

Minnetrista Mound St. Bonifacius

Minnesota

Feasibility Study for Shared or Cooperative Fire and Emergency Services

Summer 2011

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Acknowledgements

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Executive Summary

Emergency Services Consulting International (ESCI) was engaged by the cities of Minnetrista, Mound, and St. Bonifacius to explore the feasibility of cooperative efforts between the Mound and St. Bonifacius fire departments that provide service to all three municipalities as well as the cities of Spring Park, Shorewood and Minnetonka Beach. This document begins with an evaluation of each organization's delivery of fire and emergency services and concludes with options and recommendations for future cooperative efforts.

Section I of the report consists of an evaluation of the fire protection conditions currently existing across the region. This evaluation includes an overview of each organization comprised of analysis of governance and lines of authority, organizational design, foundational policy documents, and budget and financing. This section also evaluates each agency's capital assets and capital improvement programs, staffing and personnel management, service delivery and performance and support programs such as training and education, fire prevention and life safety education, and dispatch and communications systems. The following paragraphs summarize the evaluation components within Section I.

The Mound Fire Department (MFD) is a direct operating department of the City of Mound in the state of Minnesota. The department provides fire protection and emergency medical first responder services to a jurisdiction that encompasses all of the governmental boundaries of the community, along with additional contractual service areas including all or portions of Minnetrista, Spring Park, Shorewood, and Minnetonka Beach. The department provides services to a population of approximately 24,951 in an area of approximately 94.1 square miles. There are currently 46 personnel involved in delivery and support of the department's services utilizing three engines, one aerial ladder truck, two water tenders, three rescue vehicles, one wildland unit, and six other utility or staff units.

The St. Bonifacius Fire Department (SBFD) is a direct operating department of the City of St. Bonifacius, Minnesota. The department provides fire protection and emergency medical first responder services to a jurisdiction that encompasses all of the governmental boundaries of the community, along with additional contractual service areas, including portions of Minnetrista, Laketown Township and Watertown Township. The department provides services to a population of approximately 5,559 in an area of approximately 24.5 square miles. There are currently 25 personnel involved in delivery and

support of the department’s services utilizing two engines, two tankers, two rescue units, one wildland unit, two boats, and an ATV.

In regard to finance and budget, MFD’s budget distribution is heavier on personnel costs, as would be expected for a department that employs full-time paid staff, while SBFD’s budget distribution is heavier on operations expenditures since it does not employ full-time personnel. MFD’s cost per capita calculates to \$71.54. In other words, it costs each person within MFD’s primary response area \$71.54 to maintain the current level of fire protection. This number, while higher than the Minnesota average of \$68.01, is well below the national average of fire protection costs at \$104.00. SBFD’s cost per capita calculates to \$46.12; significantly lower than the Minnesota average, and less than half the national average. It should be noted here that these averages do not segregate career departments from volunteer agencies, nor do they indicate the services provided. The comparison here is provided only to show where the department currently compares against all fire departments within Minnesota and throughout the U.S.

As of the 2010 budget year, MFD was to receive \$243,439 to provide fire protection services to 51.5 percent of the land area contained within the City of Minnetrista. Similarly, SBFD was to receive \$192,312 to provide fire protection services to 48.5 percent of the land area. Considering a Minnetrista population of 6,384, and without being able to determine accurate population distribution across the city, ESCI estimates that MFD provides service to approximately 3,288 residents while SBFD protects approximately 3,096 residents. Using these population figures, ESCI calculated a per capita cost of fire protection based on the different contracts. This translates to a per capita cost of \$62.11 for SBFD’s area within Minnetrista, and \$39.70 for MFD’s area within Minnetrista.

Each department operates from a single facility within the city limits of Mound and St. Bonifacius, respectively. Both facilities are considered to be in good to excellent condition and are appropriate for their current uses. The departments utilize a total of 25 primary response apparatus combined. Each piece of apparatus was evaluated and scored against a scale of Excellent, Good, Fair, Poor, and Serviceable. The ranking of each are listed below.

	Mound FD	St. Bonifacius FD
Excellent	9	5
Good	3	3
Fair	3	2
Poor	0	0
Serviceable	0	0
Total	15	10

From a regional perspective, the combined departments have two more engines (pumpers) but two fewer stations than the national average for departments with a similar combined population. However, these comparisons from national publications do not consider population density or area covered.

The effective utilization of personnel management components requires sufficient personnel resources including operational, administrative, and support positions to adequately carry out the duties and responsibilities with which they are charged. MFD is a mostly volunteer fire department since emergency response is comprised primarily of volunteer personnel. The department does, however, employ several individuals in various roles to assist with the administrative and support functions of the department. Administration and support positions include a full-time fire chief, a full-time administrative assistant shared with the police department, a deputy fire marshal, training officer, and assistant fire inspector (each at 16 hours per week), and a contracted fire inspector used as needed for 15 to 20 hours each month.

SBFD is an all-volunteer fire department, thus the administrative and support positions are also active in emergency operations. Administration and support for SBFD consists of the fire chief, five captains, and four lieutenants. The following figure compares the administrative and support positions of the two organizations.

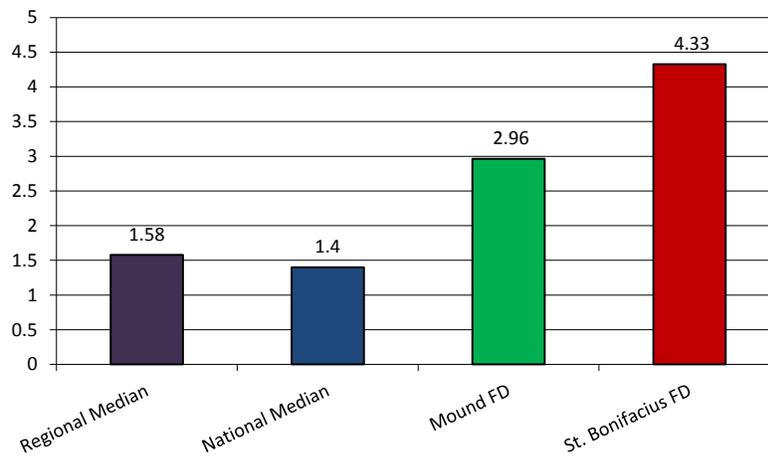
	MFD	SBFD	Total
Fire Chief	1.0	1.0	2.0
Assistant Chief	1.0	1.0	2.0
Deputy Fire Marshal	0.5	0.0	0.5
Assistant Fire Inspector	0.5	0.0	0.5
Training Officer	0.5	0.0	0.5
Fire Inspector	0.25	0.0	0.25
Administrative Assistant	0.5	0.0	0.5
Total Admin and Support	4.25	2.0	6.25
Percent Admin and Support	9.8%	8.3%	7.9%

Overall, the administrative and support component is slightly below what ESCI has historically seen across the nation in regard to a ratio to total personnel. The following figure illustrates the operational personnel of each department.

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	MFD	SBFD	Total
District Chief	1	0	1
Captain	5	5	10
Lieutenant	4	4	8
Firefighter	26	13	39
Probationary FF	3	0	3
Total Operations	39	22	61

The following figure compares both study departments' number of volunteers per 1,000 population to the regional and national averages and includes all volunteer personnel including officers.



Both departments have higher levels of volunteerism than departments protecting similar populations, both regionally and nationally. Population figures for the entire service area of both agencies were used for this comparison. MFD did not start fully itemizing the staffing data in its incident records until 9/1/10, which limits the dataset and its usefulness in viewing trends. Given the data from 9/1/10 to 12/31/10, MFD experienced four structure fires. Total personnel recorded in the department's incident records indicates that the four structure fires received a response of 15, 22, 21, and 18 personnel, respectively, for an average personnel performance for structure fires of 19. SBFD NFIRS data contained no staffing numbers, regardless of personnel type, for any incident during the 2009-2010 data period reviewed. The following figure illustrates data gleaned from the SBFD paper files regarding personnel performance. During calendar year 2010, the department responded to seven structure fires. According to hardcopy documentation provided by the department and evaluated by ESCI, structure fires received a response of 5, 18, 14, 18, 15, 16, and 12 personnel, respectively, for an average personnel performance of 14.

Deployment of physical resources is crucial to any emergency services function, but without sufficient quality personnel, delivery of those services cannot occur. ESCI also presents other components of an overall personnel management system that are every bit as critical to organizational success as availability of personnel. Elements to be evaluated include: Human resources policies and handbooks; application, recruitment and retention; and testing, measurement, and promotion processes.

For volunteer and combination fire departments across the United States, recruitment and retention of volunteer members has been one area that has suffered far more than actual service delivery. Several articles of research have been published over the past decade in an attempt to assist volunteer and combination departments in addressing the issue of declining numbers of volunteer or POC (paid on call) personnel. ESCI recommends that the administration of the study municipalities consider the demographics of the community as noted below to develop a sustainable volunteer/POC recruitment and retention program:

- Largest percentage of population: 26.4 percent (age 25-44)
- Percentage of single households: 24.2 percent (58.0 percent married couples)
- Male-to-female ratio: nearly equal (48.9 percent female)

Using this information, the region should focus its recruitment efforts on the 25 - 44 age bracket, particularly those living in married couple households; and, although not considered the norm, attention should be focused on females as they make up a nearly equal portion of the population, but are much more likely to volunteer.

The delivery of fire and emergency services by any organization is no more effective than the sum of its parts. It requires efficient notification of an emergency, rapid response from well-located facilities in appropriate vehicles, and sufficient, well-trained staff following a well-practiced plan of action. This section of the study evaluates these various components and provides observations of the elements that make up the delivery of the most critical core services provided within the study area.

In order to complete this component of service delivery analysis, ESCI was provided both National Fire Incident Reporting System (NFIRS) data for calendar years 2009 and 2010 and computer aided dispatch (CAD) data for calendar year 2010 only. The analysis begins with an evaluation of overall workload experienced by the study departments. The following figure illustrates the total workload for each department over the 2009 and 2010 calendar years.

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Comparisons indicate that regional workload (MFD and SBFD) is significantly lower than regional and national averages. The same is true for actual structure fires. In addition to aggregate workload, it is also useful to analyze service demand temporally to determine if any trends exist whereby the departments may be experiencing higher periods of demand. Analysis indicates that service demand by hour of day tends to increase in the early morning hours, plateauing during the mid-day hours and then tailing off into the evening; a pattern that follows general human activity levels.

In regard to distribution of service demand, incidents are widely distributed throughout both fire departments' primary response areas. Although a majority of incidents are clustered around the more densely populated areas of each jurisdiction, both departments also have a significant amount of workload outside the city boundaries. Resource distribution is a term used to identify how physical resources are distributed throughout a given response area, particularly in relation to service demand and established response performance objectives. This section of the report evaluates how well physical resources are distributed throughout the study area and will be used to evaluate future service delivery strategies in subsequent sections. Across the region, the two agencies operate from two facilities, all staffed with volunteers based on incident dispatch. No station has on-duty coverage 24 hours per day.

When compared against incident distribution, 91.3 percent of all service demand regionally falls within eight minutes of travel from an existing fire station. For comparison purposes, 68.4 percent of all service demand falls within four minutes of travel time from an existing station, while 94.7 percent of all service demand falls within 12 minutes of travel time from an existing station.

Another factor to consider when evaluating distribution of resources is the impact of that distribution on the Insurance Services Offices (ISO) rating for the area. Those areas outside of five road miles from a fire

station are considered to be ‘unprotected.’ Those property owners may find it difficult to obtain insurance coverage for their property and, if they do, it can be quite expensive. With the exception of an area to the extreme northwest within the response area (both MFD and SBFD response area), all areas are within five road miles of an existing fire station.

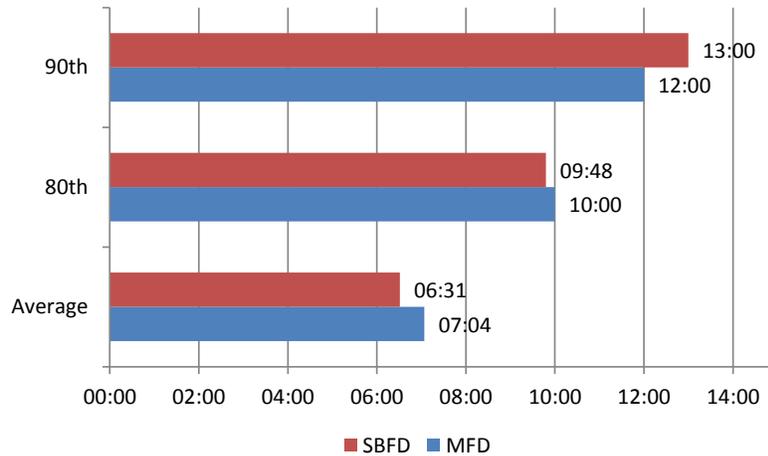
Total response time is the amount of time a resident or business waits for an apparatus to arrive at the scene of an emergency, beginning when they first call 9-1-1. The following charts illustrate the response time for the study agencies for 2010 based on the average, 80th percentile, and 90th percentile measurements.

	MFD	SBFD
First Arriving	7:47	7:40
Second Arriving	12:33	10:52
Third Arriving	13:29	19:30
Fourth Arriving	20:25	23:55
Fifth Arriving	33:35	26:12

Although the average response time is a common unit of measurement by which to gauge emergency response, this measure only illustrates the response performance to half of the incidents. In other words, the average response times for MFD and SBFD in the figure above indicate that half of the emergency incidents are responded to in 7:47 (7 minutes 47 seconds) and 7:40, respectively, while half of the incidents receive a longer response time. For this reason, ESCI, along with national standards and benchmarks, measures response time based on a percentile. For volunteer and combination fire departments, *NFPA 1720* recommends that incidents in an urban setting receive a response time of nine minutes or less when measured at the 90th percentile, and incidents in suburban areas receive a response within ten minutes or less when measured at the 80th percentile. Similarly, *NFPA 1720* recommends that incidents in rural areas receive a response in 14 minutes or less when measured at the 80th percentile.

Based on population density and distribution of service demand, both MFD and SBFD should be adhering to a response objective of nine minutes or less when measured at the 90th percentile for all incidents within the Cities of Mound and St. Bonifacius and a response objective of 14 minutes or less when measured at the 80th percentile for all incidents outside the city limits. Without knowing in which population density each incident is located, it is difficult to determine accurate historical response

performance. The figure below illustrates how each department is performing at each measure to all incidents regardless of location.



Section II evaluates potential opportunities for cooperative efforts between the two organizations. This evaluation includes a discussion of general partnering strategies and an analysis of those considered most likely to be successful within the region. The most pointed partnering strategy consists of the consolidation of Mound Fire Department and St. Bonifacius Fire Department into a single agency. This option evaluates the level of cooperation, timeline for completion, affected departmental sections, affected stakeholders, and provides a summary of the objectives. Presentation of this option also includes a discussion of various staffing alternative and options as well as current staffing issues and offers recommendations of how to mitigate those issues through cooperative efforts.

The study fire departments already benefit from some collaborative programs, such as mutual and automatic aid; therefore it is natural that continuing the long-term strategy of cooperation should eventually lead to the whole area forming a single fire agency. If the fire departments continue this progression by implementing even some of the partnering strategies found in this study, taking the next logical step seems inevitable. A cost analysis of this strategy (full unification of the departments) at full deployment shows an annual cost increase of approximately \$77,067 (based on current fiscal year dollars).

In addition to the consolidation option, ESCI developed nine additional partnering strategies that are intended to improve cooperation and efficiency between the two agencies. These strategies include:

- Develop Standard Operating Guidelines

- Shared Specialty Teams
- Create a Unified Occupational Medicine Program
- Develop and Adopt Common Training Standards
- Develop Mutual Training Strategies
- Purchase Uniform Emergency Apparatus
- Develop Uniform Pre-Incident Plans
- Provide for Joint Staffing of Stations and Apparatus
- Provide for Joint Incident Command and Operations Supervision

The success of adopting and implementing change, improvement, or cooperative opportunities depends on many things. In our experience with dozens of functional, operational, and legal unifications, leadership is the single factor that most frequently determines success. Nearly always, a key staff, councilor, or board member champions the concept; garnering the support of the various affected groups (political, labor, member, and community). In addition, good leadership fosters an organizational culture receptive to planning, calculated risk taking, and flexibility. The manner in which leaders promote a trusting relationship between all groups and aid two-way communication between them is essential.

The following list is a compilation of short- and mid-term recommendations found throughout the body of this report:

- Both MFD and Sbfd should begin to accurately and consistently enter staffing and apparatus data into their incident records management system to make future analysis of staffing performance possible.
- Each department should ensure that its individual training programs are covering the most critical topics and that mandatory refresher training is provided where appropriate.
- In the absence of a consolidated or coordinated training program, each department should consider adopting a common training standard and allow individuals from other departments to attend rotating in-house training opportunities.
- The two departments could inventory and share any training props that are available and implement an equipment check-out and tracking system to allow use of training props throughout the region.
- Each department should increase their participation in multi-agency drills through a coordinated training schedule.
- Sbfd should implement mandatory use of a Safety Officer for all manipulative drill sessions.
- St. Bonifacius should seek to establish at least a rudimentary fire inspection capability, particularly focusing on those occupancies not inspected by the State Fire Marshal's staff.

- Establish a database of existing commercial and public occupancies in each district that are not inspected by the State Fire Marshal, and categorize each by the appropriate risk level.
- Establish a target frequency for inspections of all commercial occupancies by risk category.
- Establish a file for each business and include all records of fire safety inspection activity.
- Despite very limited commercial and industrial development in its jurisdiction, St. Bonifacius should seek to establish a program to be involved in new construction processes, including inspections and sign-offs.

The remainder of the report describes a recommended process for moving forward with the potential implementation of a cooperative service delivery effort. The word potential is used here because a part of this process includes the policy decisions necessary to determine, based on the results of the study, whether there is sufficient desire among the political bodies of the organizations to continue with the process or not. The implementation begins with that step.

The ESCI project team began collecting information concerning the fire and emergency services for Mound and St. Bonifacius in April 2011. The team members recognize that the report contains a large quantity of information, and ESCI would like to thank the elected officials of each organization involved, as well as the officers, employees, and volunteers of the two fire departments for their tireless efforts in bringing this project to fruition. ESCI would also like to thank the various individuals and external organizations for their input, opinions, and candid conversations throughout this process. It is ESCI's sincere hope that the information contained in this report is utilized to its fullest extent and that the emergency services provided to the citizens of Minnetrista, Mound, and St. Bonifacius, as well as the surrounding areas, are improved by its implementation.

Section I: Evaluation of Current Conditions

Emergency Services Consulting International (ESCI) was engaged by the cities of Minnetrista, Mound, and St. Bonifacius to explore the feasibility of cooperative efforts between the Mound and St. Bonifacius fire departments that provide service to all three municipalities as well as the cities of Spring Park, Shorewood, and Minnetonka Beach. This document begins with an evaluation of each organization's delivery of fire and emergency services and concludes with options and recommendations for future cooperative efforts.

Organization Overview

Mound Fire Department

The Mound Fire Department (MFD) is a direct operating department of the City of Mound in the state of Minnesota. The department provides fire protection and emergency medical first responder services to a jurisdiction that encompasses all of the governmental boundaries of the community, along with additional contractual service areas; including all or portions of Minnetrista, Spring Park, Shorewood, and Minnetonka Beach. The jurisdiction is located in Hennepin County, approximately 20 miles west of Minneapolis on Lake Minnetonka. The response area includes urban residential and commercial, suburban residential, and light commercial and has been experiencing light to moderate growth.

The department first began providing services in 1923. Currently, the specific services provided by the department include fire suppression, emergency medical first responder, vehicle extrication, hazmat operations-level, technical rescue—surface water, technical rescue—ice water, code enforcement and inspections, and public education. Technician-level hazardous materials response is provided by a state team, known as the State Chemical Assessment Team, out of Hopkins Fire Department. Call receipt and dispatch services are provided by Hennepin County Sheriff's Communications Division.

This department provides service to a population of 24,951¹ in an area of approximately 94.1² square miles. The services are provided from one facility with a fleet of vehicles that includes three engines, one aerial ladder truck, two water tenders, three rescue vehicles, one wildland unit, and six other utility or staff units.

¹ Based on a percentage of each municipality served

² Ibid.

There are currently a total of 46 personnel involved in delivering and supporting the department's services. The primary “management team” is made up of the chief, assistant chief, deputy fire marshal, and two district chiefs. Certain administrative and support functions are provided by a part-time administrative assistant. Primary response staffing is provided by on-call responders coming from home or work. For immediate response, there are typically a minimum of 20 personnel that are in the community and available, carrying pagers to receive radio calls for emergency response.

The Insurance Services Office (ISO) reviews the fire protection resources within communities and provides a Community Fire Protection Rating system from which insurance rates are often based. The rating system evaluates three primary areas: the emergency communication and dispatch system, the fire department, and the community’s pressurized hydrant or tanker-based water supply. The overall rating is then expressed as a number between 1 and 10, with 1 being the highest level of protection and 10 being unprotected or nearly so.

As of the latest rating, ISO gave the service areas covered by MFD ratings ranging from 5 to 10. The following list identifies each specific area’s rating.

- City of Mound (hydranted area) 4
- City of Minnetonka Beach (hydranted area) 6
- City of Shorewood (hydranted area) 5
- City of Shorewood (non-hydranted area) 5
- City of Spring Park (hydranted area) 4
- City of Minnetrista (hydranted area) 4
- City of Minnetrista (non-hydranted area) 4

The latest ISO rating review was conducted in 2008.

St. Bonifacius Fire Department

The St. Bonifacius Fire Department (SBFD) is a direct operating department of the City of St. Bonifacius in the state of Minnesota. The department provides fire protection and emergency medical first responder services to a jurisdiction that encompasses all of the governmental boundaries of the community, along with additional contractual service areas, including portions of Minnetrista, Laketown Township and Watertown Township. The jurisdiction is located in Hennepin and Carver Counties, approximately 30 miles west of Minneapolis. The response area includes suburban residential and light commercial, rural residential and agricultural land; and has been experiencing light to moderate growth.

The department first began providing services in 1904. Currently, the specific services provided by the department include fire suppression, emergency medical first responder, vehicle extrication, hazmat operations-level, and public education. Technician-level hazardous materials response is provided by the state team out of Hopkins FD. Call receipt and dispatch services are provided by Hennepin County Sheriff's Communications Center.

This department provides service to a population of 5,779 in an area of approximately 24.5 square miles. The services are provided from one facility with a fleet of vehicles that includes two engines, two tankers, two rescue units, one wildland unit, two boats, and an ATV.

There are currently a total of 25 personnel involved in delivering and supporting the department's services. The primary "management team" is made up of the chief, assistant chief, and five captains. Certain administrative and support functions are provided by operational staff as ancillary duties. Primary response staffing is provided by on-call responders coming from home or work. For immediate response, there are typically a minimum of three personnel that are in the community and available, carrying pagers to receive radio calls for emergency response.

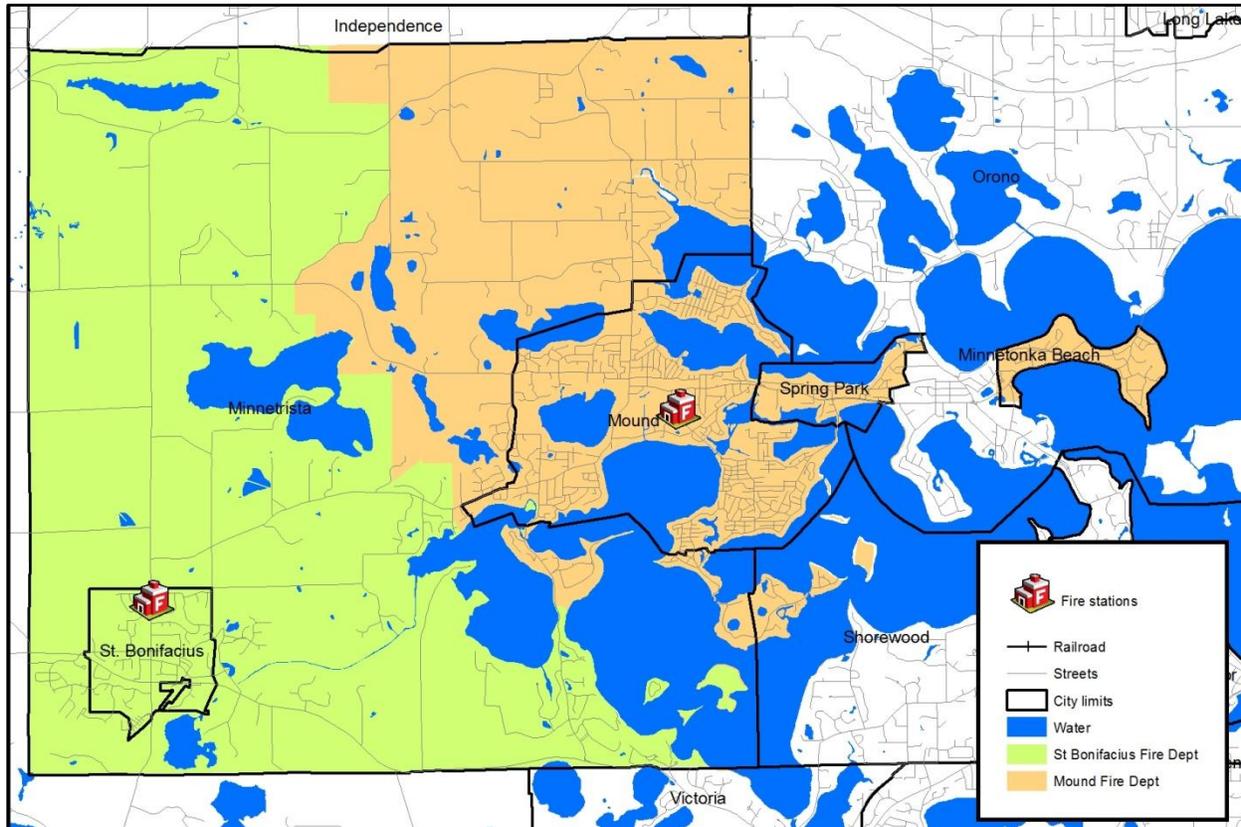
As of the latest rating, ISO gave the service areas covered by SBFD ratings ranging from 5 to 10. The following list identifies each specific area's rating.

- City of St. Bonifacius (hydranted) 5
- City of Minnetrista (hydranted area) 5/9
- City of Minnetrista (non-hydranted area) 7/10
- Watertown Township (non-hydranted area) 7/10
- Laketown Township (non-hydranted area) 7

The split rating applies the lower of the two ratings to those structures within five miles of a fire station and within 1,000 feet of a hydrant or creditable water source. All others receive the higher rating. The latest ISO rating review was conducted in 2008.

The following figure illustrates the total regional service area and the location of each department's fire station.

Figure 1: Regional Service Delivery Area



The following figures provide overview data regarding the coverage areas, populations served, and resources in the system.

Figure 2: Distribution of Area

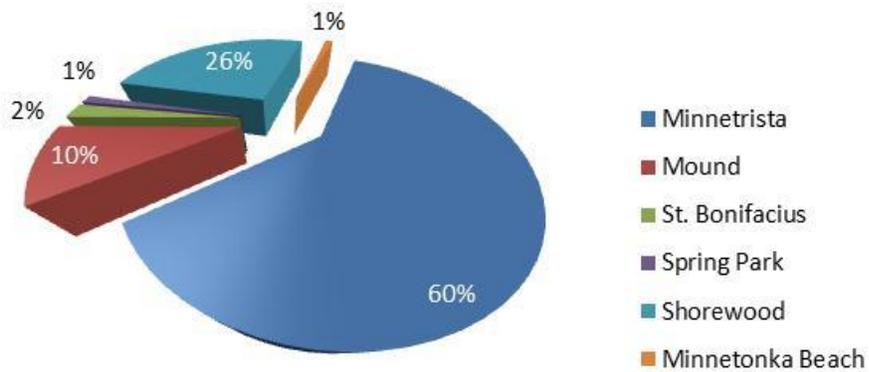


Figure 3: Distribution of Population

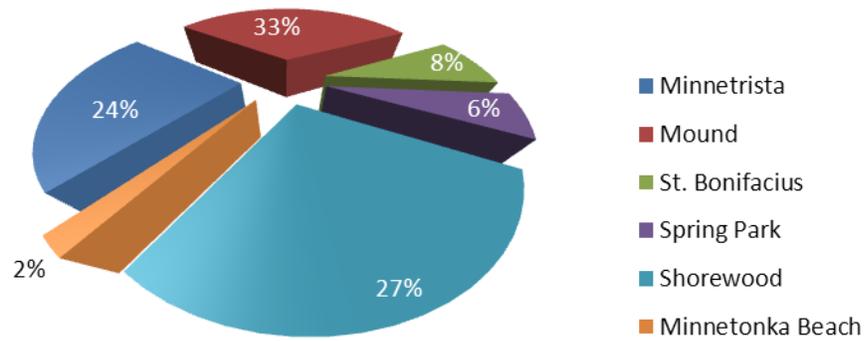
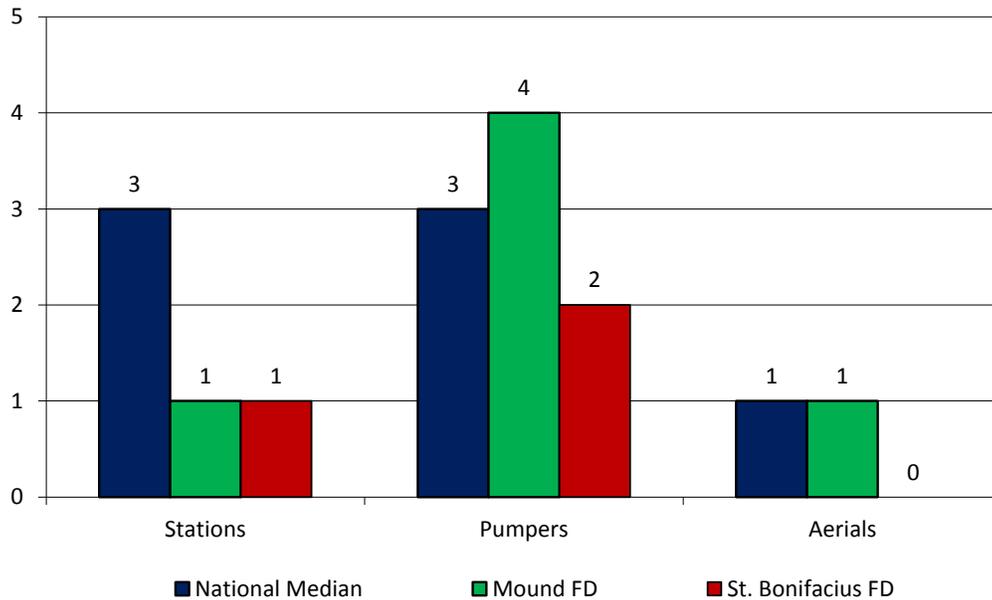


Figure 4: Resource Comparison



Governance and Lines of Authority

It is important to understand the governance structure in which a fire department operates. This includes the documents that authorize its functioning and the ability for it to receive adequate and sustainable funding. The lines of authority differentiate the basic organizational structure under which each department functions.

The following table describes the basic governance and authority of these fire departments.

Figure 5: Comparison of Governance and Lines of Authority

	Mound	St. Bonifacius
Department Preferred Acronym:	MFD	SBFD
Governance Authority:	Charter city	Statutory city
Name Of Governing Entity, Board, or Person:	City of Mound	City of St. Bonifacius
Governing Entity Description:	Municipal corporation	Municipal corporation
Taxing Authority:	Provided the authority to levy taxes for operating a fire protection system	Provided the authority to levy taxes for operating a fire protection system
Form of Government:	Council-Manager	Council-Manager
Title of Governing Authority or Body:	City Council	City Council
Governing Authority Number of Members:	5	5
How Are Governing Authority Members Appointed:	Elected by the voters	Elected by the voters
Length of Term for Governing Authority Members:	Four years	Four years
Title of Governing Authority Executive:	City Manager	Clerk-Treasurer/ City Manager
Agency Authorization Document:	City charter and ordinances	City charter and ordinances
Fire Chief Status:	At-will employee with no personal contract	Appointed by a fire department committee
Does the Chief Receive a Performance Evaluation?	Occasionally	Has not received an evaluation

Organizational Design

A well-designed organizational structure should reflect the efficient assignment of responsibility and authority, allowing the organization to accomplish effectiveness by maximizing distribution of workload. The lines on an organizational chart simply clarify accountability, coordination, and supervision. Thorough job descriptions should provide the details of each position and ensure that each individual’s specific role is clear and centered on the overall mission of the organization.

The organizational structure of the department should demonstrate a clear unity of command, in which each individual member reports to only one supervisor (within the context of any given position) and is aware to whom he or she is responsible for supervision and accountability. This method of organization encourages structured and consistent lines of communication and prevents positions, tasks, and

assignments from being overlooked. The overall goals and objectives of the organization can be more effectively passed down through the rank and file members in a consistent fashion.

The organizational structure should be charted with clear, designated operating divisions that permit the core functions of the organization to be the primary focus of specific supervisors and assigned members. While some task-level activities may carry over from division to division, the primary focus of leadership, management, and budgeting within the division should be clarified by the division's key function within the mission statement. Those individuals supervising or operating within a specific division must be positively clear as to the role of the division and its goals and objectives.

