Grand Rapids, Hibbing, Chisholm, Buhl, Nashwauk, Keewatin, Virginia, Mountain Iron

Minnesota

Feasibility Study for Shared or Cooperative Fire and Emergency Services

June 2013

Emergency Services Consulting International

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Feasibility Study for Shared or Cooperative Fire and Emergency Services

Grand Rapids
Hibbing
Chisholm
Buhl
Nashwauk
Keewatin
Virginia
Mountain Iron, Minnesota

Spring 2013

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Table of Contents

Table of Figures ..... **iii**

Acknowledgements ..... **v**

Executive Summary **1**

Section I – Evaluation of Current Conditions **9**
- **Organizational Overview** **9**
  - Governance and Lines of Authority 14
  - Foundational Policy Documents 16
  - Organizational Design 18
  - Budgets and Financing 20
- **Management Components** **32**
  - Mission, Vision, and Strategic Planning 32
  - Communications Processes 34
  - Information Technology Systems 36
- **Capital Assets and Capital Improvement Programs** **39**
  - Facilities 39
  - Apparatus 52
  - Capital Replacement Planning 57
- **Staffing** **59**
  - Administration and Support Personnel 59
  - Operations Personnel 61
  - Staff Scheduling Methods 64
  - Historical Staffing Performance 66
- **Service Delivery and Performance** **68**
  - Demand Analysis 68
  - Distribution Analysis 72
  - Concentration Analysis 79
  - Response Performance 81
- **Emergency Medical Services Support and System Oversight** **87**
  - Medical Control and Oversight 87
  - Quality Assurance/Quality Management Programs 88
- **Support Programs: Training** **89**
- **Support Programs: Fire Prevention, Public Education, and Investigation Programs** **97**

Section II – Opportunities for Cooperative Efforts **105**
- **General Partnering Strategies** **105**
  - Functional Consolidation 105
  - Operational Consolidation 106
  - Legal Unification 106
- **Options for Shared Services** **108**
  - Baseline Budget Determination 108
  - Baseline Operational Personnel 109
- **Functional Cooperative Efforts Strategies** **111**

Regional Training Program Approach 112
Regional Code Enforcement and Life Safety Education Program 113
Unified Standard Operating Guidelines/Procedures 114
Enhanced Mutual and Automatic Aid Agreements 115
Develop Uniform Pre-Incident Planning Processes 116
Implement Regional Incident Command and Operational Supervision 117
Regional Capital Replacement Planning 118
Joint Purchasing of Equipment and Apparatus 119
Joint Recruitment and Retention Program 120

Future Facility and Deployment Considerations 121
Operational Cooperative Efforts Strategies 123
Strategy 1 – Consolidation of All Study Fire Departments 123
Strategy 2 – Consolidation of the Hibbing, Nashwauk, Keewatin, Chisholm, and Buhl 125
Strategy 3 – Consolidation of the Virginia and Mountain Iron Fire Departments 128

Findings and Recommendations 132
Implementation Process 133
Conclusion 140

Table of Figures

Figure 1: Study Area Base map 10
Figure 2: Summary of Organizational Overview Components 11
Figure 3: Summary of Governance and Lines of Authority Elements 15
Figure 4: Summary of Foundational Policy Document Elements 17
Figure 5: Summary of Organizational Design Elements 19
Figure 6: Budget History - BFD 21
Figure 7: Budget Distribution - BFD 21
Figure 8: Budget History - CFD 22
Figure 9: Budget Distribution - CFD 22
Figure 10: Budget History - GRFD 23
Figure 11: Budget Distribution - GRFD 24
Figure 12: Budget History - HFD 24
Figure 13: Budget Allocation - HFD 25
Figure 14: Budget Distribution - HFD 26
Figure 15: Budget History - KFD 26
Figure 16: Budget Distribution - KFD 27
Figure 17: Budget History - NFD 28
Figure 18: Budget Distribution - NFD 28
Figure 19: Budget History - VFD 29
Figure 20: Budget Distribution - VFD 30
Figure 21: Cost per Capita Comparison - All Services (2012) 30
Figure 22: Cost per Capita - Fire Protection (2012) 31
Figure 23: Summary of Organizational Planning Components 33
Figure 24: Summary of Communications Elements 35
Figure 25: Summary of Information Technology Elements 37
Figure 26: Fire Stations 39
Figure 27: Grand Rapids FD Major Apparatus 53
Figure 28: Nashwauk FD Major Apparatus 53
Figure 29: Keewatin FD Major Apparatus 54
Figure 30: Hibbing FD Major Apparatus 54
Figure 31: Mountain Iron FD Major Apparatus 55
Figure 32: Virginia FD Major Apparatus 55
Figure 33: Chisholm FD Major Apparatus 56
Figure 34: Buhl FD Major Apparatus 56
Figure 35: Future Apparatus Replacement Summary 57
Figure 36: Capital Replacement Planning Summary 58
Figure 37: Summary of Personnel - Administrative and Support 60
Figure 38: Summary of Personnel - Operations 62
Figure 39: Comparison of Career Personnel per 1,000 Population 63

Figure 40: Comparison of Paid-on-Call/Volunteer Personnel per 1,000 Population 64
Figure 41: Career Staff Scheduling 65
Figure 42: Paid-on-Call Staff Scheduling 65
Figure 43: Historical Average Staffing Performance 66
Figure 44: Incidents by Type 68
Figure 45: Total Incidents from CAD - 2011 and 2012 69
Figure 46: Service Demand by Month 70
Figure 47: Service Demand by Day of Week 70
Figure 48: Service Demand by Hour 71
Figure 49: Geographic Service Demand 72
Figure 50: Station Distribution and Coverage Capability - 4, 8 and 12-Minute Travel Models 73
Figure 51: Service Demand Coverage - Travel Model 74
Figure 52: 1.5-Mile Engine and 2.5-Mile Aerial Coverage - Grand Rapids 75
Figure 53: 1.5-Mile Engine Coverage - Nashwauk and Keewatin 76
Figure 54: 1.5-Mile Engine and 2.5-Mile Aerial Coverage - Hibbing, Buhl, and Chisholm 77
Figure 55: 1.5-Mile Engine and 2.5-Mile Aerial Coverage – Virginia and Mountain Iron 78
Figure 56: Resource Concentration - Two Engines, One Aerial 80
Figure 57: Resource Concentration - Three Engines 81
Figure 58: Turnout Time Performance 82
Figure 59: Response Performance – First Unit Arrival 84
Figure 60: NFPA 1720 Response Performance Recommendations 85
Figure 61: Response Performance - First Apparatus Arrival 85
Figure 62: Overall Response Performance Summary 86
Figure 63: Comparison of EMS Delivery Models 87
Figure 64: General Training Competencies 90
Figure 65: Training Administration 92
Figure 66: Training Resources 94
Figure 67: Training Scheduling 95
Figure 68: Code Enforcement and Inspection Programs 98
Figure 69: Fire Safety and Public Education 101
Figure 70: Fire Investigation 103
Figure 71: Baseline Budget 109
Figure 72: Baseline Career Staffing 109
Figure 73: Baseline Paid-on-Call Staffing 110
Figure 74: Fire Station Locations 121
Figure 75: Hibbing Area Station Locations 127
Figure 76: Virginia and Mountain Iron Area Station Locations 130

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Executive Summary

Emergency Services Consulting International (ESCI) was engaged by the cities of Hibbing, Grand Rapids, Chisholm, Buhl, Nashwauk, Keewatin, Virginia and Mountain Iron, herein after referred to as the participating agencies, to evaluate the feasibility of shared and cooperative services between the cities' fire departments. The report serves as the culmination of the project and begins with a general overview of the participating agencies. The overview includes information relative to history, formation, and general description of the service areas, governance and lines of authority, foundational policy documents, organizational design, and budget and finance.

Each participating agency is a direct operating department of its respective municipality. All report to a city council and/or mayor and participate in an annual municipal budget processes. The primary difference between the governance and lines of authority of the eight study agencies is relative to city size, which varies considerably, but otherwise few differences exist.

Foundational policy documents are those books, handbooks, and manuals that allow an organization to exist and govern its operations both from an administrative and operational perspective. ESCI reviewed the organizations' documents and found they are present in all of the agencies but in varying degrees of completion and organization. While each agency maintains Standard Operating Guidelines (SOGs), they are highly variable in content. Regardless of moving forward with cooperative efforts, all of the participating agencies would benefit from developing and implementing a set of policy documents, shared regionally, that cover specific topics including administrative policies, general rules, and operational guidance.

Most municipal fire departments and emergency services agencies are structured in a typical "top-down" hierarchy where the fire chief reports to a city administrator/manager or mayor or a city council and the remainder of the fire department is under his/her direction, often consisting of assistant or deputy chiefs, line officers, and operational firefighters. As seen in many smaller organizations like the participating agencies, programs and responsibilities are overseen by those 'wearing more than one hat'.

Without adequate funding, no emergency services organization can fulfill its mission. The personnel, whether career or volunteer, are compensated in some fashion either through salary and benefits or

through intangible pension programs. Apparatus are expensive pieces of specialized equipment that can cost as much as $1.5 million and must be replaced periodically. Facilities, which can cost upwards of several million dollars to construct, are necessary to house the apparatus and provide housing and training for personnel. Although not replaced as often as apparatus, emergency services facilities cannot be expected to last forever.

In review of all of the agencies, ESCI found that planning for capital replacement is limited, both in terms of fixed facilities and apparatus. Regionalized capital replacement planning is recommended and, should future collaborative efforts be undertaken, the cost of future capital replacement will be a critical consideration.

Aside from personnel, capital assets can be a department's most critical expense; without proper upkeep and replacement planning, facilities and apparatus can fall into disrepair and fail at a critical time. ESCI conducted a non-architectural/non-engineering review of existing facilities to evaluate suitability for current uses and viability for future service delivery. In addition, the project team reviewed existing apparatus for general condition and serviceability. The review is included in the Capital Assets section of this report.

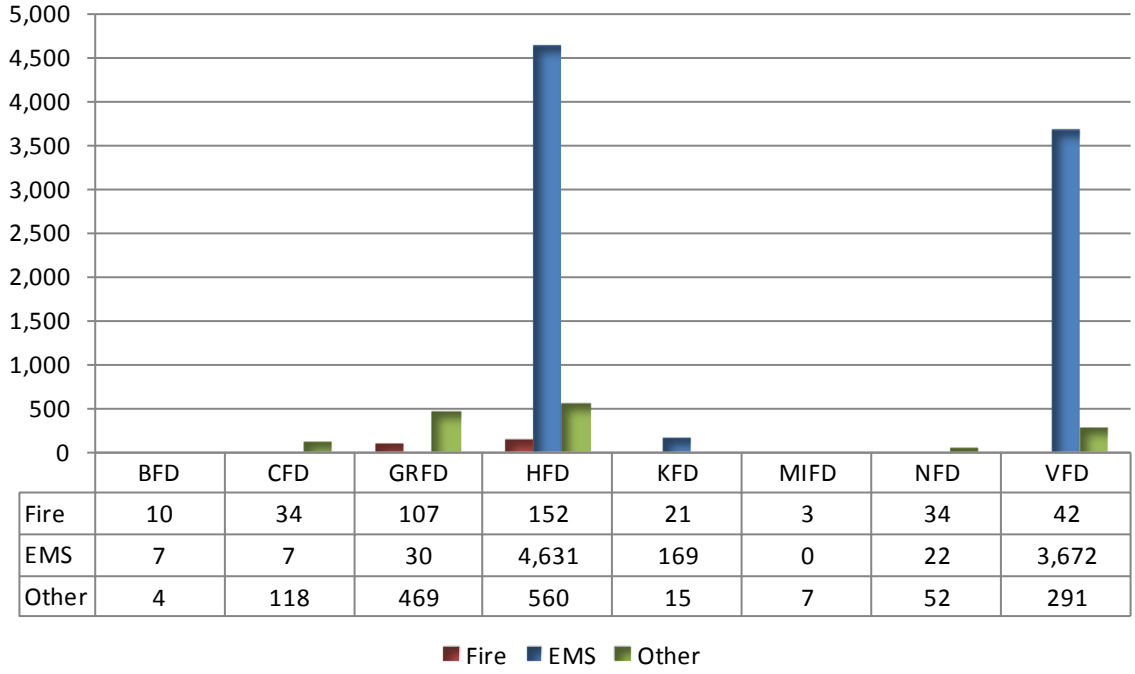
Today's emergency services agencies are a mix of career (paid full-time), part-time, paid-on-call, and volunteer personnel. Which of these an agency utilizes (one or more) is dependent upon several factors, including availability of paid-on-call or volunteer personnel, service demand, population density, socioeconomics, demographics, and financial resources of the community. For a career fire department, the distinction between administrative and support personnel and operations personnel is relatively clear. In combination and paid-on-call or volunteer departments, however, this separation is not as simple. Most combination and volunteer departments have personnel that perform both administrative/support and operational roles while career departments have personnel that are primarily focused on managing and supporting the programs of the organization.

Only Virginia and Hibbing Fire Departments use career personnel exclusively to meet the administrative and support needs of the department. Each of the other departments accomplishes these functions with part-time or paid-on-call personnel. In all of the participating agencies, administrative personnel also serve as primary emergency responders.

Based on the distribution of operational staff across the participating departments, the system utilizes a total 151 operational personnel including 34 career and 117 paid-on-call personnel. From a comparative perspective, the number of volunteer/paid-on-call personnel in the combined study area is well within acceptable levels while the number of career personnel is somewhat higher that regional comparables, due to the fact that both career agencies provide ambulance transportation services.

The primary responsibility of any emergency services organization is to provide emergency response services to their respective communities. The next section of the report evaluates the service delivery and performance of each participating agency both as an independent provider and as a region. This was accomplished through an analysis of service demand, distribution of resources, and response performance and is partially summarized below.

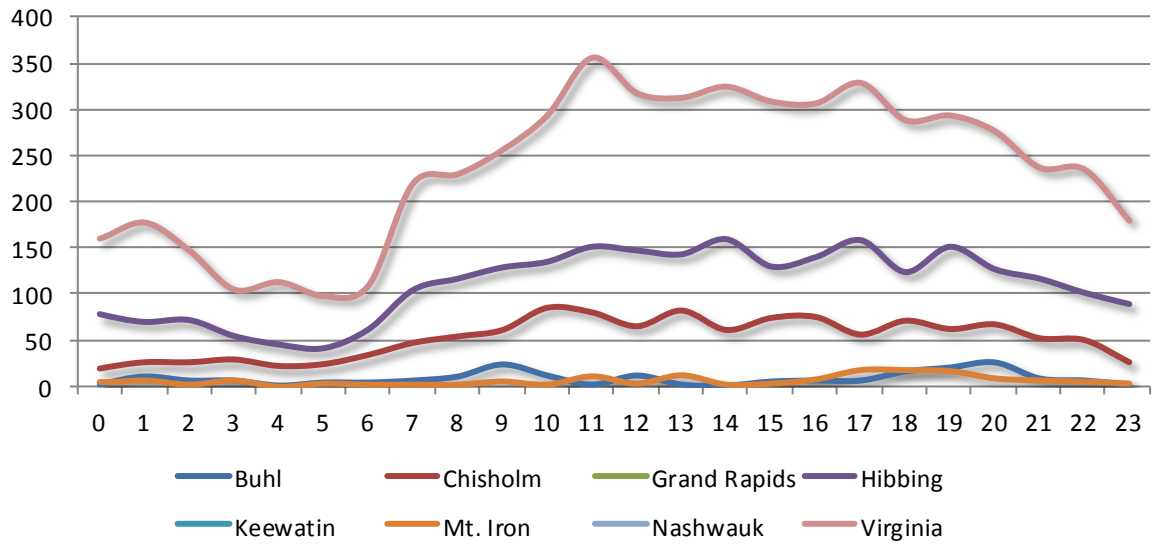
Each department is involved in emergency medical services first response efforts to varying degrees. Medical incidents account for the majority of some agencies' overall service demand while others respond to more fires and other incidents than medical calls, as shown in the following table.



	BFD	CFD	GRFD	HFD	KFD	MIFD	NFD	VFD
Fire	10	34	107	152	21	3	34	42
EMS	7	7	30	4,631	169	0	22	3,672
Other	4	118	469	560	15	7	52	291

Service demand was also evaluated temporally. As shown in the following figure, each department's service demand begins to increase around 0600, peaks during the mid-afternoon hours and then

declines into the evening. This is a common bell-curve pattern of service demand for fire departments involved in the delivery of EMS.



In regard to distribution of resources, based on travel models, nearly 100 percent of the combined service area is within 12 minutes of travel from an existing fire station, with the exception of some more remote sections in Nashwauk's response area. Between 80 to 97 percent of the area in each response jurisdiction falls within eight minutes. Four-minute coverage drops to 46.3 percent in Mountain Iron and is also lower in the other service areas, as is to be expected. It is noted that these are travel times only, not total response times.

	4-Minute	8-Minute	12-Minute
Buhl	90.1	94.4	94.7
Chisholm	82.5	85.1	94.6
Grand Rapids	69.9	80.8	89.7
Hibbing	86.7	94.4	96.3
Keewatin	90.9	92.9	94.5
Mt. Iron	33.9	82.4	99.7
Nashwauk	46.3	58.5	64.6
Virginia	93.9	97.7	98.4

Although the delivery of fire suppression and emergency medical services is at the foundation of each department's mission, additional core activities are necessary to support every emergency services agency. These activities provide the basis for member training and education, public safety education,

fire prevention, and code enforcement. Detail on each of the elements is provided within the body of the document.

While the preceding sections of the report focus on the current conditions within each of the study agencies, the greater intent of the project is to evaluate the potential for cooperative and/or shared services between the agencies up to and including consolidation if feasible. The final report section examines the multitude of options available to the study agencies and provides direction where appropriate.

Three basic strategies are generally available when considering cooperative efforts and shared services, beginning with a do-nothing approach (status quo) and ending with complete unification of the organizations into what is, essentially, a new emergency service provider. In between lay the potential for functional consolidation and operational consolidation.

In identifying potential cooperative and shared services opportunities, the project team considered the key issues now challenging each agency and community. 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 expectations, and other significant matters.

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 bodies should pursue the process of joining two or more 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. 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.

As discussed in detail in the body of this report, statutory allowances to accommodate various forms of merger and consolidation are limited in Minnesota Law and, to achieve some forms of unification, legislative action is necessary to provide the authority to do so. To accomplish a true legal unification, one group of Minnesota communities had to petition the legislature for a special law that created the state's first independent fire district with taxing authority. They were successful in doing so, as is explained in the General Partnering Strategies section of this report.

While the last section of the report evaluates and presents the potential for combining the study departments into one or more new and larger agencies, ESCI understands that cooperative efforts and shared services can take on a much different look. As mentioned previously, there are various methods by which to cooperate between departments and improve the overall efficiency of the organizations within a given region. Various functional shared services options that two or more departments may participate in to gain efficiencies of scale were evaluated and include:

- Developing a Regional Training Program
- Regionalized Fire Prevention Life Safety Education Program
- Unification of Standard Operating Guidelines/Procedures
- Enhanced Mutual and Automatic Aid Agreements
- Development of Uniform Pre-Incident Planning Processes
- Implementation of Regional Incident Command and Operational Supervision
- Developing a Shared Health and Safety Program
- Implementing a Regional Capital Replacement Plan
- Establishing Shared Apparatus and Equipment Purchasing Practices
- Sharing Personnel Recruitment and Retention Efforts

Each of the above is discussed in detail and implementation guidance is provided. ESCI recommends that, regardless of decisions that may be made about any greater degree of future unification of the agencies, the listed functional shared services approaches be implemented.

