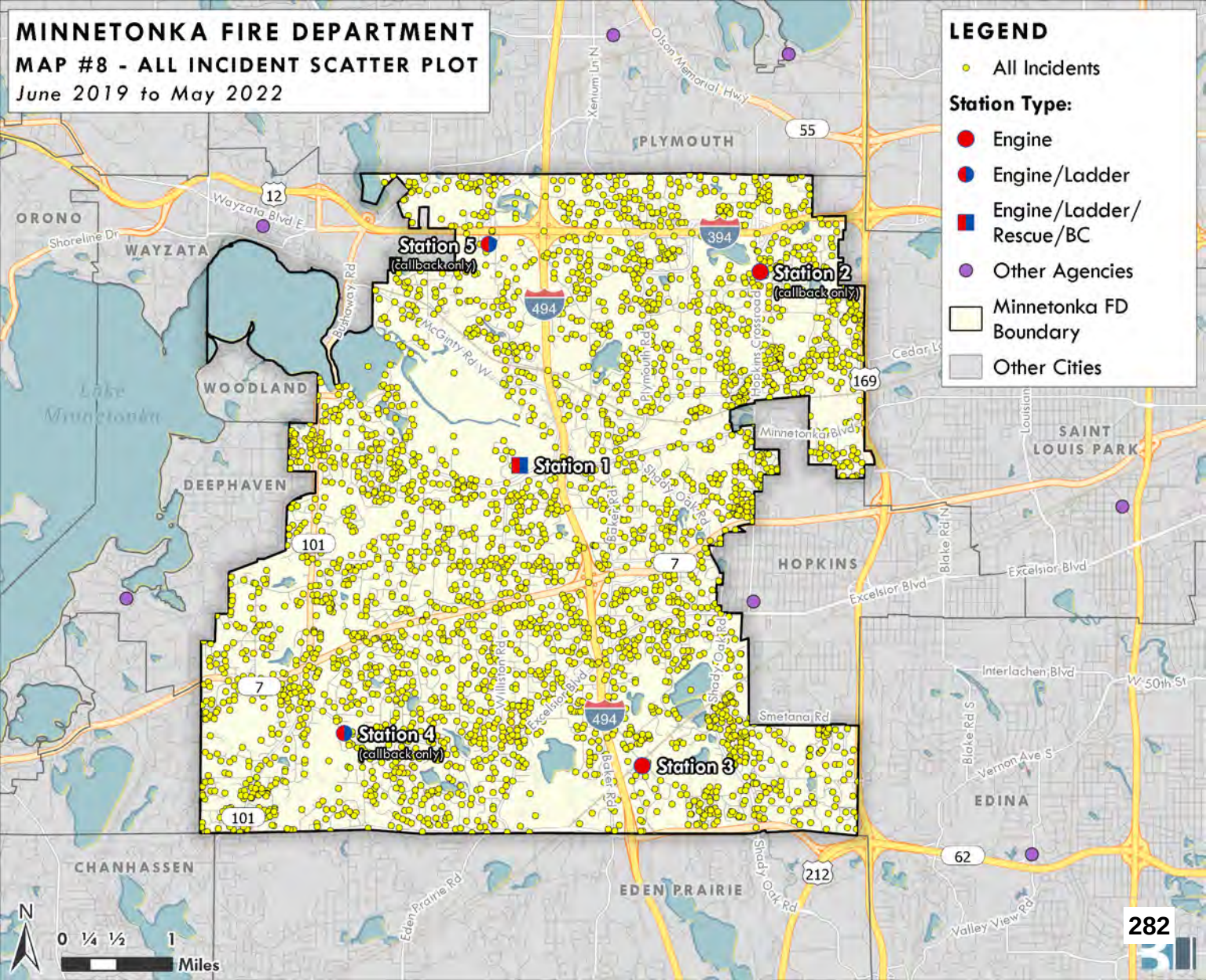
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3

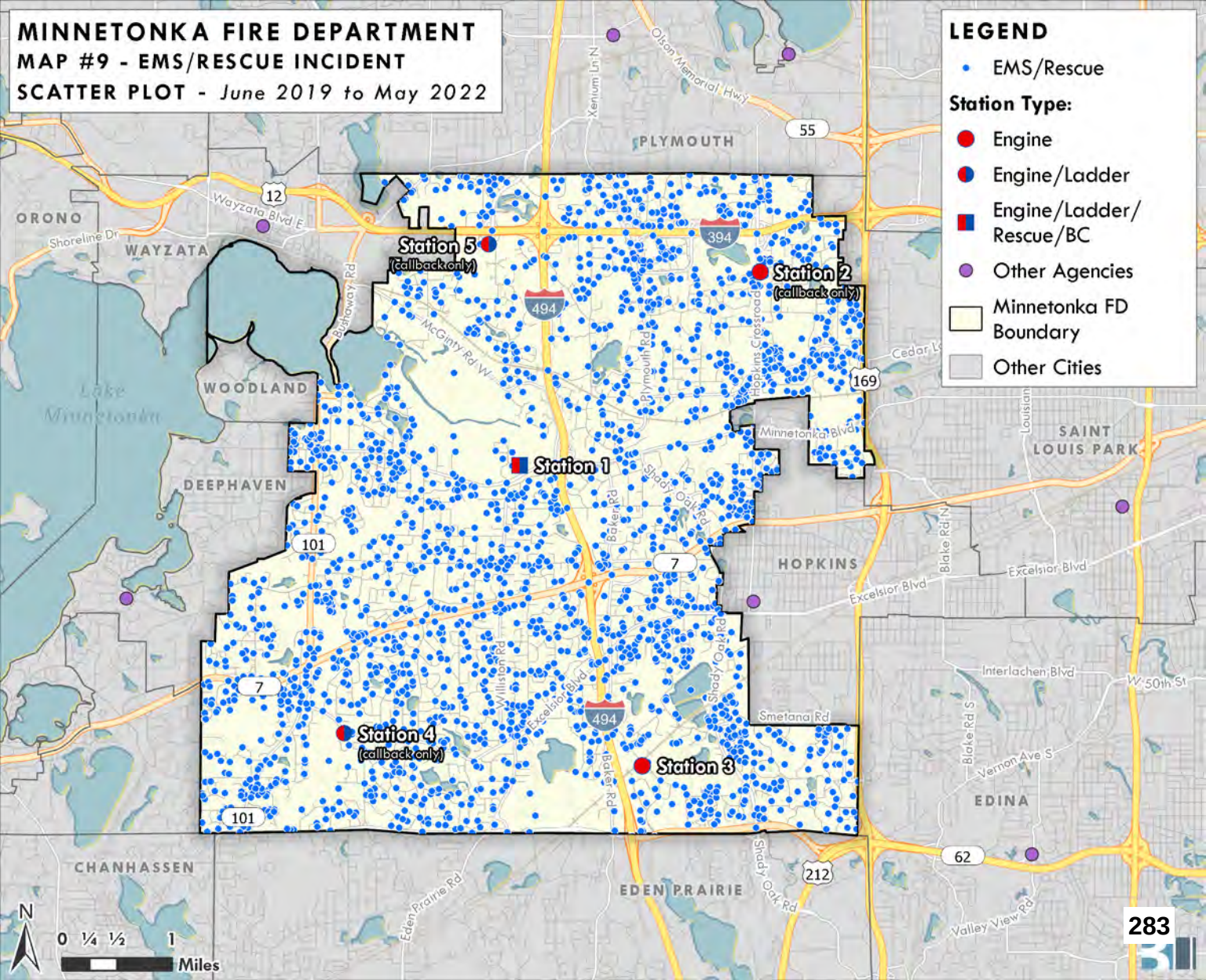
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
PLYMOUTH
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka

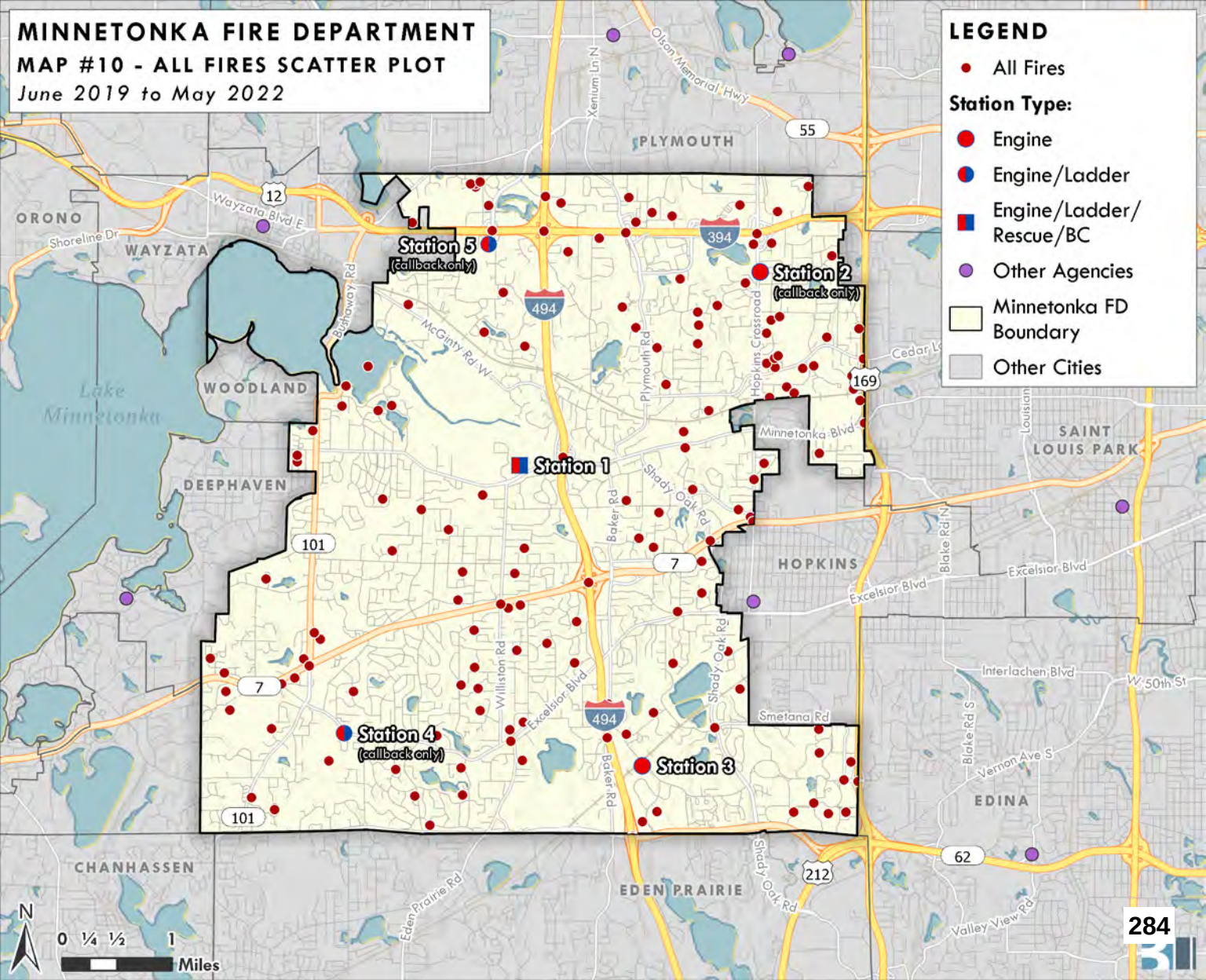
Xenium Ln N
Olson Memorial Hwy
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Cedar L
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Blake Rd N
Excelsior Blvd
Williston Rd
Smetana Rd
Blake Rd S
Interlachen Blvd
W 50th St
Vernon Ave S
Eden Prairie Rd
Valley View Rd