The department should have sufficiently analyzed its mission and functions such that a resulting set of specific agency programs have been established. Organized, structured programs permit better assignment of resources, division of workload, development of future planning, and analysis of service delivery. Those departments that have clarified their programs with titles, assigned leadership, resources, budget appropriations, performance objectives, and accountability are among the most successful.

The following table provides information related to these departments' basic organizational design.

Figure 6: Comparison of Organizational Design

	Mound	St. Bonifacius
Does This Department Have Clear Unity of Command?	Yes	Yes
Is This Department Organized With Clear Operating Divisions?	Yes, but limited due to the small size of the organization with members often filling multiple roles	No
Are There Specific Programs With Designated Individuals In Charge Of Each?	Yes	The organization is small and programs are limited primarily to core services
List The Individuals That Report Directly To The Chief:	Assistant Chief, two District Chiefs, Deputy Fire Marshal, Administrative Assistant	Assistant Chief and five Captains
Chief's Span of Control:	5	6
What is the Chief's Disciplinary Authority?	Termination without additional authorization	Termination without additional authorization
Quality of Job Descriptions:	Well-written, but not all positions are included	Complete, thorough, and up-to-date
Does This Agency Have Collective Bargaining?	No	No

Foundational Policy Documents

Organizations that operate efficiently are typically governed by clear policies that lay the foundation for effective organizational culture. These policies set the boundaries for both expected and acceptable behavior, while not discouraging creativity and self-motivation.

A comprehensive set of departmental operating rules and guidelines should contain at least two primary sections. The following format is suggested.

1. **Administrative Rules:** This section would contain all of the rules that personnel in the organization are required to comply with at all times. Administrative Rules, by definition, **require** certain actions or behaviors in all situations. The governing body should adopt or approve the Administrative Rules since the Chief is also subject to them. However, the Board should then delegate authority to the Chief for their enforcement on department personnel. The Administrative Rules should govern **all** members of the department: paid, volunteer, and civilian. Where rules and policies, by their nature, require different application or provisions for different classifications of members, these differences should be clearly indicated and explained in writing. Specifically, the Administrative Rules should contain sections which address:

- Public records access and retention
- Contracting and purchasing authority
- Safety and loss prevention
- Respiratory protection program
- Hazard communication program
- Harassment and discrimination
- Personnel appointment and promotion
- Disciplinary and grievance procedures
- Uniforms and personal appearance
- Other personnel management issues

2. Standard Operating Guidelines (SOGs): This section should contain “street-level” operational standards of practice for personnel of the department. SOGs are different from Administrative Rules in that variances are allowed in unique or unusual circumstances where strict application of the SOG would be less effective. The document should provide for a program of regular, systematic updating to assure it remains current, practical, and relevant. SOGs should be developed, approved, and enforced under the direction of the Fire Chief.

The following table provides information related to each of the departments’ foundational policy documents.

Figure 7: Comparison of Policy Documents

	Mound	St. Bonifacius
Titles of Policy Documents:	MFD policy manual, standard operating guidelines, standard operating procedures, and administration and operations manual	Administrative policies and standard operating guidelines
Quality of Administrative Policy Documents:	Reasonably well organized, up to date	Well organized and complete
Important Civil Liability and Risk Management Policies Present?	Yes	Yes
Quality of Standard Operating Policies:	Reasonably well organized, up to date, total revision in process now	Very good, up to date
Adequate Operational Scene Guidance?	Yes	Yes; however, OSHA “two-in, and two-out” not in formal policy
Are administrative policies made available to all members?	Yes, individual copies	Yes, individual copies
Are standard operating guidelines made available to all members?	Yes, individual copies	Yes, individual copies

The following two tables provide a listing of topics that fire departments might wish to consider including in their Standard Operating Guidelines to enhance field operations.

Figure 8: Typical SOG Topics for Field Operations

Alarms and Response Procedures	Medical Emergencies
Alarm Response Procedures	Operational Guidelines for Medical Aid Responses
Alarm Response Areas	Operations with Ambulance Personnel
Automatic Aid	Emergency Medical Technician—Defibrillator (EMT-D)
Mutual Aid	Major Medical Incidents
Contractual Agreements	Triage
Fire Company Operations	Exposure to Infectious Diseases and Hazardous Materials
Standard Company Operations	Suspected Drug Overdose
First to Arrive Duties	Animal Bites
Returning Companies to Service	Vial of Life and Medic Alert Tags
Use of Civilians	Attempted Suicide
Fire Scene Investigations	Suspected Homicide
High Volume Smoke Removal System	DOA (Dead on Arrival)
Personal Alert Safety Devices	Suspected Child Abuse
On-Scene Equipment Inventory	Suspected Sexual Assault
Personnel Accountability System	Hospital Disaster Notification
2 IN 2 OUT	EMS Reports
Initial Fireground Operations	EMS Radio Procedures
Fluorescent Safety Vests	Drug Box Exchange Policy
Highway Incident Safety	BLS Rules and Regulations
Command Operations	ALS Rules and Regulations
General Strategic Guidelines	Electrical Emergencies
Incident Management System	Electrical Emergency Operations
Command Post Procedures	Rescue Operations
Welfare	Vehicle Rescue and Extrication
Helicopter Operations	Life Line Operations
Public Health Considerations	Rescue from Machinery
Incident Critique	Escalator Emergencies
Area Evacuation	Elevator Emergencies
Incident Command Resource Request	Cave-in and Manhole Rescues
Building Evacuation	Building Collapse
Firefighting	Rescue at Structure Fires
Metal Fires	Transportation Emergencies
Structure Fires (General)	Interstate Operations
Operations in Sprinklered Buildings	Railroad Emergencies
On-Site Auxiliary Fire Equipment	Aircraft Emergencies
High Rise Fires	Hazardous Materials Incidents
Wildland Fires	Hazardous Materials (General)
Vehicle Fires	Flammable Fuel Spill (Liquid or Gas)
Fire Stream Management	LPG Emergencies
Industrial Dumpster Fires	Fumigation Emergencies
Fire Watch Detail	Explosives and Bombs
Fires in US Mailboxes	PCB's
Special Hazard Locations	Pesticide Procedures
High Rise Pack	Radioactive Materials
Bowstring Truss Roof—Operations Procedures	Natural Gas Filled Structures—No Fire
Carbon Monoxide Hazards	Natural Gas Fed Fire—Inside Structure
Thermal Image Camera	Broken Natural Gas Main—Fire
	Broken Natural Gas Main—No Fire

Figure 9: Typical SOG Topics for Non-Emergency Operations

Station Operations	
Station Operations—General	Color Coding Equipment
Station Maintenance	Radio Repair Procedure
Station Alerting System	Pressure Vessel Maintenance
Purchasing Procedures	Hose Maintenance
National Flag/National Anthem	Self-Contained Breathing Apparatus (SCBA)
Equipment Loan Out	Preventive Maintenance—SCBA's
Yard Maintenance	Respiratory Breathing Air Systems
Emergency Power Systems	Ladder Maintenance
Miscellaneous Station Duties	Nozzle Maintenance
Personal Locker Assignments	Fire Extinguishers
Telephone Use	Hydrant Maintenance
Station Libraries	Hand Tool Maintenance
Scheduling Use of Media Center	Power Tool Maintenance
Energy Conservation	Chainsaw Operation and Maintenance
	Circular Saw Operation and Maintenance
Apparatus Operations	
Apparatus Maintenance	Public Education
Vehicle Out of Service Procedure	General Policy
Testing Apparatus Pumps	Public Education Scheduling Policy
Driving Emergency Vehicles	Public Relations
Warning Devices	Station Tours
Apparatus Operational Limits	Fire Extinguisher Demonstrations
Fueling Procedure	Engine Demonstrations
Reserve Apparatus	Special Activities Engine—Engine One
Apparatus Snow Chains	Radio Controlled Education Robots
Apparatus Movement to Training Center	Fire Prevention
Driver Operator—Pump Certification	Fire Company Fire Prevention Inspections—General
	Fire Prevention Inspection Guideline
Equipment Operations	
Equipment Repairs	Fire Investigation
Equipment Out of Service	Related Codes
	Pre-Fire Plans

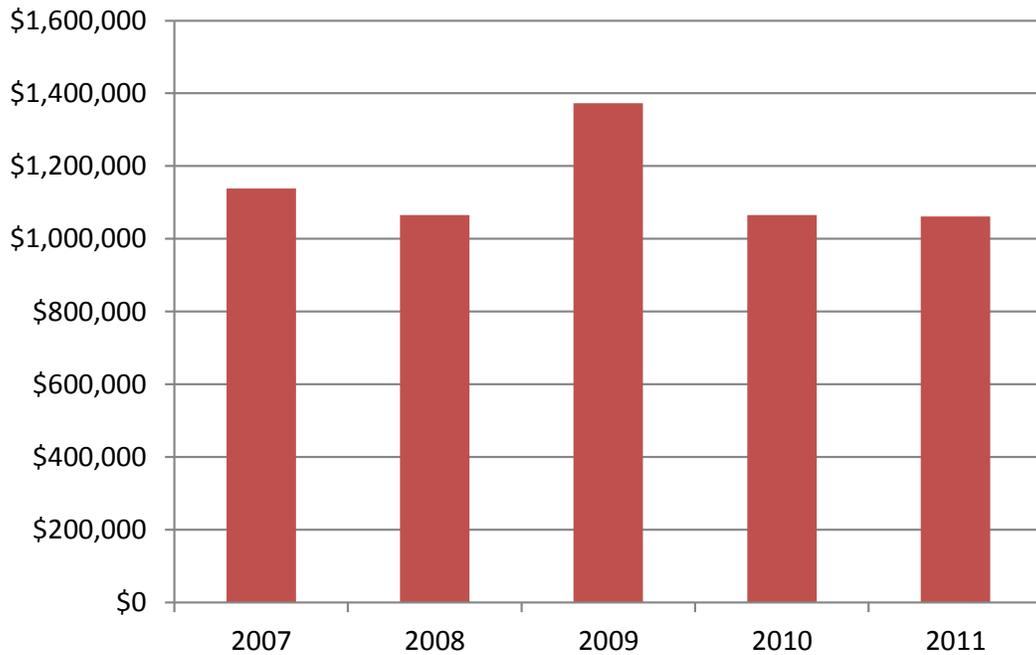
Budget and Finance

Any organization providing service to the public must have adequate funding mechanisms in place to ensure continuity of services. This report section evaluates the funding mechanisms in place for each agency and analyzes methods of cost allocation and budget distribution.

Mound Fire Department

As mentioned previously, MFD is a standing department within the organizational structure of the City of Mound. As such, funding for the department comes primarily from ad valorem taxes and other government contracts. The figure below illustrates the department's budget history over the last five years.

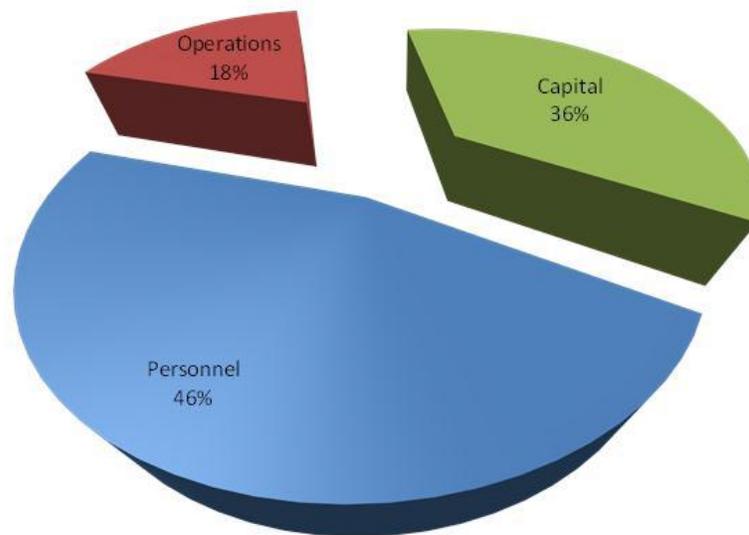
Figure 10: Five-Year Budget History—MFD



The unusually high figure for 2009 was due to a large capital line that particular year of \$278,796.

The following figure illustrates how the department's budget is distributed across the three primary budget categories of personnel, capital, and operations.

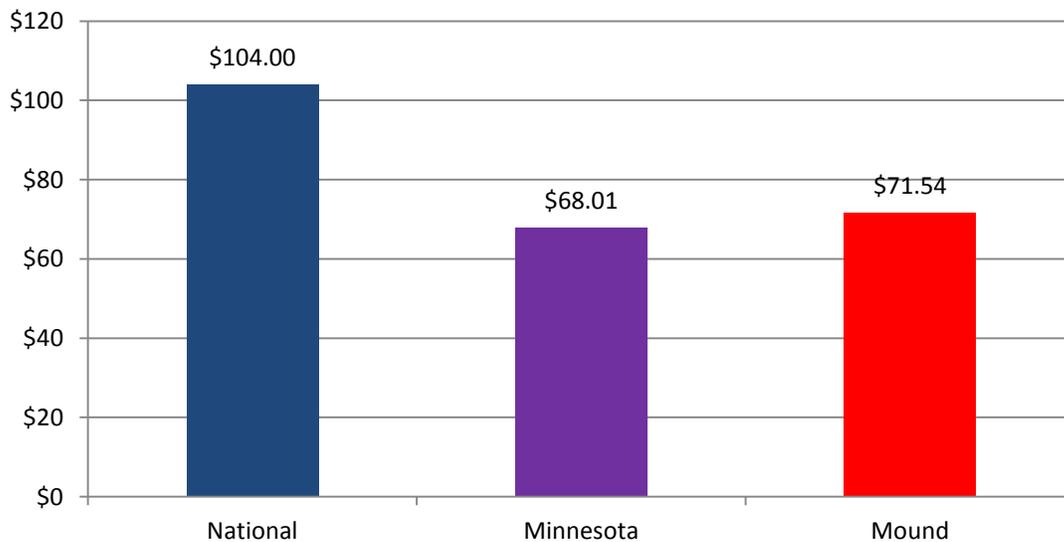
Figure 11: 2011 Budget Distribution—MFD



As with most organizations that employ paid full-time staff, MFD's budget distribution is heavier on personnel costs. Although the department only has one full-time employee (the Fire Chief), a half-time administrative assistant is also employed. In addition, department officers are paid a monthly stipend, and all personnel receive pay for responses, training, and meetings. These costs combined constitute 46 percent of the department's overall budget.

Evaluating department costs is only useful if the costs of providing service are also used to compare against other similar organizations. The figure below provides a comparison of the organization's costs on a per capita basis when compared against national and state averages.

Figure 12: Comparison of Per Capita Cost of Services—MFD

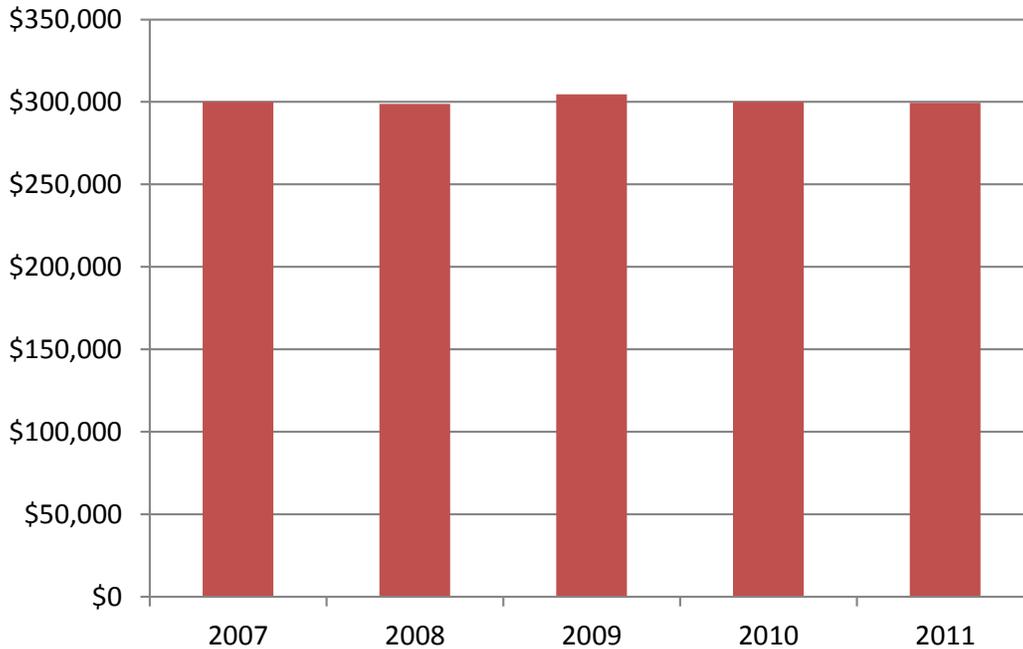


As can be seen in the figure above, MFD's cost per capita calculates to \$71.54. In other words, it costs each person within MFD's primary response area \$71.54 to maintain the current level of fire protection. This number, while higher than the Minnesota average, is well below the national average of fire protection costs. It should be noted here that these averages do not segregate career departments from volunteer agencies, nor do they indicate the services provided. The comparison here is provided only to show where the department currently compares to all fire departments within Minnesota and throughout the U.S.

St. Bonifacius Fire Department

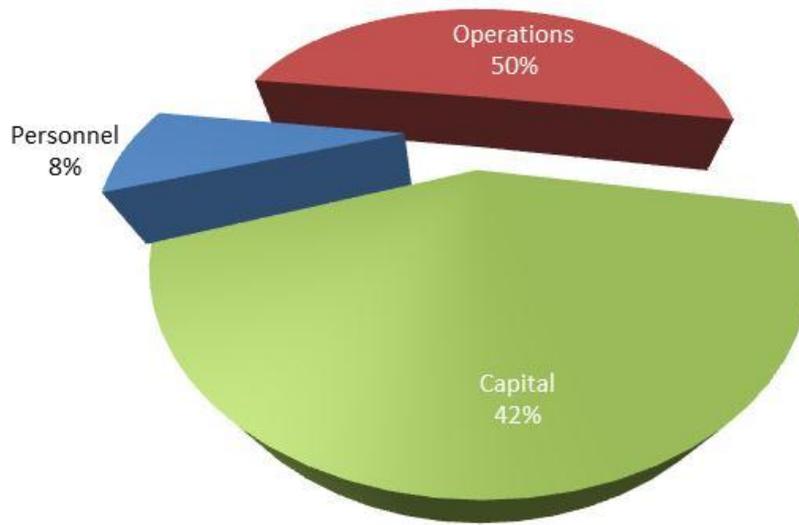
The St. Bonifacius Fire Department is an operating department of the City of St. Bonifacius. As such, a majority of department funding comes from ad valorem taxation and other government contracts. The figure below illustrates the department’s budget history over the last five years.

Figure 13: Five-Year Budget History—SBFD



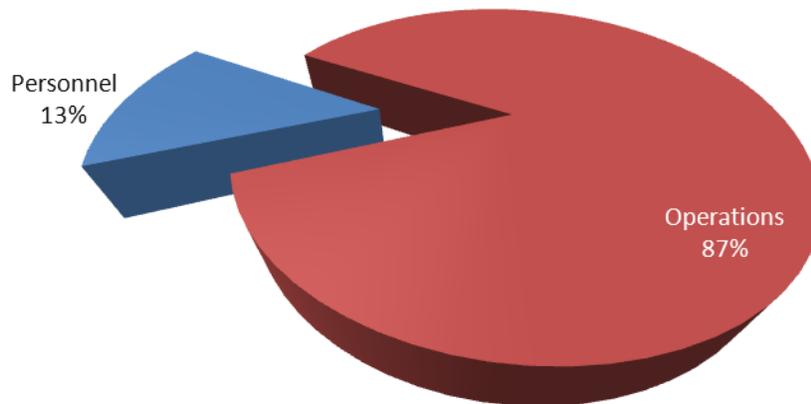
The budget documents provided by SBFD indicate that the department’s budget has been extremely stable over the five-year review period. This illustrates both a stable funding mechanism and a stable control over expenditures within the organization. The following figure illustrates how budgeted funds are distributed across the three primary categories as discussed previously.

Figure 14: 2011 Budget Distribution—SBFD



The figure above includes SBFD’s payment for Engine 12 that was a multi-year save and expend program resulting in an unusually high capital expenditure during 2010. The figure below illustrates how the budget would have appeared without the capital expenditure.

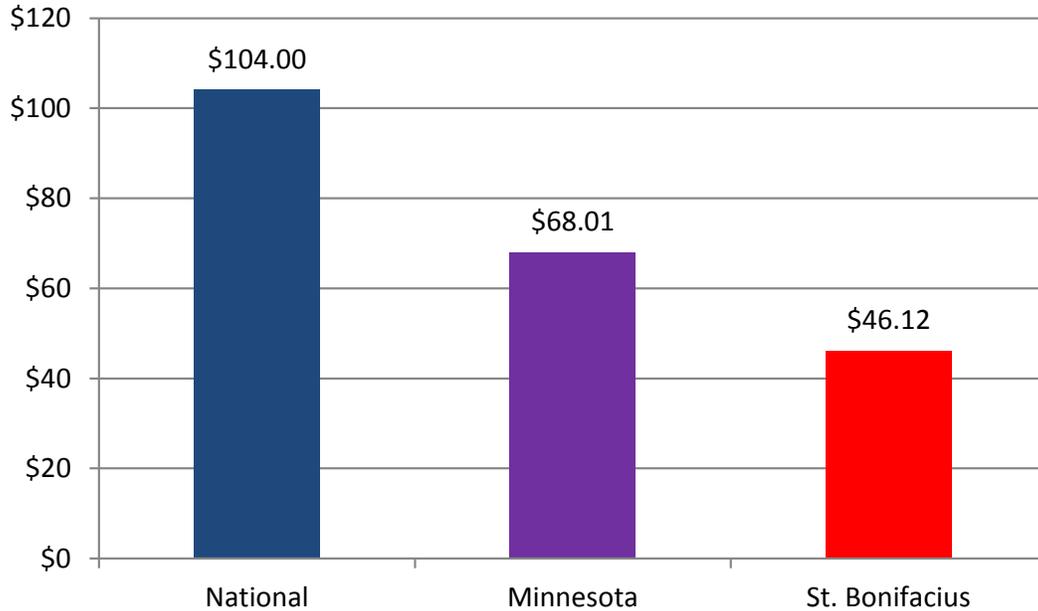
Figure 15: 2011 Budget Distribution—SBFD without Capital Expenditure



Since SBFD does not employ any full- or part-time personnel and only pays personnel on a per-call, meeting, or training basis, personnel costs are kept at a minimum. The large capital expenditure noted in the figure above is due to the purchase of a new engine during the 2011 budget year. As noted in the

analysis of the MFD budget, the following figure notes a comparison of the SBFD budget to both national and Minnesota State averages in regards to per capita costs of fire protection.

Figure 16: Comparison of Cost per Capita of Services—SBFD



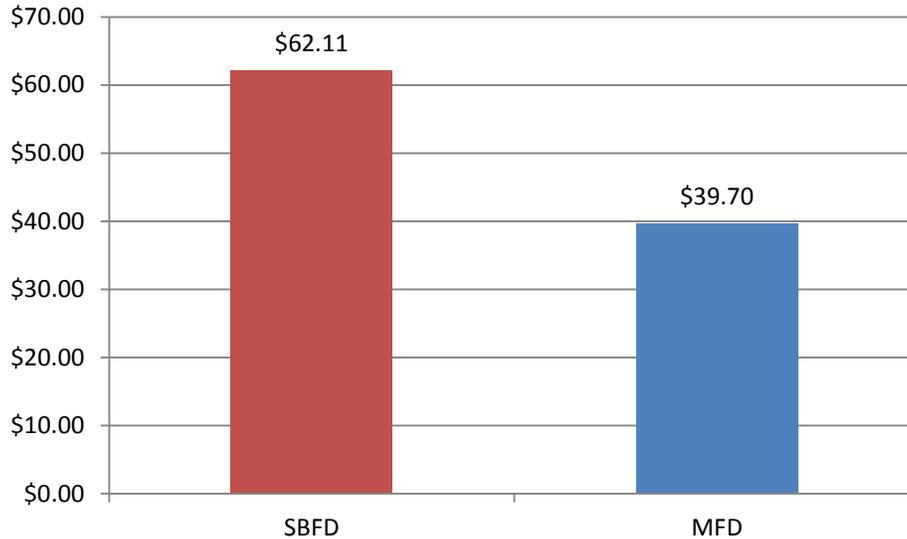
As can be seen in the figure above, SBFD’s per capita expenditures for fire protection are less than half of the national average and significantly lower than the Minnesota average.

City of Minnetrista Contract Comparisons

Both SBFD and MFD provide contract fire protection services to the City of Minnetrista. The following paragraphs summarize the differences between the contracts of each fire protection agency.

As of the 2010 budget year, MFD was to receive \$243,439 to provide fire protection services to 51.5 percent of the land area within contained within the City of Minnetrista. Similarly, SBFD was to receive \$192,312 to provide fire protection services to 48.5 percent of the land area. Considering a Minnetrista population of 6,384 and without being able to determine accurate population distribution across the city, ESCI estimates that MFD provides service to approximately 3,288 residents while SBFD protects approximately 3,096 residents. Using these population figures, ESCI calculated a per capita cost of fire protection based on the different contracts. This is illustrated in the following figure.

Figure 17: City of Minnetrista per Capita Contract Distribution



Relief Associations and Retirement

In addition to a review of budgeting and financial practices, other financial elements will have an impact on the feasibility of cooperative efforts, including how each department's relief association is individually funded and managed. This section of the report will provide a general overview of each relief association and provide some recommendations regarding combining those associations if consolidation of the fire departments is recommended.

One issue that could be a major factor in the decision to enter into a shared services or other cooperative services agreement between the fire departments concerns each agency's Fire Relief Association. A 2011 report issued by the Minnesota Office of the State Auditor found that 717 relief associations were in existence in Minnesota during 2009.³ Those 717 relief associations held nearly \$403 million in net assets, which represents accrued benefits for 20,812 firefighters statewide. During 2009, relief associations received \$15.4 million in fire state aid and received \$7.8 million in municipal contributions. During that same year, \$30.8 million in service pensions was paid out by 444 different relief associations.

Both Mound and St. Bonifacius have fire relief associations that benefit their volunteer members. St. Bonifacius participates in a lump sum plan, which means that, at the appropriate time, eligible members receive a one-time payment from the association based on set criteria. Mound participates in a hybrid

³ Financial and Investment Report of Volunteer Fire Relief Associations. March 2011.

plan in which members can take monthly allotments from the plan. The following figure illustrates the differences in each relief association’s net assets, accrued liabilities, and funding ratios.

Figure 18: Comparison of Assets, Liabilities, and Funding⁴

	Net Assets	Accrued Liabilities	Funding Ratio
Mound	\$3,755,091	\$4,389,143	72%
St. Bonifacius	\$430,560	\$463,410	93%

The following figure compares each association’s revenues during 2009.

Figure 19: Comparison of Fund Revenues

	State Aid	Supplemental Benefit Reimb.	Municipal Contributions	Investment Earnings	Other	Total 2009 Revenue
Mound	\$75,889	\$0	\$133,500	\$647,210	\$4,522	\$861,121.00
St. Bonifacius	\$25,112	\$0	\$35,000	65,616	\$0	\$125,728.00

Expenditures from each fund were also varied as illustrated below.

Figure 20: Comparison of Fund Expenditures

	Administration	Service Pensions	Other
Mound	\$6,603	\$231,632	\$0
St. Bonifacius	\$4,873	\$0	\$0

Aside from the fiscal differences between the plans, the qualifying criteria between the two agencies also vary. The figure below summarizes the qualifying criteria for each relief association.

Figure 21: Relief Association Qualifying Criteria Summary

Relief Association	Retirement Age	Years of Active Service	Years of Membership
Mound	50	20	20
St. Bonifacius	50	10	10

Consolidation of the relief associations would require policy makers to determine the most appropriate qualifying criteria from the variables.

Benefits offered under each plan also differ, as illustrated in the following figure.

⁴ St. Bonifacius schedule I & II report dated 8/17/11 reflects a surplus of \$64,971 for year end 12/31/11. The 12/31/10 audit shows an unfunded liability of \$31,300, based on information supplied by the City of St. Bonifacius.

Figure 22: Comparison of Fund Benefits⁵

	Annual Benefit	Long-Term Disability	Short-Term Disability	Survivor Benefit
Mound	\$1,000	\$1,000	None	\$1,000
St. Bonifacius	\$1,000	\$2,446	\$2,446	\$2,446

In determining what impact a shared or cooperative service model would have on the relief associations, ESCI evaluated the current liabilities of each fund and applied the highest level of benefit to assess future fiscal implications. Based on the auditor’s report, the two agencies currently have 66 active members and 10 deferred members. At an assumed \$2,446 per year of service payment, the total liability would currently calculate to approximately \$3,717,920, compared to a current asset value of the two current funds of \$4,185,651; for a net surplus of \$467,731, or a funding ratio of 113 percent, based on a payout of \$2,446 per year for 20 years of service. This does not take into account the current deficit of each fund. The median funding ratio of all Minnesota lump sum plans in 2009 was 98.0 percent. Although both funds appear to currently be underfunded, modifying the Sbfd years of service from 10 to 20 before being eligible for benefits increases the solvency of the fund.

If the decision is made to move forward with the consolidation of the two study agencies, a decision will need to be made at the elected official level as to how to handle the consolidation of the respective relief associations, including what criteria to choose as to the future payouts of the system.

⁵ Long-Term Disability and Survivor Benefits are calculated on a per year of service basis.

Capital Assets and Capital Improvement Programs

In order for any emergency services system to be effective, physical resources must be sufficient to handle the current and expected workload and be adequately distributed throughout the primary response area so as to effect the quickest response possible to the greatest number of incidents. Additionally, the apparatus or vehicles used in service delivery must be reliable and sufficient in number to accommodate the anticipated workload. This section of the report will evaluate the facilities and apparatus currently in use by the two departments. Distribution of those resources throughout the response area will be analyzed in the next section of this report.

Facilities

Inadequate facilities for housing personnel and apparatus detract from an organization's mission. Limited space can significantly impact the available options for resource assignment, hinder the ability to maintain a well-trained workforce, and may affect member and employee morale. The primary functions that take place within the station should provide adequate and efficient space for all functions. Some examples include:

- Housing and cleaning of apparatus and equipment
- Administrative office duties where necessary
- Personnel training
- Residential living that is gender compatible for on-duty members when necessary
- Operations that include enough room for community groups and parking

While this list may seem elementary, the lack of dedicated space compromises the ability of the facility to support these functions, and can detract from its primary purpose. ESCI did not conduct an engineering-level review of the stations in the study area but did note locations, access to the community, and general size and condition.