ESCI also evaluated the opportunities that exist for higher level integration. Three Operational Cooperative Efforts Strategies were identified and analyzed:

- Strategy 1 – Consolidation of All Study Fire Departments
- Strategy 2 – Consolidation of the Hibbing, Nashwauk, Keewatin, Chisholm, and Buhl
- Strategy 3 – Consolidation of the Virginia and Mountain Iron Fire Departments

Each of the above is assessed for its efficacy, reviewing factors of service delivery models, geography, and facility and staffing deployment methods. Due the broad variances in the above factors between agencies, the above listed strategies are found to provide limited gains.

In many larger cooperative efforts projects in which ESCI participated, cost savings are realized when multiple agencies combine that have a large number of career personnel. Financial advantages may also be found when re-deployment of personnel and facilities accommodates a reduction in the number of fire stations and/or people. In this study area, ESCI finds that station locations are appropriate and necessary to provide acceptable levels of coverage, so no reductions are feasible. Further, using a paid-on-call staffing model in the majority of the fire departments, financial savings cannot be accomplished by reducing personnel numbers. Finally, no excess staffing capacity was found to exist in the two career organizations.

Based on these findings, financial advantages of full unification under any of the three listed strategies are limited. However, many valuable gains in terms of increased efficiency and operational effectiveness will result from the adoption of the functional shared service initiatives that are offered.

A tremendous amount of data and information is contained within this document, much of which was supplied by the agencies involved and then analyzed and evaluated by the ESCI project team. In the end, the study departments, like many other career and paid-on-call fire departments across North America, are operating at a level that is currently meeting the expectations of the communities served but realize that there is always room for improvement. Regardless of the path that policymakers chose moving forward, the information contained with this report is intended to be used by the fire departments to follow a process of continuous quality improvement in a non-ending cycle of self-evaluation.

ESCI began collecting data and working with community stakeholders for this project in January 2013. Analysis of data and collection of stakeholder input has taken over four months to compile to develop options for future service delivery within the study area. It is ESCI's sincere hope that the information contained within this document is seen as useful in enhancing the way in which fire and emergency services are delivered throughout the area.

Section I – Evaluation of Current Conditions

In January of 2013, Emergency Services Consulting International (ESCI) was engaged by eight communities in northern Minnesota to review shared service delivery opportunities and evaluate the feasibility of enhancing the cooperative efforts that are currently in place between the individual communities regarding the provision of fire and emergency services.

The communities included in the study span two counties, Itasca County and St. Louis County, and the following cities:

- Grand Rapids
- Hibbing
- Chisholm
- Buhl
- Nashwauk
- Keewatin
- Virginia
- Mountain Iron

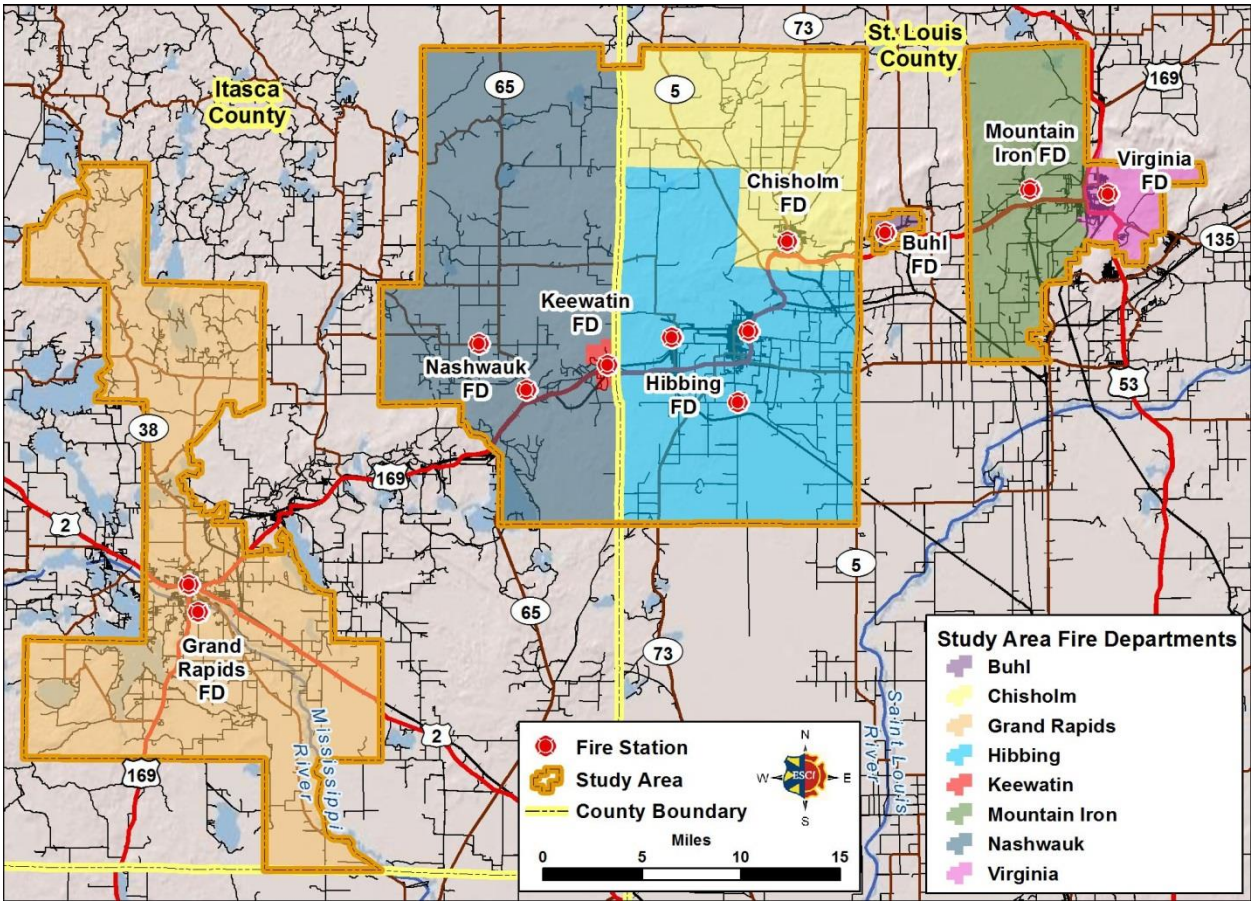
This report serves as the culmination of that analysis and begins with a general overview of each of the study agencies. The overview serves two purposes: first, it provides the reader who is not closely associated with each of the fire agency's operations with an overview of how the organization is configured and how it compares to other fire departments in the study area. Secondly, the process assures that ESCI is fully armed with accurate baseline information, upon which the balance of the study report is configured.

Organizational Overview

The departments serving the study area, while similar, each operate in a slightly different manner. In addition, the coverage area of each is different in geography, population, and demographics. Given the differences between the areas of each agency, the departments have developed individual methods by which to deliver their services resulting in a somewhat fractured emergency services system. For this particular study area, there are actually three different geographical groups that comprise the entirety of the project departments, each with a 'hub' city surrounded by smaller agencies. These geographic

divisions include Grand Rapids in Itasca County; Hibbing bordered by Chisholm and Buhl in St. Louis County and Nashwauk and Keewatin in Itasca County; and Virginia bordered by Mountain Iron.

Figure 1: Study Area Base map



For each agency participating in this study, ESCI reviewed the basic elements of organizational structure. The following table provides an overview of each of those critical elements as well as recommendations for improved efficiency both within the individual organization and the region as a whole.

Figure 2: Summary of Organizational Overview Components

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Department Acronym	GRFD	NFD	KFD	HFD	BFD	CFD	MIFD	VFD
Governance Authority	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of	Is a direct operating department of
Municipality Name	Grand Rapids	Nashwauk	Keewatin	Hibbing	Buhl	Chisholm	Mt. Iron	Virginia
Name of County	Itasca	Itasca	Itasca	St. Louis	St. Louis	St. Louis	St. Louis	St. Louis
Jurisdictional Limits	Encompasses all of the governmental boundaries of the community, along with additional contractual service areas	Encompasses all of the governmental boundaries of the community, along with additional contractual service areas	Duplicates the governmental boundaries of the community	Duplicates the governmental boundaries of the community	Duplicates the governmental boundaries of the community	Encompasses all of the governmental boundaries of the community, along with additional contractual service areas	Duplicates the governmental boundaries of the community	Encompasses all of the governmental boundaries of the community, along with additional contractual service areas
Primary Risk Types	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural	Urban residential and commercial, Suburban residential and light commercial	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural, Remote wildland or wilderness areas	Suburban residential and light commercial	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural	Urban residential and commercial, Suburban residential and light commercial, Rural residential and agricultural
Community Growth Level	Moderate, but steady	Very limited	Very limited	Very limited	Very limited	Very limited	Very limited	Very limited
Year Agency Formed	1895	Unknown	1906	1898	1920	Unknown	Unknown	1893

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Services Provided	Fire suppression, Vehicle extrication, Hazmat operations-level, Public education, Code enforcement and inspections	Fire suppression, Vehicle extrication, Technical rescue-ice water, Public education, hazmat awareness	Fire suppression, BLS emergency medical first responder, Vehicle extrication, Public education, Code enforcement and inspections	Fire suppression, BLS emergency medical first responder, ALS ambulance transport, Vehicle extrication, Hazmat Technician/operations-level, Technical rescue-high/low-angle rope, Technical rescue- ice water, Technical rescue-confined space, Public education, Code enforcement and inspections, Non-emergency ambulance transfer	Fire suppression, BLS emergency medical first responder, BLS ambulance transport, Vehicle extrication, Public education	Fire suppression, Vehicle extrication, Hazmat operations-level, Public education, Code enforcement and inspections	Fire suppression, BLS emergency medical first responder, Public education	Fire suppression, ALS ambulance transport, Vehicle extrication, Hazmat operations-level, Technical rescue-high-angle rope, Technical rescue-surface water, Technical rescue-ice water, Technical rescue-confined space, Public education, Code enforcement and inspections
Technician-Level Hazmat Services Provided By	This agency, Regional hazmat team in which this agency participates	Regional hazmat team in which this agency does not participate	Regional hazmat team in which this agency does not participate	This agency, Regional hazmat team in which this agency does not participate	Regional hazmat team in which this agency does not participate	Regional hazmat team in which this agency does not participate	Regional hazmat team in which this agency does not participate	Regional hazmat team in which this agency does not participate
Hazmat Team Name	Arrowhead CAT	Arrowhead CAT	Arrowhead CAT	Duluth or Arrowhead	Duluth CAT	Duluth CAT	Duluth CAT	Arrowhead CAT
Name Of Dispatch Agency	Itasca County Dispatch	Itasca County Dispatch	Itasca County Dispatch	St. Louis County Dispatch	St. Louis County Dispatch	St. Louis County Dispatch	St. Louis County Dispatch	St. Louis County Dispatch
Support Positions	None	None	None	Fire Marshal Training Officer	None	None	None	Admin Asst. /IT
Staffing Methodology	On-call responders coming from home or work	On-call responders coming from home or work	On-call responders coming from home or work	Career firefighters 24-hours a day, with additional responses by on-call personnel	On-call responders coming from home or work	On-call responders coming from home or work	On-call responders coming from home or work	Career firefighters on duty 24-hours a day
Minimum On-Duty Strength or Typical On-Call Availability	18	10	10	6	4	16	8	5
Latest ISO Rating	4/9	5/9	5	4/9	6/9	5/9	Unknown	5

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Split Rating	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 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.	No	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.	No	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 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.	No
ISO Survey Conducted	2003	2003	2008	2003	2010	2008	Unknown	2002

In general, the study agencies are very similar in organizational structure and growth. This, however, is where the similarities end. The types of service areas vary from department to department as do the services provided. While each agency provides fire suppression services, some provide first responder level medical response while some serve as the primary transport EMS services for their communities. In addition, some study agencies provide technical rescue and hazardous materials response while others do not; some are also involved in formal fire prevention and code enforcement program, which will be discussed later in this report. Some departments (Hibbing and Virginia) provide 24-hour career personnel while the other departments rely on paid-on-call (volunteer) responders to provide services.

Given the diverse demographics and population density of the study communities, the region would benefit from a coordinated formal code enforcement and fire prevention program. This will be discussed in more detail later in the report regarding cooperative or shared services.

Governance and Lines of Authority

No formal system, regardless of mission or function, can efficiently operate without some form of governance that provides a system of checks and balances. For emergency services organizations, this governance usually comes from a group of elected or appointed officials serving in an oversight capacity. Governance models for fire departments range from municipal, to county, to independent taxing district, to not-for-profit, to regional joint powers entities. Each of the departments participating in this study is a direct operating department of its respective municipalities but each differs in the level of governmental involvement in day-to-day operations. The following figure summarizes the governance and lines of authority elements reviewed.

Figure 3: Summary of Governance and Lines of Authority Elements

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Form of Government	Council-Manager	Strong Mayor-Council	Strong Mayor-Council	Council-Manager	Council-Manager	Strong Mayor-Council	Council-Manager	Council-Manager
Title of Governing Authority or Body	City Council	City Council	City Council	City Council	City Council	City Council	City Council	City Council
Fire Chief Status	POC with Stipend	Elected by members of the FD	Elected officer position	Union Contract	Elected officer position	Elected officer position	At-will employee with no personal contract	Union Contract
Elected Fire Chief Term of Office	N/A	Continuous	One year	N/A	One year	Two years	N/A	N/A
Does the Chief Receive a Performance Evaluation	Annually	Has not received an evaluation	Has not received an evaluation	Has not received an evaluation	Has not received an evaluation	Has not received an evaluation	Has not received an evaluation	Has not received an evaluation

The governance of the participating agencies is similar. The primary differences lie with the status of the fire chief within each community. Many of the study agencies still elect their chief from within the department rather than the governing authority 'hiring' their department head as with other city agencies. It has been ESCI's experience that the appointment or election of a fire chief outside a formal process can lead to potential liability for the governing authority, and the practice is discouraged. Today's fire chief is both an operations officer and an administrative director. The qualifications of each agency's fire chief should be reviewed and the practice of election should be discontinued.

Foundational Policy Documents

As with governance and oversight, organizations are typically authorized to operate through one or more policy documents that provide information and instruction relative to administrative and human resources procedures, discipline, emergency operations, and general rules and regulations. Most municipal organizations rely on city personnel policies to provide documentation and guidance relative to hiring and termination procedures as well explanations of benefits and other human resources related issues. In addition, emergency services organizations typically develop a comprehensive set of standard operating guidelines/procedures (SOG/SOP) that provide intradepartmental guidance. The following table summarizes the foundational policy documents currently in use by the study agencies as well as provides some general observations as to the completeness and organization of those documents.

Figure 4: Summary of Foundational Policy Document Elements

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Titles of Policy Documents	Employee Manual SOGs	SOGs Employee manual	SOGs City Code Book	Training Manual SOGs EMS Protocols City Employee Manual	Personnel Policies SOGs Bylaws	SOPs Code of Ethics	SOPs City Employee Manual	Policy Manual City Personnel Manual
Quality of Administrative Policy Documents	Well organized and complete	Poorly organized and hard to apply	Poorly organized and hard to apply	Reasonably well organized, but missing a few important components	Poorly organized and hard to apply	Reasonably well organized, but missing a few important components	Reasonably well organized, but missing a few important components	Well organized and complete
Important Civil Liability and Risk Management Policies Present	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Quality of Standard Operating Policies	Very good	Outdated	Poorly organized and hard to apply	Reasonably well organized	Some present, but not complete	Outdated	Reasonably well organized	Very good
Adequate Operational Scene Guidance	No	No	Yes	No	No	Yes	Yes	No

While each organization utilizes municipal human resources guidance as the base for personnel-related issues as well as separate SOG/SOPs, intradepartmental manuals and documents are in varying degrees of completion and organization. Several standard documents are available through fire service resources to assist departments in compiling a comprehensive collection of operational policies, rules, and regulations. The region would benefit from a single, coordinated set of operating guidelines to enhance on-scene operations during mutual and automatic aid incidents. A single set of regional guidelines will also increase safety and allow departments to operate more efficiently during emergency operations.

Organizational Design

Like many public safety agencies, fire service organizations tend to be formed based on a paramilitary structure in that a single commander oversees the organization and delegates certain authorities and/or programs to other individuals with rank within the organization. The study agencies are no different. While each has developed individual rank structures and titles, each is working at delivering their services through a typical top-down hierarchy. The basic elements of organization design are provided in the following figure.

Figure 5: Summary of Organizational Design Elements

Department Name	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Department Organized With Clear Operating Divisions	No	No	Yes	Yes	No	No	No	Yes
Specific Programs With Managers Designated	Yes	No	Yes	Yes	No	No	No	Yes
Chief's Span of Control	5	2	2	5	1	5	2	7
Chief's Disciplinary Authority	Suspension from duty and recommendation for termination	Termination without additional authorization	Termination without additional authorization	Suspension from duty and recommendation for termination	Suspension from duty and recommendation for termination	Termination without additional authorization	Termination without additional authorization	Termination without additional authorization
Quality of Job Descriptions	Complete, thorough and up to date	None	Complete and thorough, but somewhat outdated	Complete, thorough and up to date	Incomplete, with only key duties listed	Complete, thorough and up to date	Complete, thorough and up to date	Complete, thorough and up to date
Does This Agency Have Collective Bargaining	No	No	No	Yes	No	No	No	Yes
Positions Covered	N/A	N/A	N/A	All positions below Chief	N/A	N/A	N/A	All positions below Chief

Smaller agencies and those comprised primarily of paid-on-call responders are not typically divided into unique operational components or program. Larger organizations, such as HFD and VFD, have identifiable programs with individuals tasked to the organization and management of those programs. Smaller organization also tend to focus on the more critical issues such as emergency response and, unfortunately, support programs such as training and code enforcement suffer. The region would benefit from a consolidated approach to training, code enforcement, prevention and public education programs. This potential will be explored later in this report.

In addition to support programs, some of the study agencies, while functioning as a department of their respective municipality, still maintain independent authority related to the hiring and termination of personnel. This seems to contradict municipal human resources policies that are in place within each community. Aside from shared services efforts, each city should work closely with its respective fire departments to ensure that human resources policies are being enforced and followed. For the two career/combination department (Hibbing and Virginia) a collective bargaining agreement is in place that provides for additional human resources related guidance.

Budgets and Financing

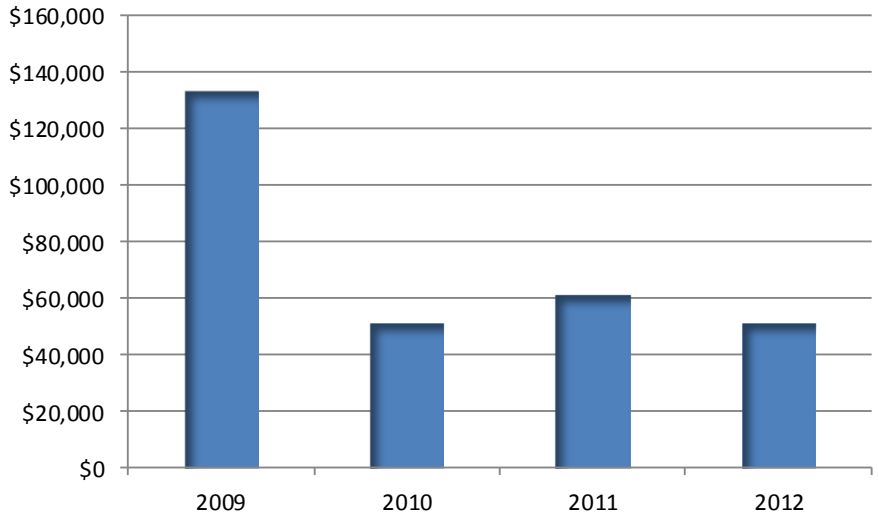
Without adequate funding, no emergency services organization can fulfill its mission. The personnel, whether career or volunteer, are compensated in some fashion either through salary and benefits or through intangible pension programs. Apparatus are expensive pieces of specialized equipment that can cost as much as $1.5 million and must be replaced periodically (as will be discussed later in this report). Facilities, which can cost upwards of several million dollars to construct, are necessary to house the apparatus and provide housing and training for personnel. Although not replaced as often as apparatus, emergency services facilities cannot be expected to last forever.