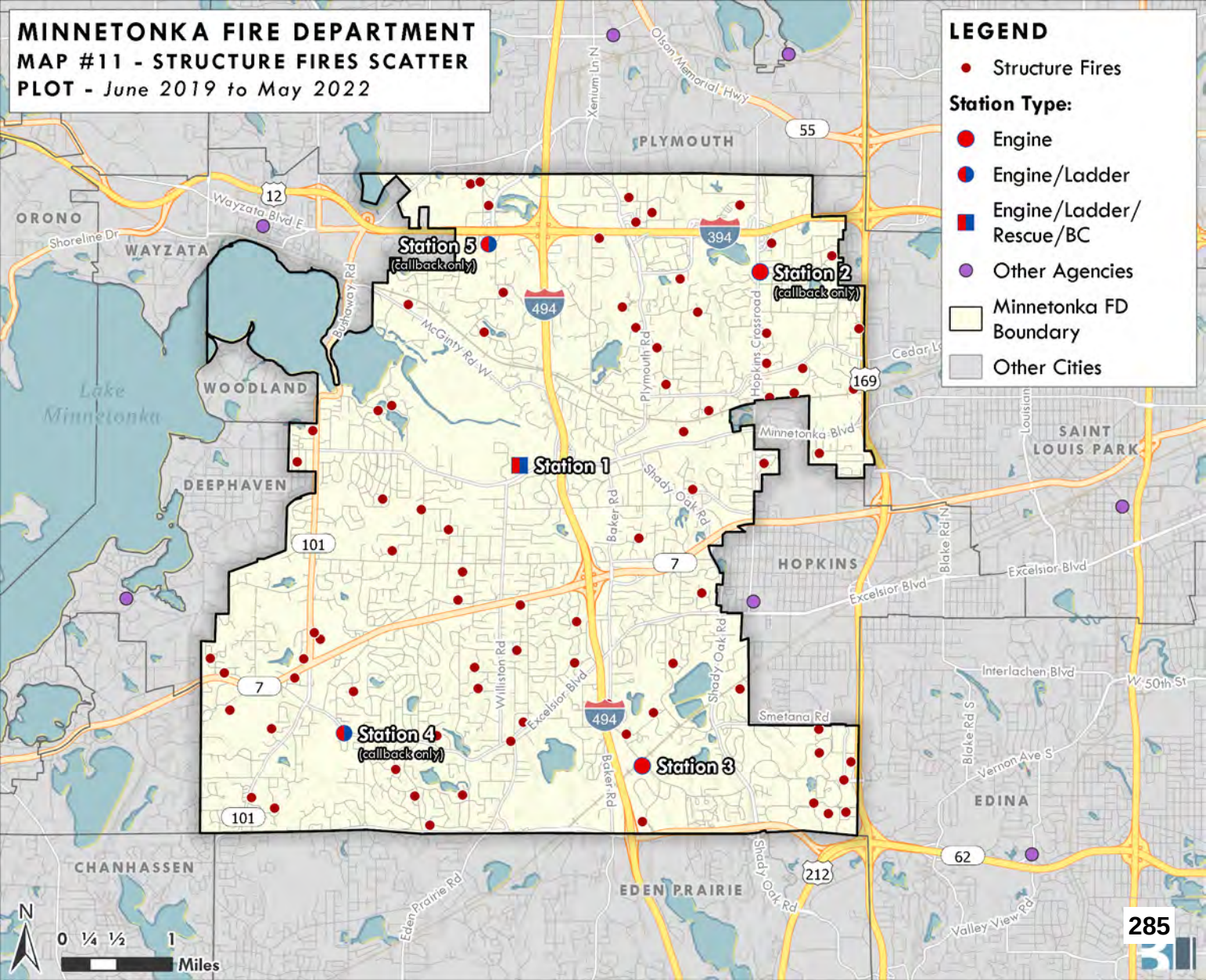
55
12
394
494
169
7
101
212
62

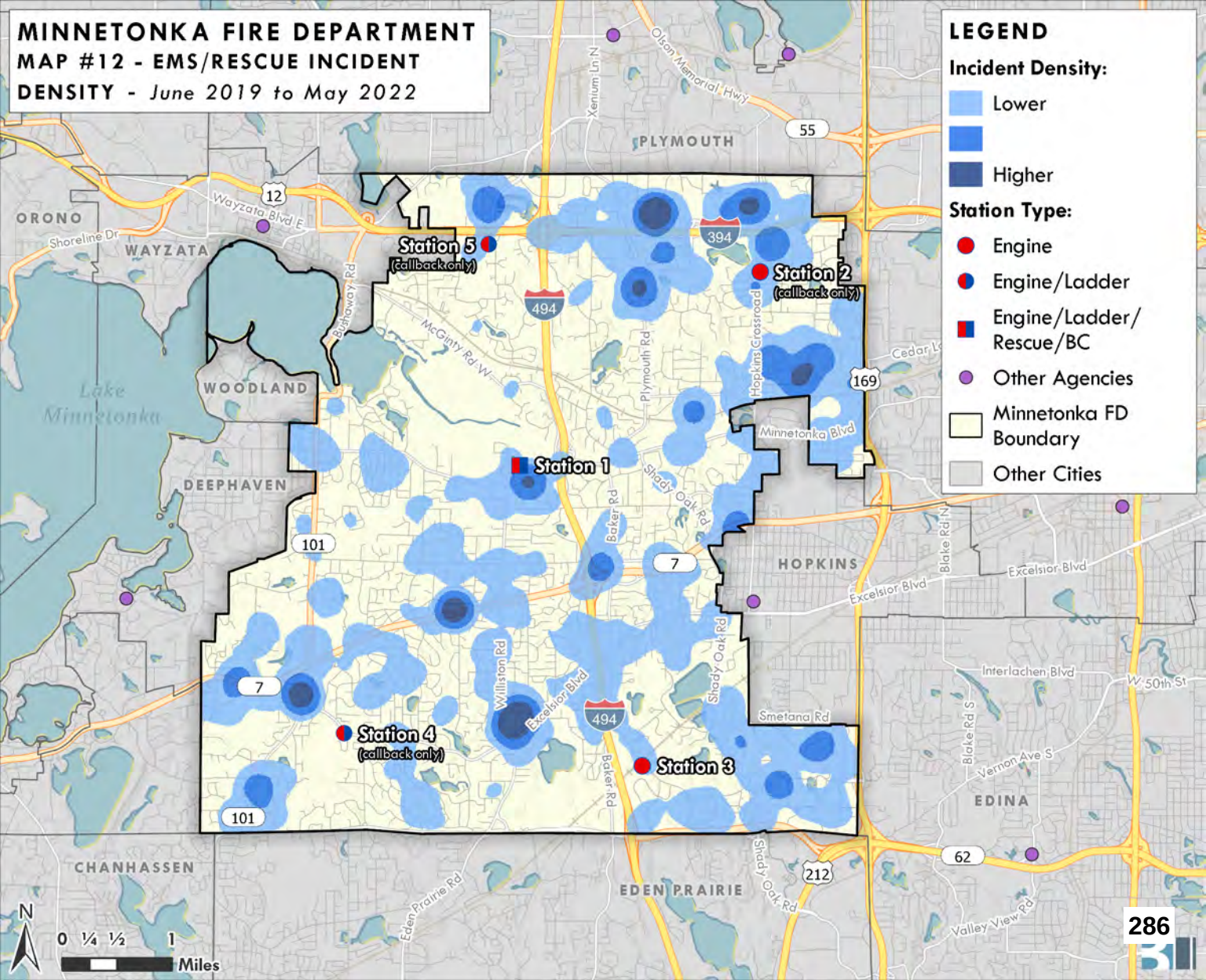
N
0 ¼ ½ 1 Miles

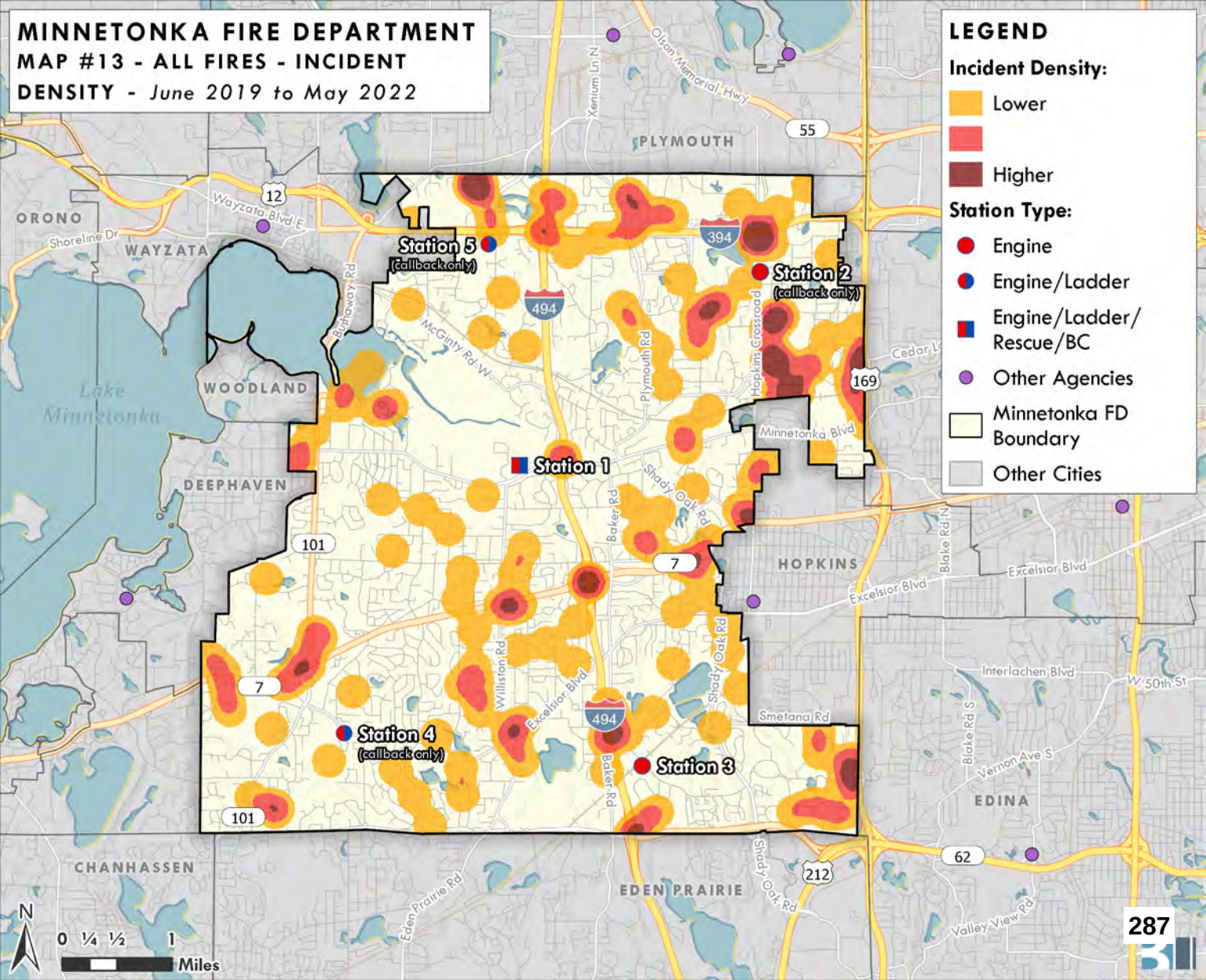

MINNETONKA FIRE DEPARTMENT
MAP #8 - ALL INCIDENT SCATTER PLOT
June 2019 to May 2022
LEGEND
All Incidents
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Xerium Ln N
Olson Memorial Hwy
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Louisiana
Cedar L
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles

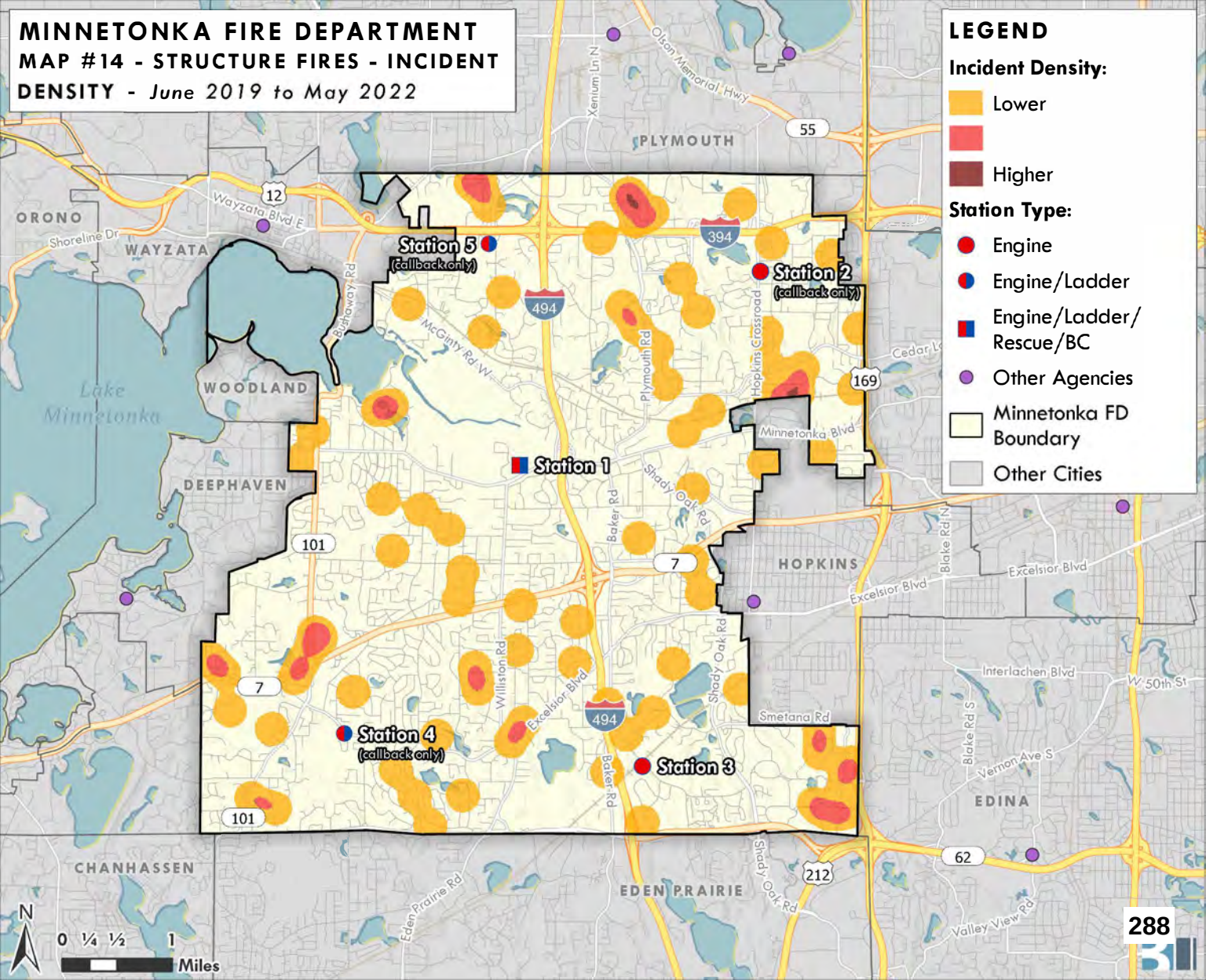

MINNETONKA FIRE DEPARTMENT
MAP #9 - EMS/RESCUE INCIDENT
SCATTER PLOT - June 2019 to May 2022
LEGEND
EMS/Rescue
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
EDEN PRAIRIE
CHANHASSEN
Lake Minnetonka
55
12
394
494
169
101
7
62
212
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Cedar Lake Rd
Minnetonka Blvd
Louisiana
Shady Oak Rd
Baker Rd
Blake Rd N
Excelsior Blvd
Interlachen Blvd
W 50th St
Blake Rd S
Vernon Ave S
Smetana Rd
Williston Rd
Eden Prairie Rd
Valley View Rd
Xerium Ln N
Olson Memorial Hwy
N
0 ¼ ½ 1
Miles
283