Mound Fire Department

	Mound Fire Department
	Active response station, Administrative offices (HQ station), Training or drill facility
	2415 Wilshire Blvd, Mound
Year Facility Initially Constructed	2004
Number of Major Additions or Renovations	0

Construction Features

Building Square Feet	20329
Apparatus Bays:	
<i>Back-in, single unit</i>	0
<i>Back-in, used with stacked parking</i>	0
<i>Drive-through use, single unit</i>	0
<i>Drive-through capable, used with stacked parking</i>	6
Building Height	Three-story
Construction Type	TYPE I-B—Fire Resistive Non-Combustible
Outside Finish	Other Precast
Unusual Construction Features	None
Overall Construction Condition	Good condition
Does Structure Appear to be ADA Compliant	Yes
Building Code Issues Evident	None
Roof Type	Flat—composition
Roof Age	Original to building
Roof Condition	No known problems
Type of Heating System (all that apply)	Forced air—natural gas, Forced air—electric, Radiant-natural gas
Heating System Age	Original to building
Air Conditioning (all that apply)	Central air—living and administrative areas only
Any Other Known Maintenance or Disrepair Issues	None

Design Features

Overall Size of Facility Adequate for Current Use	Yes
Apparatus Exit	Exit to traffic flow safe and unimpeded
Building and Property Blend Well with Neighborhood	Yes
Building and Property Adaptable if Future Expansion Needed	Expansion need unlikely
Adequate Staff and Visitor Parking	Parking is adequate
Any Additional Design Comments	None

Safety Features

Automatic Door Stops on Overhead Doors Operating Properly	Yes
Adequate Fire Extinguishers (not on apparatus)	Yes
Cooking Equipment Central Shutdown	Yes
Automatic Fire Sprinklers Present	Entire building
Fire Sprinkler System Type	Wet
Alarm Systems Present	Sprinkler water flow, Monitored smoke/heat alarms
Is Commercial Cooking Equipment Present	Yes
Proper Hood Duct and Grease Filters in Place	Yes
Fixed Fire Extinguishing System in Hood Properly Inspected	Yes
Flammable and Combustible Liquids Stored in Approved Cabinet	Yes
All Pressure Cylinders Stored Properly	Yes
SCBA Compressor System Present	Yes
Air Sample Certification Present and Visible	Yes
Back-Up Generator Present	Yes, with auto transfer switch
Generator Fuel Type and Source	Natural gas, piped in

Environmental Features

Apparatus Exhaust Removal	Forced air through structure, auto activation
Underground Storage Tanks Present	No
Apparatus Floor Drain Oil Separators in Place	Oil separator in use

Station Staff Facilities and Features

Adequate Space for Working On or Around Apparatus	Space around apparatus is adequate
Apparatus Room Accommodates Working on Small Equipment	Adequate space
Personnel Can Move Quickly and Easily to Apparatus for Response	Compromised Center area bays has impeded travel from gear storage
Adequate Space for Cooking and Eating	Yes
Adequate Space for Local Company Training and Drills	Yes
Are Compromises Necessary for Two- Gender Staffing	No
Adequate Space for Personal Hygiene	Yes
Adequate Space for Sleeping	Yes
Adequate Space for Storage	Yes
Identify any Additional Operational Compromises Made by Staff or Crew to Compensate for Facility Inadequacies	None
List Facility Features	Separate watch room/station office, Station officer private office, Administrative/support offices, Day room/lounge, Kitchen, Conference room(s), Classroom for >10, Training library, Quiet/study room, Coed dormitory, Shower/locker room(s), Dedicated exercise/workout area, Turnout gear extraction washer, SCBA filling station

St. Bonifacius Fire Department

	St. Bonifacius Fire Department
	Active response station, Administrative offices (HQ station)
	3631 Main Street, St. Bonifacius
Year Facility Initially Constructed	1997
Number of Major Additions or Renovations	0

Construction Features

Building Square Feet	9872
Apparatus Bays:	
<i>Back-in, single unit</i>	0
<i>Back-in, used with stacked parking</i>	2
<i>Drive-through use, single unit</i>	0
<i>Drive-through capable, used with stacked parking</i>	2
Building Height	One-story
Construction Type	TYPE V-A—Protected Wood Frame
Outside Finish	Wood siding, Masonry block
Unusual Construction Features	None
Overall Construction Condition	Good condition
Does Structure Appear to be ADA Compliant	Yes
Building Code Issues Evident	None
Roof Type	Peaked—shingle
Roof Age	1 to 10 years
Roof Condition	No known problems
Type of Heating System (all that apply)	Forced air—natural gas
Heating System Age	Original to building
Air Conditioning (all that apply)	Central air—living and administrative areas only
Any Other Known Maintenance or Disrepair Issues	None

Design Features

Overall Size of Facility Adequate for Current Use	Yes
Apparatus Exit	Signalization would be helpful but not present
Building and Property Blend Well with Neighborhood	Yes
Building and Property Adaptable if Future Expansion Needed	Yes
Adequate Staff and Visitor Parking	Parking is adequate
Any Additional Design Comments	None

Safety Features

Automatic Door Stops on Overhead Doors Operating Properly	Yes
Adequate Fire Extinguishers (not on apparatus)	Yes
Cooking Equipment Central Shutdown	No
Automatic Fire Sprinklers Present	None
Alarm Systems Present	Monitored smoke/heat alarms
Is Commercial Cooking Equipment Present	No
Flammable and Combustible Liquids Stored in Approved Cabinet	Yes
All Pressure Cylinders Stored Properly	Yes
SCBA Compressor System Present	Yes
Air Sample Certification Present and Visible	Certification status current, but not present
Back-Up Generator Present	Yes, with auto transfer switch
Generator Fuel Type and Source	Natural gas, piped in

Environmental Features

Apparatus Exhaust Removal	No exhaust removal effort in place
Underground Storage Tanks Present	No
Apparatus Floor Drain Oil Separators in Place	Oil separator in use

Station Staff Facilities and Features

Adequate Space for Working On or Around Apparatus	Space around apparatus is adequate
Apparatus Room Accommodates Working on Small Equipment	Adequate space
Personnel Can Move Quickly and Easily to Apparatus for Response	Yes
Adequate Space for Cooking and Eating	Yes
Adequate Space for Local Company Training and Drills	Yes
Are Compromises Necessary for Two-Gender Staffing	No
Adequate Space for Personal Hygiene	Yes
Adequate Space for Sleeping	Not intended for sleep accommodation
Adequate Space for Storage	Yes
List Facility Features	Separate watch room/station office, Administrative/support offices, Day room/lounge, Kitchen, Classroom for >10, Training library, SCBA filling station

Apparatus

In totality, the departments maintain a fleet of 25 response and specialty service vehicles. Most of the current emergency vehicles fall within what is considered to be an acceptable life span, with an average age calculated at 15.0 years. The following figures summarize currently existing fire and emergency medical response apparatus, as well as the equipment capacities and condition.

Mound Fire Department



What is the common recognized name of this unit?	Engine 11
Unit Status	Active Service
Manufacturer	Other Salisbury Fire Equipment
Year of Manufacture	2003
Mileage	20,467
Hours	1,283
Pumping Capacity	1,500 gpm
Tank Capacity	765 gallons
Seating Capacity	6
Number of SCBA	5
Equipment	Large diameter hose, Generator, BLS medical gear, Automatic external defibrillator, Thermal imaging camera, Class A foam injected
Surface Rust Present	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Engine 12
Unit Status	Active Service
Manufacturer	Custom Fab & Body LLC
Year of Manufacture	1996
Mileage	41,714
Hours	3,037
Pumping Capacity	1,250 gpm
Tank Capacity	750 gallons
Seating Capacity	5
Number of SCBA	3
Equipment	Large diameter hose, Generator, BLS medical gear, Automatic external defibrillator, Class A foam injected
Surface Rust Present	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good

Minnetrista – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Engine 14
Unit Status	Active Service
Manufacturer	Custom Fab & Body LLC
Year of Manufacture	1984
Mileage	21,391
Hours	NA
Pumping Capacity	1,250 gpm
Tank Capacity	1,000 gallons
Seating Capacity	5
Number of SCBA	3
Equipment	Large diameter hose, Generator, BLS medical gear, Automatic external defibrillator, Class A foam/eductator
Surface Rust Present	Light
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Fair



What is the common recognized name of this unit?	Ladder 11
Unit Status	Active Service
Manufacturer	Sutphen Corporation
Year of Manufacture	1981
Mileage	28,012
Hours	NA
Pumping Capacity	2,500 gpm
Type of Elevating Aerial Device	Platform Tower
Elevating Device Style	Mid-Chassis Mount
Height Of Device At Full Elevation	100
Does this unit also respond as a standard engine (quint use)?	Responds as aerial/truck company only
Tank Capacity	300
Seating Capacity	5
Number of SCBA	2
Equipment	Large diameter hose, Generator
Surface Rust	Light
Structural Rust and Corrosion	Light
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Fair

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Tanker 12
Unit Status	Active Service
Manufacturer	Midwest Fire Trucks
Year of Manufacture	2007
Mileage	2,790
Hours	352
Does this unit also respond as a standard engine?	Pumper-Tanker, also responds as engine
Pumping Capacity	750 gpm
Tank Capacity	3,000 gallons
Seating Capacity	3
Number of SCBA	0
Equipment	Portable dump tank
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Engine 13
Unit Status	Active Service
Manufacturer	Midwest Fire Trucks
Year of Manufacture	2010
Mileage	948
Hours	146
Does this unit also respond as a standard engine?	Pumper-Tanker, also responds as engine
Pumping Capacity	1,250 gpm
Tank Capacity	2,000 gallons
Seating Capacity	5
Number of SCBA	4
Equipment	Large diameter hose, BLS medical gear, Automatic external defibrillator, Portable dump tank, Class A foam injection
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent

Minnetrista – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Rescue 11
Unit Status	Active Service
General Rescue Class	Medium Rescue, non-walk-in
Manufacturer	Custom Fab & Body LLC
Year of Manufacture	1998
Mileage	16,975
Seating Capacity	5
Number of SCBA	2
Equipment	Generator, power rescue tool, BLS medical gear, automatic external defibrillator
Surface Rust	None
Structural Rust and Corrosion	Light
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good



What is the common recognized name of this unit?	Utility 11
Unit Status	Active Service
General Rescue Class	Heavy Rescue, walk-in
Manufacturer	Emergency Vehicles, Inc. (EVI)
Year of Manufacture	1990
Mileage	13,861
Seating Capacity	Other 11
Number of SCBA	4
Equipment	Generator, articulating flood light, power rescue tool, rope rescue gear, water rescue gear, BLS medical gear, automatic external defibrillator, Air cascade system
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good

Minnetrista – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Utility 12
Unit Status	Active Service
General Rescue Class	Light Rescue
Manufacturer	Ford—Local Modifications
Year of Manufacture	1999
Mileage	80,148
Seating Capacity	5
Number of SCBA	0
Equipment	BLS medical gear, automatic external defibrillator
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Grass 11
Unit Status	Active Service
Manufacturer	Chevrolet—Local Modifications
Year of Manufacture	1986
Mileage	12,894
Pumping Capacity	350 gpm
Tank Capacity	250 gallons
Seating Capacity	3
Number of SCBA	0
Equipment	Class A foam, Wildland fire equipment
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Fair

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services

No Photo Available

What is the common recognized name of this unit?	Boat 11
Unit Status	Active Service
Manufacturer	Silver Wolf
Year of Manufacture	2001
Mileage	
Pumping Capacity	300 gpm
Tank Capacity	No tank
Seating Capacity	4
Number of SCBA	
Equipment	Water rescue gear
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Rescue 12
Unit Status	Active Service
Manufacturer	Chevrolet—Local Modifications
Year of Manufacture	2010
Mileage	332
Pumping Capacity	No pump
Tank Capacity	No tank
Seating Capacity	5
Number of SCBA	0
Equipment	BLS medical gear, Automatic external defibrillator, Incident command board, Advanced communications capabilities
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	New

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Utility 13
Unit Status	Active Service
Manufacturer	Pace American
Year of Manufacture	2003
Mileage	
Pumping Capacity	No pump
Tank Capacity	No tank
Seating Capacity	0
Number of SCBA	3
Equipment	Generator, Flammable liquid foam (AFFF style), Incident command board, Other Technician-level hazmat supplies and equipment
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Utility 41
Unit Status	Active Service
Manufacturer	Haulmark
Year of Manufacture	2010
Mileage	
Pumping Capacity	No pump
Tank Capacity	No tank
Seating Capacity	Other 0
Number of SCBA	0
Equipment	Incident command board, Fire investigation/evidence equipment, General supplies
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	New

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Utility 15
Unit Status	Active Service
Manufacturer	Polaris
Year of Manufacture	2010
Mileage	
Pumping Capacity	No pump
Tank Capacity	No tank
Seating Capacity	2
Number of SCBA	0
Equipment	Other None
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Boat 12
Unit Status	Active Service
Manufacturer	Zodiac Marine Equipment
Year of Manufacture	2009
Mileage	
Pumping Capacity	No pump
Tank Capacity	No tank
Seating Capacity	4
Number of SCBA	
Equipment	Water rescue gear
Surface Rust	Light
Structural Rust and Corrosion	Light
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent

St. Bonifacius Fire Department



What is the common recognized name of this unit?	Engine 11
Unit Status	Active Service
Manufacturer	Three D Fire Equipment
Year of Manufacture	2003
Mileage	NA
Hours	NA
Pumping Capacity	1,250 gpm
Tank Capacity	1,000 gallons
Seating Capacity	6
Number of SCBA	4
Equipment	Large diameter hose, Generator, Thermal imaging camera, Compressed air foam system
Surface Rust Present	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Engine 12
Unit Status	Active Service
Manufacturer	Custom Fab & Body LLC
Year of Manufacture	2011
Mileage	3,311
Hours	32
Pumping Capacity	1,500 gpm
Tank Capacity	1,000 gallons
Seating Capacity	6
Number of SCBA	4
Equipment	Large diameter hose, Generator, Power rescue tool, BLS medical gear, Thermal imaging camera, Compressed air foam system
Surface Rust Present	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	New

Minnetrista – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Tanker 11
Unit Status	Active Service
Manufacturer	Midwest Fire Trucks
Year of Manufacture	2006
Mileage	1,865
Hours	188
Does this unit also respond as a standard engine	Tanker use only
Pumping Capacity	250 gpm
Tank Capacity	2,000 gallons
Seating Capacity	2
Number of SCBA	0
Equipment	Portable dump tank
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent



What is the common recognized name of this unit?	Tanker 12
Unit Status	Active Service
Manufacturer	Engle Tank Equipment
Year of Manufacture	1993
Mileage	5,897
Hours	NA
Does this unit also respond as a standard engine	Tanker use only
Pumping Capacity	250 gpm
Tank Capacity	2,000 gallons
Seating Capacity	2
Number of SCBA	0
Equipment	Portable dump tank
Surface Rust	None
Structural Rust and Corrosion	Light
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Rescue 11
Unit Status	Active Service
General Rescue Class	Heavy Rescue, walk-in
Manufacturer	Three D Fire Equipment
Year of Manufacture	1999
Mileage	7,589
Seating Capacity	Other 12
Number of SCBA	6
Equipment	Generator, power rescue tool, rope rescue gear, water rescue gear, BLS medical gear
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good



What is the common recognized name of this unit?	Rescue 12
Unit Status	Active Service
General Rescue Class	Medium Rescue, non-walk-in
Manufacturer	Chevrolet—Local Modifications
Year of Manufacture	2005
Mileage	3,619
Seating Capacity	5
Number of SCBA	0
Equipment	Generator, BLS medical gear, automatic external defibrillator
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent

Minnetrissa – Mound – St. Bonifacius
 Feasibility Study for Shared or Cooperative Fire and Emergency Services



What is the common recognized name of this unit?	Boat 12
Unit Status	Active Service
Manufacturer	Alumicraft
Year of Manufacture	1990
Mileage	
Pumping Capacity	100-250 gpm
Tank Capacity	No tank
Seating Capacity	5
Number of SCBA	
Equipment	Water rescue gear, Other Floating pump
Surface Rust	Moderate
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Fair



What is the common recognized name of this unit?	Grass 12
Unit Status	Active Service
Manufacturer	Polaris
Year of Manufacture	2004
Mileage	NA
Pumping Capacity	12 gpm
Tank Capacity	70
Seating Capacity	2
Number of SCBA	0
Equipment	wildland gear
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Good

Minnetrissa – Mound – St. Bonifacius
Feasibility Study for Shared or Cooperative Fire and Emergency Services



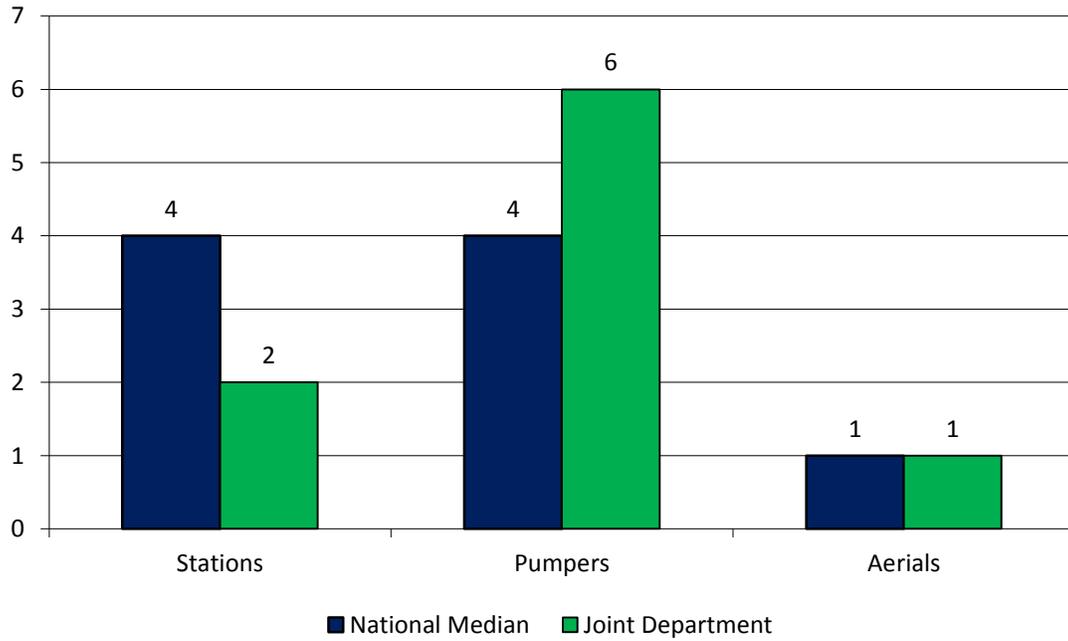
What is the common recognized name of this unit?	Boat 11
Unit Status	Active Service
Manufacturer	Boston Whaler
Year of Manufacture	1980
Mileage	
Pumping Capacity	300 gpm
Tank Capacity	No tank
Seating Capacity	6
Number of SCBA	
Equipment	Water rescue gear, BLS medical gear
Surface Rust	None
Structural Rust and Corrosion	Light
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Fair



What is the common recognized name of this unit?	Grass 11
Unit Status	Active Service
Manufacturer	Chevrolet—Local Modifications
Year of Manufacture	2006
Mileage	9,266
Pumping Capacity	12 gpm
Tank Capacity	125 gallons
Seating Capacity	5
Number of SCBA	0
Equipment	wildland gear
Surface Rust	None
Structural Rust and Corrosion	None
Apparent Fluid Leaks	None
Overall Appearance and Condition Rating	Excellent

From a regional perspective, the combined departments have two more engines (pumpers) but two fewer stations than the national average for departments with a similar combined population, as illustrated in the following figure.

Figure 23: Regional Comparison of Resources



This figure illustrates comparisons based on 1,000 population and considers the total population served by each agency (14,840 for MFD and 5,779 for SBFD). This comparison ignores geographical distribution of that personnel however. Distribution of physical resources will be discussed later in this report.

Staffing and Personnel Management

The effective utilization of personnel management components requires sufficient personnel resources including operational, administrative, and support positions to adequately carry out the duties and responsibilities with which they are charged. This section evaluates the personnel resources in place within each of the two agencies involved in this project, and also makes recommendations to assist the departments in improving effectiveness and efficiency where necessary.

Administration and Support Staffing Levels

The primary responsibility of a department's administration and support staff is to ensure that the organization's operational entities have the abilities and means to fulfill its mission at an emergency incident. Efficient and effective administration and support are critical to the department's success. Without adequate oversight, planning, documentation, training, and maintenance programs the operational capabilities of the department will suffer and may fail operational testing. Administration and support require appropriate resources to function effectively.

Analyzing the ratio of administration and support positions to the total departmental positions facilitates an understanding of the relative number of resources committed to this function. The appropriate balance of administration and support positions to the operational component is critical to the department's ability to fulfill its mission and responsibilities. Although no formal studies have been conducted to identify the optimum personnel mix, it has been ESCI's experience that the typical ratio of administrative and support staff to total personnel in career departments fall within the 10 to 15 percent range.

Mound Fire Department

MFD is a mostly volunteer fire department in that emergency response is comprised primarily of volunteer personnel. The department does, however, employ several individuals in various roles to assist with the administrative and support functions of the department. Administration and support positions include a full-time fire chief, a full-time administrative assistant shared with the police department, a deputy fire marshal, training officer, and assistant fire inspector (each at 16 hours per week), and a contracted fire inspector used as needed for 15 to 20 hours each month.

St. Bonifacius Fire Department

SBFD is an all-volunteer fire department, thus the administrative and support positions are also active in emergency operations. Administration and support for SBFD consists of the fire chief, five captains, and four lieutenants.

Figure 24: Administrative and Support Personnel Summary

	MFD	SBFD	Total
Fire Chief	1.0	1.0	2.0
Assistant Chief	1.0	1.0	2.0
Deputy Fire Marshal	0.5	0.0	0.5
Assistant Fire Inspector	0.5	0.0	0.5
Training Officer	0.5	0.0	0.5
Fire Inspector	0.25	0.0	0.25
Administrative Assistant	0.5	0.0	0.5
Total Admin and Support	4.25	2.0	6.25
Percent Admin and Support	9.8%	8.3%	7.9%

Those positions listed as partial indicate paid part-time staff positions that are less than full-time. The Fire Chief for MFD is the only fully paid position within the study region.

Overall, the administrative and support component is slightly below what ESCI has historically seen across the nation in regards to a ratio to total personnel, as discussed previously. Moving forward, the department may consider additional administrative and support positions, whether paid or volunteer, to supplement those already fulfilling administrative and support roles.

Operational Staffing Levels

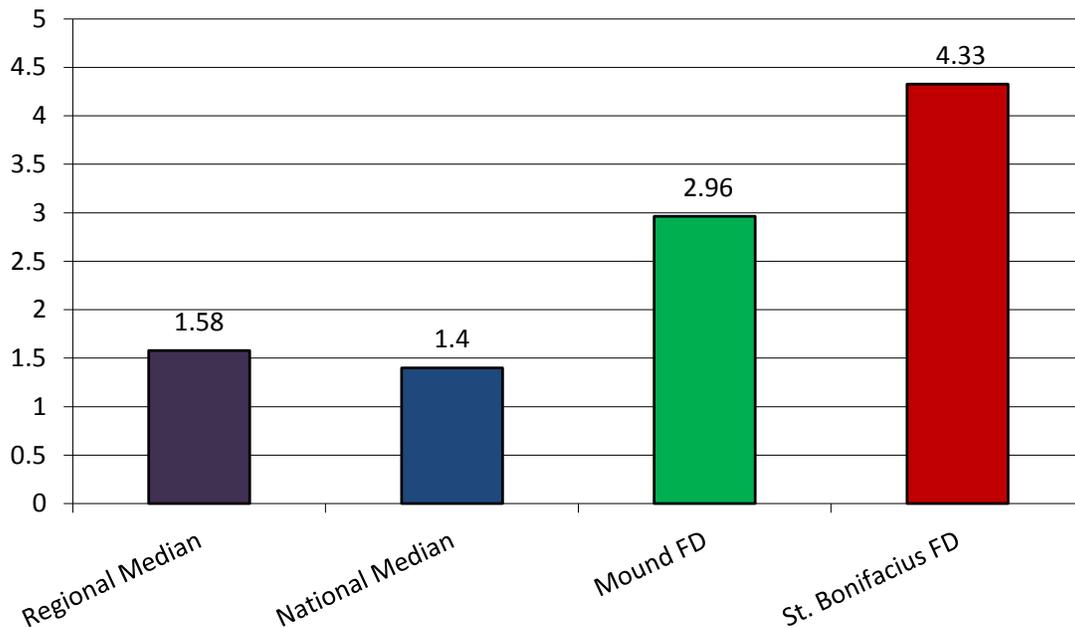
It takes an adequate and well-trained staff of emergency responders to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents. Insufficient staffing at an operational scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved. The following figure illustrates the operational personnel for each study agency, not including those personnel identified previously under administration and support.

Figure 25: Emergency Services Personnel Summary

	MFD	SBFD	Total
District Chief	1	0	1
Captain	5	5	10
Lieutenant	4	4	8
Firefighter	26	13	39
Probationary FF	3	0	3
Total Operations	39	22	61

The following figure compares both study departments’ number of volunteers per 1,000 population to the regional and national averages and includes all volunteer personnel including officers.

Figure 26: Operational Staffing Comparison



As can be seen, both departments have higher levels of volunteerism than departments protecting similar populations both regionally and nationally. Population figures for the entire service area of both agencies were used for this comparison.

Staffing Performance

The Center for Public Safety Excellence (CPSE) has a sample critical tasking analysis for the number of personnel required on scene for various levels of risk. This information is shown in the following chart.

Figure 27: Critical Task Staffing Needs by Risk

**Sample Critical Tasking Analysis
Firefighting Personnel Needed Based on Level of Risk**

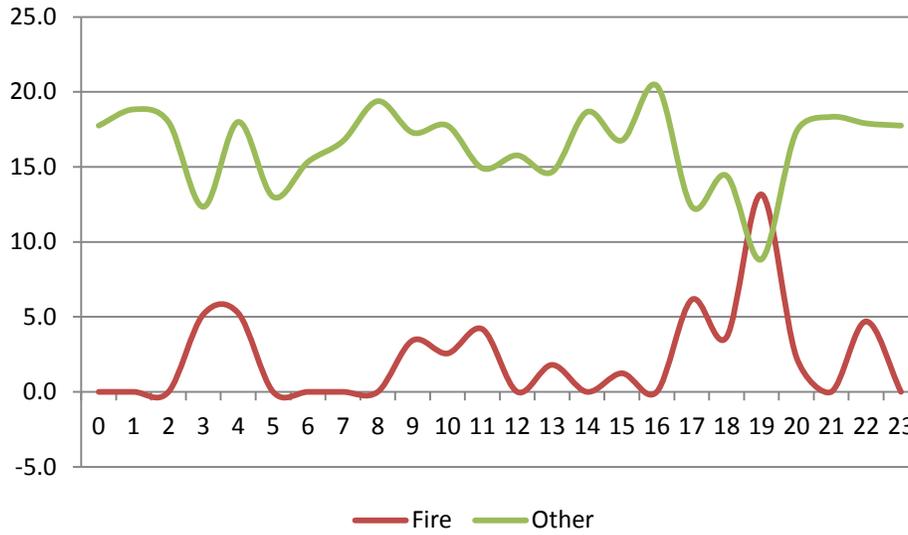
Critical Tasks	Structure Fire Maximum Risk	Structure Fire Significant Risk	Structure Fire Moderate Risk	Non-Structure Fire Low Risk
Attack Line	4	4	2	2
Back-Up Line	4	2	2	0
Support for Hose Lines	4	3	2	0
Search and Rescue	4	4	2	0
Ventilation	4	2	2	0
Rapid Intervention Team (RIT)	4	4	2	0
Pump Operator	2	1	1	1
2 nd Apparatus/Ladder Operator	1	1	1	0
Command	2	1	1	1
Safety	2	1	1	0
Salvage	4	0	0	0
Rehabilitation	2	2	2	0
Total	37	25	18	4

In most communities around the country, the number of fire calls has declined over the past decade. Yet as the frequency of fires diminishes, in part due to stricter fire codes and safety education, the workload of fire departments has risen sharply—medical calls, hazardous materials calls, and every sort of household emergency are now addressed by fire departments, particularly those involved in the delivery of emergency medical services. Therefore, the need for a ready group of personnel has increased.

Nationally, while the number of non-fire incidents has increased, the number of volunteers available during daytime hours is declining. While it was once common for departments to rely on employees from local businesses to respond during emergencies, the practice is much less prevalent now. Today, people frequently work more than one job, and family responsibilities and long commutes only compound the difficulties for volunteers, lessening the time available for training and emergency duty.

Unlike fire incidents that are typically entered into a National Fire Incident Reporting System (NFIRS) 5.0, compliant records management system and emergency medical services records (patient care reports) are much less likely to be entered into an electronic recordkeeping system. Similarly, NFIRS records track the number of personnel that are involved in a particular incident, whereas EMS incidents typically use only two to three personnel per response. However, both MFD and Sbfd could provide only limited staffing data that would allow for a thorough analysis of staffing performance. The figure below illustrates data gleaned from the MFD records management system regarding personnel performance based on partial year information provided by MFD.

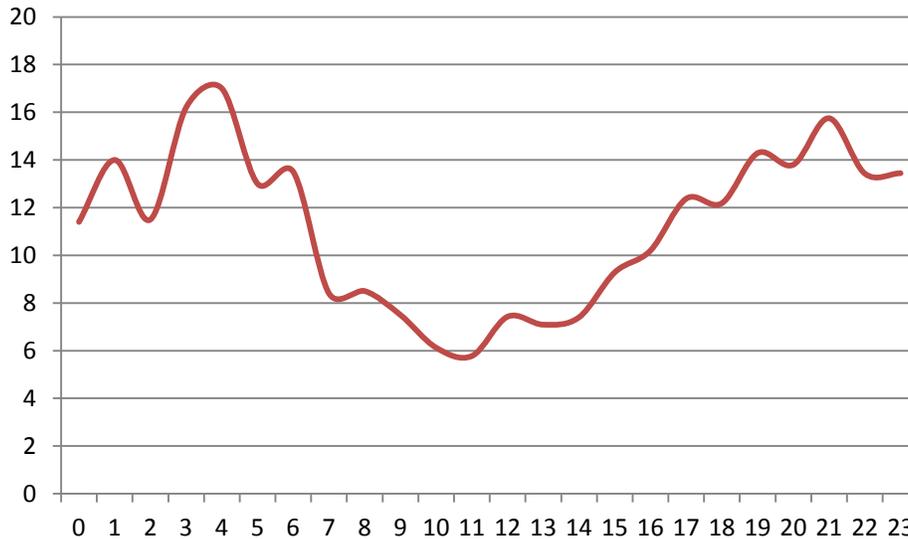
Figure 28: MFD Average Staffing Performance by Hour of Day—9/1/10-12/31-10



The fact that MFD did not start fully itemizing the staffing data in their incident records until 9/1/10 limits the dataset and its usefulness in viewing trends. Given the data from 9/1/10 to 12/31/10, MFD experienced four structure fires. Total personnel recorded in the department’s incident records indicates that the four structure fires received a response of 15, 22, 21, and 18 personnel, respectively, for an average personnel performance for structure fires of 19.

SBFD NFIRS data contained no staffing numbers, regardless of personnel type, for any incident during the 2009-2010 data period reviewed. The following figure illustrates data gleaned from the SBFD paper files regarding personnel performance. Based on the low number of actual fires experienced by SBFD, the figure combines all incidents rather than breaking out personnel performance strictly for fire incidents.

Figure 29: SBF D Average Staffing Performance by Hour of Day—2010



During calendar year 2010, the department responded to seven structure fires. According to hardcopy documentation provided by the department and evaluated by ESCI, structure fires received a response of 5, 18, 14, 18, 15, 16, and 12 personnel, respectively, for an average personnel performance of 14.

Deployment of physical resources is crucial to any emergency services function, but without sufficient quality personnel, delivery of those services cannot occur. ESCI also presents other components of an overall personnel management system that are every bit as critical to organizational success as availability of personnel. Elements to be evaluated include: Human resources policies and handbooks; application, recruitment and retention; and testing, measurement, and promotion processes.

Recommendation:

- Both MFD and SBF D should begin to accurately and consistently enter staffing and apparatus data into their incident records management system to make future analysis of staffing performance possible.

Recruitment and Retention

For volunteer and combination fire departments across the United States, recruitment and retention of volunteer members has been one area that has suffered far more than actual service delivery. Several articles of research have been published over the past decade in an attempt to assist volunteer and combination departments in addressing the issue of declining numbers of volunteer or POC personnel.

One such study, conducted by the National Volunteer Fire Council offered an extensive list of statistics and suggestions focusing on the following issues:

- What makes members want to volunteer?
- What keeps volunteers serving?
- What makes your members leave your organization?

The study evaluated these questions and offered a vast array of information, but little in the way of solid suggestions on how to address these issues.

It is no secret within the fire service, as well as other industries that rely on volunteer members, that volunteerism has been on the decline for many years. Since September 11, 2001, however, volunteerism, in general, saw an enormous increase, from 59.8 million in 2002 to 65.4 million Americans in 2005; but that surge has since subsided and overall volunteerism is once again declining, 62.8 million in 2010. During that time frame, only 25 percent of males volunteered compared to 32.4 percent of females. In addition, the age with the highest percentage of volunteerism was the 35 to 44 years of age bracket. Unfortunately, only 1.3 percent of all volunteerism goes into public safety organizations, of which fire departments comprise only a fraction.⁶

In the upper Midwestern United States, including Minnesota, volunteer rates are somewhat higher than the national averages. The 2010 rate of volunteerism in the upper Midwest was estimated at 30.7 percent overall compared to 26.3 nationally. Subsequently, civic volunteerism, of which public safety is a part, only accounted for 5.9 percent of the total volunteerism rate in 2010.

Statistics specific to the state of Minnesota indicate that only 22.7 percent of males volunteer, compared to 30.1 percent of females, and the age range with the highest volunteerism was the 45 to 54 years of age bracket at 41.7 percent for the 2008 to 2010 period. Not dissimilar to the upper Midwest regional statistics, only 7.1 percent of volunteerism is attributed to civic organizations, including fire departments, however, those opportunities labeled ‘intensive’ within Minnesota, such as fire departments, saw a lower rate of volunteerism than nationally, 29.6 percent to 33.8 percent respectively.⁷

⁶ Corporation for National and Community Service. *Volunteering in America: State Trends and Rankings*, June, 2011

⁷ Ibid.

The report also lists factors that may influence volunteerism with specific communities. These include, high foreclosure rates, capacity of community associations, high poverty and unemployment. Within Minnetrista, Mound and St. Bonifacius, these factors could play a significant role in local volunteerism. The following figure compares these factors to the Minnesota and National averages.

Figure 30: Economic Factors Affecting Volunteerism

	Foreclosure Rate ⁸	Poverty Rate ⁹	Unemployment ¹⁰
National	0.34	16.6%	9.1%
Minnesota	0.32	10.8%	7.3%
Minnetrista	Hennepin County 0.35 ¹¹	3.9%	6.1%
Mound		3.7%	6.1%
St. Bonifacius		4.4%	6.1%

The capacity of community associations is more difficult to measure since there is not benchmark data available as to the number of volunteer opportunities available within a given community. A quick search of each community’s websites reveals a number of municipality-sponsored volunteer opportunities. Oddly, none of the study municipalities have direct links to fire department volunteer opportunities or advertisements for volunteers on their websites.

With a shift in demographics throughout the United States, the groups that emergency services agencies have relied upon for decades are no longer available, or no longer have the desire, to volunteer. As shown from the statistics noted above, public safety organizations, including fire departments, must be willing to thoroughly evaluate the demographics of their communities and then to take an in-depth look at the organization to identify what they have to offer, as well as incentives that could be implemented and/or improved.