The study departments provided varying degrees of financial data for evaluation by the ESCI project team. Given the variety of information provided, no direct correlation can be determined regarding overall budget history. However, at the end of this section, ESCI presents a composite cost of fire protection for the last fiscal year and compares that information to regional and national available data.

Buhl

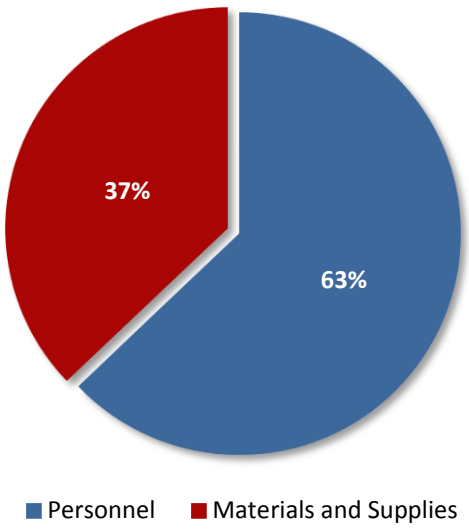
BFD provided a four-year budget history to the ESCI project team as illustrated below.

Figure 6: Budget History - BFD



The annual budget for BFD has fluctuated over the past four years but has seen an overall increase of only 2.9 percent over that time—the 2009 budget included a capital purchase of $83,695 that was removed from the calculation to identify the overall increase/decrease in historical budgets. The figure below presents how the last fiscal year's budget was distributed across the three primary categories of expenditures.

Figure 7: Budget Distribution - BFD

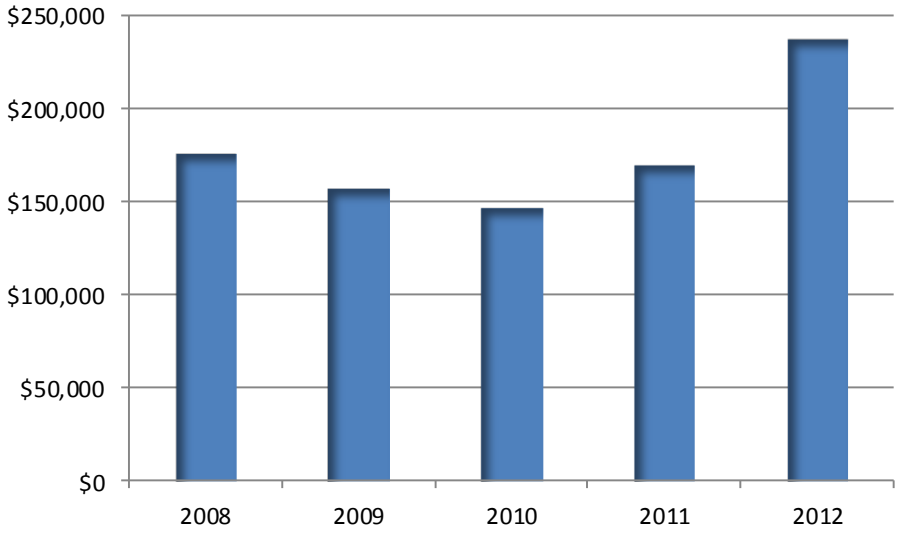


BFD recorded no capital expenditures during the 2012 budget year, and the personnel expenditures includes $23,091 contribution to the Relief Association.

Chisholm

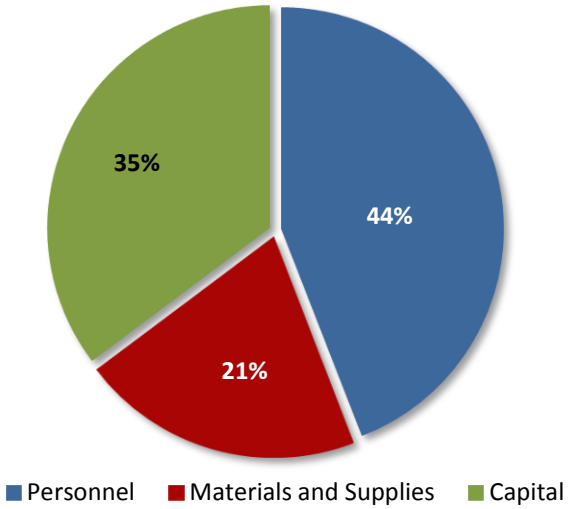
CFD provided a full five-year budget history to the ESCI project team as illustrated below.

Figure 8: Budget History - CFD



The annual budget for CFD has fluctuated over the past five years but has seen an overall 35.1 percent increase over that time. The following figure presents how the last fiscal year's budget was distributed across the three primary categories of expenditures.

Figure 9: Budget Distribution - CFD

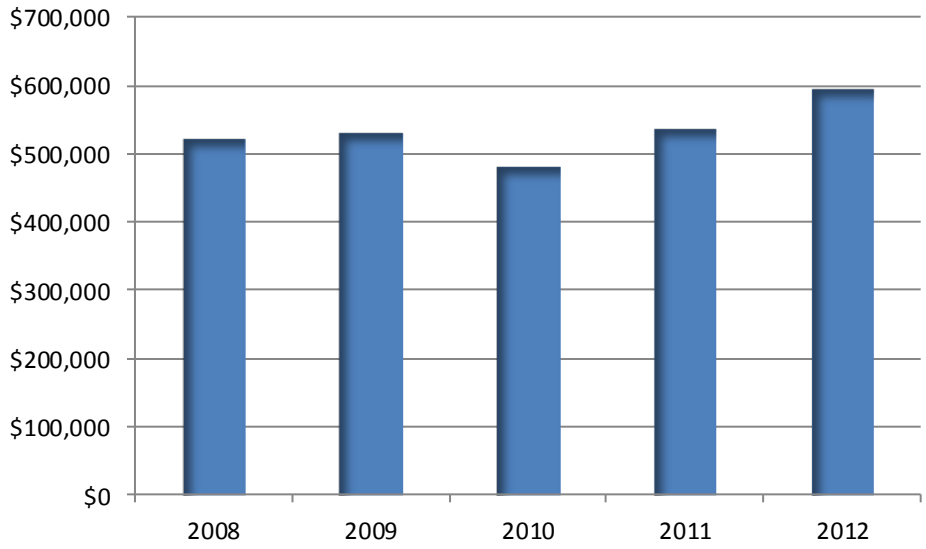


Considering that CFD is a predominantly volunteer/paid-on-call department, it is somewhat surprising that a majority of the department's expenditures are on personnel. This, more than likely, is due to office stipends and personnel pay for emergency responses, meetings, and training sessions.

Grand Rapids

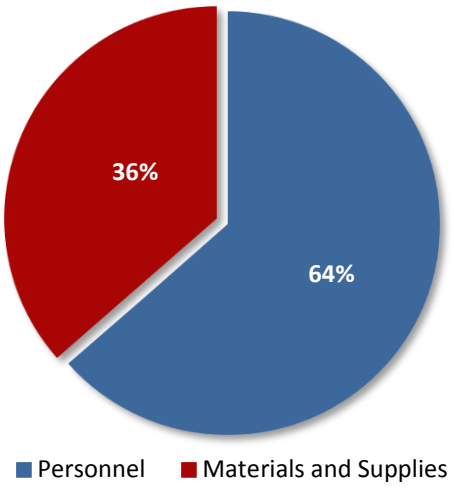
Like CFD, GRFD provided a full five-year budget history to the ESCI project team. The overall history is illustrated in the following figure.

Figure 10: Budget History - GRFD



The GRFD budget has fluctuated over the past five years, but overall has seen an increase of 14.3 percent over the evaluation period. The figure below illustrates how those dollars were distrubted last fiscal year.

Figure 11: Budget Distribution - GRFD

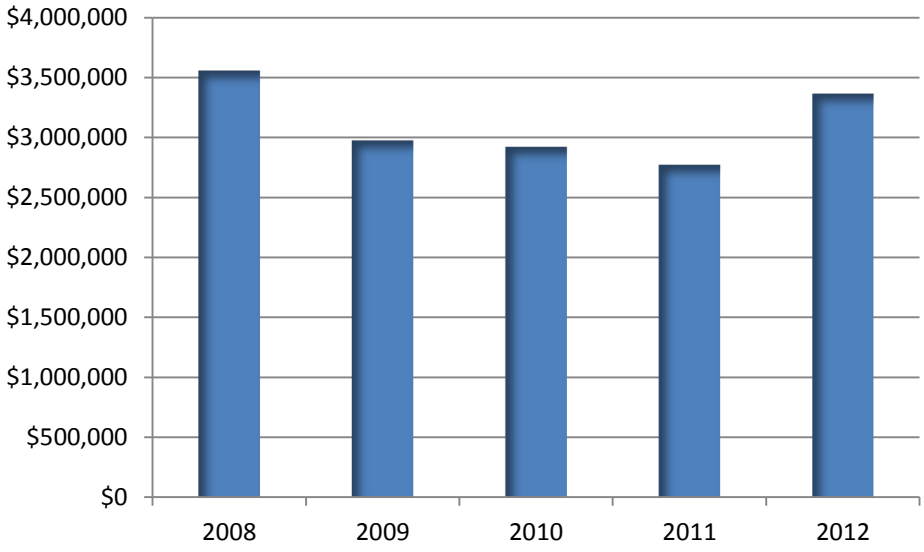


Approximately 64 percent of the GRFD budget is dedicated to personnel expenditures. This large percentage is due in part to the fact that no capital expenditures were included in the 2012 budget and to the method in which officers receive stipends and personnel receive pay for emergency responses, meetings, and training sessions.

Hibbing

HFD provided a full five-year budget history to the ESCI project team. The overall history is illustrated in the following figure.

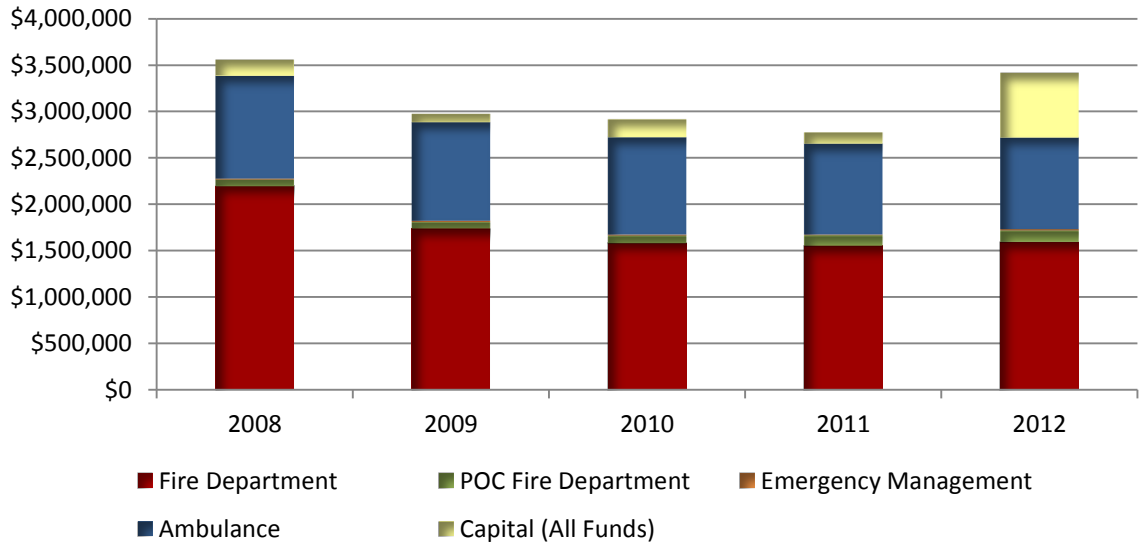
Figure 12: Budget History - HFD



The HFD budget has fluctuated over the past five years, but overall has seen a decrease of 5.5 percent over the evaluation period. It should be noted here, however, that the overall budget for HFD contains some elements that are not included in the other department's budget due to the way in which budgeting is completed in the various study cities. The City of Hibbing budgets such that each activity within the fire department is contained within a separate fund. Thus, the figure above illustrating overall budget includes funds for the fire department, emergency management, emergency medical services, and the paid-on-call fire department. Many of the departments within the study area simply group all fire department activities, regardless of type, into a single department budget.

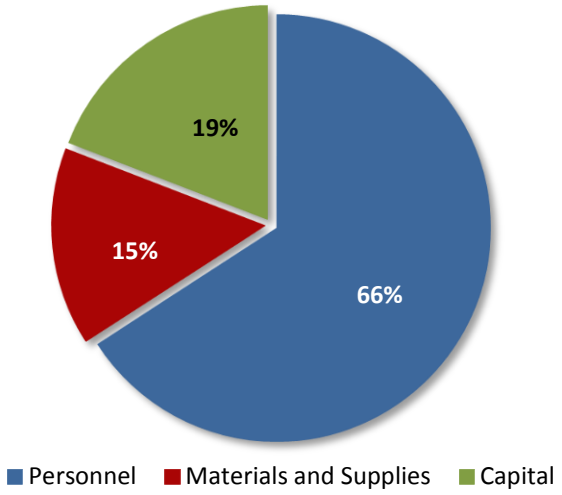
For the purposes of this report, ESCI felt that it was necessary to break out the various components of the HFD budget to show a clear picture of how budgetary dollars were being allocated. The following figure repeats the previous figure but allocates the dollars to the various funds contained within the department's overall budget.

Figure 13: Budget Allocation - HFD



Based on the 2012 budget, 46.6 percent of the department's overall budget is dedicated to the fire department; 3.7 percent to the paid-on-call department; 0.3 percent to emergency management functions; 28.9 percent to the ambulance function; and 20.4 percent to capital expenditures. The figure below illustrates how those dollars were distrubted last fiscal year among the three primary categories of personnel, materials and supplies and capital.

Figure 14: Budget Distribution - HFD

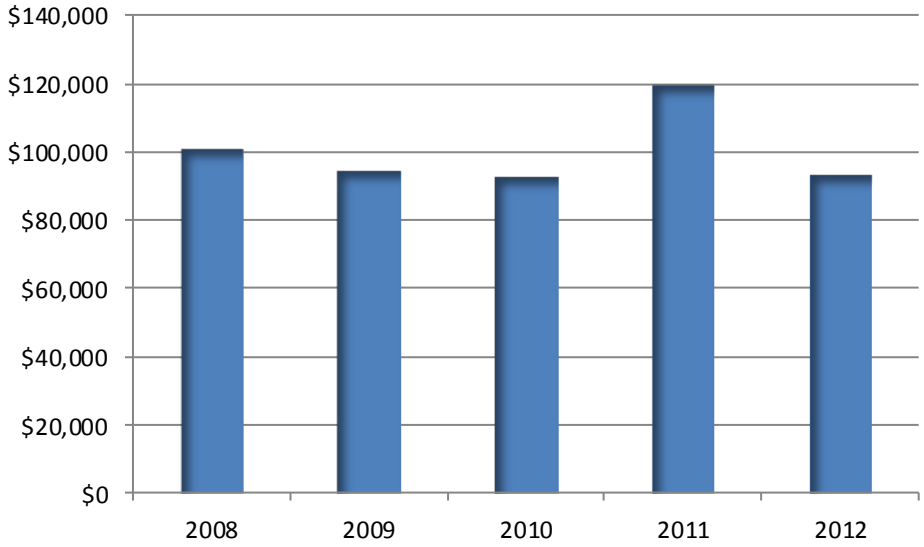


Approximately 66 percent of the HFD budget is dedicated to personnel expenditures while 15 percent was dedicated to materials and services and 19 percent was dedicated to capital. These percentages change annually based on the total amount expended on capital expenditures and any changes to personnel.

Keewatin

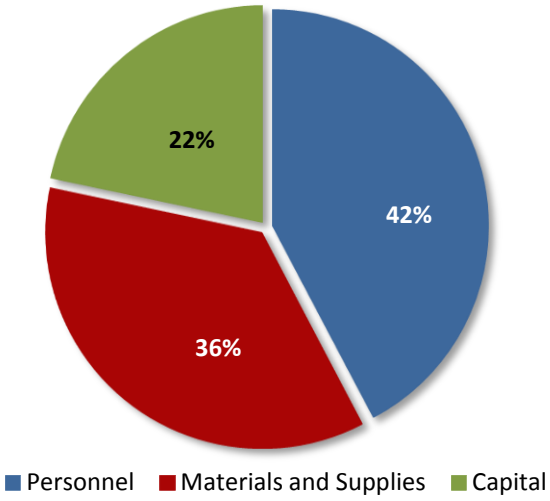
KFD provided five years of budget history to the ESCI project team. That history of overall departmental budget is illustrated below.

Figure 15: Budget History - KFD



Based on the data provided by KFD, the department's budget has decreased by 7.3 percent over the past five years and is one of the smallest operating budgets within the study region. Distribution of the department's last budget year is illustrated in the following figure.

Figure 16: Budget Distribution - KFD



The department dedicates approximately 42 percent of its annual budget to personnel expenditures; but overall, the department's budget is spread relatively evenly between personnel and materials and supplies.

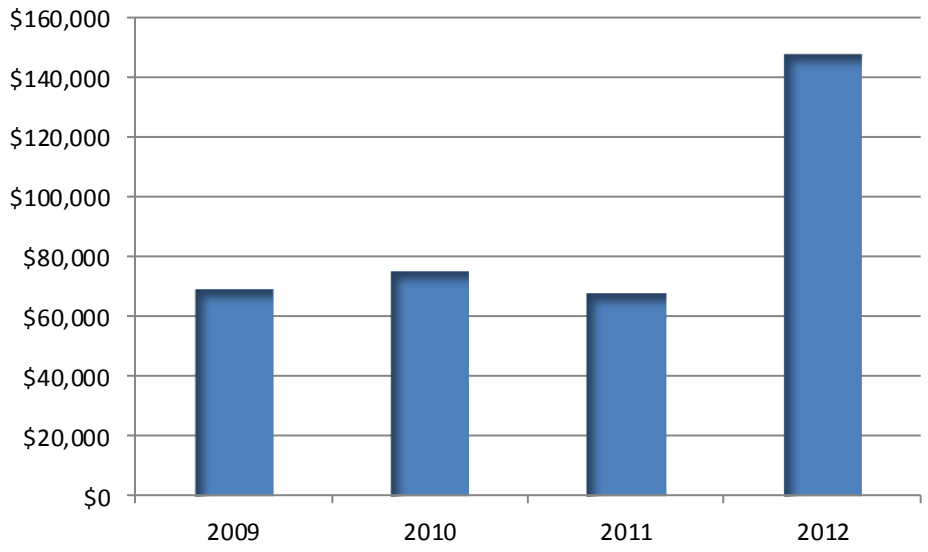
Mountain Iron

No information provided.