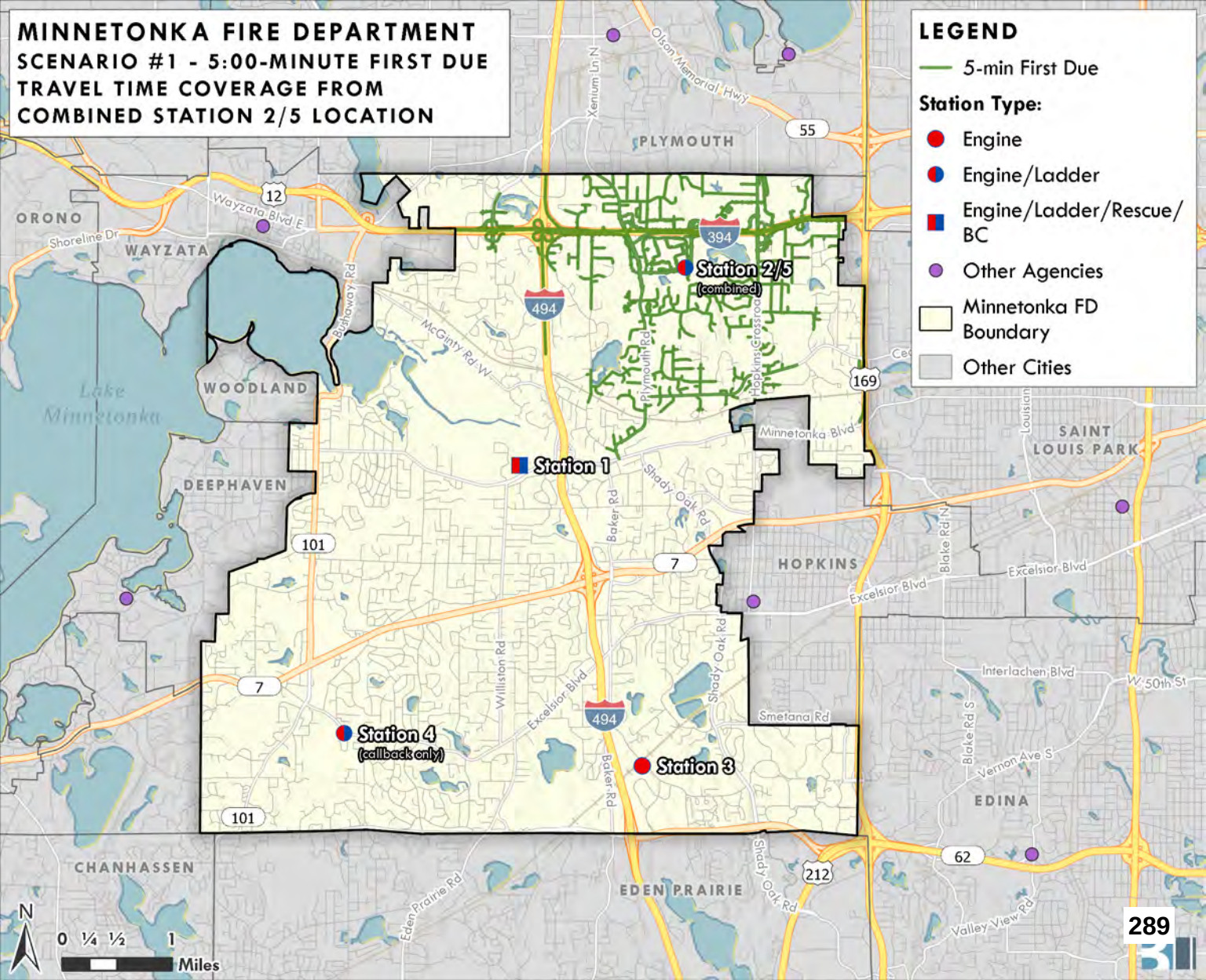

MINNETONKA FIRE DEPARTMENT
MAP #10 - ALL FIRES SCATTER PLOT
June 2019 to May 2022
LEGEND
All Fires
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
EDEN PRAIRIE
CHANHASSEN
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles
284

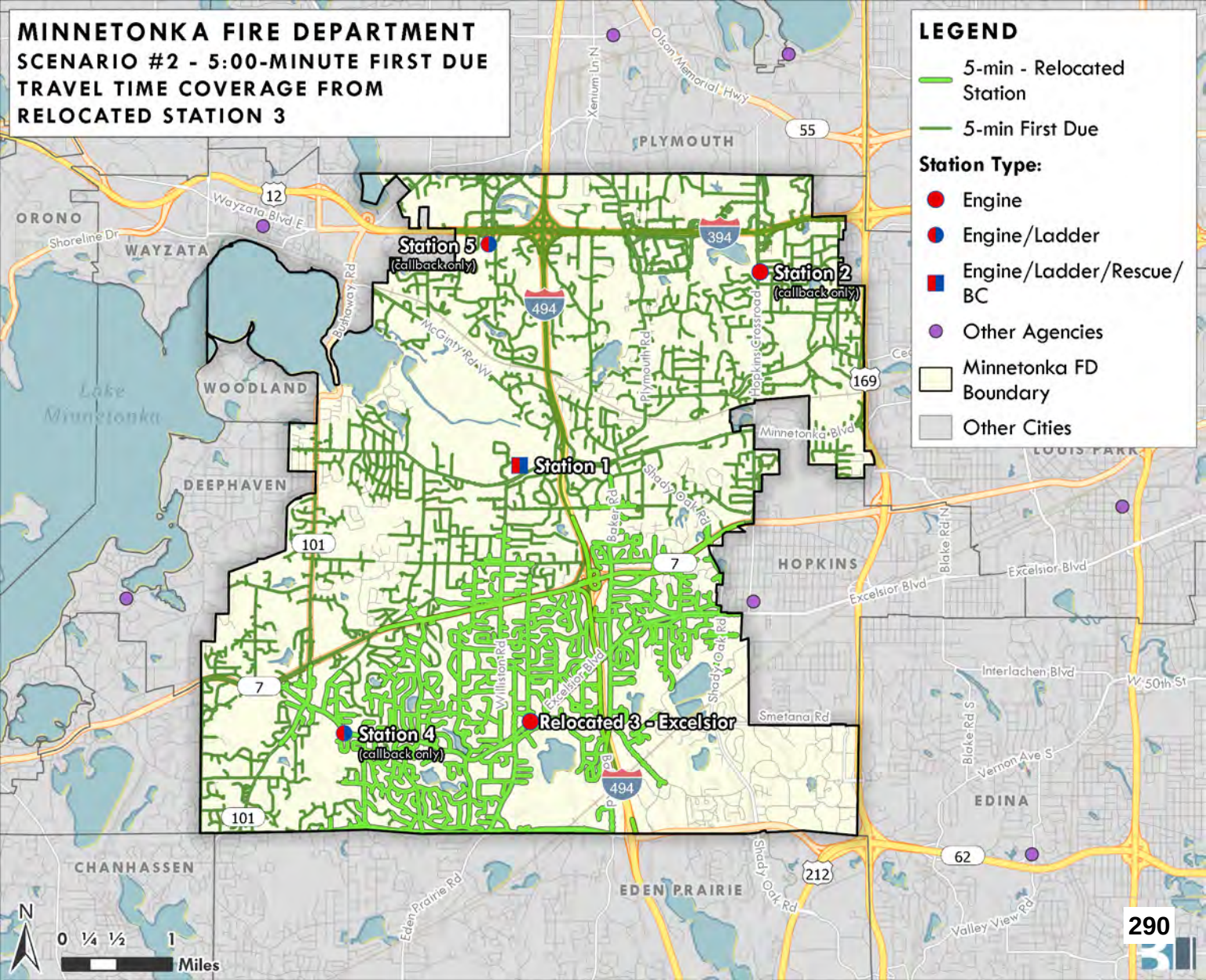

MINNETONKA FIRE DEPARTMENT
MAP #11 - STRUCTURE FIRES SCATTER PLOT - June 2019 to May 2022
LEGEND
Structure Fires
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
Cedar Lake Rd
Louisiana
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles

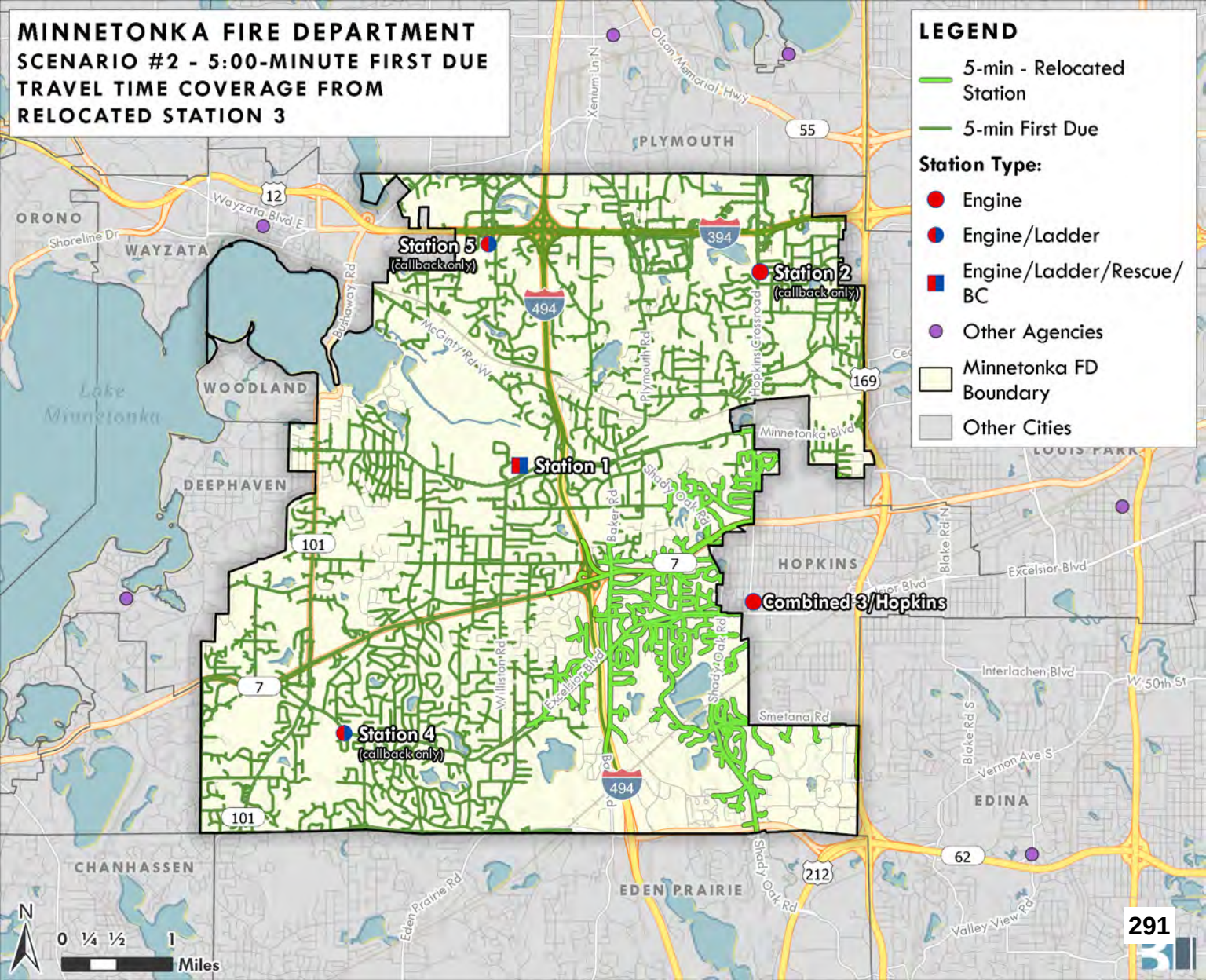

MINNETONKA FIRE DEPARTMENT
MAP #12 - EMS/RESCUE INCIDENT
DENSITY - June 2019 to May 2022
LEGEND
Incident Density:
Lower
Higher
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
55
12
394
494
169
7
101
212
62
N
0 ¼ ½ 1
Miles