Based on the report issued by the National Volunteer Fire Council, in general, individuals are willing to volunteer when:

- The experience is rewarding and worth their time
- The training requirements are not excessive

⁸ RealtyTrac.com National Real Estate Trends

⁹ Based on information obtained from <http://www.city-data.com/poverty/poverty-St.-Bonifacius-Minnesota.html>. Accessed 14 September 2011.

¹⁰ Based on information obtained from <http://www.bestplaces.net/economy/city/minnesota/>. Accessed 14 September 2011.

¹¹ *2011 Semi-Annual Foreclosures in Minnesota: A Report Based on County Sheriff's Sale Data*. August 9, 2011. Figure 7. p. 10.

- The time demands are not excessive
- They feel valued
- Conflict is minimized

There are caveats, however, attached to these generalizations. As is well-known, time is a precious commodity in today's society, as much of the population works more hours at one, two, or three jobs in order to offset the rising cost of living and inability of most salaries to keep up with the current rates of inflation. With this in mind, fire departments must be able to make any time commitment by their members worthwhile and ensure that time is not wasted on repetitive or needless exercises that serve little purpose other than to occupy time meant for practical training. This is increasingly important as training requirements continue to rise as does call volume.

Individuals charged with operating emergency services agencies with an ever-increasing level of efficiency must realize that, in today's economic environment, volunteerism may be the best method for accomplishing a mission that is vital to community sustainability. Administrators must be able to recognize and swiftly deal with factors that cause a decline in volunteerism, such as:

- Abuse of the emergency services system
- Sociological conditions
- Internal leadership problems, either in the administrative or field operational ranks
- Community demographics, such as an aging community and changing demographics

In an environment of tax roll-backs, property tax capping, hiring freezes due to local government budgetary overruns, and an overall decrease in fires throughout the country, emergency services administrators may be better served to bolster the volunteer ranks of their departments rather than continuing the push for more career personnel.

With these issues in mind, combined with the statistics noted at the beginning of this section, ESCI recommends that the administration of the study municipalities consider the demographics of the community as noted below to develop a sustainable volunteer/POC recruitment and retention program:

- Largest percentage of population: 26.4 percent (age 25-44)
- Percentage of single households: 24.2 percent (58.0 percent married couples)
- Male-to-female ratio: nearly equal (48.9 percent female)

Using this information, the region should focus its recruitment efforts on the 25-44 age bracket, particularly those living in married couple households; and, although not considered the norm, attention should be focused on females as they make up a nearly equal portion of the population but are much more likely to volunteer.

Once an effective recruitment program has been implemented, tested, evaluated, and modified based on results, the departments should then focus on retention of those volunteers. As mentioned earlier, in today's economic environment, monetary incentives are becoming increasingly rare. Many departments rely on the formal paid-on-call staff (those that receive a standard rate of pay for work performed whether per hour or per call) rather than the typical volunteer member that works in a strictly volunteer (no-pay) status. Which option to utilize rests with the department officials and jurisdictional authorities with insight and control of the budget.

Regardless of which compensatory mechanism is chosen by the jurisdictions, there are other, non-monetary aspects that tend to maintain a volunteer's interest in the organization. As indicated in the report issued by the National Volunteer Fire Council, department leadership is a major factor in a member's decision to leave an organization. Conflicts between members and leadership cause tension throughout the organization and tend to increase anxiety, even among those members not directly involved in the conflict. It is beneficial, therefore, for leadership to recognize that conflict resolution is essential to maintaining an effective organization.

It has also been determined that, once individuals become part of an organization, those who truly are volunteering for the good of the community take a great deal of pride in the organization and expect the same from other members. This takes form in many ways, including pride in the uniform, public outreach through education and/or demonstrations and fundraising, pride in the building and apparatus, and involvement in organizational development and advancement.

Another important aspect of retaining volunteers is recognition. Most individuals that volunteer do not expect any compensation for their time and efforts, but many express the desire that their dedication be acknowledged. This can be accomplished through informal programs such as a simple "thank you," or cards and letters that recognize individuals for special contributions. Formal programs can also be initiated where members are recognized for completion of various courses, or years of service awards. The use of the local media is a key component to this aspect of retention. Although members build

respect for one another internally, the use of local newspapers, television, and radio can bring external positive recognition to departments. This can also, in turn, have the effect of producing more members as the image of the organization is positively portrayed in the media.

As mentioned previously, many volunteers do not expect monetary compensation. This does not mean that monetary compensation cannot be used as an incentive to both recruit and retain volunteers. Many organizations have developed programs to make volunteering more attractive through the use of either direct or indirect monetary incentives. Some examples are listed below.

- Indirect Monetary Incentives
 - Retirement plans
 - Pension plans
 - IRAs
 - Tax exemptions (local, state, and federal)
 - Tuition assistance
 - Health club memberships
 - Local business gift certificates
- Direct Monetary Incentives
 - Length of service bonus plans
 - Pay-per-call or pay-by-hour
 - Annual reimbursement for time

Currently, both fire departments use both indirect and direct monetary incentives to entice new members and retain existing members. Indirect monetary incentives used by the departments include:

- Free enrollment in a retirement program for volunteer fire departments
- Free uniforms

Direct monetary incentives used by the departments include paying members a stipend and/or a nominal amount for incident response, training, and meetings.

On the federal level, the Supporting Emergency Responders Volunteer Efforts (SERVE) Act, introduced in 2005, would have given members of volunteer fire and EMS organizations a \$1,000.00 tax credit. Unfortunately, this legislation was not enacted, but this type of incentive was revived during 2007 as the Volunteer Responder Incentive Protection Act, in an effort to exclude from income and employment

taxes and wage withholding, property tax rebates and other benefits provided to volunteer firefighters and emergency medical responders. This legislation (HR 3648) passed both houses and was signed into law December 20, 2007. Unfortunately, the legislation expired on January 1, 2011 and efforts are currently underway to reauthorize the act for 2012 through 2015.

There is little doubt that recruitment and retention of volunteers has become difficult for many organizations. The demands of today's society and a shift in demographics have made it harder to find individuals willing to contribute the necessary time and energy to an organization that offers little tangible return. Although there are many resources available that identify the issues with attracting volunteers, it is impossible to define a specific set of incentives and programs that work for every jurisdiction. Each organization must evaluate its own internal needs and then match those to the demographics of the community it serves to maximize its abilities to recruit and retain volunteer personnel.

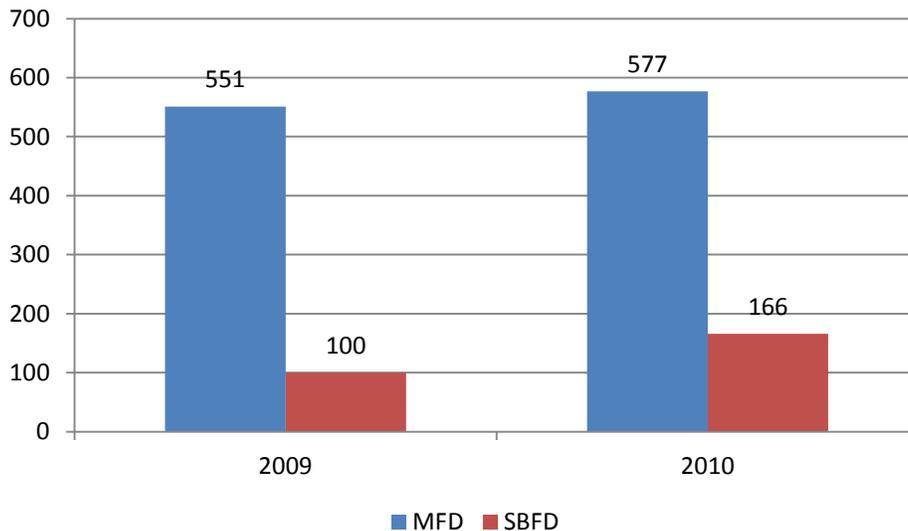
Service Delivery and Performance

The delivery of fire and emergency services by any organization is no more effective than the sum of its parts. It requires efficient notification of an emergency, rapid response from well-located facilities in appropriate vehicles, and sufficient, well-trained staff following a well-practiced plan of action. This section of the study evaluates these various components and provides observations of the elements that make up the delivery of the most critical core services provided within the study area.

Service Demand

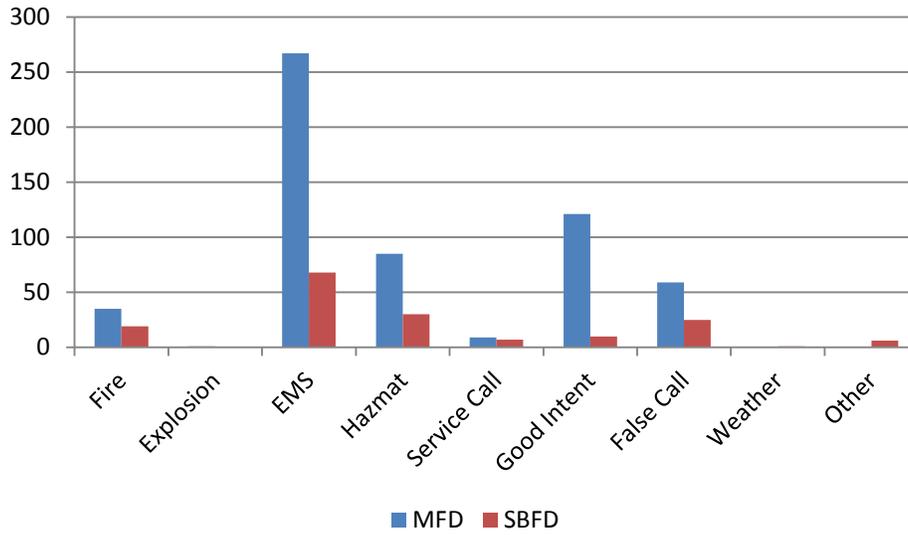
In order to complete this component of service delivery analysis, ESCI was provided both National Fire Incident Reporting System (NFIRS) data for calendar years 2009 and 2010 and computer aided dispatch (CAD) data for calendar year 2010 only. The analysis begins with an evaluation of overall workload experienced by the study departments. The figure below illustrates the total workload for each department over the 2009 and 2010 calendar years.

Figure 31: Total Workload by Department (2009 and 2010)



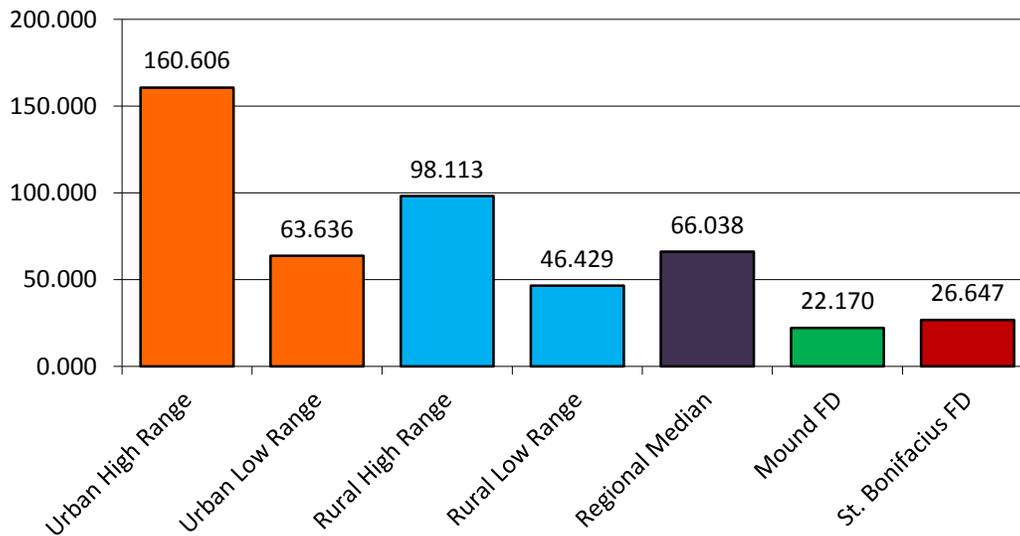
The total workload is segregated by incident type for 2010 in the following figure.

Figure 32: Workload by Incident Type—2010



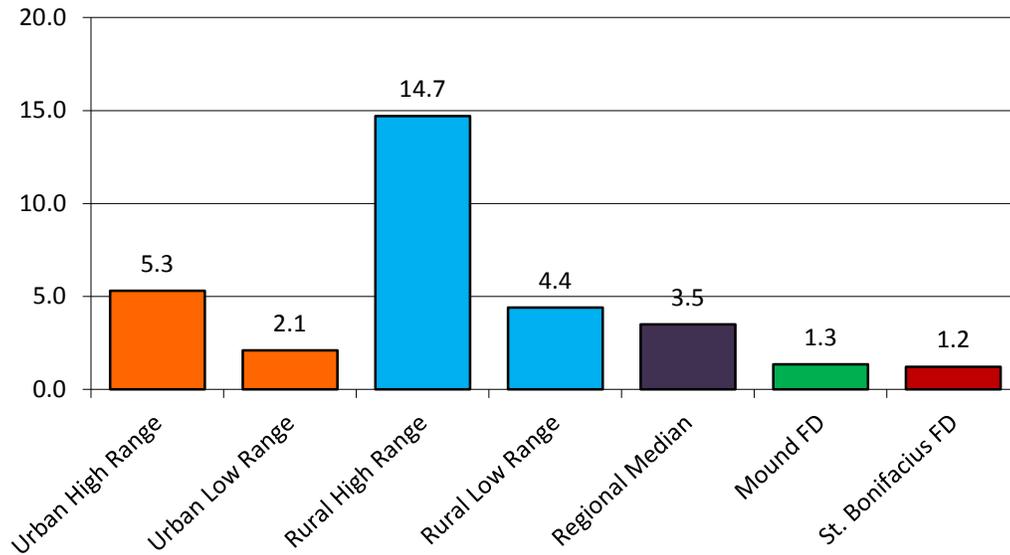
EMS calls comprise a vast majority of each department’s overall workload, while structure fires are relatively infrequent. The following figure compares the departments’ overall workload with regional and national averages per 1,000 population.

Figure 33: Comparison of Annual Incidents per 1,000 Population



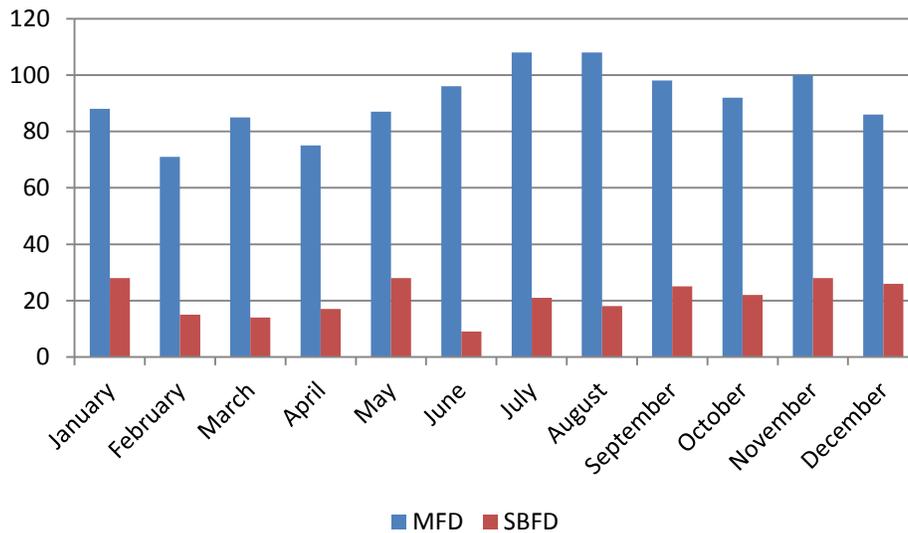
Comparisons indicate that regional workload (MFD and SBFD) is significantly lower than regional and national averages. The same is true for actual structure fires, as illustrated in the figure below.

Figure 34: Comparison of Annual Structure Fires per 1,000 Population



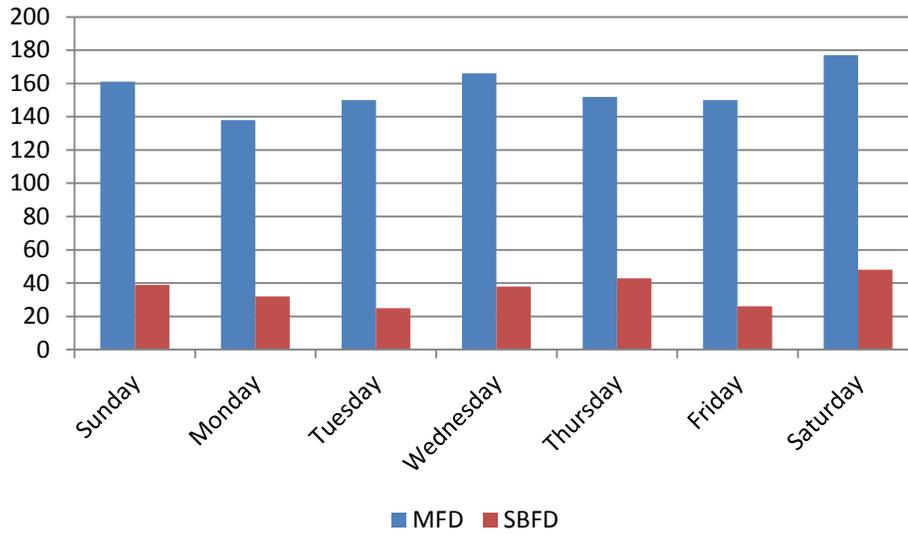
In addition to aggregate workload, it is also useful to analyze service demand temporally to determine if any trends exist whereby the departments may be experiencing higher periods of demand. ESCI begins the analysis by evaluating service demand by month.

Figure 35: Workload by Month—2009 and 2010 Combined



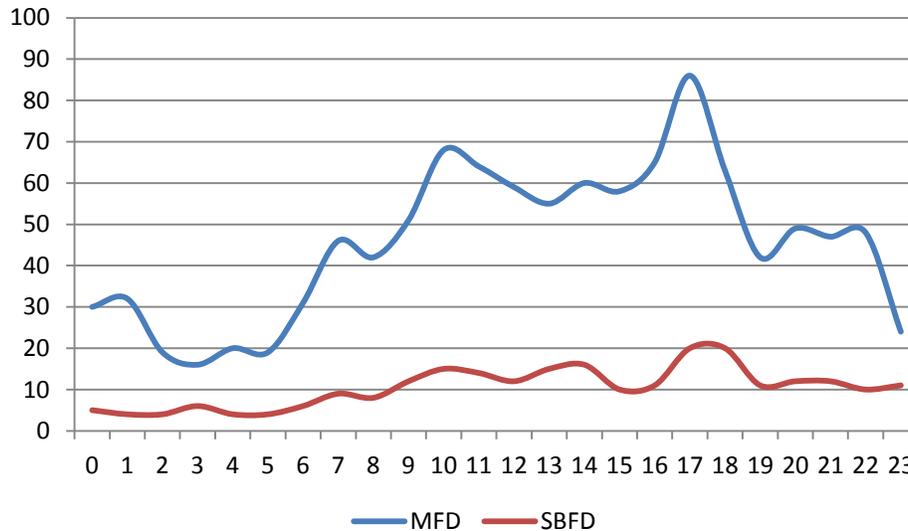
Although both departments experience variable workload by month, no general trend is indicated. The analysis continues with an evaluation of service demand by day of week.

Figure 36: Workload by Day of Week—2009 and 2010 Combined



Workload is distributed across each day of the week but, again, no general trend is indicated. The final temporal analysis evaluates workload by hour of day.

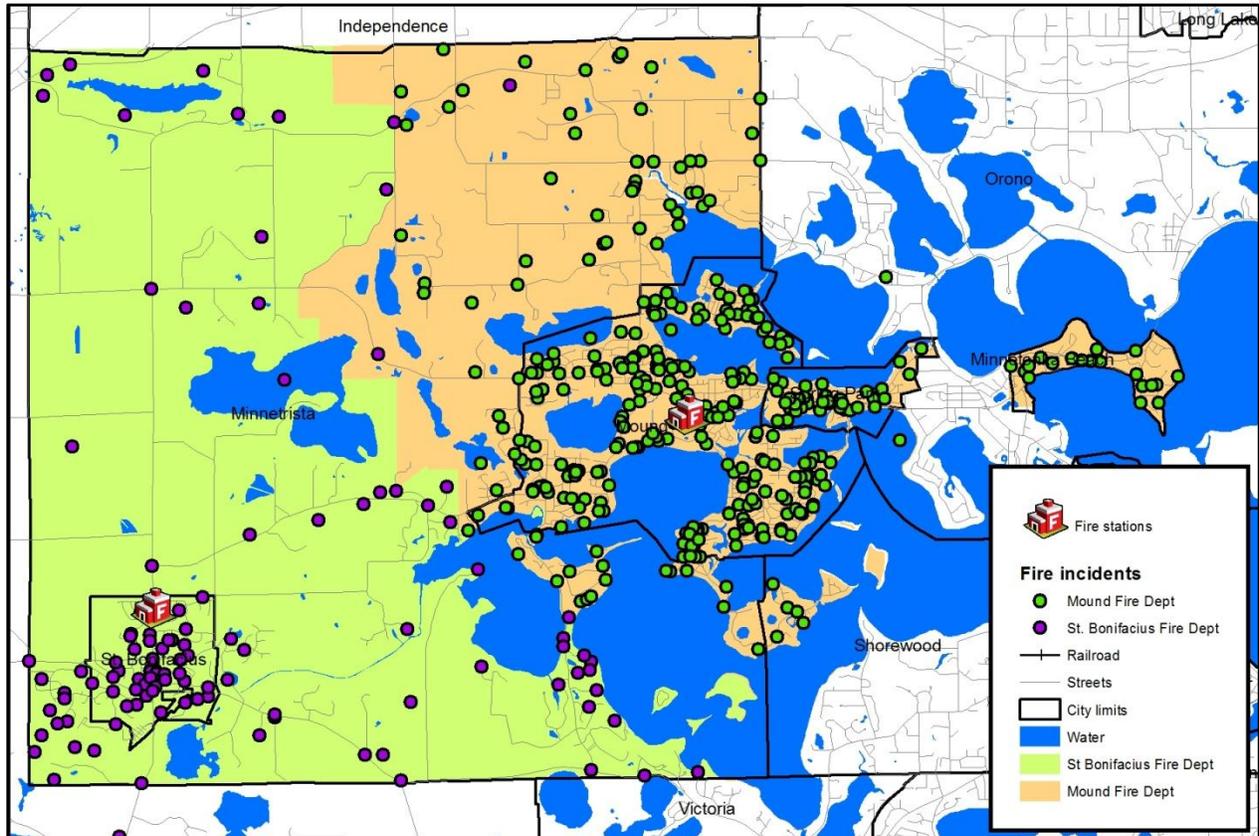
Figure 37: Workload by Hour of Day—2009 and 2010 Combined



As illustrated in the figure above, and corresponding to the fact that EMS incidents comprise a majority of each department’s workload, service demand by hour of day tends to increase in the early morning hours, plateauing during the mid-day hours and then tailing off into the evening; a pattern that follows general human activity levels.

Aside from how service demand is distributed across periods of time, it is also critical for departments to understand where incidents are occurring, particularly with regard to station locations. The following figure illustrates the fire departments' incidents graphically.

Figure 38: Service Demand Distribution



As can be seen in the figure above, incidents are widely distributed throughout both fire departments' primary response areas. Although a majority of incidents are clustered around the more densely populated areas of each jurisdiction, both departments also have a significant amount of workload outside the city boundaries.

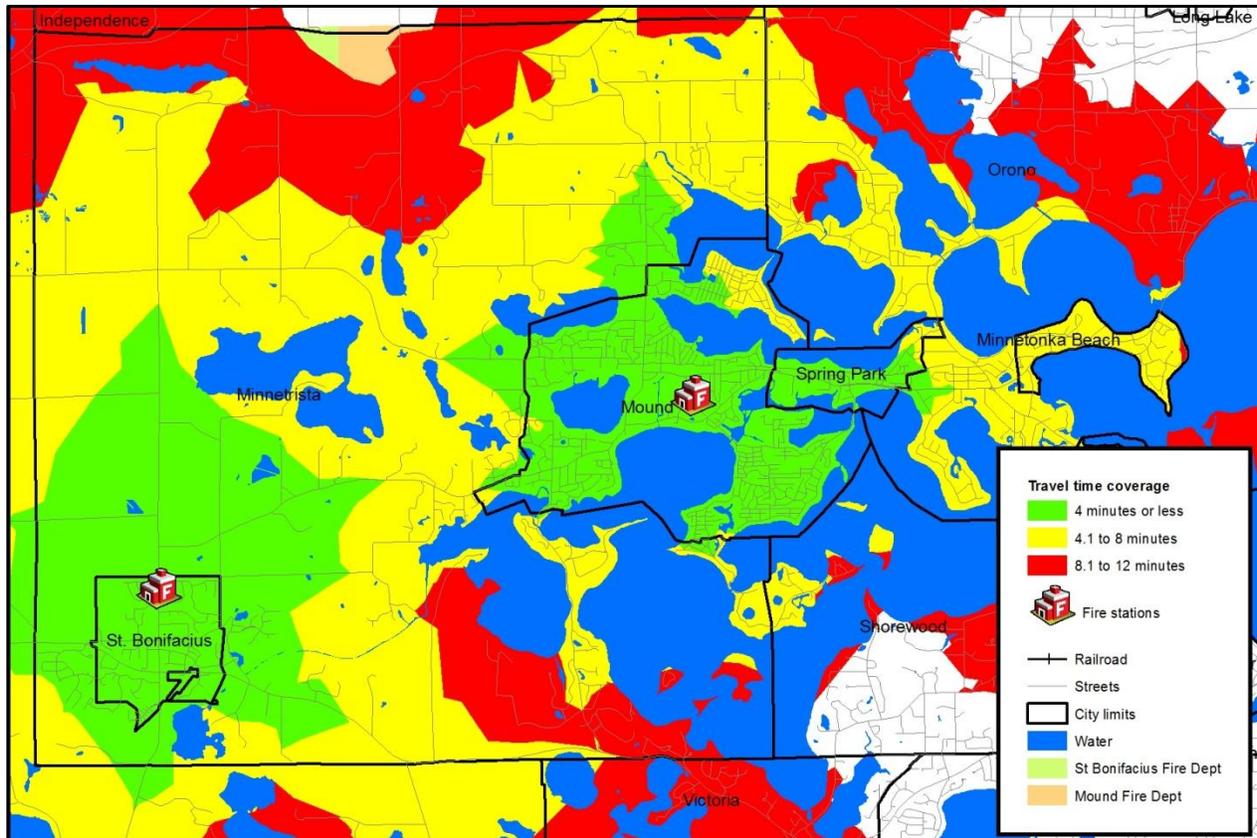
Distribution

Resource distribution is a term used to identify how physical resources are distributed throughout a given response area, particularly in relation to service demand and established response performance objectives. This section of the report evaluates how well physical resources are distributed throughout the study area and will be used to evaluate future service delivery strategies in subsequent sections.

Across the region, the two agencies operate from two facilities, all staffed with volunteers based on incident dispatch. No station has on-duty coverage 24 hours per day. There exists a certain extent of the jurisdiction that can be reached within a certain travel time from the stations regardless of staffing patterns.

The following map illustrates the 4, 8, and 12-minute travel model from each existing station location.

Figure 39: 4, 8, and 12-Minute Travel Model



When compared against the incident distribution map presented previously, 91.3 percent of all service demand regionally falls within eight minutes of travel from an existing fire station. For comparison purposes, 68.4 percent of all service demand falls within four minutes of travel time from an existing station; 94.7 percent of all service demand falls within 12 minutes of travel time from an existing station.

The national peer standards, *NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career*

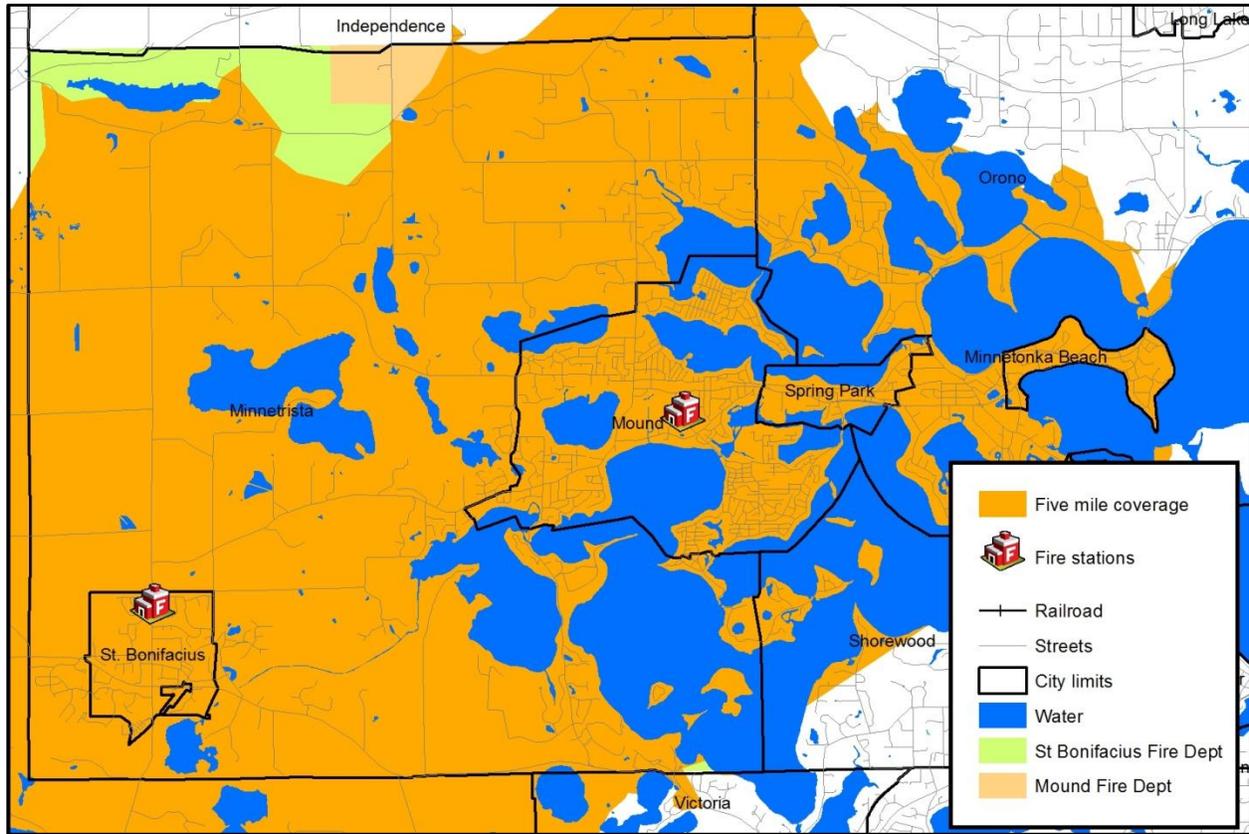
*Fire Departments*¹² and *NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer or Combination Fire Departments* includes a performance objective of 240 seconds (four minutes) or less travel time for the arrival of the first arriving engine company.¹³ The travel time models produced by ESCI indicate that existing station deployment would be capable of producing a travel time performance of less than 90 percent; below the *NFPA 1720* standard for volunteer and combination fire departments. Actual performance may be different from modeled performance, and the department's overall response time performance will be discussed in a later section of this report.

Another factor to consider when evaluating distribution of resources is the impact of that distribution on the Insurance Services Offices (ISO) rating for the area. ISO rates fire departments based on several criteria and then applies a code that many property and casualty insurance carriers utilize to set homeowners' insurance rates. As discussed previously, the study agencies have varying ISO ratings based on where property is located in relation to the nearest fire station. Those areas outside of five road miles from a fire station are considered to be 'unprotected.' Those property owners may find it difficult to obtain insurance coverage for their property and, if they do, it can be quite expensive. The following figure illustrates the five-mile distance from each of the study fire stations.

¹² *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.* (National Fire Protection Association 2010.)

¹³ *NFPA 1720, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer and Combination Fire Departments.* (National Fire Protection Association 2010.)

Figure 40: Five-Mile Coverage Area



As illustrated in the figure above, with the exception of an area to the extreme northwest within the response area (both MFD and Sbfd response area), all areas are within five road miles of an existing fire station. The pros and cons of additional facilities to cover the area to the northwest will be addressed later in this report.

Response Performance

Total response time is the amount of time a resident or business waits for an apparatus to arrive at the scene of an emergency, beginning when they first call 9-1-1. The following charts illustrate the response time for the study agencies for 2010 based on the average, 80th percentile, and 90th percentile measurements.¹⁴

¹⁴ Mutual aid calls, non-emergent calls, and interfacility transfers were removed from response time analyses as they were found.