Nashwauk

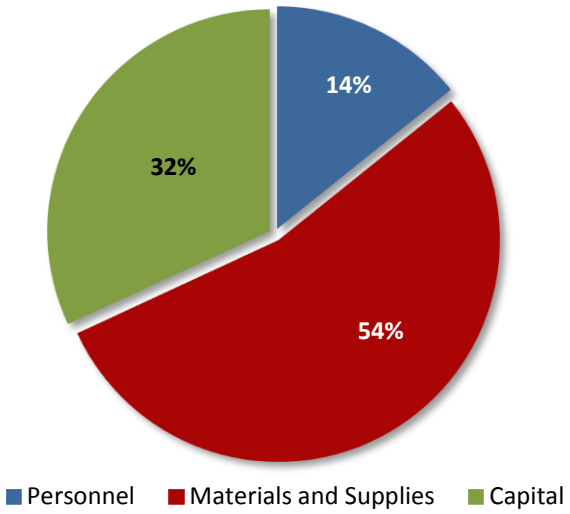
NFD provided four years of budget history to the ESCI project team. That history of overall departmental budget is illustrated below.

Figure 17: Budget History - NFD



Based on the data provided by KFD, the department's budget has decreased by 113 percent over the past four years but only because of a large capital purchase in 2012. Without that capital expenditure, the increase would have been in the vicinity of 44.8 percent. Distribution of the department's last budget year is illustrated in the following figure.

Figure 18: Budget Distribution - NFD

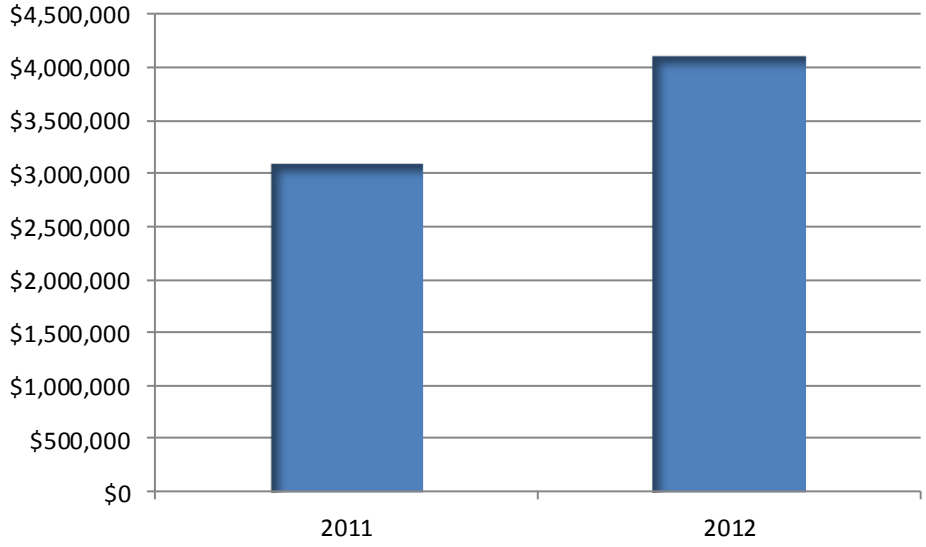


The department dedicated only 14 percent of its 2012 budget to personnel expenditures. This element would increase to a ratio nearly equal to materials and services without the capital expenditures in this budget year.

Virginia

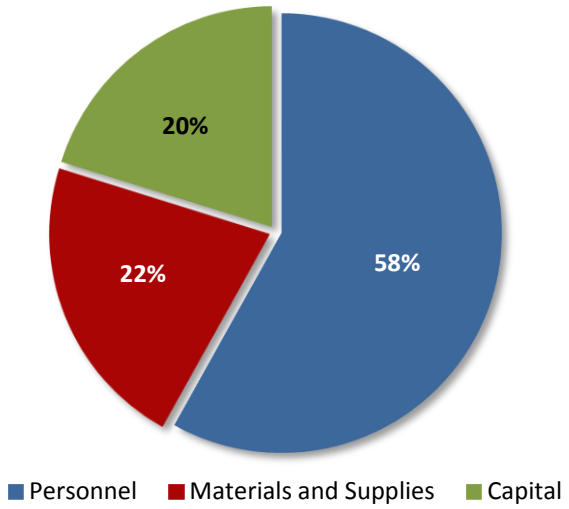
VFD provided two years of budget history to the ESCI project team. That history of overall departmental budget is illustrated below.

Figure 19: Budget History - VFD



Based on the data provided by VFD, the department's budget has increased by 33.1 percent from 2011 to 2012. Distribution of the department's last budget year is illustrated in the following figure.

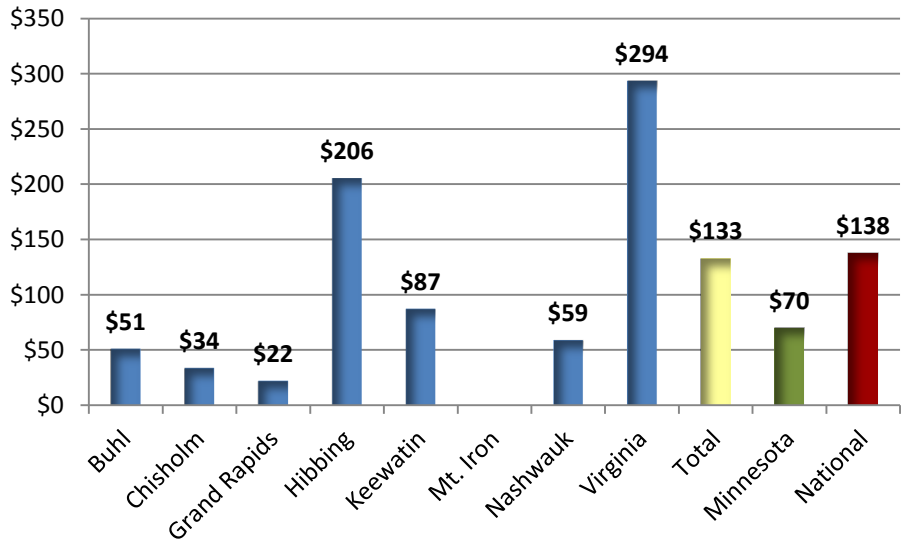
Figure 20: Budget Distribution - VFD



As illustrated in the figure above, 58 percent of the department's 2012 budget was dedicated to personnel costs. This is not uncommon for career fire departments and is actually somewhat lower than expected. This could be due to a rather large capital expenditure ($831,133), which, if removed, would increase the personnel expenditure ratio to 73 percent; more in line with ESCI's experience with career fire departments.

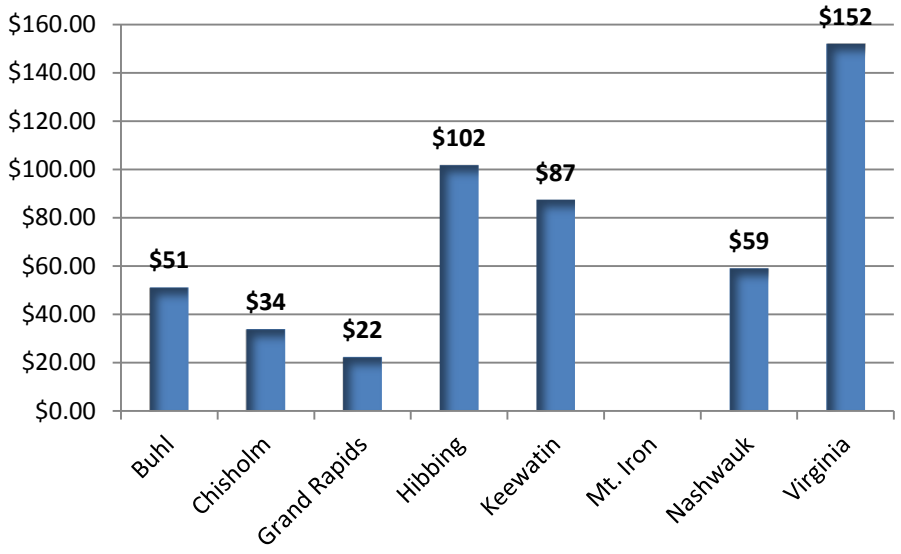
The figure below ignores the various services provided by the study departments and compares the cost of services to the regional (total), state, and national averages.

Figure 21: Cost per Capita Comparison - All Services (2012)



Since not all of the study departments provide emergency medical transport services or emergency management functions, ESCI tried to narrow total expenditures so that a comparison could be made that illustrates the actual cost of fire protection within each community. From there, a per capita calculation was made to compare the departments against each other as well as to form a comparison to regional and national benchmarks. The figure below illustrates a comparison of cost per capita for fire protection across the region based on 2012 budgets (based on a removal of EMS revenue from HFD's and VFD's overall budget).

Figure 22: Cost per Capita - Fire Protection (2012)



Unfortunately, there are no published statistics available that compare the cost of fire protection only. Available data does not delineate between career, volunteer, or combination departments nor does it delineate between those departments that do or do not provide emergency medical services; first response or transport. Those departments that do provide EMS services would be expected to have a much higher cost per capita than those departments that do not participate in EMS. In addition, these statistics are based purely on budget compared to population served and do not take into account the revenue generated through transport EMS services.

Management Components

Management components are those elements of a fire department that allow for proper planning and communication within the organization. It is imperative for an emergency services provider to plan not only for tactical incidents, but also for long-range issues through a formalized process. In addition, communicating those plans to all members is an important aspect of overall organizational awareness. This section evaluates the management components of each participating agency.

Mission, Vision, and Strategic Planning

Planning for emergency services providers can and should take on several forms. The first level consists of tactical planning and includes systematic planning on a short-term scale such as operational guidance for emergency incidents and procedures protocols. Most emergency services organizations conduct this type of planning on a routine basis. The next level of planning is strategic planning. Strategic planning consists of identifying the key critical issues and/or objectives of the organization and developing plans to address them. Strategic planning usually provides guidance for a period covering three to five years. The final and most long-range of the planning processes is that of master planning. Master planning looks at the long-range sustainability of an organization and identifies the issues that will need to be addressed over the next 15 to 20 years. Master planning usually focuses on major investment issues such as facilities, apparatus, and personnel so that agencies can appropriately budget for major expenditures.

Each department has developed tactical plans specific to their agencies and none of the agencies have undergone a long-range strategic plan aside from this project. The following table identifies the critical issues voiced by each department's personnel during on-site interviews. These issues should be the focus of each organization's strategic planning processes as they occur in the future.

Figure 23: Summary of Organizational Planning Components

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Critical Issue #1:	Succession Planning	Daytime Manpower	Personnel	Manpower, SAFER grant	Manpower shortages during the day	Potential staffing shortages	Daytime staffing	Staffing
Critical Issue #2:	Facility maintenance concerns	Inconsistent training participation	Budget	Apparatus age and replacement schedules	Recruiting and retention	None Identified	None Identified	Facilities
Critical Issue #3:	Apparatus Replacement plan not funded sufficiently	Incident Command issues, freelancing	None Identified	Facilities, maintenance issues	Equipment	None Identified	None Identified	Apparatus

One common thread throughout each department's own identification of critical issues is that of staffing, particularly during the daytime hours. A regional cooperative effort could reduce the effects of this issue through the sharing of staff resources based on a regional approach to response. Facilities and equipment were also mentioned by several of the study agencies as were budgetary concerns. A regional capital replacement plan could help to decrease the individual fiscal constraints currently facing several of the study agencies. These issues will be discussed further later in this report.

Communications Processes

Although planning efforts, whether tactical, strategic or master planning, are typically completed at an administrative level. Without the ability to communicate those plans to line staff, plans are unlikely to be fulfilled. Lines of communications from chief officers to the lowest ranking member of a department are crucial to ensuring that everyone within the organization is receiving the same information in a timely manner. Fragmented dissemination of critical information is inefficient and can lead to confusion within the ranks.

In today's contemporary fire department, the use of technology allows agencies to disseminate information with a few key strokes. Departments that have formal processes for the dissemination of information typically operate more efficiently and, based on ESCI's experience, show higher morale than those departments that do not actively share important information. The following figure summarizes the internal and external communications elements of the study agencies.

Figure 24: Summary of Communications Elements

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Moutain Iron FD	Virginia FD
Administrative Policies Available to All Members	Yes, individual copies	No	Yes, individual copies	Yes, individual copies	Yes, hard copies available in each workplace	Yes, individual copies	Yes, individual copies	Yes, individual copies
Standard Operating Guidelines Available to All Members	Yes, individual copies	No	Yes, individual copies	Yes, individual copies	Yes, hard copies available in each workplace	Yes, individual copies	Yes, individual copies	Yes, individual copies
Regularly Scheduled Staff Meetings Conducted	Yes - monthly	Rarely or never	Yes - weekly	Yes - monthly	Yes - monthly	Ye s- monthly	Yes - monthly	Yes - monthly
Member Forums/Meetings for Exchange with Administration	Yes - monthly member meetings	Yes - monthly member meetings	Ye s- monthly member meetings	Ye s- monthly member meetings	Yes - monthly member meetings	Yes - monthly member meetings	Yes - monthly member meetings	No regular opportunities scheduled
Email Distribution of Information Used Regularly	Yes - personal email addresses used	No formal regular use of email	No formal regular use of email	Yes - some personal and some agency email addresses used	Yes - agency email addresses issued	No formal regular use of email	No formal regular use of email	Yes- agency email addresses issued
All Members Have In-Box for Hard Copy Documents	Yes- individual member mailboxes	Yes- individual member mailboxes	Yes- individual member mailboxes	Yes- shift/station mailboxes	Yes- shift/station mailboxes	Yes- individual member mailboxes	No	No

Of the study agencies, only Nashwauk does not reportedly distribute administrative and operational guidelines to each individual member. NFD should implement a process whereby every member of the department receives a personal copy of administrative and operational guidelines to ensure that policies and procedures are received individually. While staff meetings can be one avenue for the distribution of important information, not everyone will always be available to attend. One method to overcome this issue to establish an electronic (email) distribution mechanism whereby important documents and meeting minutes can be quickly and easily sent to all personnel.

While not every department has the capability of establishing an email network central to their station, the potential exists to share services throughout the region to ensure that technology is adequately available to all participating agencies. This service can be a pay-as-you-go system or can be a singular benefit offered by those municipalities with greater resources.

Information Technology Systems

As an added benefit to establishing a regional email system, the departments that do not currently have the luxury of a proper electronic network would gain additional benefits from a regional technology initiative. Many of the study agencies rely on stand-alone personal computers for the completion of National Fire Incident Reporting System (NFIRS) reports and some have limited internet access. The figure below summarizes the information technology elements of the study agencies.

Figure 25: Summary of Information Technology Elements

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Type of Computer Network or System	PC's networked to community/ municipal server	Individual PCs only	Individual PCs only	PCs networked to agency server	Individual PCs only	Individual PCs only	PCs networked to community/ municipal server	PCs networked to agency server
Redundant Servers	Unsure	No	No	No	No	No	No	No
Computer Files Backed Up	Ye s- backed up off-site	No backups occur	Backed up inconsistently	Yes - backed up on site only	No backups occur	No backups occur	Yes - backed up off-site	Yes - backed up on site only
Computers Programmed with Password Protection	Yes - timeout with inactivity	Passwords not used	Yes - timeout with inactivity	Yes - timeout with inactivity	Yes - timeout with inactivity	Yes - timeout with inactivity	Yes - timeout with inactivity	Yes - timeout with inactivity
Updated Firewall and Virus Protection	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Records Fully Computerized	Incident records	Incident records	Incident records	Incident records	Incident records	Incident records	Incident records	Incident records

The technological availability within the study agencies is varied; some with computers networked to city servers, others networked to an agency server, and many with stand-alone terminals. Today's requirements to protect patient information and critical data dictates that computer systems be secure and properly maintained. Without a coordinated regional effort focused on technological advancement of the smaller agencies, it is likely that critical information could be compromised within the region. A regional technology initiative will be discussed in a later section of this report.

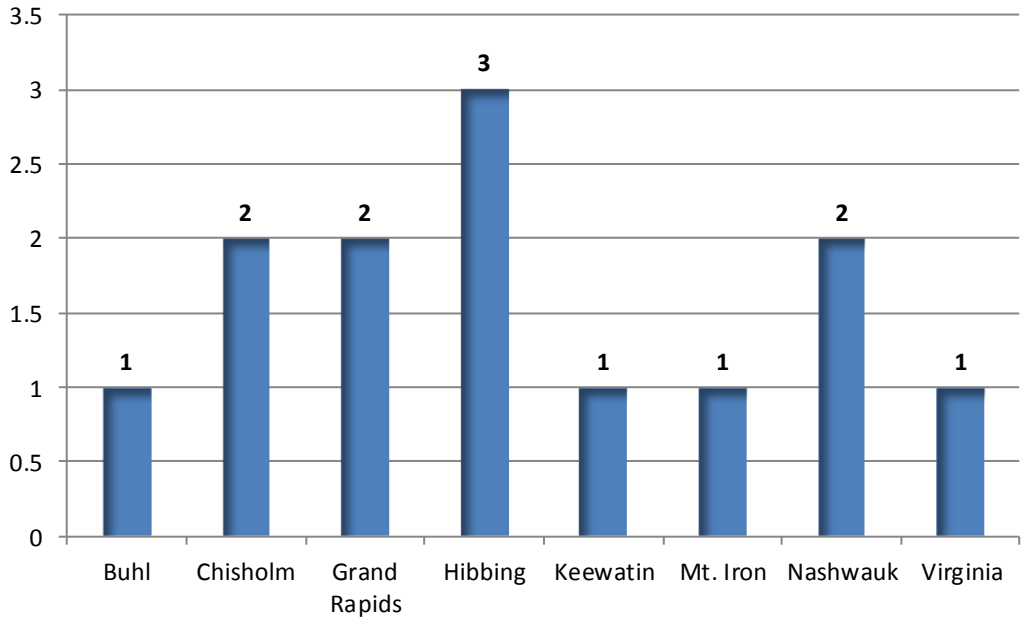
Capital Assets and Capital Improvement Programs

Three basic resources are required to successfully carry out the mission of a fire department — trained personnel, firefighting equipment, and fire stations. No matter how competent or numerous the firefighters, if appropriate capital equipment is not available for use by responders, it is impossible for a fire department to deliver services effectively. The capital assets that are most essential to the provision of emergency response are facilities and apparatus (response vehicles).

Facilities

Fire stations play an integral role in the delivery of emergency services for a number of reasons. A station's location will dictate, to a large degree, response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. Fire stations also need to be designed to adequately house equipment and apparatus, as well as meet the needs of the organization, its workers, and/or its members. It is important to research need based on call volume, response time, types of emergencies, and projected growth prior to making a station placement commitment. The following chart exhibits the number of fire stations operated by the agencies participating in the study.

Figure 26: Fire Stations



ESCI toured each of the stations operated by the fire departments involved in the feasibility study, resulting in the observations listed in the following tables.

Survey Table 1: Hibbing Station 1 (Headquarters Station)

Address: 2320 Brooklyn Drive

Hibbing Station 1 consists of four, single depth fire apparatus bays in the fire portion of the station, one of which is a drive-through configuration. There are four additional ambulance bays, two of which are double depth and one is a drive-through bay.

Living space for seven, 24-hour response personnel is on the second floor with individual sleeping rooms An additional sleeping space is available in a main floor watch room. A kitchen and day-room are on the second floor along with a smaller kitchen downstairs. There are six offices in the building and a report writing room.

The station houses two engines, a ladder truck, and a rescue vehicle along with five ambulances.