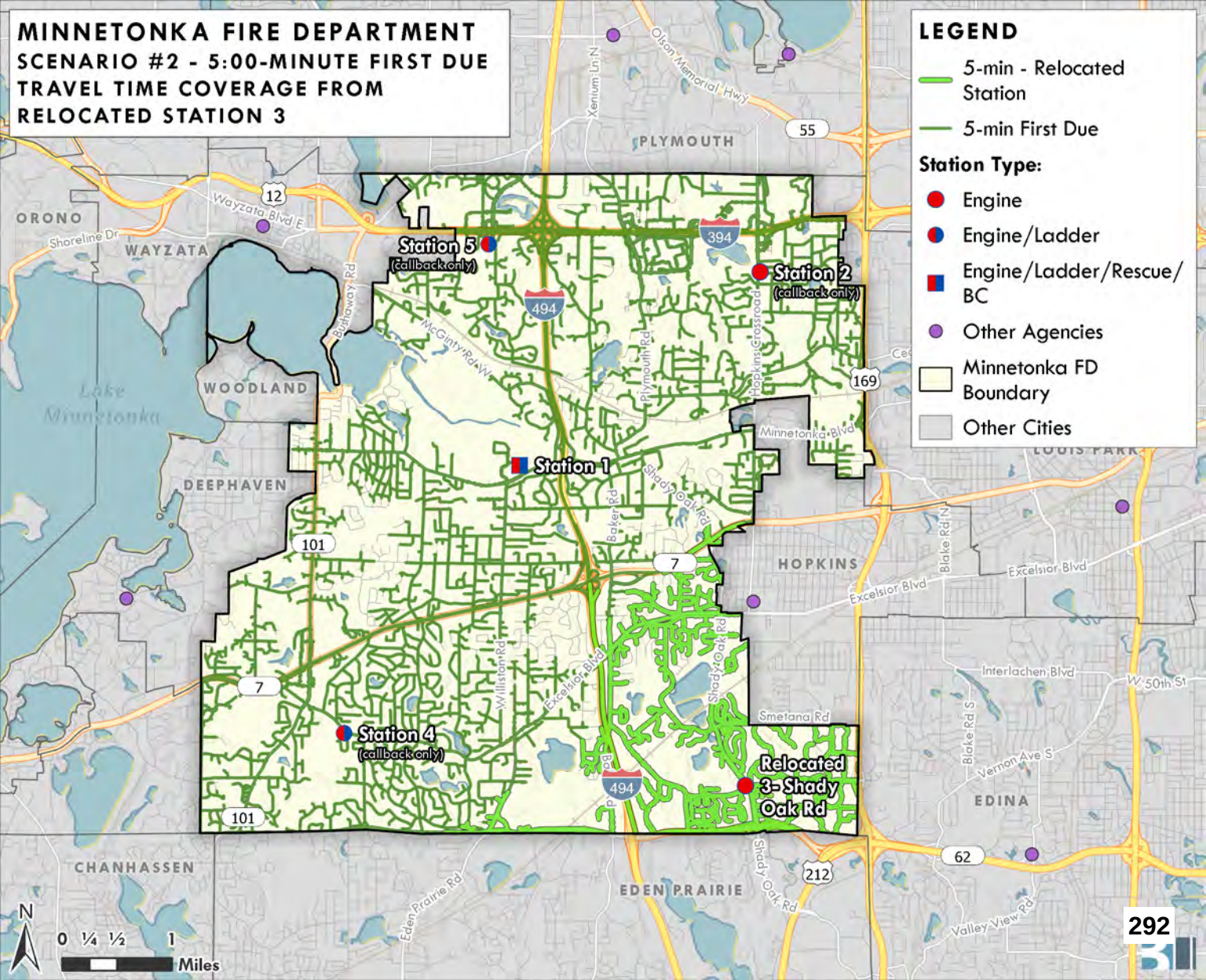

MINNETONKA FIRE DEPARTMENT
MAP #13 - ALL FIRES - INCIDENT
DENSITY - June 2019 to May 2022
LEGEND
Incident Density:
Lower
Higher
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Valley View Rd
Eden Prairie Rd
Olson Memorial Hwy
Xerium Ln N
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles
287


MINNETONKA FIRE DEPARTMENT
MAP #14 - STRUCTURE FIRES - INCIDENT DENSITY - June 2019 to May 2022
LEGEND
Incident Density:
Lower
Higher
Station Type:
Engine
Engine/Ladder
Engine/Ladder/ Rescue/BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Cedar Lake Rd
Shady Oak Rd
Baker Rd
Williston Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Smetana Rd
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xenium Ln N
12
55
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles


MINNETONKA FIRE DEPARTMENT
SCENARIO #1 - 5:00-MINUTE FIRST DUE TRAVEL TIME COVERAGE FROM COMBINED STATION 2/5 LOCATION
LEGEND
5-min First Due
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 2/5 (combined)
Station 1
Station 4 (callback only)
Station 3
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
SAINT LOUIS PARK
EDINA
EDEN PRAIRIE
CHANHASSEN
Lake Minnetonka
Olson Memorial Hwy
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Louisiana
Shady Oak Rd
Baker Rd
Blake Rd N
Excelsior Blvd
Williston Rd
Interlachen Blvd
W 50th St
Blake Rd S
Vernon Ave S
Smetana Rd
Eden Prairie Rd
Valley View Rd
55
12
394
494
169
7
101
212
62
N
0 ¼ ½ 1
Miles
289


MINNETONKA FIRE DEPARTMENT
SCENARIO #2 - 5:00-MINUTE FIRST DUE TRAVEL TIME COVERAGE FROM RELOCATED STATION 3
LEGEND
5-min - Relocated Station
5-min First Due
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Relocated 3 - Excelsior
Station 4 (callback only)
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Excelsior Blvd
Williston Rd
Smetana Rd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Vernon Ave S
Eden Prairie Rd
Valley View Rd
Xerium Ln N
Olson Memorial Hwy
55
12
394
494
169
7
101
212
62
0 ¼ ½ 1 Miles
N
290


MINNETONKA FIRE DEPARTMENT
SCENARIO #2 - 5:00-MINUTE FIRST DUE TRAVEL TIME COVERAGE FROM RELOCATED STATION 3
LEGEND
5-min - Relocated Station
5-min First Due
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Combined 3/Hopkins
Station 4 (callback only)
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Vernon Ave S
Smetana Rd
Williston Rd
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
55
12
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles
291


MINNETONKA FIRE DEPARTMENT
SCENARIO #2 - 5:00-MINUTE FIRST DUE TRAVEL TIME COVERAGE FROM RELOCATED STATION 3
LEGEND
5-min - Relocated Station
5-min First Due
Station Type:
Engine
Engine/Ladder
Engine/Ladder/Rescue/ BC
Other Agencies
Minnetonka FD Boundary
Other Cities
Station 5 (callback only)
Station 2 (callback only)
Station 1
Station 4 (callback only)
Relocated 3-Shady Oak Rd
PLYMOUTH
ORONO
WAYZATA
WOODLAND
DEEPHAVEN
HOPKINS
EDINA
CHANHASSEN
EDEN PRAIRIE
Lake Minnetonka
Wayzata Blvd E
Shoreline Dr
Bushaway Rd
McGinty Rd W
Plymouth Rd
Hopkins Crossroad
Minnetonka Blvd
Baker Rd
Shady Oak Rd
Excelsior Blvd
Blake Rd N
Blake Rd S
Interlachen Blvd
W 50th St
Vernon Ave S
Smetana Rd
Williston Rd
Eden Prairie Rd
Valley View Rd
Olson Memorial Hwy
Xerium Ln N
55
12
394
494
169
101
7
212
62
N
0 ¼ ½ 1
Miles