Figure 41: Average Response Time by Arriving Unit—Emergency Only

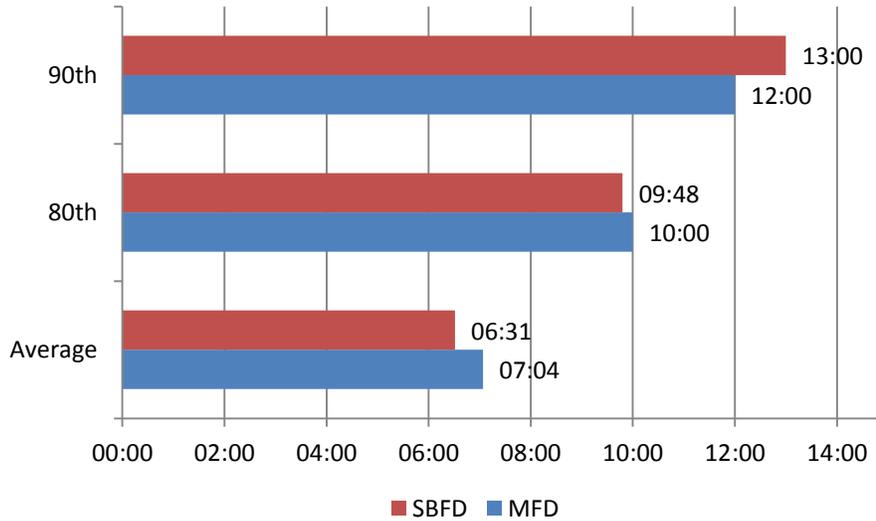
	MFD	SBFD
First Arriving	7:47	7:40
Second Arriving	12:33	10:52
Third Arriving	13:29	19:30
Fourth Arriving	20:25	23:55
Fifth Arriving	33:35	26:12

Although the average response time is a common unit of measurement by which to gauge emergency response, this measure only illustrates the response performance to half of the incidents. In other words, the average response times for MFD and SBFD in the figure above indicate that half of the emergency incidents are responded to in 7:47 and 7:40, respectively, while half of the incidents receive a longer response time. For this reason, ESCI, along with national standards and benchmarks, measures response time based on a percentile. For volunteer and combination fire departments, NFPA 1720 recommends that incidents in an urban setting receive a response time of nine minutes or less when measured at the 90th percentile, and incidents in suburban areas receive a response within 10 minutes or less when measured at the 80th percentile. Similarly, NFPA 1720 recommends that incidents in rural areas receive a response in 14 minutes or less when measured at the 80th percentile.

Although incidents presented for analysis for this report did not include an identifier as to population density, ESCI was able to obtain population density information from the U.S. Census Bureau, which indicates that the population density within both the City of Mound and the City of St. Bonifacius is greater than 1,000 per square mile; whereas the remainder of the region has a population density below 500 per square mile. Thus, both the Cities of Mound and St. Bonifacius would be considered urban and the remainder of the region would be considered rural, based on NFPA definitions.

Based on population density and distribution of service demand, both MFD and SBFD should be adhering to a response objective of nine minutes or less when measured at the 90th percentile for all incidents within the Cities of Mound and St. Bonifacius, and a response objective of 14 minutes or less when measured at the 80th percentile for all incidents outside the city limits. Without knowing in which population density each incident is located, it is difficult to determine accurate historical response performance. The following figure illustrates how each department is performing at each measure to all incidents, regardless of location.

Figure 42: Response Performance Summary—2010



Mutual and Automatic Aid Systems

There are numerous mutual aid agreements, both formal and informal, in place between fire, police, and emergency medical agencies in Hennepin and Carver Counties. Mutual aid is typically employed on an “as needed” basis, where units are called for and specified one by one through an Incident Commander. There are some conditions under which these two fire departments, and others that are not part of this study, have agreed to automatic aid, or “dual response,” wherein units from more than one department are dispatched into specified geographic areas on certain types of calls.

Unlike the mutual aid box alarm systems (MABAS) found in many other states, the system in Hennepin County does not provide for pre-designated mutual aid responses to a variety of call types based on incident severity, and the existing mutual aid system is not fully programmed or coordinated through the regional communications center. As a system, this concept has not been widely adopted in the State of Minnesota.

According to interviews, multi-agency training is sporadic and may occur as rarely as one or twice per year. For the most effective mutual and automatic aid programs, as well as maximum credit in the ISO Fire Protection Rating system, multi-agency drills should be scheduled regularly. Ideally, these should occur at least once per quarter and be recorded as multi-agency training in all agency records. In addition to the ISO credit, these trainings will naturally lead to enhanced working relationships, more regional thinking; and perhaps cooperative planning, policy, and procedural development.

From a formal standpoint, both departments regularly interact with the local police agencies. Interviews indicated that these relationships are effective and efficient with no problems or issues cited by either fire or police officials. In many cases, police agencies are even responding to fire or EMS calls and assisting with traffic and other needs, underscoring the quality of the relationships between fire and police.

Support Programs

Training and Educational Programs

Providing quality and safe fire and emergency services requires a well-trained response force. Training and education of department personnel are critical functions for any agency. In the past, officers in the fire service were raised with a “Management by Objectives” foundation. This type of system was based upon quality, quantity, and costs as the elements. Officers used to plan, measure, control, time, and execute training outcomes.

Today’s fire service consists of creating, promoting, and delivering training to members; but many training programs fall short and members become less interested. Training officers should capitalize on a training program that will effectively overcome personal and organizational blocks to achieve results. Without a quality, comprehensive training program, emergency outcomes are compromised and department personnel are at risk.

Because the fire service is constantly changing, training cannot be limited to new recruits. Seasoned firefighters can benefit from training by learning new methods and procedures. In addition to training firefighters in the skills and knowledge needed in today’s fire departments, training officers and instructors need to establish educational opportunities for more advanced procedures and new technical subjects.

General Training Competencies

In order to ensure quality training is provided, it should be based on established standards of good practice. There are numerous sources available for training standards. Training materials published by the International Fire Service Training Association (IFSTA) or similar texts should be the foundation for a department’s training library. Some additional materials and standards of the National Fire Protection Association (NFPA) should also be employed. These references are considered industry standards. Emergency medical training and continuing education should be based on local medical direction and the Minnesota EMS Regulatory Board. An adequate supply of appropriate training manuals should also be maintained at each station. The following figure summarizes the general training competencies across the region.

Figure 43: Summary of General Training Program Competencies

	Mound	St. Bonifacius
Initial Training of Personnel Conducted By	State or community college programs	State or community college programs
Firefighter Training Required Prior to Scene Response	Mandatory basic safety orientation	Mandatory basic safety orientation
Firefighter Training Required to Leave Probation/Trainee Status	Mandatory Firefighter I and II course Hazmat—operations level EMS first responder	Mandatory Firefighter I and II course Hazmat—operations level EMS First Responder
Established Minimum Training Hours Annually	Yes	70 percent of all department drills
Minimum Training Hours Annually by Duty		
Firefighter	40	34
EMT	24	24
First responder	8	8
Hazmat technician	12	8
Apparatus driver/operator	8	8
Fire officer	8	0
All Position Minimum Requirements Follow NFPA Standards	Yes	Yes
Consistent Officer Training Provided	Yes	Yes
Consistent Driver/Operator Training Provided	Yes	Yes

Recommendations:

- Each department should ensure that its individual training programs are covering the most critical topics and that mandatory refresher training is provided where appropriate.
- In the absence of a consolidated or coordinated training program, each department should consider adopting a common training standard and allow individuals from other departments to attend rotating in-house training opportunities.

Program Administration, Schedule, and Facilities

For training to be fully effective, appropriate facilities and resources are essential. Hands-on skills training is dependent on training props or sites at which crews can conduct company operations and tactical evolutions. In addition, a good classroom environment with sufficient audio-visual equipment and teaching materials is essential if the delivery of didactic classes is going to be effective. Quality hands-on training occurs when simulations should be available that closely mimic real life emergencies. The following figure summarizes the training programs within each agency.

Figure 44: Summary of Training Program Administration Components

	Mound	St. Bonifacius
Individual Responsible for Training Program	Captain/Training Officer	Captain
Number of Certified Fire Instructors in Agency		
Fire	1	0
EMS	1	0
Other	1	0
Are All Company Officers Trained in Instructional Techniques?	Yes, not all certified	No
Is an Annual Training Plan Prepared and Followed?	Yes	Yes
Does the Training Program Have Software and Data Support?	Yes, specific RMS system	Off-the-shelf database software used
Does the Training Program Have an Identified Program Budget?	Yes	Yes
Training Resources Available	Formal classroom(s) Appropriate AV equipment Training library Formal drill ground area Open area for drills (owned or with agreement) Drill tower—owned Drill tower—rented/shared EMS training supplies EMS training manikins simulators Roof area of station is reinforced for training use	Formal classroom(s) Appropriate AV equipment Training library Open area for drills (owned or with agreement) Drill tower—rented/shared
Standard Training Curriculum Manuals Used	NFPA/Jones & Bartlett	IFSTA NFPA/Jones & Bartlett

Recommendation:

- The two departments could inventory and share any training props that are available and implement an equipment check-out and tracking system to allow use of training props throughout the region.

Training Procedures, Manuals, and Protocols

The manner in which new firefighters are trained in their first months and years of membership lays the foundation for the development of their skills and knowledge base for their entire service time. A good entry-level training plan is essential to assure that new recruits get a good and safe start. The following figure is a summary of training procedures, manual, and systems within each agency.

Figure 45: Summary of Training Procedures, Manuals, and Protocols

	Mound	St. Bonifacius
Lesson Plans Utilized	For all training sessions	For all training sessions
Night Drills Conducted	Quarterly	Quarterly
Multi-Company Drills Conducted	Annually	Annually
Regional Disaster Drills Conducted	Annually, by regional association	Annually, by Emergency Management agency
Is There a Periodic Physical Performance Evaluation to Ensure Personnel Maintain Physical Capacity to Perform Duties?	Yes, formal physical ability test	Yes, formal physical ability test
Is There a Periodic Skills Competency Test to Ensure Personnel Maintain Competency in Job-Required Skills?	Yes, formal skills competency check-off program	No formal program, observed through annual trainings
Post-Incident Analysis	Conducted for all major incidents	Conducted for all major incidents
Safety Officer for Drills	Safety officer assigned on all manipulative drill sessions	Safety officer assigned on all manipulative drill sessions
Training Records	Individual attendance records computerized, searchable	Individual attendance records computerized, searchable
Recertification Requirements	Recorded and monitored by agency training officer	Recorded and monitored by agency training officer

Recommendation:

- Each department should increase its participation in multi-agency drills through a coordinated training schedule.

Fire Prevention and Life Safety Education

Aggressive risk management programs, through active fire prevention efforts, are a fire department’s best opportunity to minimize the losses and human trauma associated with fire. A fire department should actively promote fire resistive construction, built-in early warning and fire suppression systems, and an educated public trained to minimize their risk to fire.

The fire prevention effort in each of these departments is not a formal departmental division, and consists primarily of the fire chief and a few other personnel who assist in fire inspections, public education, and other prevention efforts. This section of the report summarizes each department’s efforts in this area.

Fire Inspections and Code Enforcement

The State of Minnesota Fire Code references the 2007 Edition of the International Fire Code (IFC). This model code, with some state amendments, was adopted under authority of the Minnesota State Legislature.

The importance of effective code enforcement cannot be overemphasized. The International Fire Code, while containing many regulations for new construction, is primarily a maintenance code. This means that the code is intended to set standards for maintaining a building’s fire and life safety features, such as exits, detection and suppression systems, compartmentation, and smoke removal systems. It also ensures that the building is kept free from hazards and conditions that might lead to the ignition of a fire or increase fire spread.

The nationally recommended frequency of commercial fire safety inspections varies by the type of business. Generally they are classified by degree of hazard. The table below describes the various hazard classes and the National Fire Protection Association’s optimum recommended frequency for fire safety inspections.

Figure 46: NFPA Inspection Frequency

Hazard Classification	Example Facilities	Recommended Inspection Frequency
Low	Apartment common areas, small stores and offices, medical offices, storage of other than flammable or hazardous materials.	Annual
Moderate	Gas stations, large (>12,000 square feet) stores and offices, restaurants, schools, hospitals, manufacturing (moderate hazardous materials use), industrial (moderate hazardous materials use), auto repair shops, storage of large quantities of combustible or flammable material.	Semi-annual
High	Nursing homes, large quantity users of hazardous materials, industrial facilities with high process hazards, bulk flammable liquid storage facilities, a facility classified as an “extremely hazardous substance” facility by federal regulations.	Quarterly

While the above charted inspection frequency may be very difficult for any department to maintain, it does serve to point out the accepted national practice of classifying occupancies by hazard (risk) and adjusting inspection frequency accordingly. This practice is also demonstrated in national model fire codes, where frequency of inspection is often dictated by risk.

The following table summarizes the information relative to these agencies’ fire inspection programs.

Figure 47: Summary of Inspections Programs

	Mound	St. Bonifacius
Inspections Conducted by This Agency	All commercial occupancies All institutional occupancies Storage tank modification/removal Multi-unit residential occupancies Single-family residential courtesy inspections	Fire and Police Chief review all commercial business, industrial, multiple family and single family housing development plans
Number of Occupancies on Scheduled Inspection List	145	NA
Self-Inspection Incentive Program	No	NA
Inspection Frequency for High-Risk Occupancies	Annually	NA
Inspection Frequency for Moderate-Risk Occupancies	Bi-Annually	NA
Inspection Frequency for Low-Risk Occupancies	Every third year	NA
Formal Citation Process	Formal process	NA
Number of Full-Time (FTE) Staff Assigned Solely to Inspection Function	1.0	NA
Company Personnel Conduct Inspections	No	NA
Formal Training for Inspectors	Formal inspection training	NA

Recommendations:

- St. Bonifacius should seek to establish at least a rudimentary fire inspection capability, particularly focusing on those occupancies not inspected by the State Fire Marshal’s staff.
- Establish a database of existing commercial and public occupancies in each district that are not inspected by the State Fire Marshal, and categorize each by the appropriate risk level.
- Establish a target frequency for inspections of all commercial occupancies by risk category.
- Establish a file for each business and include all records of fire safety inspection activity.

New Construction Involvement

For new construction, the State Fire Marshal performs formal plan review of fire protection and alarm systems, along with its standard building plan reviews. The following table summarizes information

related to these individual departments’ involvement in reviewing new commercial and industrial construction in their respective communities.

Figure 48: Summary of New Construction Involvement

	Mound	St. Bonifacius
Applicable Fire Code	International Fire Code model	International Fire Code model
Local Sprinkler Requirements Exceeding Model Code	None	None
Agency Involvement in New Commercial Construction	Agency requires plan submittal Plan review conducted locally Inspection prior to occupancy sign-off required Observed flow test required for sprinkler system Observed test required for fire alarm system in public assembly	Agency requires plan submittal for review
Key-Vault Entry Box Program	Yes—required for all commercial occupancies	No program in place

Recommendation:

- Despite very limited commercial and industrial development in its jurisdiction, St. Bonifacius should seek to establish a program to be involved in new construction processes, including inspections and sign-offs.

Public Safety Education

Fire safety education is the greatest opportunity to influence human behavior that often results in hostile fire. It is an area that should be emphasized by an active fire prevention program. Each of these departments has a public education effort in place, but emphasis varies in accordance with available resources.

Figure 49: Summary of Public Education Efforts

	Mound	St. Bonifacius
Public Education Officer/ Program Manager Assigned	Yes ancillary duty assignment	Yes ancillary duty assignment
Topics Included in Public Education Programs	Residential exit plans/drills Smoke alarm use General fire safety Fire extinguisher use Injury prevention Elderly care and safety CPR courses	Informal events
Publications Stocked and Distributed	Yes	Yes
Formal Public Education Training Provided to All Personnel	Yes	No
Number of Formal Public Education Contact Events Prior Year	44	4

Fire Investigation

The investigation of fires, explosions, and related emergencies is an integral part of providing life and fire safety to a community.

The “fire problem” in a community is addressed by a “cycle” of resources provided by the authority having jurisdiction. These resources include **public education** so the citizen is aware of hazards, how to prevent them, and what to do should they occur; **engineering/code enforcement** so fire and life safety is an inherent part of the community infrastructure, and, where there is a violation, compliance is achieved; **fire suppression** so that when there is a failure in the education, engineering/code enforcement part of the cycle the emergency can be resolved; and **fire investigation**, where the incident is documented, the cause determined accidental or intentional, and steps taken so it will not happen again.

The results of fire investigations suggest public education needs and results, the need for code modifications and changes, fire department training, resources and deployment, and identification of the community’s “fire problem.” The following table summarizes the fire investigation efforts within each department.

Figure 50: Summary of Fire Investigation Involvement

	Mound	St. Bonifacius
Level of Fire Investigation Provided by Agency Itself	Fire origin and cause determination	Initial scene control and reporting
Additional Fire Investigation Resources Available	State Fire Marshal's Office fire investigators	Regional fire investigation team
Individual Responsible for Fire Investigations	Fire Marshal	Chief/State Fire Marshal's Office
Formal Training for All Personnel	Arson detection and investigation	Initial fire cause and origin
Formal Training for Specified Fire Investigators	Scene control and evidence quarantine Initial fire cause and origin Arson detection and investigation Formal fire investigation certification	Initial fire cause and origin
Investigation Program Guided by NFPA 921	Yes, fully compliant	No
Juvenile Firesetter Program	No formal program	No formal program

Dispatch and Communications Systems

Both fire departments in this study are provided communications and dispatch services through Hennepin County Sheriff's Communications (HCSC), a branch of the Hennepin County Sheriff's Department. The dispatch center is the primary Public Safety Answering Point for the county.

The Communications Center is managed under the Sheriff's Department command structure with informal representation from the fire departments in an advisory capacity. A sworn command-level officer is assigned the responsibility for the center, reporting to the Sheriff. The HCSC maintains between eight and 14 personnel on duty, depending on workload. The center uses cross-trained telecommunicators who trade duty between being designated call takers and dispatchers. A supervisor over the communications function is on duty 24 hours.

No formal call processing time standards have been adopted. Quality assurance is being conducted by supervisor observation and random call audits. NFPA 1221 (Installation, Maintenance, and Use of Emergency Services Communications Systems) specifies that, "Ninety-five percent of emergency dispatching shall be completed within 60 seconds." These or similar standards should be considered for formal adoption, and performance monitoring should be conducted regularly. If these standards are adopted, the center should begin reviewing call processing time at the 90th percentile, in addition to call answering or "pick-up" time.

Computer-aided dispatch (CAD) software is available to the fire dispatcher. The CAD software is geo-based and operates on the Windows™ platform. Notification of companies takes place by department announce only, with no programmed assignment of specific apparatus quantities and types. Apparatus availability for the departments is tracked, but manually entered as units indicate they are en route to the call. Dispatch of stations takes place by open radio. Field personnel are notified by pocket-sized tone-encoded radio receivers.

Emergency medical calls are transferred to ambulance service dispatchers in a separate facility, who are fully certified in the Emergency Medical Dispatch system, allowing them to provide pre-arrival instructions to bystanders at medical incidents.

The County's radio system operates on a digital trunked system. The dispatch center has adequate contingency plans for system failure. Back-up power is in place, with a back-up transmitter and a functionally redundant dispatch site available. The following table summarizes the information and data collected from the dispatch center.

Figure 51: Communications and Dispatch Information

Dispatch Center Name	Hennepin County Sheriff's Communications
Dispatch Agency Type	County law enforcement dispatch center
Incoming Emergency Calls	Primary 9-1-1 PSAP
Dispatch Center Governance	Subdivision of law enforcement agency
Center Management	Under authority of law enforcement agency management-level officer
Center Staffing	
Maximum total staff at peak demand	14
Minimum total staff at off-peak demand	8
Supervisor On Duty At All Times	Yes
Dedicated Consoles for Fire and/or EMS	Yes
Call Answering Methodology	Telecommunicators take turns as call-takers hand off dispatch functions
Responsibility for Training	Dedicated training officer
Dispatcher Initial Training	Agency conducts initial training in-house
In-house Initial Training in Weeks	
Classroom technical training	2
Emergency medical dispatch training/certification	0
Practical experience with console training officer	24
Law enforcement criminal data training	1
Fire service/EMS ride-along	1
Law enforcement ride-along	1
Annual Recurrent Training in Days	
Classroom technical training	7
Ancillary Functions Performed by Telecommunicators	None
Number of Incoming 9-1-1 Lines	
Landline 9-1-1	11

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Wireless 9-1-1	11
Total 9-1-1	22
Wireless Phase II compliant?	Yes
Incoming Call Volume per Year	
9-1-1 incoming	231,571
Administrative incoming	221,468
Formal Performance Standards	No
Formal Quality Assurance Program	Yes with random review
Computer-Aided Dispatch Available	Yes
Computer-Aided Dispatch Hardware Platform	Windows-based
CAD Software	Tiburon IQCad
Type of CAD System	Geo-Based
Who Maintains CAD Resource Information	Agency staff
Who Maintains Geographic Data	Municipal GIS department
Information Available Through CAD	Hydrant locations only Location call history Location hazards Location full pre-incident plan Automatic vehicle location (AVL)
Fire/EMS Back-Up Response Recommendation Layers Programmed	0
Dispatch Method	Station announce only
Methods of Station Notification	Encoded station radio alert
Methods of Field Personnel Notification	Voice pagers SMS text paging or alphanumeric paging—CAD auto-generate
Is Emergency Medical Dispatch Used	Yes done by ambulance dispatch center after transfer
Emergency Communication System	Digital trunked system
Number of Trunking Channels in System	28
Number of Talk Groups for this Agency	14
System Queuing Experience	Rare
Center Redundancy Preparation	Back-up power Back-up transmitters Back-up consoles Redundant dispatch site
Center Security	Hardened or no windows Electronic passage lock system Positive visual identify prior to entry Fire suppression system

Section II: Opportunities for Cooperative Efforts

The previous section of this document provided an overview and baseline assessment of the emergency services delivery system within the Mound, Minnetrista, and St. Bonifacius communities served by Mound Fire Department and St. Bonifacius Fire Department. This section uses that assessment of baseline conditions to develop scenarios for future service delivery utilizing the concept of shared or cooperative services.

General Partnering Strategies

Four basic strategies are generally available when considering consolidation of services, beginning with a “do-nothing” approach and ending with complete unification of the organizations into what is, essentially, a new emergency service provider. A description of the four methodologies is found below.

Autonomy

The departments can decide to continue as separate organizations by not taking advantage of any further partnering opportunities. Autonomy provides each governing board with the most organizational control because, under this strategy, the agencies continue to make decisions considering only unilateral issues. The strategy represents a perpetuation of the status quo, and it is useful as a means by which to measure the other strategies.

Functional Consolidation

Public entities usually have broad authority under law to enter intergovernmental agreements (IGA) for the purpose of cost and service efficiency. The laws of the State of Minnesota address the issue, allowing intergovernmental contracts for any lawfully authorized function, service, or facility.

Under the applicable statutes, governmental entities may elect to cooperate or contract for any lawful purpose. IGAs allow individual organizations to share resources, improve service, and save money at the *program* level. Most commonly, fire departments enter partnering agreements for programs such as firefighter training, fire prevention, closest unit response, and administrative/support services.

In many cases, functional unification is sufficient to accomplish the cooperative goals of the agencies without considering operational agreements or mergers. It is common in the industry to functionally join such activities as purchasing, firefighter training, fire prevention, public education, apparatus maintenance, and command standby. The keys to success of a functional unification strategy lie in a

trusting relationship between partner agencies, the completeness of the agreement that sets up the program, and a cooperative approach to the management of the program.

In the course of its analysis, ESCI identified and discussed a number of possible regional partnerships. Each of the regional recommendations represents an opportunity for functional unification. Such programs usually carry the advantage of being low-cost and low-risk improvement strategies. Often, the programs serve as a foundation on which agencies build the experience and trust necessary to implement more complete unification strategies. ESCI has listed the more common types of partnering strategies below, with a short explanation of each.

Figure 52: Concepts of Functional Program Consolidation

Program	Strategy
Administrative and Support Services	Seamless administrative and support services provided area-wide through an Intergovernmental Agreement. Operational functions of the fire departments remain separate. Often used as an interim program before implementation of operational and legal unification.
Operating Standards	Common operational standards developed and adopted across the area. Promotes the efficiency of mutual/automatic aid operations.
Closest Unit Response	Uniform response of the closest emergency apparatus regardless of jurisdiction. Provides quickest aid to citizens.
Duty Officer	Responsibility for response to structural and incidents requiring multiple units with supervision shared by chief officers on a rotating schedule. Increases efficiencies with current personnel staffing.
Firefighter Training	Regional training program for career personnel. Provides for consistent training of personnel to the fire departments.
Fire Prevention	A region-wide (or larger area) fire prevention program pools all existing resources. Provides uniform message across a wider area.
Specifications and Purchasing	Assures fire apparatus and equipment interoperability and compatibility between the fire departments. Increases fireground effectiveness and efficiencies.
Joint Fire Stations	Allows for the placement of fire stations in locations based on service demand and risk. Spreads the cost of capital construction projects across a greater base and provides for improved emergency response efficiencies.
Specialty Apparatus and Equipment	Broadens the expense of apparatus and equipment with high cost and lower frequency use across multiple fire departments. Will lower acquisition and operational costs to the communities.

Operational Consolidation

This strategy joins two or more entities, in their entirety, through the execution of an intergovernmental agreement (IGA). The resulting organization features a single organizational structure and chain of command. Depending on the form of the agreement(s) establishing the organization, members may remain with the original agency, transfer to one of the other agencies, or transfer to an entirely new organization.

Legal Unification

Under certain circumstances in law, fire departments can join into a single entity. This formal approach unites not only the programs but also the organizations themselves. State laws addressing political subdivisions usually detail a process for legal unification.

Typically, state laws draw a distinction between words like *annexation*, *merger*, and *consolidation* when speaking of legal unification. Organizationally, however, the outcome of any such legal process results in one unified organization. The major differences between the legal strategies relate to governance and taxation issues. In many states, some process of *inclusion* exists that essentially involves the annexation of one entity to another, preserving the governing board and taxing authority of the surviving agency. A legal merger, on the other hand, usually entails the complete dissolution of two or more agencies with the concurrent formation of a single new entity (and board) in place of the former.

In identifying potential cooperative opportunities, the project team considered the key issues now challenging each agency. Some issues represent roadblocks to integration, while others provide a unique chance for improvement. As an element of the review, affected staff and other officials provided local and internal perspective on organizational culture, community expectation, and other significant matters.

The following paragraphs provide a summary of all potential shared services strategies available within the study region. Although every attempt has been made to identify all the potential areas of shared service, intimate knowledge of the current system may allow for other areas to be explored outside the parameters of this report. It is important to point out that some study agencies are already working to implement select concepts. Regardless of the existing level of implementation, ESCI provides detailed information on all strategies to provide the reader with a complete picture of full cooperative potential.

Future Deployment Options and Strategies

When reviewing the deployment of fire stations in the Mound-Minnetrista-St. Bonifacius area in relation to both the service demand and population density analysis contained earlier in the report, it becomes clear that both stations are physically located appropriately. The stations are located in closest proximity to areas that generate the highest level of service demand, thus providing the fastest response to the greatest numbers of calls. In addition, these areas of higher population density also contain most of the higher risk occupancies, such as commercial and multi-family structures. Any change in current station location is unwarranted.

However, when taking a future view of the area, consideration must be given to future growth and development. Since both Mound and St. Bonifacius are nearly built out, the primary focus falls on the City of Minnetrista. ESCI's project team reviewed the future land use planning with staff from the City's planning agency in order to determine where and how continued development would occur, in order to project its impact on fire services.

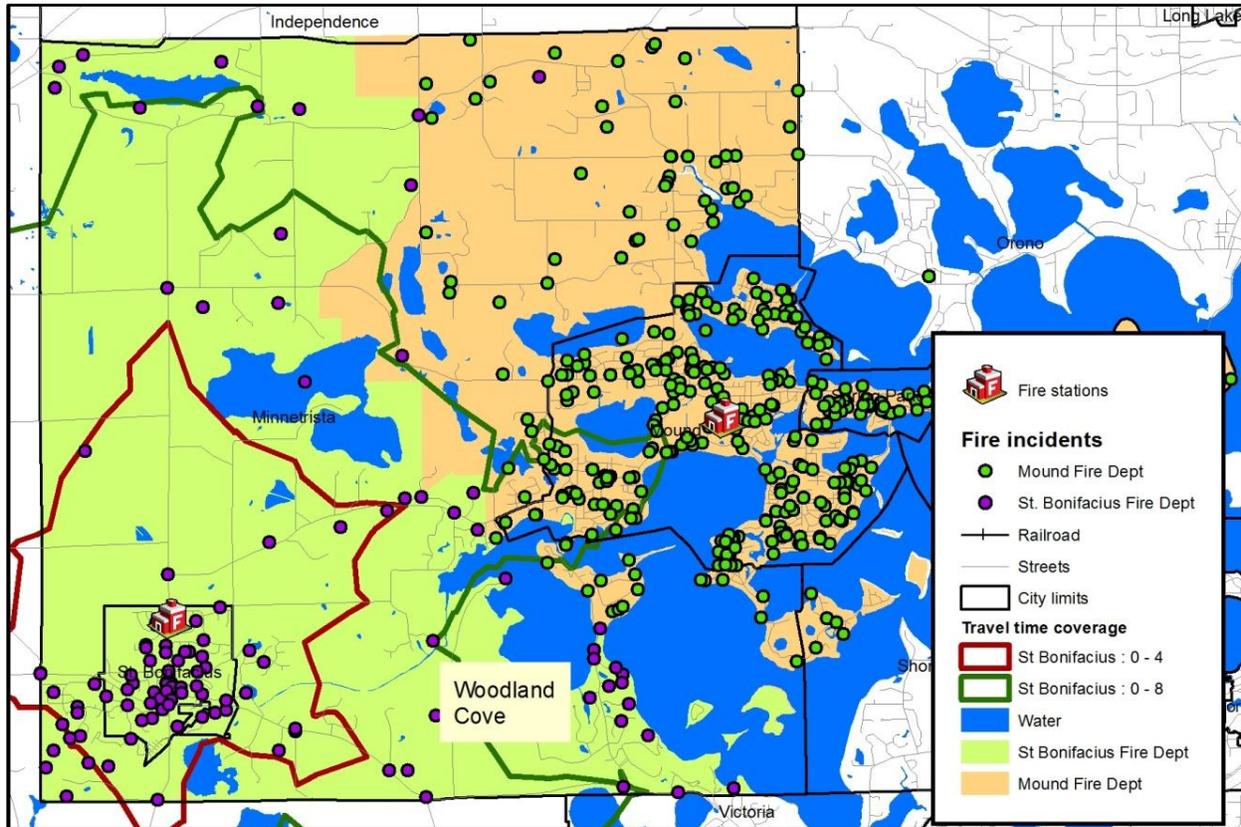
The Metropolitan Regional Planning Council has projected a population in the year 2030 of 13,300 persons in Minnetrista. The city's own planning staff uses a lower estimate of 10,000 persons by 2030. This would represent an increase of between 3,600 and 6,900 persons over the next 19 years. The planning staff indicated that the majority of Minnetrista's central and northern areas will remain agricultural, with rates of one household per 40 acres, or rural estates, with rates of one household per 10 acres. However, more dense development is expected in the southern portions of the city, in close proximity to the lake.

Once particular development under current consideration is the Woodland Cove planned development community. This area is expected to develop with a mix of estate-sized lots, standard suburban lots at four units per acre, and even some multi-family occupancies. The initial plats show development totaling around 1,100 units. This would result in a projected population of around 2,750, accounting for nearly 76 percent of the city planning staff's projected population increase between 2011 and 2030.

Based on the projections of population and the additional commercial developments expected to accompany the new subdivision, ESCI projects that the Woodland Cove area can be expected to generate an additional 200 to 300 calls for service from the fire department at build-out.

The following figure illustrates the location of the Woodland Cove subdivision in relation to the Mound and St. Bonifacius fire stations.

Figure 53: Woodland Cove Development



The figure indicates that the new Woodland Cove subdivision would fall just within the five-mile travel distance (using current street plat layouts) of the St. Bonifacius station in order to qualify for the Insurance Services Office (ISO) protected classification rates. However, it is four travel miles to the center of Woodland Cove, indicating that some portions of the new development will experience a travel time of as much as eight minutes for responding units from St. Bonifacius. With additional turnout time for volunteers to reach the station upon dispatch, response times will be among the longest experienced in any of the suburban or urban density areas of the Mound-Minnetrista-St. Bonifacius area.

ESCI considered whether the development would be closer to the Victoria Fire Department, located just south of Minnetrista. Travel time analysis indicated this station was no closer than St. Bonifacius and would not present an advantage.