Survey Components	Observations
Structure	
A. Construction type	Masonry, built on on-grade concrete slab with a steel frame, metal clad roofing system.
B. Date	1964 with the ambulance addition in 1974
C. Seismic protection/energy audits	No
D. Auxiliary power	Automatic starting emergency generator
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is appropriately configured for mixed gender use, is ADA accessible, and is adequately designed for its intended use
Accommodations	
A. Exercise/workout	A good sized exercise area has been established on a mezzanine overlooking the ambulance bays
B. Kitchen/dormitory	Adequate kitchen facilities are available along with individual sleeping rooms for seven personnel.
C. Lockers/showers	Adequate, mixed gender locker rooms
D. Training/meetings	A meeting room adjacent to the kitchen area is used for training
E. Washer/dryer	Provided
Protection Systems	
A. Sprinkler system	The station is not protected by a fire sprinkler system
B. Smoke detection	Smoke detection is in place but is local coverage only
C. Security	All doors have combination locks
D. Apparatus exhaust system	All apparatus connect to an installed exhaust control device

Survey Table 2: Hibbing Townline Station (Station 2)

Address: 11896 Townline Road

The Townline Station, known also as Station 2, is a steel frame building that houses an engine and one water tender. Since this is not a full-time staffed station, accommodations in this station are limited to a small kitchen area, a classroom that can seat up to 20, and one office. There are no residential quarters in this station.

Survey Components	Observations
Structure	
A. Construction type	Steel frame with metal siding and roof
B. Date	1977
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Fair, but aging
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The facility is not ADA compliant, nor mixed-gender accommodating. Storage is limited.
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	A small kitchen is present in the meeting room area.
C. Lockers/showers	There are no locker or shower rooms in the station, since it is not staffed with resident personnel.
D. Training/meetings	A common meeting and kitchen area can accommodate 20 people for training sessions
E. Washer/dryer	A washer and dryer are present in the apparatus bay area
Protection Systems	
A. Sprinkler system	A fire sprinkler system is not in place
B. Smoke detection	No smoke detection is provided in the station
C. Security	All doors are equipped with combination locks
D. Apparatus exhaust system	None

Survey Table 3: Hibbing Kelley Lake Station (Station 3)

Address: 303 3rd Avenue N

Hibbing Fire Department's Station 3 houses one fire engine in a single, back-in apparatus bay.

There are no accommodations in this building as it simply houses the equipment and no personnel are assigned to the station on a daily basis.

Survey Components	Observations
Structure	
A. Construction type	Steel clad, steel frame on a concrete slab
B. Date	1970s as estimated by FD
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Fair but aging
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is compliant with applicable building codes at the time of construction and a has not been upgraded for ADA, mixed gender, or similar considerations
Accommodations	
A. Exercise/workout	No exercise area is provided
B. Kitchen/dormitory	This station does not have kitchen, dormitory or other residential accommodations as it is not a full time staffed station
C. Lockers/showers	None
D. Training/meetings	There are no training facilities or classroom in this station
E. Washer/dryer	None
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	No smoke detection system in in place
C. Security	All doors have combination locks
D. Apparatus exhaust system	There is no exhaust control system in place in the station

Survey Table 4: East Station - 304

Address: 224 3rd Avenue W

The Keewatin Fire Department operates out of a single fire station that houses two fire engines, a rescue vehicle and two brush units. The station is configured with three back-in type apparatus bays and one additional bay accessed from the side of the building.

Being an all Paid-on-Call fire department, this station does not have residential quarters for 24-hour staffing. The station has a training room, an office, and a fitness area that is well equipped.

Survey Components	Observations
Structure	
A. Construction type	Masonry block on slab with a flat, membrane roof on a steel frame
B. Date	1992
C. Seismic protection/energy audits	None
D. Auxiliary power	No emergency generator
E. Condition	Good condition, well maintained, with some sign of wear
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is compliant with fire and building codes at the time of construction. It has not been updated to current ADA standards.
Accommodations	
A. Exercise/workout	Adequate, well-equipped exercise area in the apparatus bays
B. Kitchen/dormitory	There is a small kitchen area in the training room. This station does not have any other residential accommodations.
C. Lockers/showers	Mixed gender restrooms and showers are adjacent to the exercise area. There are no locker rooms
D. Training/meetings	A good sized, well equipped training room is present that will accommodate 30 students
E. Washer/dryer	Provided
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	No smoke detection is present
C. Security	All doors have keyed locks
D. Apparatus exhaust system	None

Survey Table 5: Nashwauk Fire Station

Address: 301 Central Avenue

The Nashwauk Fire Station is shared with the city police department and the Nashwauk Ambulance Service. The station consists of six apparatus bays, all of a back-in configuration. Three bays house fire department equipment and the other three bays are used to store ambulances.

The station has two fire engines, a water tender, one brush unit, and a squad vehicle. There is a meeting/training room that is comfortably equipped and one office on the second floor that is occupied by the ambulance service staff. Sleeping quarters are also present on the second floor for ambulance service personnel. There are no residential facilities for fire personnel.

Survey Components	Observations
Structure	
A. Construction type	Steel frame and metal clad on a concrete slab
B. Date	1990
C. Seismic protection/energy audits	No
D. Auxiliary power	None
E. Condition	Fair
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not ADA compliant. Living quarters on the second level are not compliant with applicable fire and life safety codes.
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	Small kitchen is present
C. Lockers/showers	Separate restrooms and a single shower are present
D. Training/meetings	Training room seats approximately 20
E. Washer/dryer	Yes
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	Battery powered smoke detection is present
C. Security	All doors are secured with combination locks
D. Apparatus exhaust system	None

Survey Table 6: Nashwauk Station 2

Address: 16978 County Road 8

Nashwauk Fire Department Station 2 consists of just two apparatus bays that are a part of a building operated by the Township, housings its service vehicles.

The two bays of that are occupied by the fire department are a back-in configuration, providing space for a fire engine and a single brush vehicle.

There are no other accommodations in this facility.

Survey Components	Observations
Structure	
A. Construction type	Steel clad on steel frame, built on a concrete slab
B. Date	Unknown
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not ADA accessible and is adequately designed for its intended use, though storage is minimal
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	None
C. Lockers/showers	None
D. Training/meetings	None
E. Washer/dryer	None
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	No smoke detection is present
C. Security	The door has a keyed locks
D. Apparatus exhaust system	None

Survey Table 7: Chisholm Fire Station

Address: 301 W Lake Street

The Chisholm Fire Department operates from a single fire station located in downtown Chisholm. The building is a large, two-story masonry structure that was constructed in approximately 1900 and at one time served as the Chisholm City Hall. The structure is aging significantly and its ongoing effective service life is limited.

The station consists of two, double depth apparatus bays that house two fire engines, an engine with a small aerial ladder, and two rescue vehicles, one of which serves as an air unit.

Survey Components	Observations
Structure	
A. Construction type	Two story, brick structure
B. Date	Estimated 1900
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not compliant with current fire and life safety codes, ADA requirements and is not mixed gender appropriate
Accommodations	
A. Exercise/workout	An extensive assortment of exercise equipment is housed in former city offices in the station
B. Kitchen/dormitory	There are no kitchen or dormitory accommodations
C. Lockers/showers	There are a few lockers in the exercise area
D. Training/meetings	A large meeting room is present in the former City Council chambers on the second floor that will seat approximately 100.
E. Washer/dryer	Available in the apparatus area
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	No smoke detection system in in place
C. Security	All doors have combination locks
D. Apparatus exhaust system	There are no exhaust removal systems installed in the station

Survey Table 8: Buhl Fire Station

Address: 201 Forest Street

The Buhl Fire Department operates from two buildings, one across the street from the other. The main building is an older structure, dating back to 1920 and once serving as a boarding house. The station has very limited apparatus bay space and a single office with a moderately sized training room. In the apparatus area is one older fire engine and a rescue/brush unit.

Due to the size limitations in the original fire station, a second building was constructed in 1996, immediately across the street. The new building is a two bay, brick masonry structure, housing an engine and an ambulance.

Survey Components	Observations
Structure	
A. Construction type	Masonry and wood frame (original station). Second building is concrete block construction on a concrete slab.
B. Date	1920/1996
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Original building is aging significantly. Second building is in good condition.
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not compliant with current fire and life safety code and is not ADA compliant
Accommodations	
A. Exercise/workout	Yes
B. Kitchen/dormitory	None
C. Lockers/showers	Showers are available
D. Training/meetings	Classroom space is available for approximately 20 students in the original fire station.
E. Washer/dryer	Yes
4. Protection Systems	
A. Sprinkler system	None
B. Smoke detection	None
C. Security	Doors are secured with keyed locks
D. Apparatus exhaust system	None

Survey Table 9: Mountain Iron Fire Station

Address: 8836 Slate Street

The Mountain Iron Fire Station is an extension of the City of Mountain Iron Public Works Department maintenance shop facilities. The station consists of three, back-in type of apparatus bays, one of which is deeper than the other two and houses vehicles that are stacked in double depth.

The fire station houses two structural firefighting engines, two brush engines, and a large, newer combination engine/water tanker.

Survey Components	Observations
Structure	
A. Construction type	Steel frame with steel clad siding and roof
B. Date	Unknown
C. Seismic protection/energy audits	None
D. Auxiliary power	None
E. Condition	Fair
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not ADA compliant
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	There are no sleeping areas. A small kitchen is available in the back of one of the apparatus bays
C. Lockers/showers	A small locker and shower facility is on the lower level
D. Training/meetings	A small meeting area is on the upper, mezzanine area above the apparatus bays
E. Washer/dryer	None
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	There is no smoke detection present
C. Security	The door is secured with a combination keypad lock
D. Apparatus exhaust system	No exhaust removal system is in place

Survey Table 10: Grand Rapids Fire Department Main Station

Address: 18 NE 5th Street

The Grand Rapids Main Fire Station is located centrally in Grand Rapids on NE 5th Street. The facility was originally constructed in 1959 and received an addition in 1991. It consists of five back-in apparatus bays, housing an aerial ladder truck, a Class A fire engine, a combination water tender/pumper, a brush vehicle, and a heavy rescue truck.

The station is well cared for and is in very good condition overall. Space in the station is maximized, leaving very little room for expansion that may be needed to accommodate future growth.

Survey Components	Observations
Structure	
A. Construction type	Masonry and wood frame
B. Date	1959/1991
C. Seismic protection/energy audits	No
D. Auxiliary power	Automatic starting generator
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is generally compliant with applicable fire and related codes at the time of construction. It is not fully ADA compliant. Storage is adequate but marginal.
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	A kitchen is present in the office area. There are no sleeping quarters
C. Lockers/showers	Dual gender shower rooms are available. There are no locker rooms
D. Training/meetings	A nicely appointed classroom seats 30. Appropriate audio/visual and equipment is available
E. Washer/dryer	Yes
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	There is no smoke detection in the station
C. Security	Some doors are secured with combination locks, others are keyed
D. Apparatus exhaust system	On primary apparatus only

Survey Table 11: Grand Rapids South Station

Address: 1500 SE 7th Street

Grand Rapid's second fire station is known as the South Station. It consists of two apparatus bays that are a part of a larger building that is a shared facility with the Itasca County Airport, located 2.5 miles south of Grand Rapids.

The station serves the airport with an airport crash truck that is owned by the airport and a fire engine that is owned and operated by Grand Rapids Fire Department.

The fire department maintains only one small apparatus bay, housing one fire engine with no other accommodations.

Survey Components	Observations
Structure	
A. Construction type	Metal clad, steel frame
B. Date	1992
C. Seismic protection/energy audits	No
D. Auxiliary power	No
E. Condition	Good
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The building is not ADA compliant. It meets applicable code requirements at the time of construction. Storage and space in general is limited to one apparatus bay.
Accommodations	
A. Exercise/workout	None
B. Kitchen/dormitory	None
C. Lockers/showers	None
D. Training/meetings	None
E. Washer/dryer	None
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	There is no smoke detection present
C. Security	All doors are secured with combination locks
D. Apparatus exhaust system	None

Survey Table 12: Virginia Fire Station

Address: 115 4th Avenue N

	The Virginia Fire Station is a masonry building constructed at the turn of the century. Apparatus is stored in two sections of the station, one of which houses fire apparatus in two back-in bays, two of which are double in depth. The other area, comprised of four smaller bays is occupied by ambulances. The second floor includes sleeping quarters and four office spaces, along with a large training/meeting room. The station is aging and has structural problems. Its projected service time is limited.

Survey Components	Observations
Structure	
A. Construction type	Masonry and wood frame
B. Date	1900
C. Seismic protection/energy audits	None
D. Auxiliary power	An automatically activated backup generator is in place
E. Condition	Poor
F. Special considerations (ADA, mixed gender appropriate, storage, etc.)	The station is not compliant with ADA or other current building code requirements. Personnel accommodations and storage are limited.
Accommodations	
A. Exercise/workout	Equipment is present in a storage area in the back of the apparatus bays
B. Kitchen/dormitory	A seven-bed, semi-private sleeping area is on the second floor along with a good sized kitchen area.
C. Lockers/showers	Lockers are provided for all personnel and dual gender showers are present
D. Training/meetings	A large training room is present on the second floor, capable of seating 30 students
E. Washer/dryer	Available
Protection Systems	
A. Sprinkler system	The building is not protected by a fire sprinkler system
B. Smoke detection	Smoke detection is present and monitored on-site
C. Security	Doors are secured with keyed locks
D. Apparatus exhaust system	Provided on all apparatus

Fire stations in the study area vary broadly from several that are reasonably new and in good condition to others that are aging and due for replacement. Generally, all of the stations observed are close to or have already reached their maximum capacity in terms of room for future expansion that can be expected as workload and service demand increases.

Of particular concern are the stations in Chisholm and Virginia. Both were constructed at the turn of the century and are clearly due for substantial upgrades or replacement. The Virginia station has structural issues beneath the apparatus bay floors that are also of concern.

In consideration of opportunities and options for future shared service delivery initiatives, fire stations and their continued viability are a critical factor. If agencies combine, one with comparatively new and adequate fixed facilities may inadvertently inherit a financial liability that comes with another fire department that has aging facilities. Due to their considerable expense, the potential financial liability that may be realized in regard to some facilities must not be discounted.

Apparatus

Other than the emergency responders, response vehicles are the next most important resource of the emergency response system. If emergency personnel cannot arrive quickly due to unreliable transportation, or if the equipment does not function properly, then the delivery of emergency service is likely compromised.

Fire apparatus are unique and specialized pieces of equipment, customized to operate efficiently for a narrowly defined mission. For this reason, fire apparatus are very expensive and offer little flexibility in use and reassignment. As a result, communities always seek to achieve the longest life span possible for these vehicles.

A summary of the participating agency's emergency response vehicle fleet is provided in the following tables.

Grand Rapids

Grand Rapids operates a fleet of two fire engines, a pumper/tender combination, an aerial ladder truck, and two brush vehicles along with a single heavy rescue unit. All appear to be well maintained and fully serviceable. They are detailed in the following figure.

Figure 27: Grand Rapids FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
114	1992	Ford	L8000	Heavy Rescue	2	N/A	N/A	Good
113	2002	Ford	Central States	Mini Pumper	2	300	300	Excellent
117	1987	Ford	F250 Pickup	Brush	2	150	180	Good
116	1997	Pierce	Quantum	Engine	5	1,500	1,000	Excellent
111	2004	Pierce	Quantum	Pumper/ Tender	3	1,000	3,000	Excellent
119	2009	Pierce	Quantum	Ladder Truck	6	2,000	300	Excellent
115	1986	Ford	Custom	Engine	3	1,000	1,000	Fair

Grand Rapids major apparatus range in age from 4 to 27 years with an average age of 16 years. The primary units are newer and in good condition.

Nashwauk

The Nashwauk Fire Department has five fire response vehicles including two engines, a water tender, a rescue truck, and a brush unit, as detailed below.

Figure 28: Nashwauk FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Engine 1	2011	E-1	Typhoon	Engine	6	1,500	750	Excellent
Tender 1	2006	Pierce	Contender	Tender	3	250	2,000	Excellent
Rescue 1	1987	Chevrolet	Squad	Rescue	3	N/A	N/A	Good
Brush 1	1996	Chevrolet	3500	Brush	6	250	250	Good
Engine 2	1997	International	Pierce	Engine	3	1,250	1,000	Excellent

With an average age of 13.6 years, Nashwauk equipment is relatively new and appears to be fully serviceable currently and into the immediate future.

Keewatin

Listed below is Keewatin Fire Department's major apparatus. There are two engines, a heavy rescue, and two brush units in the fleet.

Figure 29: Keewatin FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Engine 1	2006	International	Central	Engine	5	1,250	1,200	Excellent
Engine 2	2001	GMC	Pemma	Engine	6	1,250	1,000	Excellent
Rescue 1	2000	GMC	C7500	Heavy Rescue	8	N/A	N/A	Excellent
Brush 2	1986	Chevrolet	1500	Brush	3	100	200	Fair
Brush 1	2011	Chevrolet	1500	Brush	5	250	300	Excellent

Brush 2 is 27 years of age and has exceeded what is typically considered an appropriate service life. The other vehicles are newer and in good to excellent condition, with an average age of 8.5 years when the older brush unit is removed from the calculation.

Hibbing

The Hibbing Fire Department operates from three stations with a total of eight fire apparatus.

Figure 30: Hibbing FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Engine 1	1996	Pierce		Engine	5	1,250	1,000	Good
Rescue 1	2006	International	Rescue	Rescue	6	300	400	Excellent
Ladder 1	1994	Pierce	Arrow	Aerial	4	1,250	300	Good
Engine 2	1981	Ford	9000	Engine	5	1,250	1,000	Fair
Engine 3	1987	Pierce	Dash	Engine	5	1,250	1,000	Fair
Brush 12	1984	Chevrolet	Pickup	Brush	3	150	250	Fair
Tender 1	1994	International		Tender	3	300	3,000	Good
Engine 11 (Reserve)	1994	Seagraves	TB40D	Engine	5	1,250	500	Good

Hibbing's equipment ranges in age from 7 to 32 years, with an average age of 21 years. While the vehicles are well cared for and properly maintained, a number will be due for replacement in the near future or have already exceeded their service lives.

Mountain Iron

Five vehicles constitute the Mountain Iron fleet of response apparatus. One is an engine, another an engine/water tender combination, and the remainder are all brush vehicles.

Figure 31: Mountain Iron FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Engine 88	1988	Chevrolet	Laverne	Engine	2	1,000	1,000	Good
Engine 4	2004	International	-	Engine/ Tender	2	1,250	2,500	Excellent
Engine 1	2001	Ford	F550	Brush	2	1,000	300	Excellent
Engine 10	2010	Ford	F550	Brush	5	500	400	Excellent
Engine 85	1985	Chevrolet	Pickup	Brush	3	100	200	Fair

The department's engine/tender is nine year of age and is in excellent condition. The only other structural fire engine, however, is 25 years in age and is reaching what is generally considered to be the end of its service life.

Virginia

The Virginia Fire Department operates four fire apparatus. In addition, the department operates five ambulances, not listed below. The Virginia major apparatus is in excellent condition overall and it is readily apparent that the agency cares for its equipment carefully.

Figure 32: Virginia FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Ladder 1	2003	Pierce	Quint	105 ft. Ladder Truck	6	1,500	300	Excellent
Engine 2	1995	Peterbilt	Custom	Engine	6	1,400	500	Excellent
Rescue 1	2001	International	E-1	Rescue/ Pumper	5	500	250	Excellent
Squad 1	2012	Spartan	-	Engine/ Squad	5	2,000	750	Excellent

The oldest piece of fire apparatus is a 1995 fire engine that remains fully serviceable. However, as the primary fire engine, the unit is approaching its viable service life. Overall, Virginia apparatus averages 10.25 years in age.

Chisholm

The Chisholm Fire Department's single fire station houses two fire engines, an aerial ladder truck, and two rescue vehicles.

Figure 33: Chisholm FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Engine 1	2006	International	Custom Fire	Engine	2	1,500	1,000	Excellent
Aerial 1	1988	Ford		Ladder Truck	2	1,250	1,000	Fair
Engine 2	1996	International	General Safety	Engine	4	1,500	1,000	Good
Rescue 1	2010	Ford	F450	Rescue/ Brush	6	N/A	N/A	Excellent
Rescue 2	2001	Ford	F350	Air Unit/ Rescue	2	N/A	N/A	Good

Chisholm's primary engine and brush units are newer and in good to excellent condition. Engine 2 is 17 years of age and still has a number of years of serviceable life; however, Aerial 1, at 25 years old, is or soon will be due for replacement.

Buhl

The Buhl fire station houses two fire engines, a rescue unit, and one ambulance in two separate buildings. The buildings are located across the street from each other, making access to fire apparatus readily available.

Figure 34: Buhl FD Major Apparatus

Apparatus Name	Year	Make	Model	Type	Cab Capacity	GPM	Tank Size	Cond.
Rescue 1	2008	Ford	F550	Brush	3	120	300	Good
Engine 2	1976	Ford	F750	Engine	3	750	750	Fair to Poor
Engine 1	1996	International		Engine	5	1,250	1,000	Good
Ambulance	2001	Ford	Ambulance	Ambulance	2	N/A	N/A	Good

Both of Buhl's fire engines are older. Engine 1 is 17 years of age and will remain serviceable for some time; however, Engine 2, a 1976 vintage, is 37 years old and overdue for replacement.

Future Apparatus Serviceability

A key consideration in evaluating the feasibility of combining agencies into one or more consolidated entities is the costs that can be expected to be incurred for future replacement of major equipment.

Apparatus service lives can be readily predicted based on factors including vehicle type, call volume, age, and maintenance considerations. In the following table, ESCI calculated the average age of fire engines and aerial ladder trucks in the subject agencies to offer a point of reference when considering future vehicle replacement costs that may be incurred.

Figure 35: Future Apparatus Replacement Summary

Agency	Number of Engines	Average Age of Engines	Number of Aerials	Average Age of Aerials
Grand Rapids	3	17	1	4
Nashwauk	2	9	0	N/A
Keewatin	2	9.5	0	N/A
Hibbing	4	23.5	1	19
Mountain Iron	2	17	0	N/A
Virginia	1	18	1	10
Chisholm	2	12	1	25
Buhl	2	27	0	N/A

Fire engines in most of the agencies average ten or more years of service life before they will need to be replaced. The exception is Hibbing, whose engines are older overall than the other agencies. However, it is noted that Hibbing is taking delivery on a new engine during the course of this project which will adjust the numbers positively. It is noted that a pumper/tanker combination vehicles are included, where applicable, in the engines listed above.

The aerial ladder truck vehicles observed varied in age considerably. The Grand Rapids and Virginia aerials are relatively new and will continue to serve for ten more years. However, the Hibbing aerial is 19 years old and about two-thirds through its projected service life; the Chisholm aerial is 25 years of age and nearing the end of its serviceable life.

Capital Replacement Planning

When considering joining multiple agencies, it is important to evaluate the future costs that can be anticipated for the replacement of major capital assets. The most expensive capital items that make up a fire department are facilities (fire stations) and major apparatus, including fire engines and aerial ladder trucks.

ESCI reviewed capital replacement planning methods in the participating agencies. A variety of approaches are employed, ranging from well planned and appropriately funded replacement schedules

to simply meeting capital needs on and as-needed basis. The findings are summarized in the following table.

Figure 36: Capital Replacement Planning Summary

Agency	Apparatus Replacement Plan	Facility Replacement Plan	Funding Method
Grand Rapids	General guidelines on service lives – engines: 15 front/25 total. Aerials: 30 years total.	No structured facility replacement plan	Annual contribution to a Capital Improvement fund for apparatus. $66,000 annually
Nashwauk	Replacement scheduled on 10 year rotation, 10 years front line service, 10 years reserve	No structured facility replacement plan	General Fund budget and some financing
Keewatin	Goal of 20 year rotation of engines and major apparatus. Plan sets aside $20,000/year in city.	No structured replacement plan	Some funding is placed in reserve. Last engine was financed via lease/purchase
Hibbing	No structured replacement plan is in place	No structured replacement plan	General fund resources on and as-available basis
Buhl	No structured replacement plan is in place	No facility replacement plan is in place	General revenue, as available
Chisholm	No structured replacement plan is in place	No facility replacement plan is in place	$40K annual payment form Balkan Township is reserved for vehicle purchases
Mountain Iron	No structured replacement plan is in place	No facility replacement plan is in place	General revenue, when available
Virginia	No structured replacement plan is in place	No facility replacement plan is in place	General Fund revenue. Recent apparatus replacements funded by General Obligation Bonds

Apparatus replacement schedules are maintained in Grand Rapids, Nashwauk, and Keewatin. The other agencies purchase new fire apparatus when necessary and when funding is available. Future fire station replacement planning is not completed in any of the participating agencies.

Looking forward, should a change in governance of some or all of the fire department be undertaken as a shared service delivery initiative, apparatus replacement planning will be critical. The agencies participating are advised to establish a structured replacement schedule with calculated future costs and identified funding strategies.

Staffing

While it is important for emergency services facilities to be appropriately distributed throughout a community to ensure adequate response and equally important to have apparatus that are well-maintained and matched to the risk within the community, no emergency services organization can function without sufficient personnel to staff those facilities and apparatus. This section reviews the staffing components of the participating agencies.

Administration and Support Personnel

In career fire departments, administrative and support personnel usually focus on non-operational issues and are dedicated to managing the organization, either from an administrative or support role. Administrative personnel can be described as those tasked with the overall management and oversight of the organization including those positions charged with specific departmental functions such as training and fire prevention. Support personnel are those usually tasked with supporting the organization administratively either through clerical or other non-managerial functions.

Paid-on-call or volunteer departments usually do not have the benefit of substantially differentiating between administrative/support and operational personnel. The personnel within these types of departments frequently take on administrative and support roles in addition to operational responsibilities and few paid-on-call departments have dedicated clerical positions.

The following table summarizes the administrative and support positions within each study agency, where appropriate.

Figure 37: Summary of Personnel - Administrative and Support

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Types of Staffing Used	Paid-on-Call	Paid-on-Call	Paid-on-Call	Career, Paid-on-Call	Paid-on-Call	Paid-on-Call	Paid-on-Call	Career
Administration and Support Staff								
Fire Chief	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Deputy Chief	0	0	0	0	0	0	0	0
Assistant Chief	*2*	*2*	0	0	*1*	*1*	0	*3*
Division Chief	0	0	0	0	0	0	0	0
District Chief	0	0	0	0	0	0	0	0
Fire Marshal	0	0	0	*1*	0	0	0	0
Fire Inspector	*1*	0	0	0	0	0	0	0
Public Education Officer	*1*	0	0	0	0	0	0	0
Training Chief	0	0	0	0	0	0	0	0
Training Officer	0	*1*	0	*1*	0	0	0	*1*
Training Captain	*1*	0	0	0	0	0	0	0
Mechanic/Maintenance	*1*	0	0	0	0	0	0	0
Clerical Support	0	0	0	0	0	0	0	*1*

For HFD and VFD, administrative and support personnel are assigned to those positions as full-time staff. In the other agencies, however, those positions identified as administrative and support are also considered part of the on-call operational complement.

Operations Personnel

Operational personnel are those that are specifically tasked with the delivery of emergency services to the community. These personnel can function in one of several capacities from career to part-time to paid-on-call to purely volunteer in nature. The study agencies employ a variety of personnel types but the predominant status throughout the region is paid-on-call, with the exception of HFD and VFD that employee full-time, career personnel. The following figure summarizes the operational complement of each agency.

Figure 38: Summary of Personnel - Operations

Career Personnel

	Buhl FD	Chisholm FD	Grand Rapids FD	Hibbing FD	Keewatin FD	Mountain Iron FD	Nashwauk FD	Virginia FD	Total
Battalion Chief	0	0	0	3	0	0	0	0	**3**
Captain	0	0	0	3	0	0	0	4	**7**
Lieutenant	0	0	0	0	0	0	0	0	**0**
Engineer	0	0	0	12	0	0	0	6	**18**
Firefighter	0	0	0	8	0	0	0	0	**6**
Total	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**10**	**34**

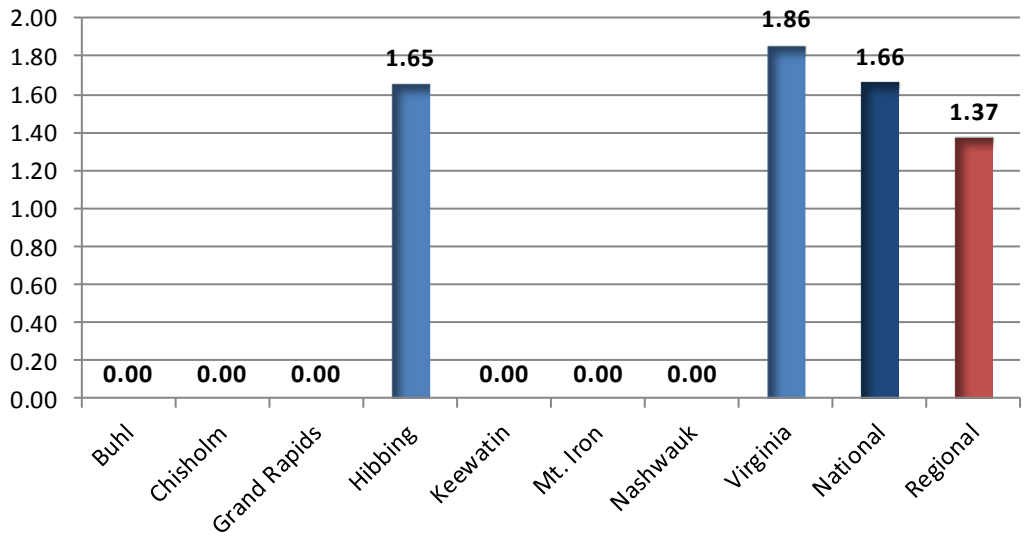
POC Personnel

	Buhl FD	Chisholm FD	Grand Rapids FD	Hibbing FD	Keewatin FD	Mountain Iron FD	Nashwauk FD	Virginia FD	Total
Fire Chief	1	1	1	0	1	1	1	0	**6**
1st Asst Chief	0	0	1	0	0	0	1	0	**2**
2nd Asst Chief	0	0	1	0	0	1	1	0	**3**
Assistant Chief	1	1	0	0	0	0	0	0	**2**
Battalion Chief	1	0	0	1	0	0	0	0	**2**
Captain	2	2	1	2	1	1	0	0	**9**
Lieutenant	2	2	0	1	1	0	0	0	**6**
Training Officer	0	0	0	0	1	1	1	0	**3**
Safety Officer	0	2	1	0	1	0	0	0	**4**
Firefighter	0	0	25	15	10	14	16	0	**80**
Total	**7**	**8**	**30**	**19**	**15**	**18**	**20**	**0**	**117**

Although there may be a sufficient number of personnel on a paid-on-call roster, it should be understood that these personnel are not always available. Given the nature of paid-on-call organizations, those personnel usually have at least one other full-time job to which they must be committed. If they are at work or out of the area, they are not likely to be available for emergency response. Similarly, not all those on the paid-on-call rosters should be considered active members. Most organization see a fraction of their actual roster actively participate on a routine basis.

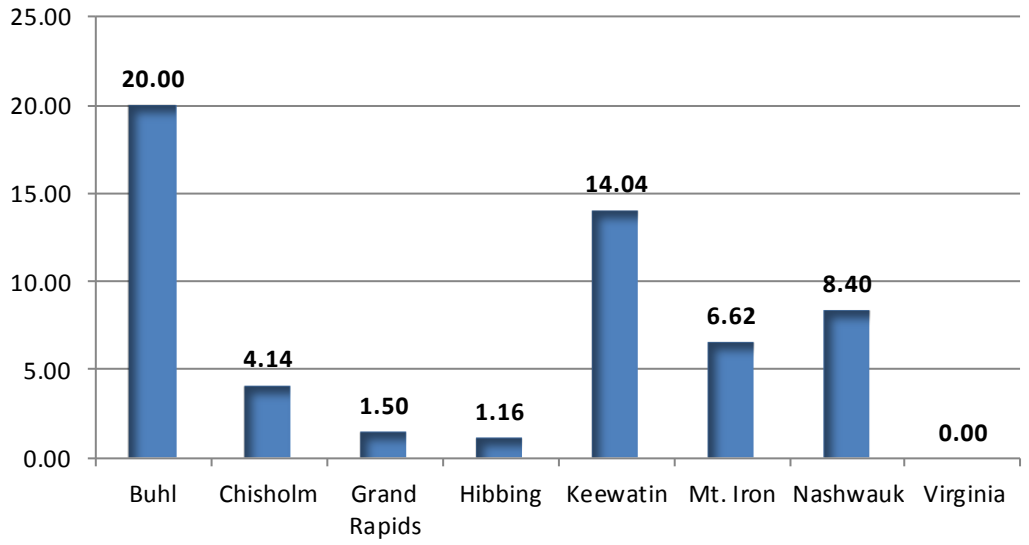
While raw numbers of personnel allow for the reader to see the actual number of personnel on each agency's roster, it does not provide an adequate visual comparison of resources nor does it take into account population or area served. For this reason, ESCI generated an analysis that presents career staffing based on a per 1,000 population to create a benchmark.

Figure 39: Comparison of Career Personnel per 1,000 Population



Based on available benchmark data for areas of similar size to Hibbing and Virginia, both departments are generally in line with the number of career personnel per 1,000 population. The following figure provides a side-by-side comparison of paid-on-call/volunteer personnel per 1,000 population for the study departments.

Figure 40: Comparison of Paid-on-Call/Volunteer Personnel per 1,000 Population



Given the differences in populations across the study communities no single regional or national benchmark could be generated for comparative purposes. However, the rates of volunteerism noted above are significantly higher than what ESCI typically experiences in similar departments.

Staff Scheduling Methods

Emergency services organizations are 24-hour service organizations but each staff their respective agencies based on the type of system they have selected to operate. For career departments, this usually translates into 24-hour on-duty staffing at the fire stations. For paid-on-call organizations, staffing can be accomplished through a variety of means including purely on-call, assigned on-call, station duty crews, resident personnel, etc.

For the study agencies, seven utilize paid-on-call personnel in some fashion while VFD is the only fully career department among the participating municipalities. The following tables summarize the staffing and notification methodologies of the study agencies.

Figure 41: Career Staff Scheduling

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Career Workweek	N/A	N/A	N/A	53	N/A	N/A	N/A	53
Paid Operations Personnel Schedule	N/A	N/A	N/A		N/A	N/A	N/A	24 on 24 off
Schedule Rotation	N/A	N/A	N/A		N/A	N/A	N/A	7-day rotation
Shift Starts	N/A	N/A	N/A		N/A	N/A	N/A	7:00am
Employee Call-Back Requirements	N/A	N/A	N/A	Yes	N/A	N/A	N/A	Yes
Employee Residency Requirements	N/A	N/A	N/A	None	N/A	N/A	N/A	Within response district

Figure 42: Paid-on-Call Staff Scheduling

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Types of Volunteer/POC Duty	Voluntary on-call response	Voluntary on-call response	Voluntary on-call response	Voluntary on-call response	Voluntary on-call response	Voluntary on-call response	Voluntary on-call response	N/A
On-Call Communication Method	Voice pager	Voice pager	Voice pager	Voice pager	Voice pager	Voice pager	Voice pager	N/A
Is Station Duty Assigned	None	None	None	None	None	None	None	N/A
Station Duty or Call Duty Periods Paid	Paid for calls made only, normal rate	Paid for calls made only, normal rate	No pay		Paid for calls made only, normal rate, Stipend or rate for call duty	No pay	Paid for calls made only, normal rate	N/A

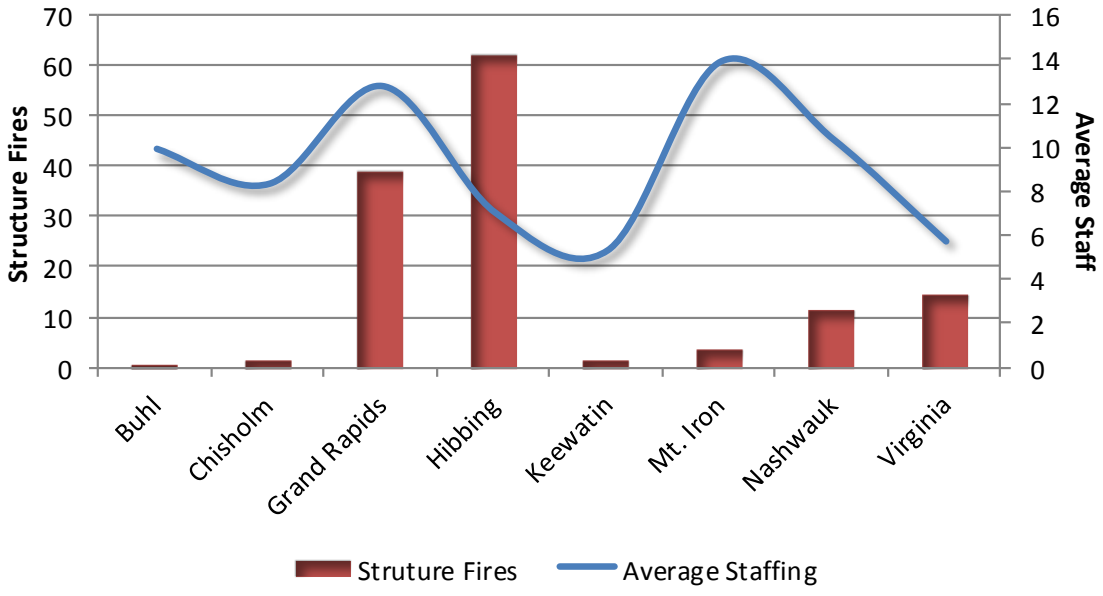
The staffing methodologies for the study agencies are similar based on department type. GRFD, NFD, KFD, BFD, CFD, and MIFD all utilize purely paid-on-call personnel to handle emergency incidents while HFD and VFD employ career personnel to cover their respective responses. HFD also uses paid-on-call personnel to supplement its career staff, allowing them to use those personnel to cover career vacancies and summon more responders to involved incidents.

KFD and CFD do not pay their personnel for response and should be considered purely volunteer organizations. Future shared services between the study agencies will need to take this into consideration as part of any financial model for sharing personnel resources.

Historical Staffing Performance

While raw numbers of personnel indicate a fire department's potential staffing for incidents, it is common for a limited number of those on the roster to respond to a majority of the incidents. To this end, ESCI evaluated the overall staffing performance of each organization by analyzing National Fire Incident Reporting System (NFIRS) data that tracks the number of personnel on each incident, particularly structure fires. The following figure illustrates the average staffing performance from the data provided by each agency.

Figure 43: Historical Average Staffing Performance



The departments have varying success at producing their own personnel for structure fires with Mt. Iron having the highest average (14) and Keewatin having the lowest (5.5). It should be noted, however, that

the limited number of structure fires reported for many of the agencies tends to skew the statistics downward. Still, ESCI believes that, based on the available data, all departments should either improve recordkeeping regarding incident staffing or identify a realistic staffing problem within their respective departments.