The Woodland Cove development, with its population density and resulting increase in service demand, presents Minnetrista officials with three options:

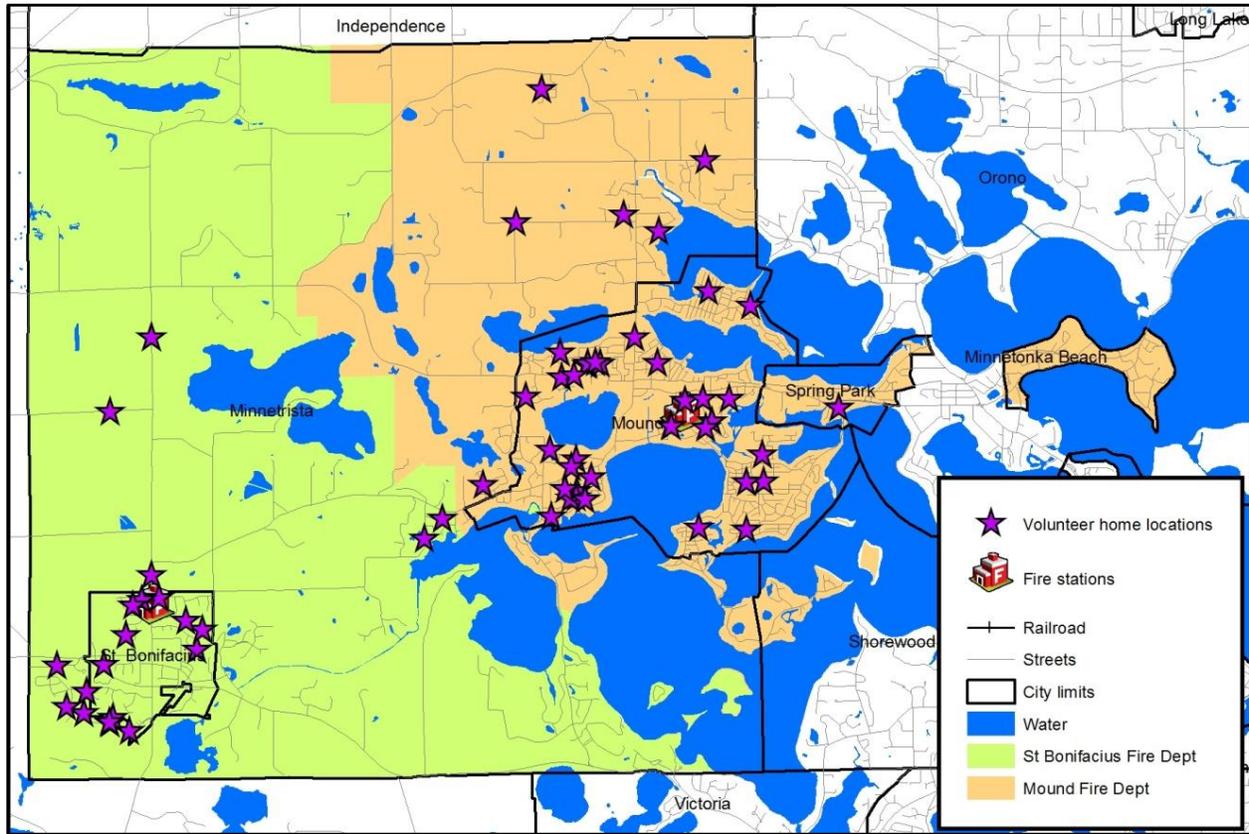
- Build a new fire station in or near the Woodland Cove development.
- Work with St. Bonifacius to relocate their existing station closer to the Woodland Cove development.
- Determine that the length of the response times that ESCI has modeled for new development are considered acceptable.

As to the first option, building a fire station in or near Woodland Cove, the city could either purchase land or work with the developer to obtain land for a fire station. This station could be operated as a stand-alone fire department by the City of Minnetrista, but ESCI would advise against the creation of a redundant organizational infrastructure and governance. Instead, the fire department could be operated as a sub-station of the St. Bonifacius Fire Department, the Mound Fire Department, the Victoria Fire Department, or any shared or consolidated Mound-St. Bonifacius organization that might potentially result from this study. If this option is selected, it will be important that the city plan to either staff the station with paid personnel, or locate the station with consideration to the recruitment of on-call responders.

When considering the second option, relocating St. Bonifacius' current station closer to the new development, it would be important to recognize that this station is currently located in an area of fairly high service demand. Moving it to the east/southeast would lengthen response times back to that existing service demand. If the overriding concern is to try to provide the best service possible to that entire area with only one fire station, then "splitting the difference" would make the most sense. That is, to locate the station between St. Bonifacius, with its existing service demand, and the new service demand created by the Woodland Cove development.

However, with both the Mound and St. Bonifacius fire departments using on-call responders, the location of the station can be extremely important, as it can increase turnout time even as it might decrease travel time. In other words, it may take less time for the engine to get to the call, but it may take an equal or greater amount of time for a crew to get to the engine. In order to illustrate this issue, the following map indicates the residential locations for the paid-on-call responders of these departments.

Figure 54: Residential Locations of On-Call Responders



The figure shows that, particularly with the St. Bonifacius department, the vast majority of on-call responders live in very close proximity to the current fire station. Unless assurances could be obtained that an adequate number of on-call responders could be recruited in proximity to any relocated station, plans would need to be made for some paid staff to respond the apparatus.

In regard to the third option, accept the length of response times into the Woodland Cove development, the elected officials will need to determine whether the cost of a new station or a station relocation and any resulting need for paid apparatus drivers would be justified by the addition of 200 to 300 new calls for service in this development. This is a matter of public policy.

Likewise, any consideration for additional future fire stations in the City of Minnetrista would likely be a matter of public policy. No additional areas of urban or suburban population densities were projected by the planning staff at this time. This does not mean, however, that the city may not wish to consider a station in the northern areas of the city as a means of both ensuring that all areas of the city fall within the five-mile ISO protected rating zone and reducing response times to the more rural and agricultural

areas. Again, any such addition of the fire station could be made as a stand-alone fire department by the City of Minnetrista, a sub-station of the St. Bonifacius Fire Department or Mound Fire Department, or any shared or consolidated Mound-St. Bonifacius organization that might potentially result from this study. Once again, ESCI recommends a regional approach, as it would reduce redundancy in organizational overhead, management, and governance and could result in reduced cost and improved ISO ratings.

Analysis of Partnering Strategies

ESCI usually makes no distinction between unification, consolidation, or merger, tending to use each term interchangeably. The reader should note that when referring to the union of programs or agencies, the operative words are *functional* and *legal*.

Governing boards should pursue the process of joining fire departments only after concluding that unification is cost-effective and is likely to provide better and/or more efficient service to the public. Each agency's legal counsel should research the particular statutory steps necessary to implement a particular unification strategy. The different processes are not commonly difficult to accomplish, but because the transfer of public assets and liabilities may be involved, the procedure itself can be relatively precise. It is important, therefore, that the agencies have the benefit of competent legal advice throughout the process.

The decision to choose one unification strategy over another is a matter of local policy. Most often, officials choose a preferred course for analytical reasons; however, in certain cases politics or law may rule. For example, many states provide no basis in law for the legal unification of the fire departments of two cities, unless the jurisdictions act to merge the entire city governments. The common recourse in that case is to join the fire departments in accordance with an intergovernmental agreement or contract law.

Most states actively support cooperation between governments as a matter of policy in the interest of furthering the economy and efficiencies of local government. Generally, functional and operational strategies are always available as options, whereas the legal unification of fire departments is dependent on circumstance.

Fiscal Analysis

The process to convert the financial records of each agency to a model budget requires certain conventions and assumptions. First, the annual budgets of fire departments are reformatted. We categorize the line item accounts of each into three major classifications: personnel services, materials and services, and capital outlay. The classifications are further sub-divided to permit the tracking of program costs (such as fringe benefits, maintenance, and volunteer firefighters). All jobs are identified and indexed to compensation paid during the baseline year. Each position is extrapolated to the model budget based on the costs associated with the job (salary and benefits) for a full year and expressed in FTEs.

We identify all revenue, not considering the source in producing the estimated general operating fiscal requirements of each jurisdiction. We consider that the resultant sum fairly estimates the amount of support that each agency requires to sustain the current level of fire and emergency medical services, regardless of the source of the jurisdiction's tax revenues.

We do not intend that the ESCI model budget exactly mimic each agency's current or future budget. Instead, the modeling process provides a stable base by which to measure and compare the effects of the partnering strategies.

Generally, we use a set of standard conventions when combining the modeled budgets of individual agencies for analysis. Depending on local situations, we may apply other special protocols to our calculation of the financial impact of restructuring. Regular and special conventions observed in this study are:

- Jobs: To facilitate the analysis, we assume that in consolidating all the agencies under a JPA, all positions are preserved, but not necessarily converted to exactly the same jobs in the new organization.
- Job Classifications: Differences exist between the job classifications and structure of the departments. Although we combine the fire departments and carry out financial analysis of a consolidation based on the existing organizations, we note that in the long term the agencies may need to restructure their administrative and support sections to better suit the new character of the department.
- Staffing: The model assumes that the existing staffing of all stations continues, with an equivalent number of FTE positions.
- Membership: The number of volunteer personnel in a consolidation scenario within the model will generally equal the sum of the current rosters of the combining agencies. In our experience it is prudent to budget in this manner; however, any change as significant as consolidation usually results in at least a temporary loss of some volunteer positions. Frequently, we find that some individuals (paid, volunteer, or on-call personnel) maintain membership in more than one organization. When the agencies merge, the multiple memberships result in a net loss to membership of the unified department.
- Compensation: Some job classifications within a separate agency may have more than one level of compensation assigned. If we are not able to identify the actual salary that is paid in such cases,

we usually weight our compensation estimate to about 100 percent of the high-end of the salary scale to allow for a tendency (over time) for a group of workers to reach maximum wage. In this case, for some departments/districts, we were able to use the payroll report to identify existing salaries; consequently, the model makes compensation assumptions that are very close to the actual amounts paid by that agency. When merging organizations, we assume that the highest salary paid to similar classifications prevails.¹⁵

- Created Positions: In most circumstances, the salary costs for the jobs of any unified agency are calculated on the highest compensation level of current (or similar) positions. We may assign an assumed compensation to new positions created for the purposes of analysis. Occasionally, some employees or groups are compensated at a rate much higher than comparable positions in the other agencies. In these cases, we usually assume that pay for the higher position is “red circled,” essentially holding the current employee at that level until normal increases in other classifications close the gap. When compensation levels appear to be very much higher than comparable positions, we may assign (what we consider to be) a normally expected rate of compensation to avoid adversely weighting the model.
- Volunteer/Reservist Cost: For those fire departments with volunteers, the costs associated with volunteers are identified within the model, and a per-person charge is calculated. When combining agencies, volunteer membership cost is estimated based on the highest per-member cost of the involved agencies times the total number of volunteer members in the action.
- Governing Board Expense: Departments usually maintain line item accounts associated with governance expenses (mileage, per diem, reimbursement, elections, insurance, and meetings). When departments are combined, such duplicated expenses are eliminated, creating direct savings. Governing body expenses are not factored out of modeled budgets when an alliance is considered.
- Budgetary Line Items: We use the model budget as a template in the process of generating a merged budget for the partnering strategies. Budgetary modifiers are assigned to line items depending on the factors that are likely to change that allocation in a consolidation. Each modifier adjusts the corresponding line item in proportion to the overall impact on the departments. For

¹⁵ Specifically, if each agency has the same job classification (e.g. captain), but those positions are paid different salaries, we assume that the compensation of that job in the merged department will be paid at the highest former rate.

example, the allocations of certain line items are largely dependent on the number of employees of the department; consequently, a modifier for those line items will adjust the corresponding line items of the merged budget in proportion to the change in the number of employees. The ESCI budget model includes modifiers for career administrative staff, career operational staff, volunteer members, career operational staff plus volunteer members, career administrative staff plus career operational staff, total personnel, stations, offices, engines, medic units, ladder trucks, vehicles, emergencies, assessed value, and population.

- Capital Equipment and Facilities: Financial analysis assumes the existing facilities and apparatus are maintained after consolidation but may be altered in accordance with the budget modifiers relating to equipment and facilities. For some strategies, an elimination of duplicate facilities, apparatus, and equipment will be discussed. These are identified individually.
- Revenue: When a partnering strategy involves unification of departments through a merger, consolidation, or a new organization (such as joining two or all agencies), the non-tax revenues of the departments are combined. In some instances, however, agreed upon terms (JPA, contract) dictate how revenue is collected and distributed.

Partnering Strategy	Objective(s)	Level of Cooperation	Timeline		Section	Affected Agencies
			Short, Middle, Long Term			
A: Consolidate Mound and St. Bonifacius Fire Departments into a Single Agency	Consolidate fire and EMS entities in a single operational governmental unit under the provisions of an Intergovernmental Agreement.	Operational	Long Term		Administration and Emergency Operations	All Agencies
B: Develop Joint Standard Operating Guidelines	Provide guidelines for operation during emergencies, emergent and non-emergent incidents.	Functional	Short Term		Emergency Operations	All Agencies
C: Shared Specialty Teams	Provide specialty teams in the region by allocating and distributing resources to achieve minimum cost and maximum operational benefit.	Functional	Middle Term		Emergency Operations	All Agencies
D: Create a Unified Occupational Medicine Program	Provide a fire-service related occupational and health program.	Functional	Middle Term		Administration	All Agencies
E: Develop and Adopt Common Training Standards	Adopt uniform training guidelines. Adopt uniform certification standards.	Functional	Short Term		Training	All Agencies

Partnering Strategy	Objective(s)	Level of Cooperation	Timeline	Section	Affected Agencies
			Short, Middle, Long Term		
F: Develop Mutual Training Strategies	<p>Provide purpose and direction for training program management and delivery.</p> <p>Combine strengths and resources to:</p> <ul style="list-style-type: none"> • Overcome current training obstacles and deficiencies • Provide a comprehensive and regionally integrated training structure • Develop a mutually beneficial training program, and • Train and certify a cadre of knowledgeable and skilled emergency responders. 	Functional	Short to Middle Term	Training	All Agencies
G: Purchase Uniform Emergency Apparatus	<p>Create a single set of emergency apparatus specifications.</p> <p>Provide single-source uniform emergency apparatus for all regional fire agencies.</p>	Functional	Long Term	Emergency Operations	All Agencies
H: Develop Uniform Pre-Incident Plans	Provide a system of shared operational plans for use during emergencies and non-emergent incidents.	Functional	Short Term	Emergency Operations	All Agencies

Partnering Strategy	Objective(s)	Level of Cooperation	Timeline		Section	Affected Agencies
			Short, Middle, Long Term			
I: Provide for Joint Staffing of Stations and Apparatus	Provide for distribution of facilities and deployment of personnel consistent with a regional standard of cover.	Functional	Short Term		Emergency Operations	All Agencies
	Provide consistent fire and emergency services within areas efficiently before, during, and after development.					
J: Provide for Joint Incident Command and Operations Supervision	Provide for IC (Incident Command) supervision of emergency operations.	Functional	Short Term		EMS and Emergency Operations	All Agencies
	Provide for supervision of on-duty personnel during routine operations.					

A: Consolidate Mound and St. Bonifacius Fire Departments into a Single Agency

Level of Cooperation

- Operational

Timeline for Completion

- Long Term

Section

- Administration

Affected Stakeholders

- All Agencies

Objective

- Consolidate fire entities into a single operational unit, either through the establishment of a new special fire district or under the provisions of an extensive intergovernmental agreement or joint powers agreement.
- Provide increased fire and emergency service efficiency in the areas served by the Mound and St. Bonifacius fire departments.

Summary

The study fire departments already benefit from some collaborative programs, such as mutual and automatic aid; therefore it is natural that continuing the long-term strategy of cooperation should eventually lead to the whole area forming a single fire agency. If the fire departments continue this progression by implementing even some of the partnering strategies found in this study, taking the next logical step seems inevitable. A cost analysis of this strategy at full deployment shows an annual cost increase of approximately \$77,067 (based on current fiscal year dollars).

Discussion and Financial Analysis

The present system of providing emergency services by the different agencies throughout the region has limited continuity. No single fire department has the resources to independently handle the current or projected workload.

This unification strategy expands on the current efforts and places operation of the departments under a single governance. In the existing situation, the governing body of each department prepares and adopts separate budgets and policies.

The *Evaluation of Current Conditions* section presented earlier includes recommendations for each of the fire departments individually and, in some cases, in concert with one another. Deciding which recommendations to enact is the responsibility of the governing bodies of the departments. If the departments' management and operational structures are merged, planning and executing change becomes more efficient and effective.

ESCI believes that efficiencies may be found with the consolidation of the administrative functions. Combining all administrative functions of the departments can be accomplished by creating a single department budget and apportioning cost in accordance with a predetermined formula. In ESCI's experience with other such partnerships, it has been noted that organizational pairings resulting in one operational structure seem to be more successful over the long term. Partnerships in which an administrative team must oversee more than one working structure tend to be split by factionalism due to different cultures, rules, and processes. Frequently, members of such organizations describe their workplace environment as "dysfunctional" and in "we versus them" terms. For these reasons, ESCI recommends that if this strategy is preferred, the departments consider moving beyond the existing system of independent fire department management teams.

To fix the parameters of analysis, ESCI assumes that an operational consolidation of the departments will result in a single organization administered by one fire chief and governed by a single oversight authority. The administrative and operational makeup of the organization includes the equivalent number of full-time and part-time employees as the combined departments. It should be understood that this is where ESCI chose to lay the foundation. The end result of any consolidation and how the management and oversight of such a single agency develops will be determined through a lengthy process of negotiation and compromise.

Cost is always a key factor when deciding to enact organizational partnerships. To that end, ESCI created a model budget for the fire departments, designed to fairly represent the monetary policies of each agency equally, to neutralize the normal differences usually found in unilateral fiscal practices, and to account for any financial peculiarities (such as budgetary back loading).

The table below details the modeled baseline 2011 operational budgets of the fire departments.

Figure 55: Consolidated, Modeled Baseline Cost of Fire Protection

Budget Category	Mound	St. Bonifacius
Personnel Services	\$488,396.00	\$20,978.00
Materials & Services	\$192,769.00	\$134,573.00
Capital Outlay	\$380,507.00	\$111,000.00
Total Operating Budget	\$1,061,672.00	\$266,551.00

In calculating a model budget for a unified organization, ESCI made several assumptions in regards to personnel:

- One full-time fire chief would be required
- The current half-time administrative assistant would be made full-time
- The number of existing assistant chiefs could be reduced to one and be made full-time
- The number of district chiefs would remain at two, one for Mound and one for St. Bonifacius and would be volunteer positions
- The number of line officers could be reduced to four volunteer (two captains and two lieutenants)
- The number of firefighters/engineers would remain the same

The ratio of administrative and support personnel to total personnel would be approximately 8.5 percent, not including captain and lieutenant positions.

The staffing plan results in the following modeled budget for a consolidated fire department. Total cost for services in the region during the modeled year was projected to increase through this consolidation strategy by \$77,067 as indicated in the figure below.

Figure 56: Consolidated Cost of Fire and Emergency Services

Budget Category	Combined Current	Consolidated	Change
Personnel Services	\$509,374.00	\$615,328.00	\$105,954.00
Materials & Services	\$327,342.00	\$298,455.00	\$28,887.00
Capital Outlay	\$380,507.00	\$380,507.00	\$0
Total Budget	\$1,217,223.00	\$1,294,290.00	\$77,067.00

This result is, of course, based on existing budgets for capital outlay and replacement. Additional discussion on the potential impact of changes in capital resources will be provided in the following

paragraphs and could also significantly impact final outcome of the cost analysis. Although total system cost is projected to increase slightly, this does not necessarily mean that the change in cost will be equal for all participating communities of the consolidated system. In addition, the major factor that influenced the small difference in the model budget was the addition of one full-time assistant chief and increasing the administrative assistant to full-time. Currently, there is no fire prevention and/or inspection program outside the City of Mound. Adding this full-time position into the consolidated department could extend the fire prevention and code enforcement program currently operating within Mound to the entire region. Building this model budget assumes that services currently provided by one agency will be provided to the other agencies under a consolidated system.

In total, these two departments have a combined 23 response apparatus (utility and staff vehicles excluded), as indicated in the following table.

Figure 57: Consolidated Apparatus Count

	Engines	Aerials	Tankers	Brush	Heavy Rescue	Med- Light Rescue	Boat	ATV
Mound	4 ¹⁶	1	1	1	1	2	2	1
St. Bonifacius	2		2	1	1	1	2	1
Combined	6	1	3	2	2	3	4	2

The amount of apparatus in these two fire departments is high. If these departments have been previously planning their resources as though there were an absence of mutual aid support, these numbers would not necessarily be considered excessive. However, in light of strong mutual aid relationships in the region, and particularly if a shared services operational consolidation were being implemented, consideration should be given to reducing the overall number of apparatus, particularly some specialty apparatus.

The following is an example capital replacement plan based on **current** levels of primary apparatus. It uses certain assumed life cycles and replacement costs established by ESCI. Based on current age and anticipated life expectancy, the table provides the annual contribution for each apparatus that should be made to a capital replacement fund in order to ensure adequate funding would be available at the scheduled replacement date. In addition, the table includes the amount of existing cash balance that should currently be in such a fund for each apparatus if it was fully funded according to this schedule.

¹⁶ One of the Mound engines is a pumper-tanker. It is included in this table as an engine.

Figure 58: Capital Replacement Plan—Current Apparatus Levels

UNIT	YEAR	REPLACEMENT COST	ANNUAL FUND CONTRIBUTIONS	CURRENT CASH REQUIREMENTS	CURRENT AGE	LIFE EXPECTANCY	REPLACEMENT YEAR
Mound Engine 11	2003	\$370,000	\$18,500	\$148,000	8	20	2023
Mound Engine 12	1996	\$370,000	\$18,500	\$277,500	15	20	2016
Mound Engine 14	1984	\$370,000	NA	\$370,000	27	20	OVERDUE
Mound Ladder 11	1981	\$750,000	NA	\$750,000	30	25	OVERDUE
Mound Tanker 12	2007	\$240,000	\$16,000	\$64,000	4	15	2022
Mound Engine 13 (P/T)	2010	\$290,000	\$14,500	\$14,500	1	20	2030
Mound Rescue 11	1998	\$220,000	\$14,667	\$190,667	13	15	2013
Mound Utility 11	1990	\$350,000	NA	\$350,000	21	20	OVERDUE
Mound Grass 11	1986	\$140,000	NA	\$140,000	25	15	OVERDUE
St. Boni Engine 11	2003	\$370,000	\$18,500	\$148,000	8	20	2023
St. Boni Engine 12	2011	\$370,000	\$18,500	\$0	0	20	2031
St. Boni Tanker 11	2006	\$240,000	\$16,000	\$80,000	5	15	2021
St. Boni Tanker 12	1993	\$240,000	NA	\$240,000	18	15	OVERDUE
St. Boni Rescue 11	1999	\$350,000	\$17,500	\$210,000	12	20	2019
St. Boni Rescue 12	2005	\$70,000	\$7,000	\$42,000	6	10	2015
St. Boni Grass 11	2006	\$140,000	\$9,333	\$46,667	5	15	2021
TOTALS			\$169,000	\$3,071,333			

Using these example assumptions, the capital fund annual contribution would be approximately \$169,000 annually. More importantly, five vehicles are overdue for replacement and the fund should have over \$3,000,000 currently.

If the communities entered into a strong shared services agreement and the two fire departments operated either as a single entity or a much more operationally consolidated operation, ESCI suggests that it would be possible to reduce the apparatus. The following table illustrates ESCI’s example strategy for apparatus deployment in a consolidated fire department

Figure 59: Recommended Apparatus Deployment

	Engines	Aerials	Tankers	Brush	Heavy Rescue	Med-Light Rescue	Boat	ATV
Mound Station	2	1	1			1	1	1
St. Boni Station	2		2	1	1	1	1	0
Combined	4	1	3	1	1	2	2	1

The following is an example capital replacement plan based on **ESCI’s example future strategy’s** levels of primary apparatus. It uses the same assumed life cycles and replacement costs established by ESCI.

Figure 60: Capital Replacement Plan—Future Possible Apparatus Levels

UNIT	YEAR	REPLACEMENT COST	ANNUAL FUND CONTRIBUTIONS	CURRENT CASH REQUIREMENTS	CURRENT AGE	LIFE EXPECTANCY	REPLACEMENT YEAR
Mound Engine 11	2003	\$370,000	\$18,500	\$148,000	8	20	2023
St. Boni Engine 11	2003	\$370,000	\$18,500	\$148,000	8	20	2023
St. Boni Engine 12	2011	\$370,000	\$18,500	\$0	0	20	2031
Mound Engine 13 (P/T)	2010	\$290,000	\$14,500	\$14,500	1	20	2030
Mound Ladder 11	1981	\$750,000	NA	\$750,000	30	25	OVERDUE
St. Boni Tanker 11	2006	\$240,000	\$16,000	\$80,000	5	15	2021
Mound Tanker 12	2007	\$240,000	\$16,000	\$64,000	4	15	2022
St. Boni Tanker 12	1993	\$240,000	NA	\$240,000	18	15	OVERDUE
St. Boni Rescue 11	1999	\$350,000	\$17,500	\$210,000	12	20	2019
St. Boni Grass 11	2006	\$140,000	\$9,333	\$46,667	5	15	2021
Mound Rescue 11	1998	\$220,000	\$14,667	\$190,667	13	15	2013
St. Boni Rescue 12	2005	\$70,000	\$7,000	\$42,000	6	10	2015
TOTALS			\$150,500	\$1,933,833			

Using these example assumptions, the capital fund annual contribution would be approximately \$150,500 annually. Only two vehicles are now overdue for replacement and the current funding requirement level is reduced to just under \$2,000,000.

If the departments enter a strong shared service agreement or consolidation, there is a strong potential for additional cost avoidance on top of any projected annual operating cost projections. The amount of the potential cost avoidance would depend on the final decisions on apparatus deployment and type. Additional offsetting revenue from reduction of surplus fleet could also occur. It should be noted, however, that any eventual addition of new fire stations, as discussed in the section on future deployment strategies, would impact the number of apparatus required in the system and capital replacement costs would change accordingly.

Analysis of specific cost changes for any existing tax entity will be dependent upon the method that is selected to fund the new consolidated system. Once a determination is made as to what revenue source or combination of sources are to be used in funding the consolidated system, specific comparisons can be developed to demonstrate the individual cost impact to participating communities. As noted above, however, overall system cost not including personnel services is projected to decrease.

Staffing Alternatives

With any development of a new service delivery models comes the decision as to how to staff the units that will be delivering the services to the community. This section evaluates the potential staffing options available to the community from retaining an all-volunteer workforce to a fully paid/career system.

Volunteer Staffing

Based on ESCI's experience with multiple organizations across the United States and Canada, fire and EMS organizations have become rather creative with staffing in their attempts to reduce personnel costs. Considering both study agencies are currently staffed solely by volunteers, the status quo must be examined as a viable option.

Any of the strategies previously presented could be implemented with the use of volunteers as long as the communities understand that the level of service delivered along with the availability of volunteers may not solve the issues that currently exist. As presented earlier in this report, travel time from one location to another within the region is not a significant issue depending on the level of service desired. The element of most concern is turnout, that time between when the initial units are dispatched and when a unit actually arrives on the scene of the emergency. This is an issue because volunteers respond from a number of locations; home, work, shopping, and elsewhere both within and outside the area.

Maintaining a volunteer system, although substantially more cost effective, places an enormous amount of uncertainty on the level of service provided to the community, particularly a consolidated organization. In lieu of paid/career staff, volunteer personnel could be scheduled to station duty or dedicated on-call periods to ensure that resources will be available for emergency response. This strategy would allow the departments to staff response resources with volunteer personnel. Alternatives to this type of on-call only staffing include resident programs, assigned station duty, student programs, etc., all with little or no additional cost.

Resident programs have been successful in many areas across the country where response personnel and funding for paid positions are limited. Under this type of program, departments provide housing and living conveniences to personnel that agree to reside at the station and accept an assigned duty shift. In essence, personnel provide response services in exchange for room and board in lieu of a salary. Many departments also pay these personnel minimal amounts to offset uncovered living and other expenses incurred by the individuals. This alternative, although inexpensive in personnel costs, may require capital expenditures for renovation of current facilities or construction of new facilities to accommodate 24-hour staffing. In addition, departments implementing this staffing arrangement tend to experience increases in station operation costs such as utilities and an increase in consumables.

Assigned station duty staffing methodologies take many different forms and depend greatly on the members' abilities to spend time dedicated to station duty. These programs are typically more

successful in urban and suburban areas where shift work allows personnel to dedicate time to the volunteer department with little or no expectation of pay. This program will usually increase station operating costs as mentioned previously, but the increase is variable depending upon the total amount of time that is dedicated to station staffing.

Student programs are mentioned here only as an additional alternative, but ESCI understands that the study region area may not have the resources available to implement this type of program due to the lack of formal post-secondary educational institutions. Student programs function much like resident programs in that individuals are given room and board in exchange for assigned duty shifts. Entry-level training could be an obstacle for this type of program and turn-over is typically high as students move on after graduation and new students come into the system seeking assistance. For more information on this type of program, ESCI suggests that the departments contact the Carolina Beach Fire Department (North Carolina), which has utilized this type of program through the University of North Carolina–Wilmington for some time with significant success.

There is no model that is specific in this situation, and any new deployment model should tailor the staffing methodology to meet the goals of the department(s). In the case of the two separate agencies, historical staffing performance suggests that there is currently a significant problem generating sufficient personnel to handle emergency incidents and this is likely to continue or worsen as time progresses and the communities continue to grow and develop.

Paid Part-Time Staffing

When departments do not have the ability to staff stations and/or apparatus with volunteer, paid-on-call, resident, or assigned duty personnel during all hours, and have the financial resources to pay personnel, paid part-time staffing is often more practical and economical than progressing to full-time personnel.

With paid part-time personnel, scheduling can be accomplished to accommodate as many shifts as necessary based on availability of personnel and service demand, given a minimum requirement of time commitment and the agency's response needs. This staffing methodology allows organizations to provide personnel at the station and available for response without having the added financial responsibility of extended benefits. Many organizations use this type of staffing methodology as a temporary measure of how successful a more structured staffing system may be.

Paid part-time staffing systems allow organizations more flexibility than a full-time system while providing some administrative authority over personnel that is not afforded to volunteer or paid-on-call systems. The amount of funding and administrative time necessary for this process to function varies from system to system and will be determined by the number of personnel employed and the availability of said personnel. For more information on paid part-time staffing, ESCI suggests that the departments contact the Village of Tinley Park Fire Department (Illinois), which fully staffs three stations 24 hours per day as well as command and training personnel solely with part-time personnel. The only paid position in the Tinley Park Fire Department is that of fire chief.

Paid Full-time Peak Demand Staffing

For those agencies whose service demand is such that part-time personnel may not be the best scenario, peak demand staffing may be the preferred route. This staffing methodology utilizes full-time personnel; but rather than continuous staffing, personnel are on duty when service demand has historically been the highest or when staffing performance has historically been the lowest.

This type of staffing allows agencies the flexibility of staffing resources based on need rather than investing in a continuous full-time system that can be very expensive. For more information on this peak demand staffing with full-time personnel, ESCI suggests the departments contact Deptford Fire District (New Jersey), which staffs seven stations with peak demand personnel during the day and utilizes volunteers for night and weekend responses. Although presented here as an option, as illustrated previously, the region does not experience the typical daytime peaks as many other emergency services organizations across the county, however does experience reduced volunteer staff availability during normal weekday work hours.

Paid Full-time Continuous Staffing

Full-time staffing is, by far, the most expensive of the staffing methodologies presented here. In many systems, as growth progresses, accompanied by increased service demand, the need for a full-time staffed agency increases. Full-time continuous staffing requires that agencies staff their facilities 24 hours a day in most cases. This is, however, based on service demand and the ability for personnel to be housed appropriately.

There are a variety of schedules available to agencies that progress to a continuously staffed department from 12-hour shifts on a rotating schedule, to 24-hour shifts on a typical 24/48 schedule, to

any sort of schedule that provides for 24-hour staffing without producing excessive personnel costs through overtime and/or benefits.

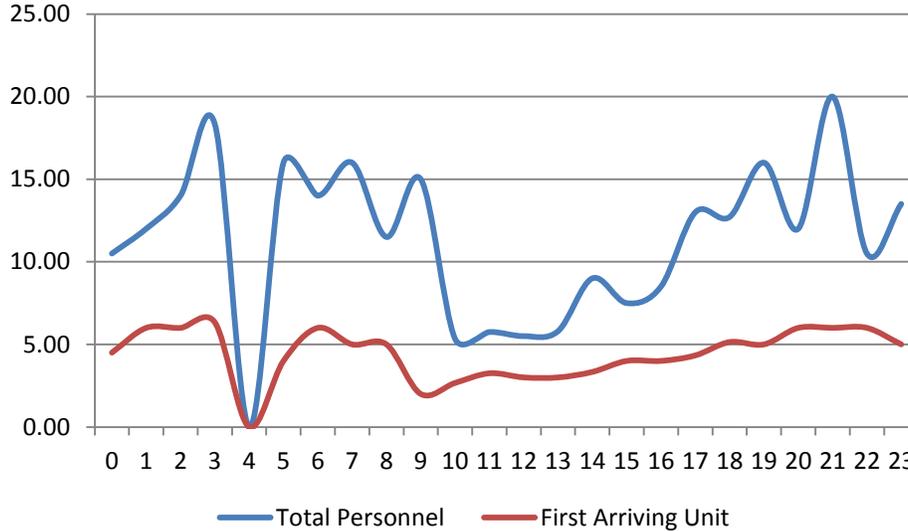
Another issue to consider with paid, full-time continuous staffing is supervision. Although the individual departments currently have chief and line officers, these individuals would not be able to supervise full-time personnel 24 hours per day. In most cases, when full-time continuous personnel are put into place, there are also positions implemented to supervise those individuals in the form of a shift commander, operations supervisor, or other similar position. This should be taken into consideration if the jurisdictions decide to progress to a paid, full-time continuous staffing model.