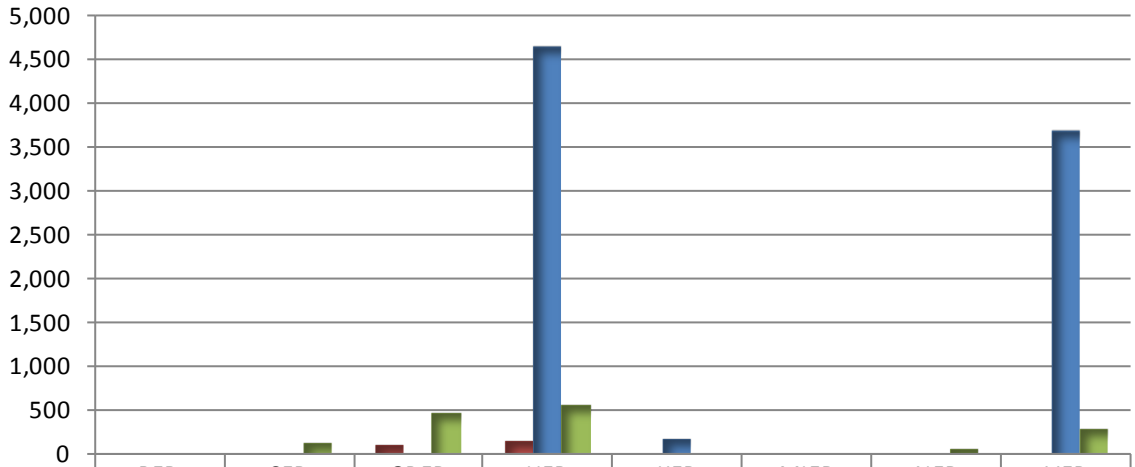
Service Delivery and Performance

While a fire department cannot function without sufficient staff, adequate facilities, and sufficient apparatus, the services that are delivered to the community is the ultimate measure of effectiveness. This section evaluates the actual service delivery components within the study agencies including service demand (workload), distribution of resources in relation to service demand, concentration capabilities of the region, individual department reliability and response performance.

Demand Analysis

Demand can be categorized in several different ways depending on the services provided by the respective agencies. For the purposes of this analysis, ESCI evaluated each department's NFIRS data and segregated the response information into three categories: Fire, those incidents that involved an actual fire of any type; EMS, those incidents coded as medical in nature regardless of transport; and Other, all other incident types. The figures below illustrate this incident breakdown for the combined 2011 and 2012 data.

Figure 44: Incidents by Type



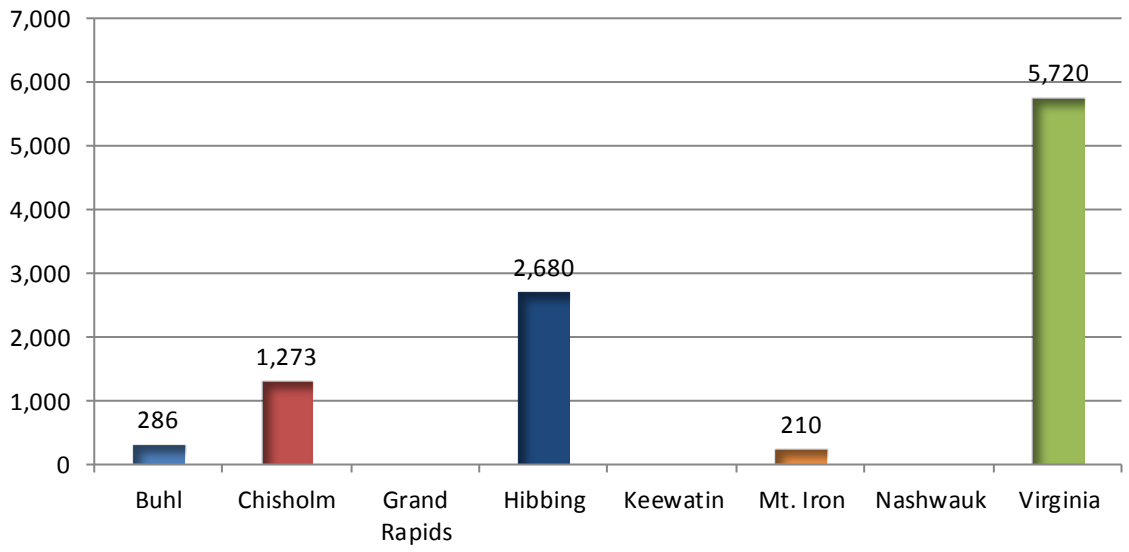
	BFD	CFD	GRFD	HFD	KFD	MIFD	NFD	VFD
Fire	10	34	107	152	21	3	34	42
EMS	7	7	30	4,631	169	0	22	3,672
Other	4	118	469	560	15	7	52	291

Fire EMS Other

Several of the departments provided ESCI data that was extremely limited. For this reason, Computer Aided Dispatch (CAD) data was requested from both Itasca (Grand Rapids, Keewatin, and Nashwauk) and St. Louis (Buhl, Chisholm, Hibbing, Mt. Iron and Virginia) Counties in an effort to determine the

actual number of dispatched incidents for each agency over the 2011 – 2012 data period. Unfortunately, data from Itasca County was not received due to problems with accessing and extracting the necessary information from their system. The figure below illustrates the results of the analysis completed for those departments dispatched by St. Louis County. [1]

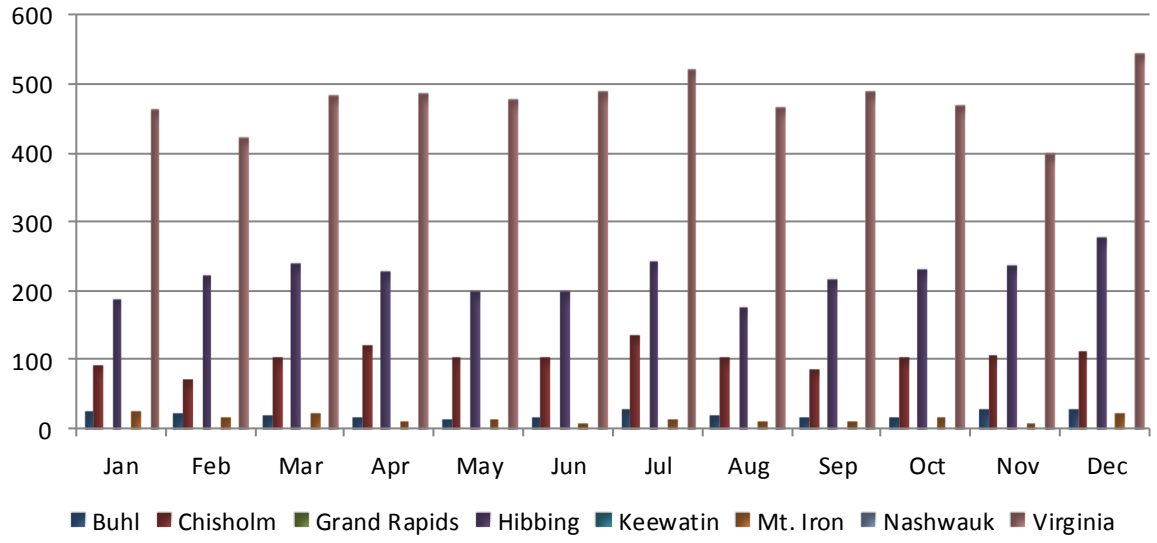
Figure 45: Total Incidents from CAD - 2011 and 2012



Although aggregate service demand illustrates how busy a department may be overall, it is also useful to evaluate service demand temporally. The following figures illustrate the two-year average for service demand by month in order to determine if any seasonal variations exist.

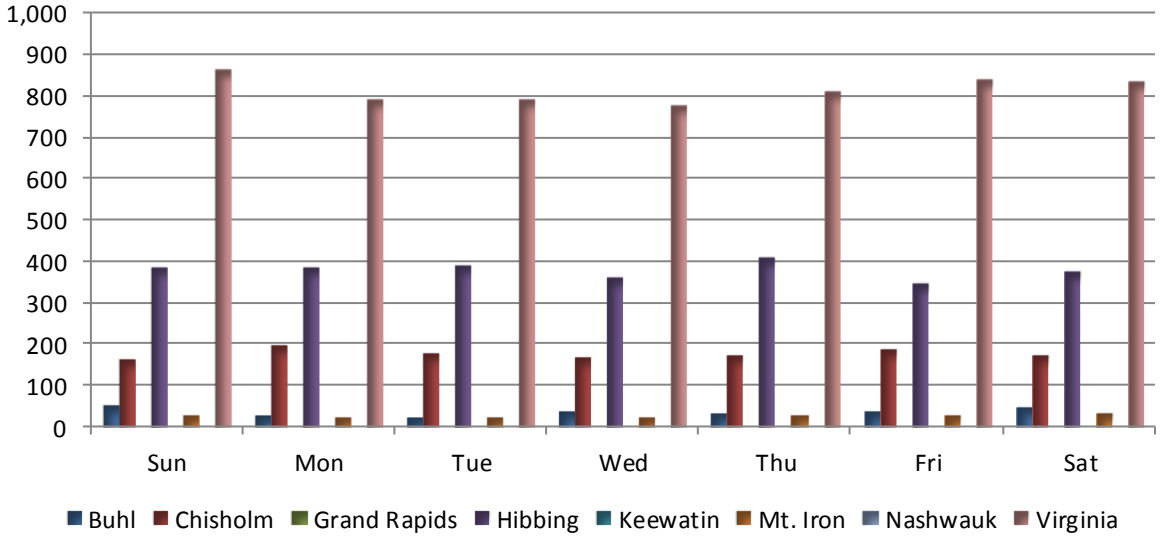
[1] Itasca County CAD data was not available; therefore Grand Rapids, Keewatin and Nashwauk have been omitted from following incident and service demand analyses.

Figure 46: Service Demand by Month



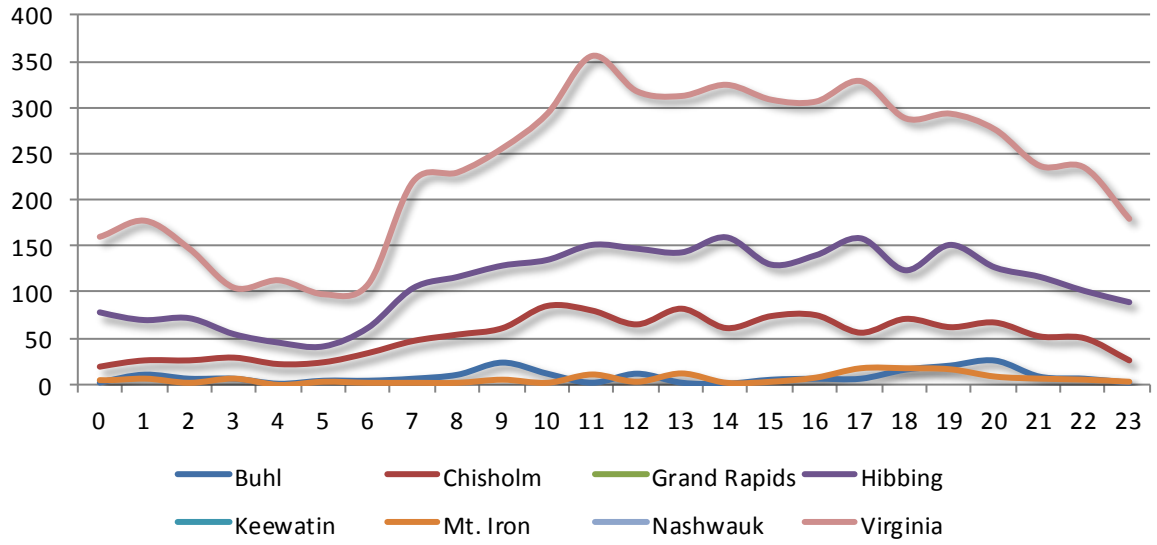
The service demand for each department throughout the year is highly variable without any discernible trend. The next analysis is service demand by day of week.

Figure 47: Service Demand by Day of Week



Based on this analysis, service demand for each department is generally higher early in the week but is still highly variable with little in the way of a discernible trend. The final temporal analysis evaluates service demand by hour of day.

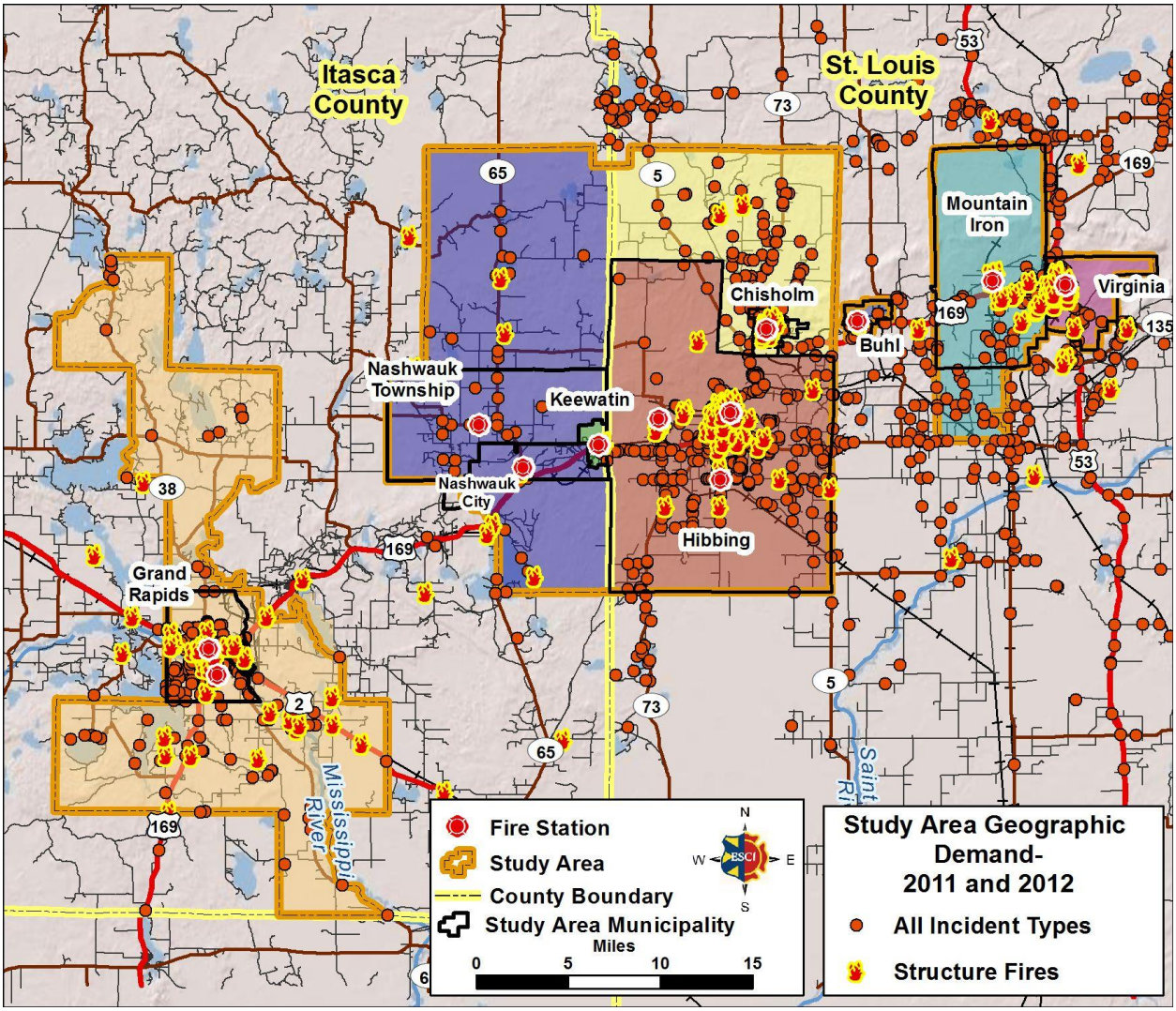
Figure 48: Service Demand by Hour



Those departments that are actively engaged in emergency medical services tend to have a more distinct bell curve that closely follows typical human activity patterns; increasing between 0600 and 0700, peaking during the mid-day and then declining into the evening. Evaluating service demand temporally allows departments to provide necessary resources in a more dynamic way than typical continuous staffing levels. It also allows departments to increase staffing and resources during periods of expected high demand.

It is also useful to evaluate service demand geographically so that resources can appropriately deployed to effect the most efficient response. The figure below illustrates how service demand for the past two years is distributed throughout the service areas.

Figure 49: Geographic Service Demand



As expected, the highest concentration of both overall service demand and structure fires is located within the more densely populated areas of Grand Rapids, Hibbing and Virginia/Mt. Iron.

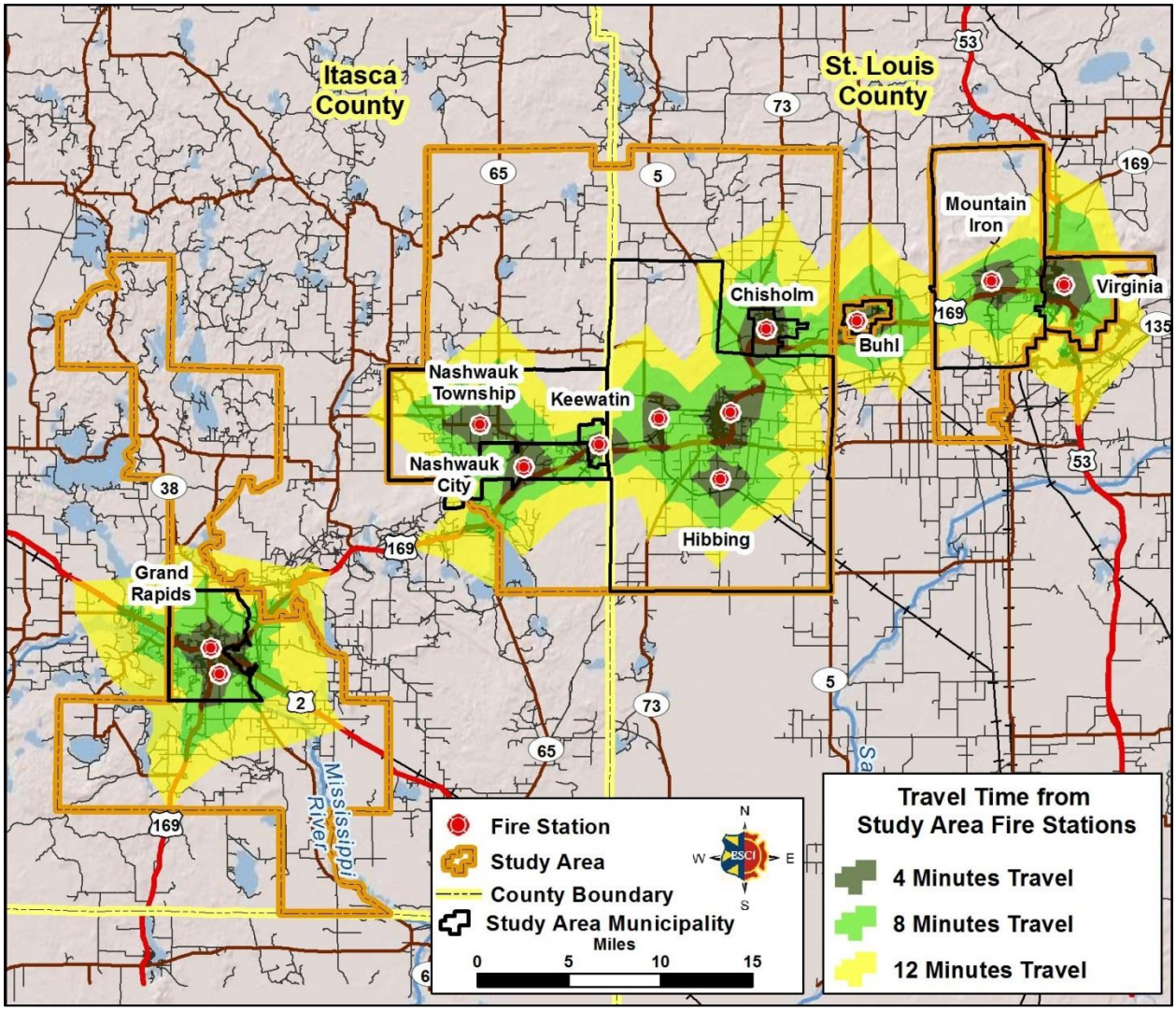
Distribution Analysis

Distribution analysis evaluates how well an agency's physical resources are distributed throughout the response area. There are two methods by which to evaluate distribution: Time and distance. ESCI used geographic information systems (GIS) data to analyze the existing road network and apply time and distance measurement.