Staffing Issues

Although MFD and Sbfd routinely work together through mutual aid for a variety of incident types, there exists certain periods of time where Sbfd (by their own admission) is unable to produce sufficient personnel to effectively mitigate incidents, particularly structure fires, without external assistance. This is not to say that Sbfd is entirely unable to produce sufficient staff to handle most incidents to which the department is dispatched. Rather, as with many volunteer fire departments, personnel performance suffers during certain periods of time, specifically during normal workday hours. Although previous analysis of staffing performance by both agencies illustrated that sufficient personnel were produced, what is most critical is the number of *qualified* personnel that arrive on incident scenes with sufficient physical resources in the earliest stages of the call to effectively mitigate major incidents.

The figure below illustrates the difference between the total personnel recorded for each fire occurring within the Sbfd primary response area and the actual number of personnel recorded as staffing with the first arriving apparatus.

Figure 61: Total Personnel to First Arriving Unit Comparison—SBFD



As can be seen from the figure above, the number of personnel staffing the first arriving apparatus is much lower than the total number of personnel recorded on the incident. While it is possible that multiple apparatus responded to the incident scenes, it is impossible to determine how many *qualified* personnel actually arrived on scene rather than were simply on ‘stand by’ at the station. In addition, it is possible that department personnel arrived in a private vehicle prior to the first apparatus, thus increasing the total number of available personnel on scene. This information would not necessarily be noted in the incident records.

Anecdotal information provided by both fire departments suggests that SBFD is sometimes unable to produce sufficient staff resources for some calls during the weekday hours, though the overall data submitted to ESCI does not draw conclusive findings indicating that this is a common occurrence. It is apparent from the available data that MFD has a much more stable personnel staffing performance across all hours of the day while SBFD does suffer somewhat during normal work day hours. Demographic data helps explain this, with a higher number of employers, such as commercial shops, service companies, and industry, in proximity of the MFD station. When ESCI mapped the work address of the volunteers for both departments, there were more points located in the area around Mound’s station than around the St. Bonifacius station. Clearly, St. Bonifacius is at a disadvantage, and therefore must work harder when trying to recruit and maintain daytime firefighting workforce.

However, it is unwise in a modern fire protection system to assume that a single station volunteer fire department can effectively handle a major incident alone. It is becoming increasingly unusual to find any volunteer fire station that is dispatched singularly to reported structure fires. More and more frequently around the country, multiple departments are dispatched simultaneously due to the fact that most volunteer departments are currently having daytime personnel issues.

If the current system is to continue to operate as separate departments, ESCI suggests that both MFD and SBFD enter into an automatic aid agreement that ensure that sufficient personnel (from both stations) are dispatched to all reported structure fires throughout the entirety of the region. Both departments could benefit from additional resources being automatically dispatched rather than waiting until later into the incident to request that assistance. Though both Mound and St. Bonifacius can consider this decision within their city boundaries independently, the City of Minnetrista could consider requiring simultaneous dispatch on structure and high-risk calls as an element of their fire service contract with the departments, while continuing to maintain single department dispatch on lower risk and non-emergency incidents.

Under a system of consolidation into a single organization, this issue becomes a moot point in that, while covering a large geographic area, both stations would be dispatched to all reported structure fires or other major incidents that are likely to stress the resources of a single station response. Which department is responsible for which area is no longer considered and multiple resources respond from multiple stations on high-risk incidents, just as they would in a larger multi-station city.

Short of a coordinated automatic aid response across the region for high risk incidents, the fact that SBFD occasionally has trouble producing sufficient staff during daytime hours could result in the need to move to a partially paid system, utilizing paid personnel in one of the aforementioned options to supplement the volunteer response.

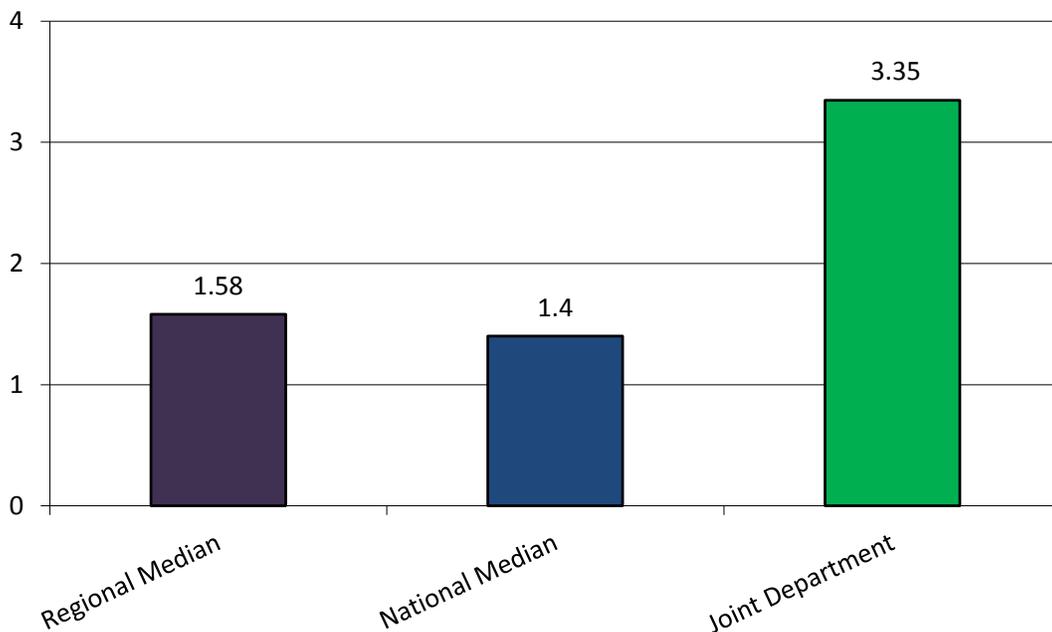
Benchmarks

A study jointly conducted by NFPA and the Federal Emergency Management Agency (FEMA) examined the emergency workload, capital resources, and the numbers of firefighters (career and volunteer) in communities across the United States. In addition, a previous NFPA study provides other information

about U.S. fire department staffing and resources.¹⁷ ESCI uses data from the two related studies to develop a series of comparative benchmarks for fire protection organizations. It should be emphasized, however, that the benchmarks used in this section *do not* represent standards of service. The measurements are intended only as references to assist policymakers in comparing the organizations with others in a similar demographic or region. Some benchmarks use a regional point of reference (i.e., Midwest United States) while others compare the departments with a national sample.

The figure below shows that a consolidated department would have fewer career firefighters per 1,000 residents than the median of other Midwestern fire departments serving a similar population base, but a slightly higher number of volunteer personnel for those same comparison areas. ESCI believes that the need for volunteers will continue long into the foreseeable future.

Figure 62: Consolidated Comparison of Firefighters per 1,000 Population

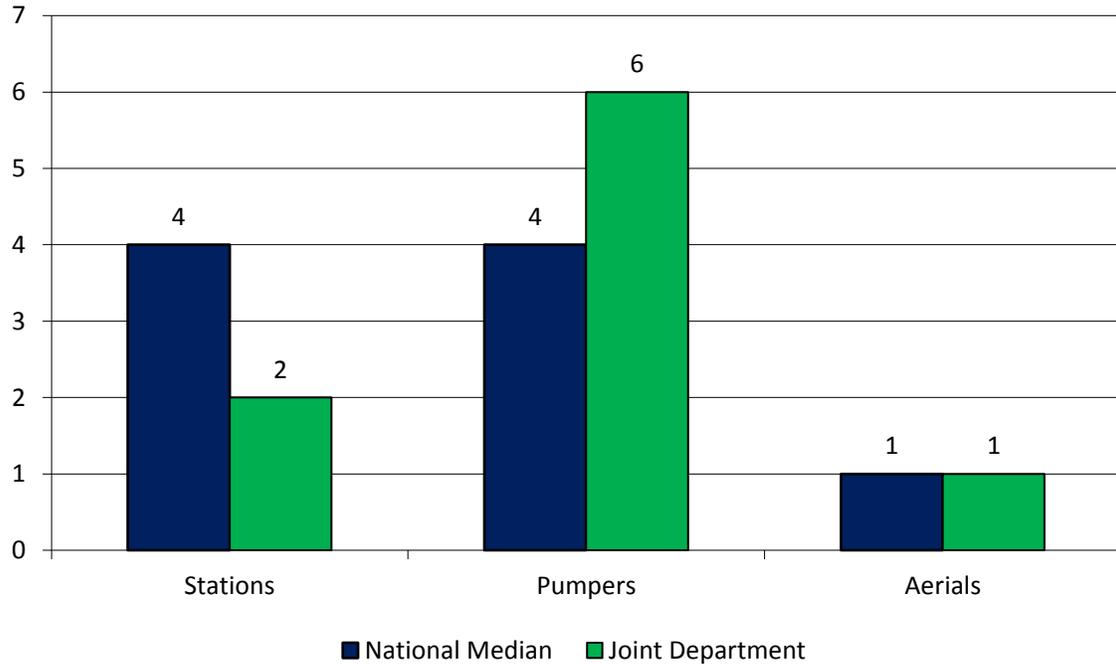


Regardless of the raw number of personnel available to a fire department, what matters most is the actual number of emergency responders the agency is able to produce at an emergency scene. This almost always relates to the actual number of emergency responders available for immediate deployment.

¹⁷ FEMA/NFPA, "A Needs Assessment of the U.S. Fire Service," FA-240/December. NFPA, "U.S. Fire Department Profile through 2001", December 2002. The study divides the U.S. into Northeast, North Central, South, and Western regions. Fire departments within each of the four regions are categorized by service area population.

The following figure provides an overview of a consolidated comparison of current fire suppression resources and compares these with the median rate of resource allocation in other communities of similar size within the Midwest United States.

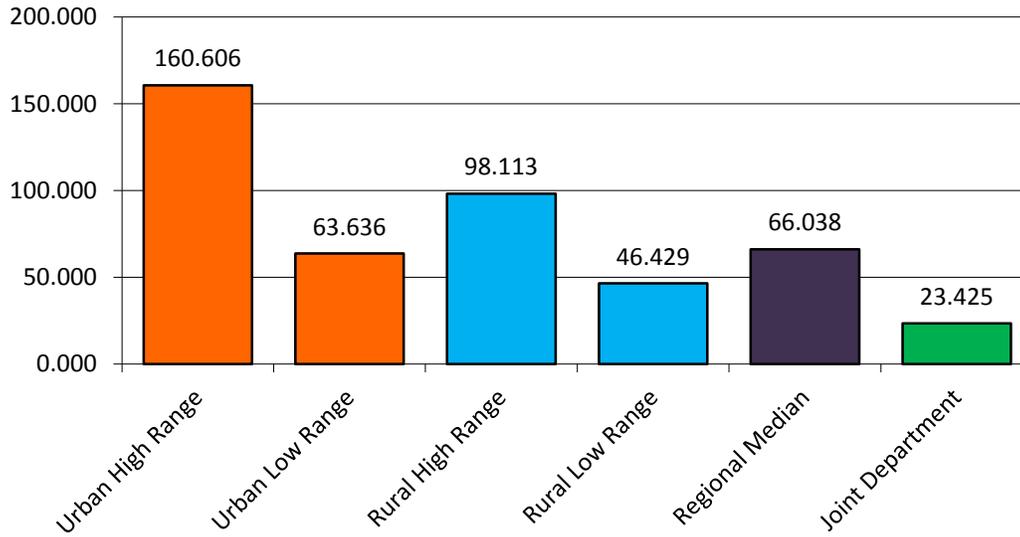
Figure 63: Consolidated Comparison of Resource per 1,000 Population



The chart above illustrates the extent that geography plays in determining the resources that are necessary to protect the service area with a consolidated fire department. The department would maintain fewer stations but more pumpers, and the same number of aerials as the median of other Midwestern fire departments serving similar populations. The number of engines has already been addressed in the discussion on capital replacement programs.

The following figure compares the response workload of a consolidated department to the median workload of other similar Midwest region fire departments and shows the national range for incidents in urban communities with a population similar to that served by the combined departments.

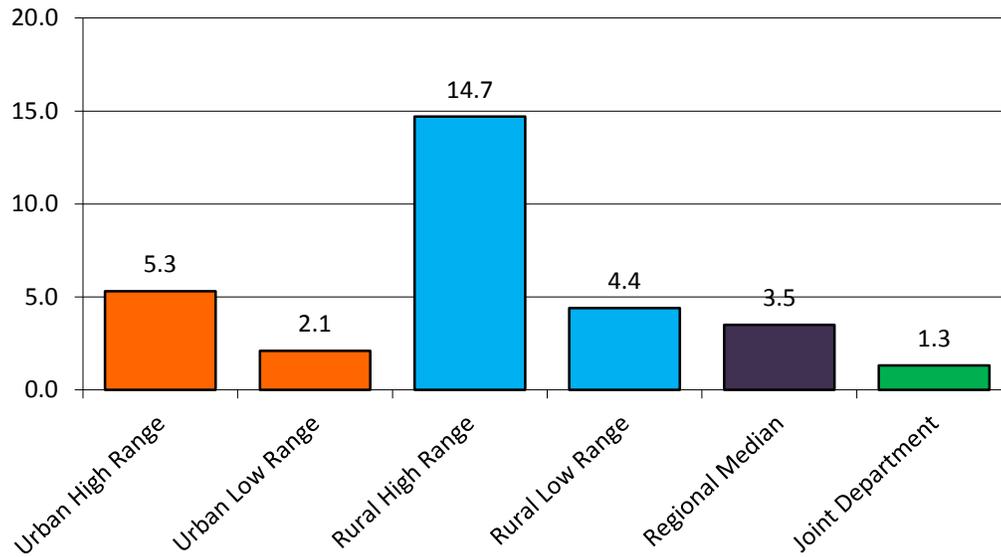
Figure 64: Comparison of Incidents per 1,000 Population



As illustrated above, the emergency workload of the consolidated fire department is significantly lower than the ranges of other similar-sized communities. However, many of the departments included in the comparative dataset perform primary emergency medical response functions, generating a much higher workload.

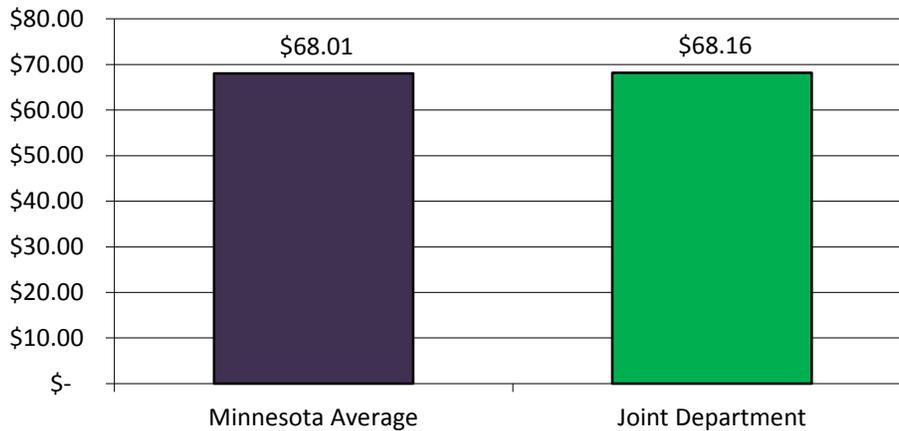
As illustrated in the following figure, the consolidated fire department could expect a fire incidence rate that is well below the median of other Midwestern fire departments serving similar populations.

Figure 65: Comparison of Fires per 1,000 Population



In regard to cost, the consolidated department's cost per capita would be very close to that of the Minnesota average for fire protection, as illustrated in the figure below.

Figure 66: Cost per Capita—Joint Department



Source: U.S. Census Bureau Local Government Spending by Function. The local government data are from a sample of local governments and, as such, are subject to sampling variability.

Policy Action

A number of policy options exist for integrating the fire and emergency services of the fire departments. Some of the following options might be deemed inappropriate in this situation by the local elected

officials, who are much more in touch with local political will and culture; but these options are worthy of discussing for future opportunities. The options include the following:

- Form a consolidated fire department through intergovernmental agreements only, and the establishment of a Joint Powers Agreement (JPA). This would leave all existing funding and governance mechanisms in place and require extensive negotiation of intergovernmental agreements for the formation, governance, and operation of a regional fire and EMS department. Equitable funding would be negotiated through the JPA. This policy option would only functionally merge the fire protection system of the cities, requiring local action and proper notification for reversal.
- Form a consolidated fire department through the creation of a special fire service district. This would transfer the authority and responsibility of fire protection from the three existing cities to a newly created board to oversee the district, creating a new unit of government and a new taxing authority. Funding would, in all likelihood, come solely from ad valorem taxation and, although a commensurate reduction in the individual cities' tax rates may result, the total tax passed onto the citizens may be higher than current rates.

Critical Issues

Organizational consolidations and mergers fail for many reasons. Sometimes law prohibits the idea at the outset. Other times the proposal may be doomed by the unfavorable outcome of a public election, or the reality of finance. These issues aside, however, four major pitfalls can cause even the most feasible consolidation to go wrong. We think of these pitfalls as the “Four Horsemen” of failed partnerships. Specifically, the four are command, communication, control, and culture.

- **Command:** Undertaking any partnership as complex as a consolidation absolutely requires effective leadership be demonstrated consistently at all levels. Policymakers and administrators must guide their respective agencies, yet (at the same time) they must cooperate with partner organizations. Differing leadership styles may cause repressed friction at best and open conflict at worst. Problems with sharing control and making decisions sends the wrong message to the members of the organization, which can lead to an unraveling of even the best proposal.
- **Communication:** Silence or limited information from leaders about potential or upcoming partnerships breeds fear, mistrust, and misinformation among affected persons. The leadership of collaborating organizations must agree to communicate actively with all affected groups. Everyone must be provided the same information at the same time. Most importantly, leaders must demonstrate two-way communication skills by carefully listening to (and acting on) the concerns of all constituents.
- **Control:** Frequently, the consolidation process is compared to a marriage. As the saying goes, “Marriage is when two people become as one; the trouble starts when they try to decide which one.”¹⁸ As in marriage, consolidation often fails because of organizational or personal ego issues. The tenets of leadership require that someone be in charge; but in the interest of greater good, some of those in leadership positions must agree to yield power. Some who are used to operating in a position of control may have trouble adjusting to new roles that require more collaboration. Personal sacrifice in the interest of community good may not always win out.

¹⁸ Source unknown.

- Culture: Two schools of thought exist regarding organizational culture. The first camp views culture as implicit in social life, naturally emerging as individuals transform themselves into social groups (tribes, organizations, communities, and nations). The second camp offers that culture is comprised of distinct observable forms (language, use of symbols, customs, methods of problem solving, and design of work settings) that people create and use to confront the broader social environment. This second view is most widely used in the evaluation and management of organizational culture, but the first is no less important when considering bringing two discrete organizations into a closer relationship.

The general characteristics of a fire department encourage the creation of a culture unique to that organization. The paramilitary structure, the reliance on teamwork, and the hazards of the work build strong bonds between the members; who tend to share group behaviors, assumptions, beliefs, and values. Bringing multiple groups together with cultures formed through different experiences always results in a change to both organizational cultures. If the partnership is successful, no one culture will overcome the other. Instead, a new culture will evolve from the two. If the organizational cultures are incompatible—well, frankly, the partnership will often fail.

Leaders must be aware of organizational culture and its role in the wellness of the agency's heart and soul. Early recognition by leadership of the importance of culture to the success of a partnership can help to overcome differences and build on strengths.

Guidance

- Consult with service partners. The city councils of each city should begin a dialog with each other and with service partners and neighboring fire agencies regarding the proposed consolidation. Establish which agencies are likely to actively participate in reaching the goal.
- Consult with legal counsel. The individual city councils should consult with legal counsel regarding the statutory options and requirements for consolidation.
- Joint Adoption of a Regional Fire and EMS Vision. Each city council should formally adopt a Regional Fire and EMS Vision to set the course for any future cooperative service or consolidation.
- Organize the Steering Committee. Representatives from each city council should form a joint fire and EMS planning committee to formulate and report on all elements of a consolidation plan. Establish leadership roles of the chair and other committee members. Create meeting guidelines and elect leadership. Set meeting dates and times. Review and adopt the work plan. Meetings are ongoing, as is the review and revision of the work plan. The Committee performs as a clearinghouse for all information concerning the effort so that service partners speak with a unified voice.
- Name the consolidated department. As an element of the work plan, the Steering Committee should establish a suitable name for the consolidated fire department. The name should reflect the identity of the whole protected area.

B: Develop Standard Operating Guidelines

Level of Cooperation

- Functional

Timeline for Completion

- Short Term

Section

- Emergency Operations

Affected Stakeholders

- All Agencies

Objective

- Provide guidelines for operation during emergencies, emergent, and non-emergent incidents.

Summary

Standard operating guidelines are used at the operations level of the fire department. They are analogous to a playbook, providing direction yet allowing for individualized company officer adjustments to situations. Currently each fire agency in this study is responsible for developing a unique set of standard operating guidelines for their organization.

Discussion

Standard operating guidelines will improve on-scene safety, efficiency, and effectiveness of personnel. With personnel from all agencies trained in using the same procedures, they can approach an incident with an understanding that everyone will proceed in a similar fashion. This will greatly reduce or eliminate the confusion that can lead to delays in the delivery of service.

Guidance

- Keep the guidelines in electronic format for ease of updating.
- Give initial and recurring education to personnel in their use.
- Provide for continual use of the standard operating guidelines during routine incidents and at each training session.
- Provide for a periodic appraisal of the guidelines to maintain currency with changes in tactics, strategy, and equipment.

- Consciously keep guidelines non-specific to allow for adaptation to particular incidents by the supervisor.

Fiscal Considerations

- The elimination of duplicated staff effort in the creation and updating of standard operating guidelines will reduce soft costs.
- Instructional time optimized during multi-agency training sessions by excluding time devoted to adapting to differing procedures.

C: Shared Specialty Teams

Level of Cooperation

- Functional

Timeline for Completion

- Middle Term

Section

- Emergency Operations

Affected Stakeholders

- All Agencies

Objective

- Provide specialty teams in the region by allocating and distributing resources to achieve minimum cost and maximum operational benefit.

Summary

Specialty teams are group(s) made up of individuals having areas of expertise and specialized equipment in roles outside the level of training considered as normal for fire suppression personnel. Public expectation has increasingly focused on fire departments as the logical source to staff, equip, train, certify, and maintain specialty teams. A specialty team may concentrate on one or more disciplines.

Examples of specialty teams include:

- Hazardous materials
- Technical rescue
- Confined space/trench rescue
- Swift water rescue
- Dive team
- ICS overhead
- Rehabilitation
- Heavy rescue
- Ladder company¹⁹
- Honor guard

¹⁹ The deployment of ladder companies is considered an essential component of a suppression response; in this instance ESCI considers the sharing of this resource to be a fiscally prudent use of resources.

A determination as to the type, level, and number of specialty teams should be based on a strategic plan for the entire study area.

Discussion

The ability of every fire department to be fully equipped for every conceivable incident with all personnel trained and certified to the highest level is impractical, but the reality is that any fire department will occasionally encounter unique incidents that require specialized equipment and personnel. Specialty teams based only in one fire department commonly respond to fewer requests for service, which results in greater cost per incident.

While the cost effectiveness of shared specialty teams is important, keeping skill and interest levels of personnel high is essential. Personnel who train less and who use skills infrequently are arguably at greater risk when working under dangerous conditions. Shared specialty teams are more effectively able to maintain high skill, knowledge, and ability because such teams typically train and respond to emergencies more frequently.

Guidance

- Determine the need for specialized teams for the entire region.
- Establish a single set of standard operating guidelines. It is very important that all departments operate by the same procedures when using shared resources.

Fiscal Considerations

- The elimination of duplicated effort in equipping, training, and staffing may reduce overall program costs.

D: Create a Unified Occupational Medicine Program

Level of Cooperation

- Functional

Timeline for Completion

- Middle Term

Section

- Administration

Affected Stakeholders

- All Agencies

Objective

- Provide a fire-service related occupational and health program.

Summary

A single method and source for providing occupational and health services may provide savings through economies of scale. NFPA 1500, Standard on Fire Department Occupational Safety and Health Programs, provides the minimum requirements for a fire-service related occupational safety and health program. Along with NFPA 1500, NFPA 1582, the Standard on Comprehensive Occupational Medicine Programs for Fire Departments, and related documents, provide guidance for the creation of occupational health programs and for establishing medical requirements for current and future firefighters.

Discussion

There is a need for all fire departments to have access to a group of professionals with expertise in the occupational medicine field. Occupational medicine is dedicated to promoting and protecting the health of workers through preventive services, clinical care, research, and educational programs. One aspect of a program is keeping up to date with health and safety regulations, standards, and current practices. Occupational medicine specialists review current practices to see if the agencies meet new regulations, make modifications if needed, and assist the departments in adopting any changes.

The importance of employee health and welfare, and the potential liability associated with the lack of such programs necessitates that fire departments establish close professional relationships with occupational medicine specialists to assure that emergency workers are protected by the most up-to-date occupational health and safety programs possible.

Occupational safety and health programs (sometimes referred to as Industrial Medicine) vary in depth, form, and delivery. A fire department may employ a physician full time, contract with a provider organization, or conduct part of a program in-house while contracting for the remaining services. Any number of providers throughout the region could provide these services to the departments.

The legal requirements for a fire department occupational safety and health program have been established. How a fire department administers and supports the program determines the success and the resultant benefit. An additional advantage of using a local occupational safety and health provider is the ability to quickly evaluate and treat non-threatening injuries suffered by employees.

Guidance

- Determine required and desired specifications for an occupational safety and health program.
- Create a single personnel policy for occupational safety and health.
- Develop an RFP for soliciting vendors to supply occupational safety and health services.
- Conduct baseline testing for firefighters without previous audio and lung function baseline records.

Fiscal Considerations

- Occupational medicine programs are often menu driven. Items selected for inclusion in the program determine the final cost. Additional financial factors involve whether the fire departments elect to exceed mandated requirements, perform some of the occupational medicine functions internally, or consolidate the occupational medicine program with interrelated programs. Interrelated programs that share functions include wellness, infectious disease, FIT testing, EMS, and hazardous materials.

E: Develop and Adopt Common Training Standards

Level of Cooperation

- Functional

Timeline for Completion

- Short Term

Section

- Training

Affected Stakeholders

- All Agencies

Objective

- Adopt uniform training guidelines.
- Adopt uniform certification standards.

Summary

Training standards provide the benchmark for training. They define and specify the quantity and quality of training for achieving levels of competency and certification. Certain standards are mandated by governing or regulating agencies such as OSHA (Occupational Safety and Health Administration). Others are considered industry standards developed by organizations like the National Fire Protection Association (NFPA). Occasionally, locally developed standards are adopted to address circumstances unique to that area. Private vendor standards and certifications are often applicable to specialized training.

Training records should consist of:

- Daily training records
- Company training records
- Individual training records
- An inventory of equipment assigned to the training department
- A complete reference library

Discussion

By collectively adopting a set of training standards (IFSTA, for example), fire departments are foundationally prepared to provide uniformity throughout the training delivery system and would improve inter-agency compatibility. It would further simplify development of a regional training manual,

annual training plan, and data entry and retrieval of computerized training records. Adoption will provide for uniformly trained and certified responders and will assure increased emergency scene compatibility, efficiency, effectiveness, personnel confidence, and safety.

Guidance

- Establish a work group including at least one training representative from each department.
 - Identify mandated training standards affecting all departments.
 - Assess all standards used by the departments, including rationale for their use.
 - Consider any unique local issues.
 - Develop a process for the adoption of training standards.
 - Adopt training standards to which all departments will adhere.
 - Provide for continuous review and updating of training standards.
- Educate personnel on the purpose and application of the standards.
- Provide for continual use of training standards throughout the training delivery system.
- Maintain standards in a readily available format.
- Provide for frequent evaluation and updating of training standards.
- Address and resolve personnel certification issues (address through reciprocity) created by new standards and certifications.

Fiscal Considerations

- A reduction in duplicated staff effort (reduces soft costs) and training staff to develop similar but separate programs based on the same or differing standards.
- A potential for reduced specialized training costs through a larger pool of personnel.
- Responders trained to the same standard provide a more cohesive workforce, increasing efficiencies.

F: Develop Mutual Training Strategies

Level of Cooperation

- Functional

Timeline for Completion

- Short to Middle Term

Section

- Training

Affected Stakeholders

- All Agencies

Objective

- Provide purpose and direction for training program management and delivery.
- Combine strengths and resources to:
 - Overcome current training obstacles and deficiencies,
 - Provide a comprehensive and regionally integrated training structure,
 - Develop a mutually beneficial training program, and
 - Train and certify a cadre of knowledgeable and skilled emergency responders

Summary

Agreements between public agencies to functionally consolidate certain programs are becoming increasingly common. Such cooperative initiatives are a means to mutually increase efficiency through reduction or elimination of duplication, something not usually achievable by a single entity. ESCI believes that a mutual training strategy among the fire departments will accomplish that.

Discussion

Certain individuals are assigned responsibility (through job description or by special assignment) for development and delivery of their department's training program. Each fire department's training program is carried out, in large part, independently, with varying levels of program development, content, and quality. All persons responsible for firefighter training appear to work towards providing comprehensive programs; but, not surprisingly, success is inconsistent. All fire departments experience similar limitations that restrict outcomes.

The geographical proximity of the departments to one another, the resources, and the available expertise provide an opportunity for training collaboration. Sharing such resources is considered a fiscally responsible way to reach the full potential of all training programs. Development of a strategic plan for firefighter training is a crucial first step.

A strategic plan for training evaluates current training levels and determines future training goals and objectives. The process includes identifying the existing type and level of emergency services, followed by an audit of the certification and skills of emergency workers. Strategies are created to develop curriculum, obtain resources, and produce a training schedule. Each department adopts the training standards and certification levels for the job classifications supported by the agency. A mutual strategic plan for training provides consistency to the program for all fire departments. All emergency responders are subsequently trained to the certification levels established by the plan, and all emergency workers possess the specified skills.

As part of the regional training strategy, a system of competency-based training and skills evaluation is recommended for all suppression and EMS personnel. Competency-based training helps to establish the achievement and retention of skills for specific jobs. The term “skill” is defined in Merriam-Webster as “A learned power of doing something competently: a developed aptitude or ability.” ESCI recommends that mutual training strategies include the semi-annual evaluation of individual and company proficiency. Results of the evaluations may then be used to adjust the regional training strategy over the long term.

Critical Issues

- The variations between current programs used by the fire departments may initially require personnel to receive additional training.
- Continued involvement by those assigned to advance a regional training manual should be involved with development of the mutual training strategies.
- Each fire department should produce a statement attesting to their commitment of developing mutual training strategies.

Guidance

- Establish a work group to evaluate and develop common training strategies:
 - Identify goals and establish objectives
 - Set benchmarks
- Evaluate the following training sections found in “Partnering Strategies”:
 - Video conferencing

- Annual training plan
- Regional training manual
- Training facilities
- Centralized training
- Training standards
- Record keeping
- Provide for flexibility and openness to apply existing strategies in new and different ways and for new strategies.
- Provide for a periodic appraisal of strategy use, relevancy, effectiveness, and compatibility with current need.
- Keep strategies in electronic format for ease of updating.

Fiscal Considerations

- No significant financial considerations.

G: Purchase Uniform Emergency Apparatus

Level of Cooperation

- Functional

Timeline for Completion

- Long Term

Section

- Emergency Operations

Affected Stakeholders

- All Agencies

Objective

- Create a single set of emergency apparatus specifications.
- Provide single-source uniform emergency apparatus for all fire agencies.

Summary

The study fire departments use and maintain a variety of emergency apparatus types. Among the common types of apparatus (such as pumpers), each department uses equipment of different makes, models, and configurations. A standard specification and procurement process for each apparatus type would result in lower cost, faster production, and training efficiencies.

Procurement of uniform fire apparatus can translate into lower purchase prices; reduction in parts warehousing; and less money, time, and effort spent training drivers and maintenance personnel. Other benefits include greater interoperability, a potential for reducing driver training, and greater confidence and skill level among operators.

Discussion

The apparatus fleet of the individual fire departments is diverse. Fire apparatus are categorized by function, including pumpers, aerial devices, water tenders/tankers, wildland units, rescue units, and ambulances. While there is an identifiable need for vehicles from each category in more than one configuration, acquiring and maintaining standard apparatus creates desirable efficiencies. Dissimilar apparatus tends to increase purchase cost, requires additional initial and recurrent training, and results in the need to warehouse a larger parts supply.

The cash price of a pumper frequently exceeds \$600,000; the cost of an aerial unit may easily exceed twice that amount. The reasons for such prices are due to the specialized nature of fire apparatus. However, customization, add-ons, and options tend to make each fire apparatus a “one of a kind” vehicle. The costs to equip, maintain, repair, train operators and mechanics, and to warehouse parts only adds to the overall expenditure.

Fire apparatus’ useful service life varies generally depending on the rate of use, the environment, operating conditions, and the frequency and level of preventive maintenance. A fire pumper with average to heavy use can reasonably be expected to have a 10- to 15-year service life. With light to very light use, service life can reach 20 years; very heavy use may reduce service life to as few as 10 years. Aerial devices are often operated less frequently and have a useful life of between 15 and 20 years.

Factors influencing fire apparatus service life include technology and economics. At a given time the cost to operate and maintain a fire apparatus passes the economics of rehabilitation, refurbishment, or replacement.

A trend is developing within the fire apparatus manufacturing industry. Several manufacturers now offer a line of stock fire apparatus built on custom chassis in addition to a more traditional line of fully custom units. The cost savings of purchasing a stock unit is often 20 percent or more when compared to a custom unit.

Some fire departments use the option of lease purchasing to fill emergency apparatus need. Some of the benefits associated with leasing are:

- Leasing may provide a cost advantage over conventional financing by transferring tax incentives (accelerated depreciation) associated with the equipment ownership from the lessor (the owner) to the lessee (the user) in the form of lower lease payments
- Leasing can provide 100 percent financing, conserving cash
- Leasing can provide a close matching of the lease term and payments to the revenue available to the fire department

Safety should always be the main consideration when purchasing and operating emergency fire apparatus. When developing emergency fire apparatus specifications and operational procedures, NFPA

and other industry standards should be used. Additional guidance on fire apparatus safety devices, response, and training can be found in the *Emergency Vehicle Safety Initiative*.²⁰

Guidance

- Determine the replacement interval and projected life expectancy of each apparatus.
- Examine the merits of extending the useful service life of apparatus through rehabilitation and refurbishment.
- Consider the option of purchasing all categories of fire apparatus from a sole source.
- Develop an emergency apparatus prescribed load list for use by all agencies.
- Mark apparatus in a standard format with striping, decals, and department name following NFPA standards and recommendations from the Emergency Vehicle Safety Initiative.²¹
- Develop mobile apparatus repair and service response unit(s).
- Develop central facilities for maintenance and repairs for all emergency apparatus.
- Create Standard Operating Guidelines for the operation, maintenance, and recordkeeping of apparatus. A resource for obtaining sample documents may be found at the National Fire Service Library website.
- Outfit reserve apparatus with the same compliment of equipment as frontline units.

Fiscal Considerations

- Time and effort savings by preparing fewer bid specifications
- The prospect for conducting fewer bid processes
- Investigate the letting of apparatus bids for periods longer than one year
- Cost savings in acquiring emergency fire apparatus
- Consider the purchase of stock versus custom apparatus
- Consider leasing versus outright purchase of emergency apparatus

²⁰ Department of Homeland Security, FEMA, U.S. Fire Administration, Emergency Vehicle Safety Initiative. FA-272, August 2004, pages iii, iv.

²¹ Western Fire Chiefs Association, National Fire Service Library, www.wfca.com.

H: Develop Uniform Pre-Incident Plans

Level of Cooperation

- Functional

Timeline for Completion

- Short Term

Section

- Emergency Operations

Affected Stakeholders

- All Agencies

Objective

- Provide a system of shared operational plans for use during emergencies and non-emergent incidents.

Summary

Pre-incident plans are an important part of the emergency response system to provide essential information on specific structures and processes. Through timely planning, strategy and tactics can be developed before an emergency occurs. Pre-incident planning involves evaluating protection systems, building construction, contents, and operating procedures that may impact emergency operations.

Pre-incident plans should be kept up to date. The plans should be used in company training, and should be distributed to all mutual/automatic aid partners. The standards set forth in NFPA 1620, Recommended Practices for Pre-Incident Planning, should be followed to guide in the development of a regional pre-incident planning system.

Discussion

A firefighter typically works in an alien environment of heat, darkness, confusion, and extreme danger. Often, a firefighter's first visit to a building is when he or she is summoned to an emergency at the facility; the very time that the internal environment of the structure may be at its worst. Contrary to Hollywood's portrayal of the inside of a building on fire, visibility is likely to be nearly zero due to smoke. A lack of familiarity with the layout of a structure can easily cause a firefighter to become disoriented and subsequently suffer injury.

It is important that firefighters and command staff have accurate information readily at hand to identify hazards, direct tactical operations, and understand the proper use of built-in fire resistive features of some structures. This can be accomplished by touring structures, developing pre-incident plans, and conducting tactical exercises; either on-site or tabletop.

An ideal pre-incident planning system uses standard forms and protocols. Data are collected in a consistent format. Information is presented in a manner that permits commanders and emergency workers to retrieve it quickly and easily. All require the use of consistent methods for collection, verification, storage, presentation, and update of emergency plans.

The most successful programs use pre-incident planning software to assemble the data, create plan documents and “quick data” forms, and store the information for easy retrieval. Above all, no program is successful without thorough incorporation of the pre-incident plans in frequent classroom and on-site training exercises.

The evaluation phase of this process identified that completion of pre-incident plans should be given high priority. For the most part, fire departments have not embraced pre-incident planning. Pre-incident planning is limited to only a number of target hazards within individual response areas. Process and plan consistency is essentially non-existent. The plans that are completed are not typically distributed to mutual aid departments.

Operational, management, and IS/IT staff should assist in making software and formatting decisions. Goals for the identification and development of target hazard pre-incident plans should be established. The uniform pre-incident planning program should be reviewed at least annually to assure the accomplishment of goals, the improvement of the program, and the appropriate entry of new target hazards.

Properties that should have pre-incident plans include those having:

- A potential for large occupant load
- Occupants that are incapable of self-rescue
- Structure size larger than 12,000 square feet
- Facilities that process or store hazardous materials and/or equipment
- Buildings with built-in fire protection systems
- Wildland hazards

Pre-incident plans should be a quick and easy reference tool, for company officers and command staff. The plans should be formatted for easy adaptation to electronic media. At a minimum, a pre-incident plan should include information on, but not be limited to:

- Building construction type
- Occupant load
- Fire protection systems
- Water supply
- Exposure hazards
- Firefighter hazards
- Utility location and shutoffs
- Emergency contact information

NFPA 1620 provides excellent information on the development and use of pre-incident plans and should be used as a reference. *NFPA 1620* addresses the protection, construction, and operational features of specific occupancies to develop pre-incident plans.

Personnel should receive regular familiarization training using the completed pre-incident plans. The plans must be made available on all emergency apparatus, regardless of jurisdiction. Routine use of pre-incident plans by all responders will assure that the plans are correctly used at major emergencies.

Guidance

- Inventory current pre-incident plan hardware, software, format, and level of development of each fire department.
- Evaluate commonality between current systems of pre-incident planning.
- Consider the establishment of a steering committee to develop building criteria and data for inclusion in pre-incident plans.
- Develop a timeline for the implementation, completion, and review of pre-incident plans.

Fiscal Considerations

The cost to each fire department for developing uniform pre-incident plans will be predicated on:

- Current hardware and software assets
- Cost to upgrade or purchase hardware and software
- Number of facilities/buildings with existing pre-incident plans versus those to develop
- The pace of new development requiring pre-incident plans
- Personnel costs to gather and assemble plans

- Personnel soft costs of on-duty staff assigned pre-incident planning tasks
- Unquantifiable potential for prevention of injury or death to emergency responders and the public

Diagramming software programs designed specifically for drawing pre-fire plans start around \$400. More advance versions with 3-D capability increase the initial software cost to \$700. Versions that integrate with a pocket PC would add an additional \$300. This and other diagramming software programs are made to be added onto existing fire prevention/inspection programs.

I: Provide for Joint Staffing of Stations and Apparatus

Level of Cooperation

- Functional

Timeline for Completion

- Short Term

Section

- Emergency Operations

Affected Stakeholders

- All Agencies

Objectives

- Provide for distribution of facilities and deployment of personnel consistent with a regional standard of cover.
- Provide consistent fire and emergency services within areas efficiently before, during, and after development.

Summary

Practicality and external influences seldom allow fire station placement to match perfectly with a fire department's deployment strategy. Reasons include the availability of property, land use laws, roadway infrastructure, construction cost, traffic patterns, geography, and projected station workload. Given that the area protected by a fire department may change through annexation, merger, and contracted protection (intergovernmental agreement), a perfect station location today may be a poor location in the future. Because of these and other factors, it is virtually impossible to place fire stations in an ideal location and not overlap the response areas of other fire stations or departments. Jointly staffed stations and/or response units create more alternatives for fire departments studying the deployment of emergency resources.

Fire departments often know how many firefighters are needed for the best possible protection; however, departments are infrequently able to afford to staff at such levels. Sharing personnel from different agencies can help to bring staffing levels closer to the optimum.

If the study fire departments create a single training division, some provision is needed to offer response area coverage while other emergency units travel to a training center. Jointly staffing a PAU (Peak Activity Unit) with multi-agency personnel could protect vacant response areas during those times.

Jointly staffing fire apparatus can also be a very practical option for providing resources from a fire station located in an area able to serve more than one jurisdiction. Last, cooperatively providing specialty apparatus used for infrequent (but often high-risk) emergencies is an effective means to distribute the cost of such apparatus over a wider financing base.

Discussion

Each of the study fire departments now rely on each other for resources during routine and non-routine emergencies. Without question, if facilities are distributed and personnel deployed regardless of jurisdictional boundaries (and consistent with a regional standard of cover) the likelihood of those resources being located where needed most increases. The crucial question is how to pay for shared resources in a manner that assures equity for all taxpayers.

The funding of jointly staffed fire stations and apparatus should be based on local law, authority, and policy. There are many examples of innovative cooperative agreements between jurisdictions that maximize the value of emergency resources. Examples of methods used to jointly staff stations and apparatus include:

- Combined personnel from different fire departments staff a station.
 - Such as: One fire department supplies a firefighter for each shift and another fire department contributes an apparatus operator/engineer and an officer. The workforce is made up each day of personnel from both fire departments.
- Personnel from different fire departments staff a station on a set schedule.
 - Such as: One fire department staffs the station on two of three shifts. The other department staffs the station on the third shift.
- Fire departments apportion responsibility for staffing and support of a station for a given number of months.
 - Such as: One fire department staffs and supports the station for a given number of months each year. During the remaining months, the other fire department provides staff and support.
- Two fire departments jointly staff a fire station with personnel from both fire departments, and operate more than one piece of emergency apparatus.
 - Such as: One fire department staffs a fire engine and the other department staffs a medic unit in the same station.
- One fire department staffs a fire station but extends first alarm response from that station to another jurisdiction. The second fire department compensates the first based on an agreed cost/benefit formula.
- Two fire departments exchange in-kind first alarm response.

- Such as: One fire department provides first alarm response into another fire department's area in exchange for like service from that agency.

Guidance

- Training issues:
 - The personnel used for joint staffing of fire stations and apparatus should be trained to provide a service level (including EMS) equal to or greater than that of the cooperating fire departments.
 - While it is preferable to use a single dispatch center when joint staffing, it is not considered essential to the success of the partnership.
- Deployment considerations:
 - Deployment standards for the partnering agencies should be developed and adopted.
 - The fire departments should execute deployment plans between the agencies prior to entering joint staffing agreements.
 - Several of the joint staffing examples involve personnel from different fire departments staffing stations and apparatus together. Developing a single labor agreement will help to alleviate real or perceived issues of equity between personnel.
 - Provide for supervision of emergency operations and for oversight of on-duty personnel during routine operations.

Fiscal Considerations

- Joint staffing of stations and apparatus is foreseen only as an interim step towards a unified fire department.
- Joint staffing provides fire departments with a way to meet deployment standards when:
 - It is not economically feasible for a fire department to staff a station or fire apparatus independently.
 - Fire departments have common borders and underserved territories.
- Joint staffing provides the political entities with an emergency service exit strategy where future annexation may remove or transfer territorial responsibility.
- Marginal costs of deploying personnel in joint staffing ventures will be determined based on the agency, and on personnel costs.
- Startup costs may include additional training as well as the supplies and equipment needed to support the stations and fire response units. A portion of the cost for additional training and equipment could be immaterial, if as part of the cooperative initiatives the fire departments also adopt deployment standards, a single dispatch service, training standards, and a joint purchasing program.

J: Provide for Joint Incident Command and Operations Supervision

Level of Cooperation

- Functional

Timeline for Completion

- Short Term

Section

- EMS and Emergency Operations

Affected Stakeholders

- All agencies

Objective

- Provide for IC (Incident Command) supervision of emergency operations.
- Provide for supervision of on-duty personnel during routine operations.

Summary

Deputy Chiefs (DCs, also referred to as battalion chiefs, incident commanders, or shift supervisors) routinely have authority and responsibility for all aspects of day-to-day operations and personnel management of the fire department. DCs assume command of emergency incidents and may also be assigned to the management of various fire department programs.

Discussion

Little is currently provided in the way of oversight, supervision, and leadership to the operations personnel of the fire department, with the exception of daytime administrative personnel. Most fire departments maintain a span of control of five or six stations per supervisor. Occasionally, line supervisors may oversee as many as eight fire stations. The total number of units, personnel, and emergency responses usually determines the reasonableness of the span of control. More stations, units, and personnel under direct supervision usually reduces their ability to conduct activities outside of incident command, and may negatively impact response times to emergencies. A point is reached where proper supervision cannot be accomplished with large spans of control. In that case, some tasks will be overlooked or work will not be completed.

A supervisor usually responds as incident commander to emergencies requiring multiple fire department units, hazardous materials incidents, or emergencies involving special circumstances. The incident

commander is responsible for all aspects of the response, including the development of incident objectives and management of all incident operations. The three command-level positions directly under supervision of the incident commander are: the safety officer, the information officer, and the liaison officer.

The role of the safety officer is to develop and recommend actions to assure the health and safety of emergency workers. The role of the information officer is to develop and release incident information to the media, incident personnel, and appropriate agencies and organizations. The role of the liaison officer is to serve as the point of contact for coordinating activities between the various agencies and groups that may be involved in an incident. The general staff under the incident commander includes operations, planning, logistics, and finance. These responsibilities (as with those of the command staff) remain with the incident commander until such time as they may be assigned to another qualified individual.

Benchmarks

Assembling an effective response force on the scene of an emergency incident in a timely manner will often lead to a successful outcome. To assemble enough personnel to complete the tasks of extinguishing a moderate-risk structural fire may require 15 fire suppression personnel. One of those tasks is command. A supervisor in the command role is the officer assigned to remain outside of the structure to coordinate the attack, evaluate results and redirect the attack, arrange for more resources, and monitor conditions that might jeopardize crew safety.

In lieu of complete unification between the fire departments, an agreement to share incident command staff across the region could result in efficiencies not possible individually.

Guidance

- Use standards of coverage and deployment documents to determine an appropriate level and number of incident commanders for the region.
- Create a formula for allocating the cost of a regional incident command program. Examples of factors for costing include: population, incidents, valuation, and coverage desired.
- Develop a job description for the position of shift commander/deputy chief that includes duties and responsibilities.

Fiscal Considerations

- No significant financial considerations.

Findings, Recommendations, and Plan of Implementation

It is common for those in the fire service to tout themselves, or their department, in terms such as “a pride-driven organization that is at their best every day,” or more simply, “the best.” The true mark of quality of the best fire departments, however, is one that works continuously for measurable improvement in organizational performance. By undertaking this study of collaborative opportunities, the leadership of the cities of Minnetrista, Mound, and St. Bonifacius, and their respective fire departments, have begun the task of organizational and system evaluation that is necessary to plan for and reach the goal of truly being the best.

This is not to say that the current fire departments are not already operating at a high level. In fact, ESCI is pleased to report all available evidence shows that the fire departments consistently provide excellent service to the citizens of the protected communities. However, in keeping with the notion of continuous improvement wherein an unending loop of performance, measurement, and evaluation leads to system enhancements that would otherwise be impossible, we offer recommendations to assist Minnetrista, Mound, and St. Bonifacius in implementing the collaborative strategies that will best benefit the public.

The success of adopting and implementing change, improvement, or cooperative opportunities depends on many things. In our experience with dozens of functional, operational, and legal unifications, leadership is the single factor that most frequently determines success. Nearly always, a key staff, councilor, or board member champions the concept; garnering the support of the various affected groups (political, labor, member, and community). In addition, good leadership fosters an organizational culture receptive to planning, calculated risk taking, and flexibility. The manner in which leaders promote a trusting relationship between all groups and aid two-way communication between them is essential.

The following list is a compilation of short- and mid-term recommendations found throughout the body of this report:

- Both MFD and SBFD should begin to accurately and consistently enter staffing and apparatus data into their incident records management system to make future analysis of staffing performance possible..... 56
- Each department should ensure that its individual training programs are covering the most critical topics and that mandatory refresher training is provided where appropriate..... 75

- In the absence of a consolidated or coordinated training program, each department should consider adopting a common training standard and allow individuals from other departments to attend rotating in-house training opportunities. 75
- The two departments could inventory and share any training props that are available and implement an equipment check-out and tracking system to allow use of training props throughout the region. 76
- Each department should increase its participation in multi-agency drills through a coordinated training schedule. 77
- St. Bonifacius should seek to establish at least a rudimentary fire inspection capability, particularly focusing on those occupancies not inspected by the State Fire Marshal’s staff. 79
- Establish a database of existing commercial and public occupancies in each district that are not inspected by the State Fire Marshal, and categorize each by the appropriate risk level. 79
- Establish a target frequency for inspections of all commercial occupancies by risk category. 79
- Establish a file for each business and include all records of fire safety inspection activity. 79
- Despite very limited commercial and industrial development in its jurisdiction, St. Bonifacius should seek to establish a program to be involved in new construction processes, including inspections and sign-offs. 80

The remainder of this report describes a recommended process for moving forward with the potential implementation of a cooperative service delivery effort. The word potential is used here because a part of this process includes the policy decisions necessary to determine, based on the results of the study, whether there is sufficient desire among the political bodies of the organization to continue with the process or not. The implementation begins with that step.

Conduct Vision Session(s) with Policy-makers

The initial stage of implementation begins with the most elementary decision: “Do we want to move forward or not?” It is extremely important that at this stage of the process it is clearly recognized that this is a public policy decision on the part of the governing entities involved. A decision to consider altering the way in which a critical public safety service is provided, in some cases even permanently altering the governance of those services, is clearly in the purview of the elected bodies. While senior management input should be considered, the final decision should not rest at any level lower in the organization than those who are elected to represent the customers.

For this reason, it is recommended that the elected bodies meet together for the initial discussion of the feasibility study and its projected operational and fiscal outcomes. Depending on the number of elected

officials, the policy-makers can decide whether to include all elected officials or a representative group assigned to represent each governing entity. During this policy stage, involvement by additional staff should be kept to a minimum, perhaps at the senior management level and then for the sole purpose of providing technical support. It is important to limit the ability for the process to be “hijacked” at this point by strenuous arguments for or against the idea from those operations level personnel whose opinions may be influenced by turf, power, or control issues. Stakeholder input is important, but plentiful opportunity can be provided for this once the policy-makers have determined what is in the best interest of their citizens as a matter of public policy.

It is equally important that the policy-makers recognize exactly what decision is being considered in the initial vision meetings. The purpose is to weigh the strategies, operational advantages, fiscal outcomes, and potential impediments of the feasibility to determine whether to commit local resources to move the process forward. The decision is not, at this point, a final decision to “flip the switch.” The final commitment to take legal actions necessary to finalize implementation of any given strategy will come much further into the process.

This initial vision meeting can be likened to the court process known as a probable cause hearing. The purpose of such a hearing is for a judge or grand jury to determine if sufficient evidence exists to warrant an arrest and a trial. The probable cause hearing does not determine the final verdict or sentence. That occurs after the much more thorough process and deliberation of the trial. Likewise, the vision meetings are for the policy-makers to judge whether sufficient evidence exists to warrant moving forward. The final verdict on whether to take legal or contractual actions to implement will come after weeks, months, or even years of additional detailed planning work involving stakeholders, operations staff, legal counsel, finance personnel, and others. As this actual implementation planning work moves forward, there may be several points at which new information or undefeatable obstacles arise that cause one community or the other to decide not to finalize and implement the plan.

The term “vision session” is used here because the policy-makers will be determining their joint decision on a future vision toward which the additional work of implementation will be directed. In many cases, several legal, operational, or functional strategies are presented as being feasible in the study. These may involve various options for governance, finance, and organizational structure. Which one or ones should the entities pursue, if any? This will become the joint vision of the policy-makers.

One of the best methods for initiating this vision process is to begin with policy-makers sharing an open discussion of critical issues. Each entity's representative can present a short description of those critical issues, service gaps, or service redundancies that might be concerning them relative to their provision of public safety services. As each entity takes its turn presenting these issues, a picture typically emerges of those shared critical issues that two or more of the entities have in common. This assists in focusing the discussion on which of the feasible options from the study best address those critical common issues, and how.

As the discussion focuses on those feasible options with the greatest opportunity to positively impact shared critical issues, the discussion can expand to the strengths and weakness of the strategies relative to the conditions, financial abilities, and cultural attitudes of the communities involved. There should be a concerted effort to remain at a policy level without becoming overly embroiled in operational discussions of implementation details. Those will be addressed once a common vision has been established for a future strategy that is in the best interest of all the communities involved.

This is also the time that communities may make the decision to opt out of further involvement. This may occur for a number of reasons. There may be legitimate concern that an individual community does not truly share an adequate number of common critical issues with the other communities. There may also be a legitimate concern that the feasible strategies do not do enough to benefit a given community and would leave it with too many remaining critical issues. And, of course, there is always the possibility that a given community will not feel that the projected financial outcome is within their ability or provides a cost-benefit that is better than their current situation. Any such decisions by one or more communities should not be considered a discouraging factor, for that is the very purpose of the vision sessions. In many cases, other remaining entities continue moving forward with a shared vision for cooperative service delivery even after one or more communities determine not to.

The goal of the vision session(s) is to develop a decision by the policy-makers on whether to continue with the next steps and, if so, what direction those steps should take. The vision should be sufficiently decisive as to be actionable by senior appointed officials and staff. While there will be many, many details to work out in the implementation process, the vision should clearly articulate the intention of the agreeing policy bodies on the desired outcome from the specified cooperative service strategy or strategies. Once this occurs, the real work begins.

After setting the joint vision, this policy-maker group should meet together at set intervals or as needed to hear the progress of the Joint Implementation Committee and its Working Groups and refine direction when necessary. The appropriate interval will depend on the situation and the complexity and length of the process itself, but often a quarterly meeting is sufficient.

Establish a Joint Implementation Committee

The next step in the process is to establish a Joint Implementation Committee that will be given the overall responsibility with leadership and management of the planning and implementation process. This will be the “nuts and bolts” group that works through the details, overcomes the challenges, reacts to new information, and makes many of the actual decisions on the implementation plan. This group should have much wider representation from stakeholders both inside and outside of the individual organizations involved. Membership in the Joint Implementation Committee may include senior management personnel and, where appropriate, labor representatives. The following is an example of a Joint Implementation Committee:

- City/District Manager (or equivalent) from each community
- Fire Chief from each community
- Finance Director from each community
- Labor Representative from each bargaining group involved
- Volunteer Representatives from each volunteer organization involved
- Community Representative from each community (Chamber of Commerce or similar)

The Joint Implementation Committee should select a chair or co-chairs to function as organizers and facilitators for the committee meetings. In addition, their first order of business should be to determine the rules and procedures of this committee. This should include such items as:

- How often does this group meet (monthly is typical)?
- How are absences handled (assigned alternates are recommended)?
- How does communication (occasionally secure) within this committee take place?
- How will meetings be conducted? Are there “rules of conduct” for the meetings?
- Under what circumstances will the meetings be opened to attendance by non-members?
- How will the group pursue consensus? When is voting necessary and how will that occur?

Develop an Implementation Strategic Plan

Once the ground rules have been set, the Joint Implementation Committee should schedule a strategic planning process. Consideration should be given to having this strategic planning process directed by neutral outside professionals trained in strategic planning facilitation. The strategic planning process should be held in a neutral setting away from the daily activities and noise of the usual office environment. It need not be an expensive retreat, but it should be organized in a way to focus energy and attention exclusively to the planning process for its duration. The purpose of the initial strategic planning session should be as follows:

- To further articulate and refine the joint vision set by the policy bodies.
- To identify critical issues that will be met as the implementation process unfolds.
- To identify potential impediments to implementation from:
 - Organizational culture
 - Availability of data and information
 - Lack of sufficient staff to carry through implementation processes
 - Outside influences and time demands
- To set the specific goals and objectives of the implementation process and the timelines for accomplishment.
- To establish the necessary Implementation Working Groups.

This process should result in the preparation of an implementation planning document that can be shared with the policy body, stakeholders, and others who will be involved in or affected by the implementation process. The document should provide the joint vision, describe the cooperative service strategy or strategies being pursued, the desired outcome, the goals that must be met in order for implementation to be achieved, and the individual objectives, tasks, and timelines for accomplishment. When fully and adequately prepared, this document will serve as the master “road map” for the process and will help guide the next steps of developing working groups and assigning responsibilities.

Establish Implementation Working Groups

As part of the implementation strategic planning process, various Implementation Working Groups should be established that will be charged with responsibility for performing the necessary detailed work involved in analyzing, weighing, and deciding on specific processes. Membership for these Implementation Working Groups should be roughly identified as part of that process as well.

The number and titles of the working groups will vary depending on the type and complexity of the strategies being pursued. However, the following list provides some typical working groups used in most consolidation processes and a description of some of their primary assigned functions and responsibilities.

Governance Working Group

This group will be assigned to examine and evaluate various governance options for the cooperative service effort. A recommendation and process steps will be provided back to the Joint Implementation Committee and the Policy-Maker Group. Once approved, this working group is typically assigned the task of shepherding the governance establishment through to completion. The membership of this group typically involves one or more elected officials and senior city/district and agency management.

Finance Working Group

This group will be assigned to review the financial projections contained in the feasibility study and complete any refinements or updating necessary. The group will look at all possible funding mechanisms and will work in partnership with the Governance Working Group to determine impact on local revenue sources and options. Where revenue is to be determined by formula rather than a property tax rate, such as in a contractual cooperative venture, this group will evaluate various formula components and model the outcomes, resulting in recommendations for a final funding methodology and cost distribution formula. The membership of this group typically involves senior financial managers and staff analysts, and may also include representatives from the agencies' administrative staffs.

Legal Working Group

Working in partnership with the Governance Working Group, this group will identify study all of the legal aspects of the selected strategy and will identify steps to ensure the process meets all legal obligations of process and law. Where necessary, this group will oversee the preparation and presentation of policy actions such as ordinances, joint resolutions, dissolutions, and enabling legislation. The group will also be responsible for working with other elected bodies, such as State Legislatures, when necessary to accomplish establishment of local selected governance. The membership of this group typically involves legal counsel from the various entities involved and may also include senior city/district management staff.

Operations Working Group

This group will be responsible for an extensive amount of work and may need to establish multiple sub-groups to accommodate its workload. The group will work out all the details of necessary operational changes required by the strategy. This involves detailed analysis of assets, processes, procedures, service delivery methods, deployment, and operational staffing. Detailed integration plans, steps, and timelines will be developed. The group will coordinate closely with the Support Services and Logistics Working Group. The membership of this group typically involves senior agency management, mid-level officers, training staff, and labor representatives. This list often expands with the complexity of the services being provided by the agencies.

Support Services and Logistics Working Group

This group will be responsible for any required blending of capital assets, disposition of surplus, upgrades necessary to accommodate operational changes, and the preparation for ongoing administration and logistics of the cooperative effort. The membership of this group typically involves mid-level agency management, administrative, and support staffs. Where involved, support divisions such as Maintenance, Fire Prevention, and others may also be represented.

Labor Working Group

This group will have the responsibility, where necessary, for blending the workforces involved. This often includes the analysis of differences between collective bargaining agreements, shifts schedules, policies, and working conditions. The process also includes work toward developing a consensus among the various bargaining units on any unified agreement that would be proposed for the future. Often, once the future vision is articulated by the policy-makers, labor representatives are willing to step up and work together as a team to identify challenges presented by differing labor agreements and offer potential consensus solutions. The membership of this group typically involves labor representatives from each bargaining unit, senior agency management and, as needed, legal counsel.

Communications Working Group

Perhaps one of the most important, this group will be charged with developing an internal and external communication policy and procedure to ensure consistent, reliable, and timely distribution of information related to the cooperative effort. The group will develop public information releases to the media and will select one or more spokespersons to represent the communities in their communication

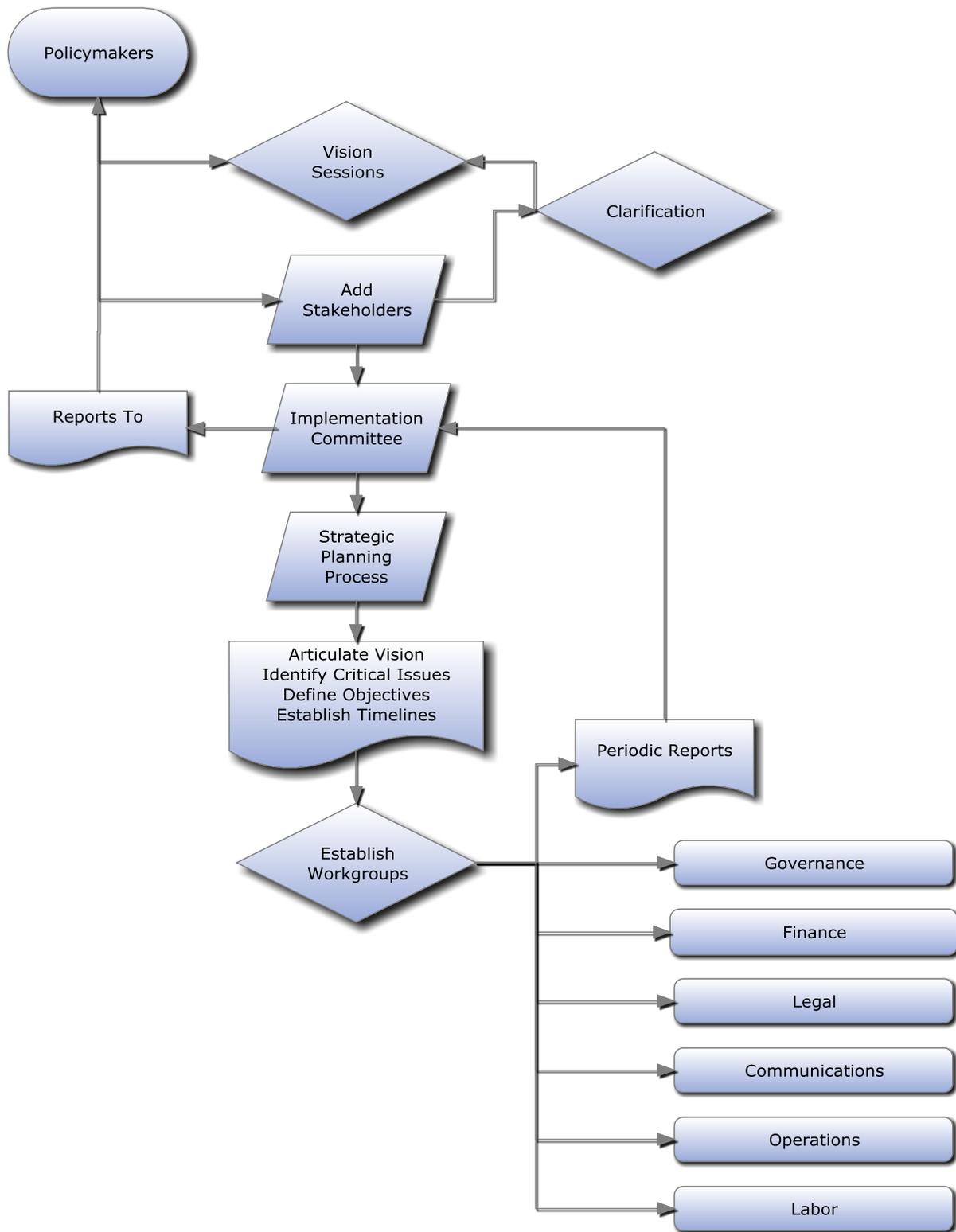
with the public on this particular process. The importance of speaking with a common voice and theme, both internally and externally, cannot be overemphasized. Fear of change can be a strong force in motivating a group of people to oppose that which they do not clearly understand. A well-informed workforce and public will reduce conflict. The membership of the group typically involves public information officers and senior city or agency management.

Meet, Identify, Challenge, Refine, and Overcome

Once the working groups are established, meeting, and completing their various responsibilities and assignments, it will be important to maintain organized communication up and down the chain. The working group chairs should report regularly to the Joint Implementation Committee. When new challenges, issues, impediments, or opportunities are identified by the working groups, this needs to be communicated to the Joint Implementation Committee so that the information can be coordinated with findings and processes of the other working groups. Where necessary, the Joint Implementation Committee and a working group chairperson can meet with the policy-makers to discuss significant issues that may precipitate a refinement of the original joint vision.

The process is continual as the objectives of the strategic plan are accomplished one by one. When sufficient objectives have been met, the Joint Implementation Committee can declare various goals as having been fully met until the point comes when the actual implementation approval needs to be sought from the policy bodies. This formal “flipping of the switch” will mark the point at which implementation ends and integration of the agencies begins. The following flowchart is provided as an example of how the implementation of this process should work.

Figure 67: Example Implementation Flowchart



This is provided only as an example, as implementation for any specific agency will be highly variable and depend on a number of factors, including willingness of stakeholders to proceed, fiscal resources, timing, etc.

Conclusion

The ESCI project team began collecting information concerning the fire and emergency services for Mound and St. Bonifacius in April 2011. The team members recognize that the report contains a large quantity of information, and ESCI would like to thank the elected officials of each organization involved, as well as the officers, employees, and volunteers of the two fire departments for their tireless efforts in bringing this project to fruition. ESCI would also like to thank the various individuals and external organizations for their input, opinions, and candid conversations throughout this process. It is ESCI's sincere hope that the information contained in this report is utilized to its fullest extent and that the emergency services provided to the citizens of Minnetrista, Mound, and St. Bonifacius, as well as the surrounding areas, are improved by its implementation.