The analysis presented here is time. As with any emergency service delivery system, time is of the essence in responding to fire and medical incidents. Thus, physical facilities should be distributed such

that a quick and effective response can be achieved. The figure below illustrates the four and eight and 12 minute travel model from each facility within the study area.

Figure 50: Station Distribution and Coverage Capability - 4, 8 and 12-Minute Travel Models



Based on the travel model presented above, there is a certain percentage of overall service demand that can be reached within each time model. The following table summarizes coverage for each model within each community as well as the study area as a whole.

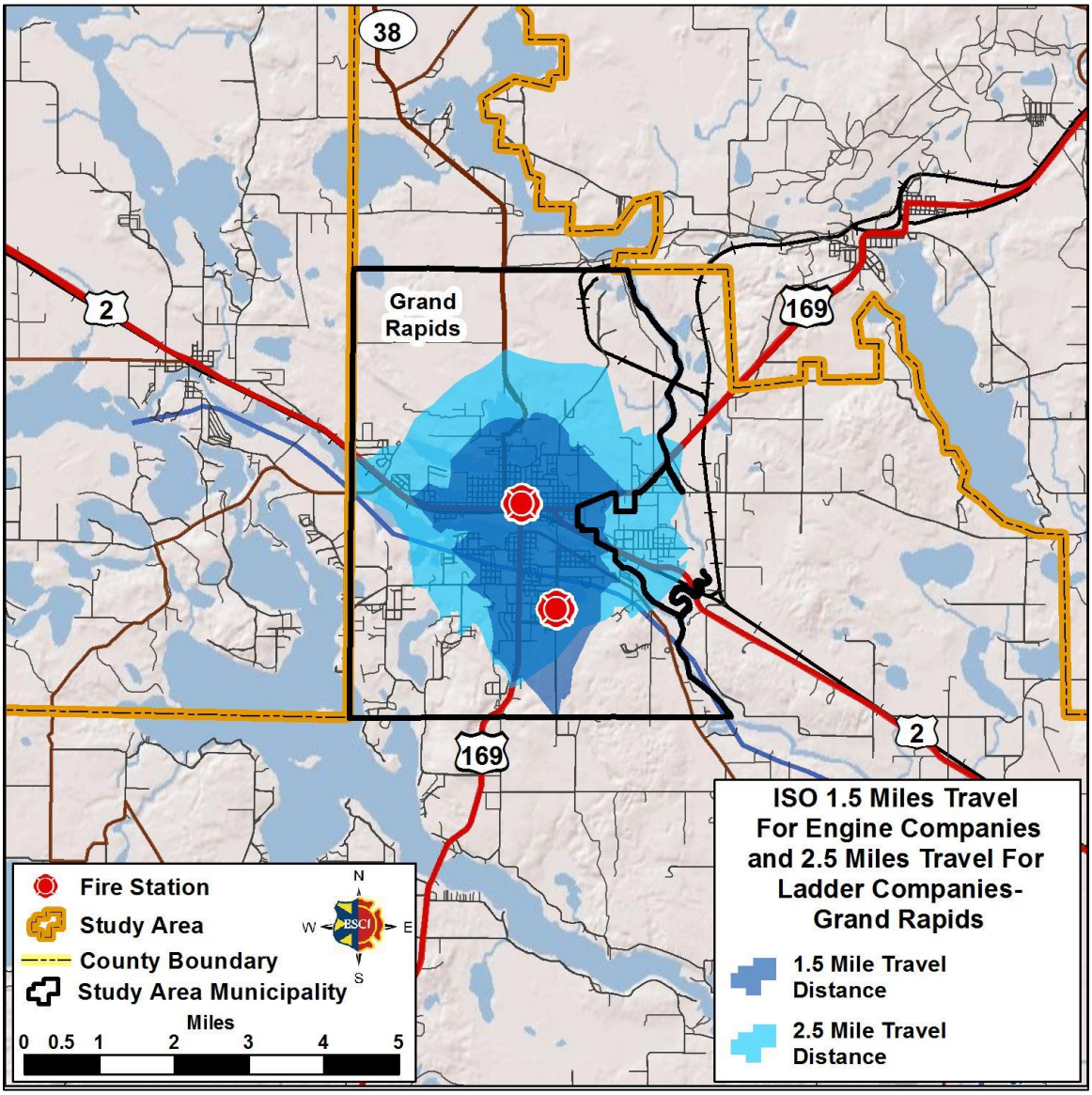
Figure 51: Service Demand Coverage - Travel Model

	4-Minute	8-Minute	12-Minute
Buhl	90.1	94.4	94.7
Chisholm	82.5	85.1	94.6
Grand Rapids	69.9	80.8	89.7
Hibbing	86.7	94.4	96.3
Keewatin	90.9	92.9	94.5
Mt. Iron	33.9	82.4	99.7
Nashwauk	46.3	58.5	64.6
Virginia	93.9	97.7	98.4

While many of the departments are not able to reach a substantial portion of historical service demand within four minutes of travel (average 74.3 percent), 85.5 percent on average is within eight minutes of travel while 91.6 percent is within 12 minutes of travel. These coverage percentages are not unexpected due to the various geographies covered by the study agencies.

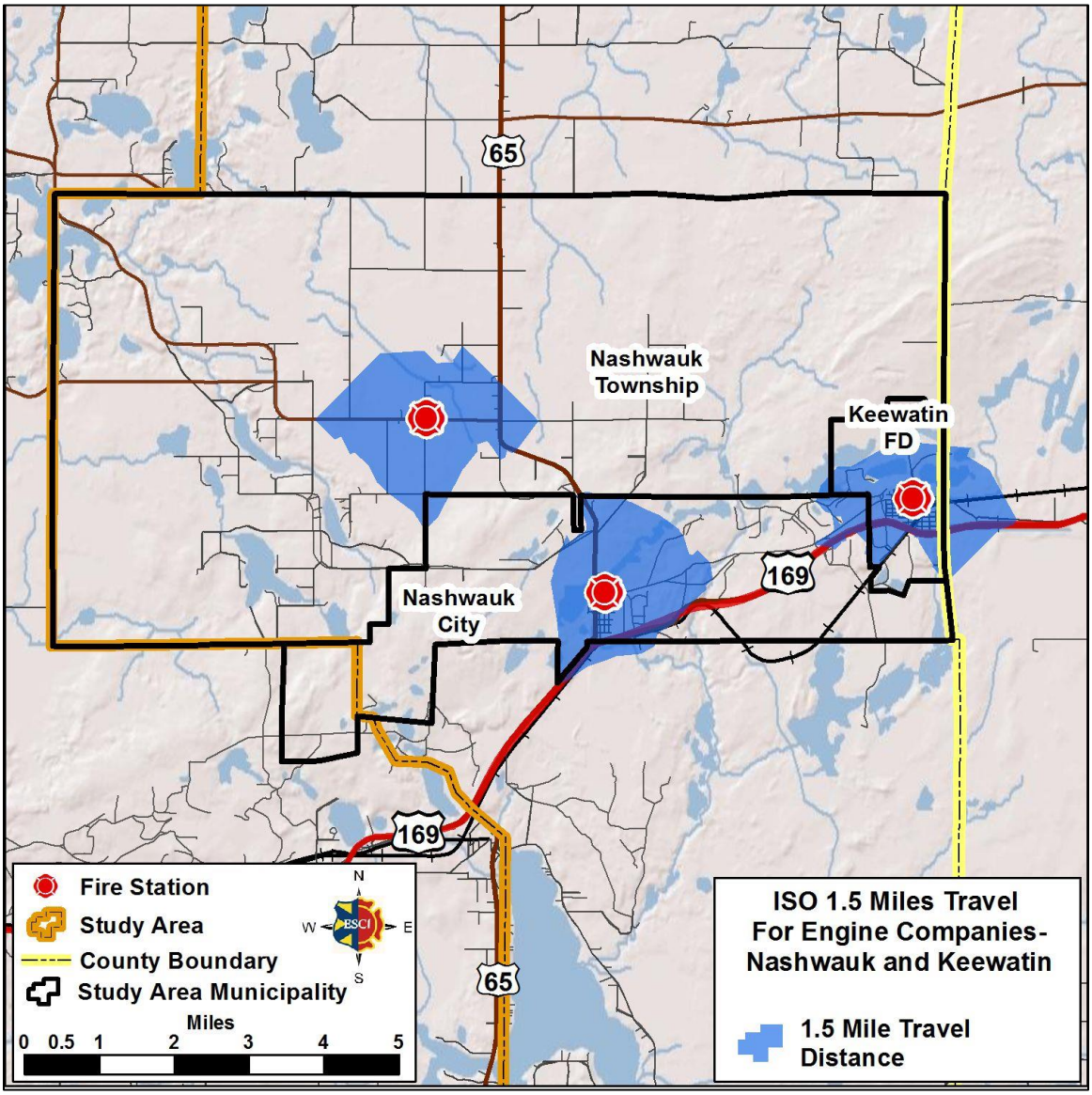
Although evaluating distribution by time is useful in presenting how quickly units can respond within a given area, analysis of distance is also important based on requirements of the Insurance Services Office (ISO) that evaluates fire departments as part of their overall rating of property fire insurance rates. Based on that rating system, properties within 1.5 miles of a fire station receive better credit than do homes outside that distance. Similarly, properties within 2.5 miles of an aerial device receive better credit than those properties outside that travel distance. The following maps illustrate the 1.5 and 2.5-mile travel distances from existing stations based on apparatus contained. If no aerial device is contained within the respective station, the 2.5-mile travel model is omitted. This analysis begins with the Grand Rapids area.

Figure 52: 1.5-Mile Engine and 2.5-Mile Aerial Coverage - Grand Rapids



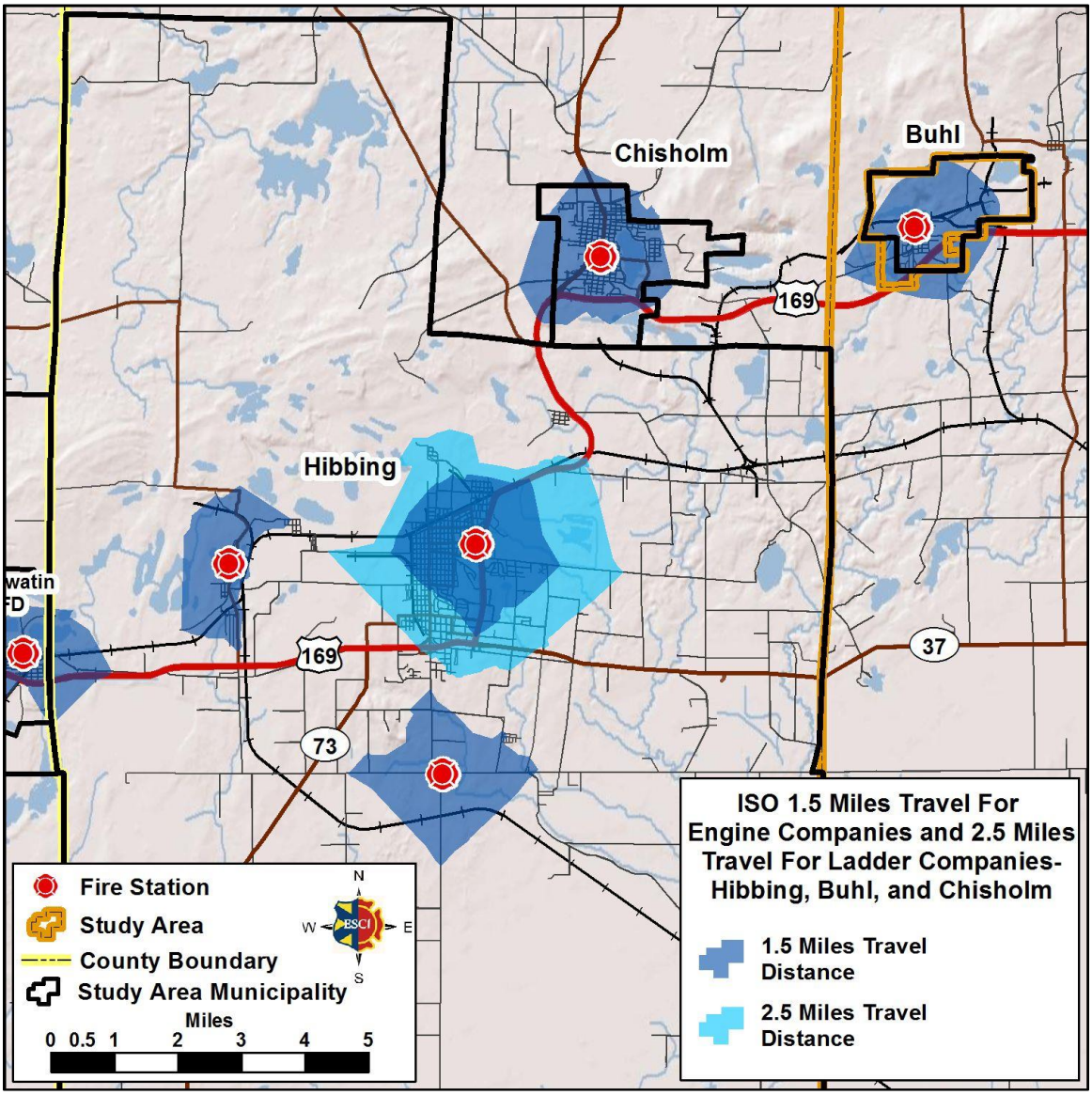
Based on the model, approximately 17.1 percent of the GRFD response area is within the 1.5-mile coverage while 19.4 percent is within the 2.5-mile coverage. The next figure illustrates similar analysis for Nashwauk and Keewatin.

Figure 53: 1.5-Mile Engine Coverage - Nashwauk and Keewatin



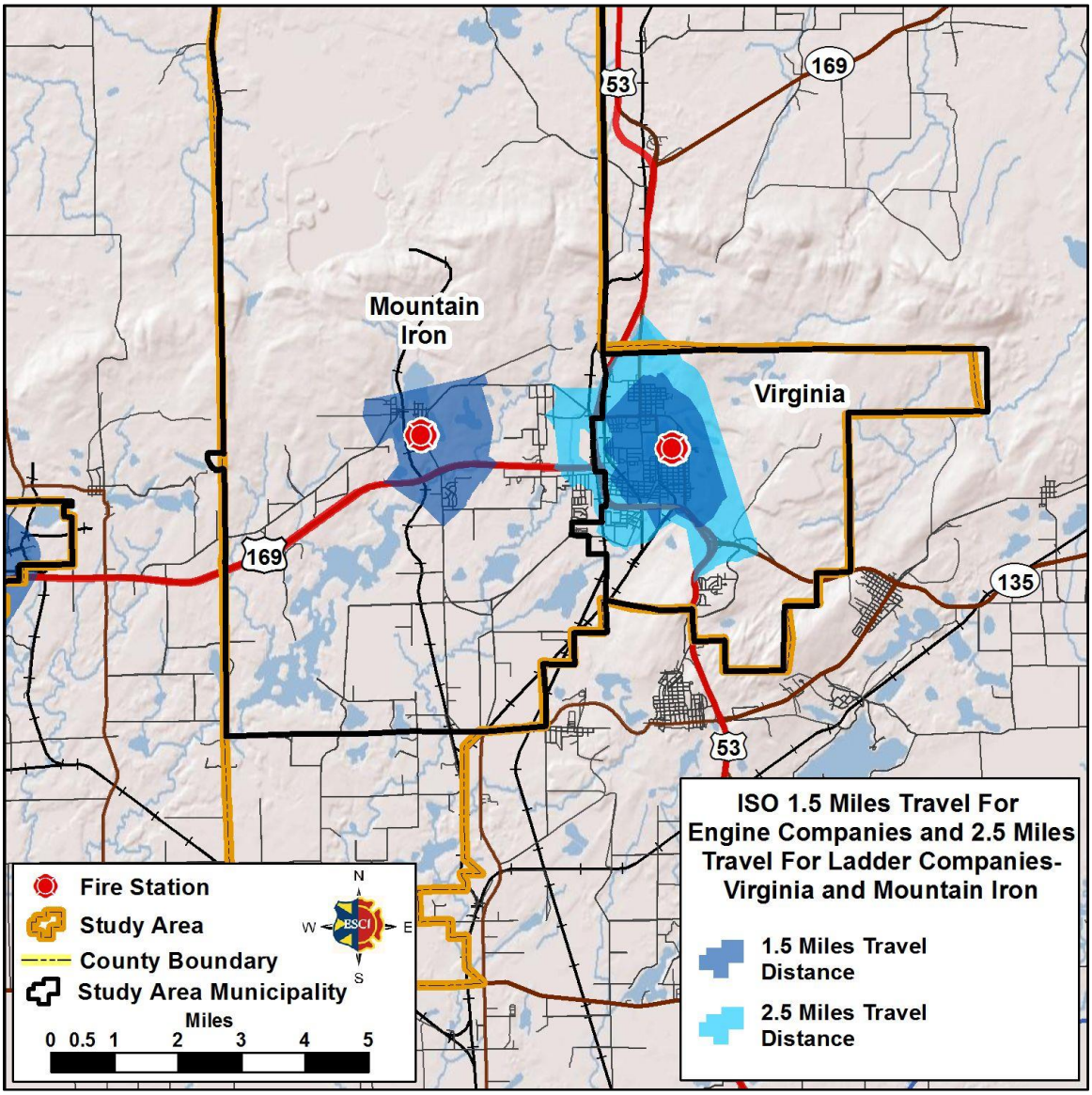
Based on the model, approximately 11.9 percent of the NFD response area is within the 1.5-mile coverage while 88.1 percent of the KFD response area falls within the 1.5-mile coverage area. Neither department maintains an aerial apparatus. The next figure illustrates similar analysis for Hibbing, Buhl, and Chisholm.

Figure 54: 1.5-Mile Engine and 2.5-Mile Aerial Coverage - Hibbing, Buhl, and Chisholm



Based on the model, approximately 25.2 percent of the HFD response area, 99.6 percent of the Buhl response area, and 28.5 percent of the Chisholm response area are within the 1.5-mile coverage. Only HFD has an aerial apparatus and approximately 30.7 percent of the area falls within the 2.5-mile coverage. The final distribution analysis applies to the Virginia and Mountain Iron areas.

Figure 55: 1.5-Mile Engine and 2.5-Mile Aerial Coverage – Virginia and Mountain Iron



Based on the model, approximately 60.0 percent of the VFD response area is within the 1.5-mile coverage while 12.9 percent of the MFD area falls within the coverage. Only VFD has an aerial apparatus and approximately 86.8 percent of the response area falls within the 2.5-mile coverage.

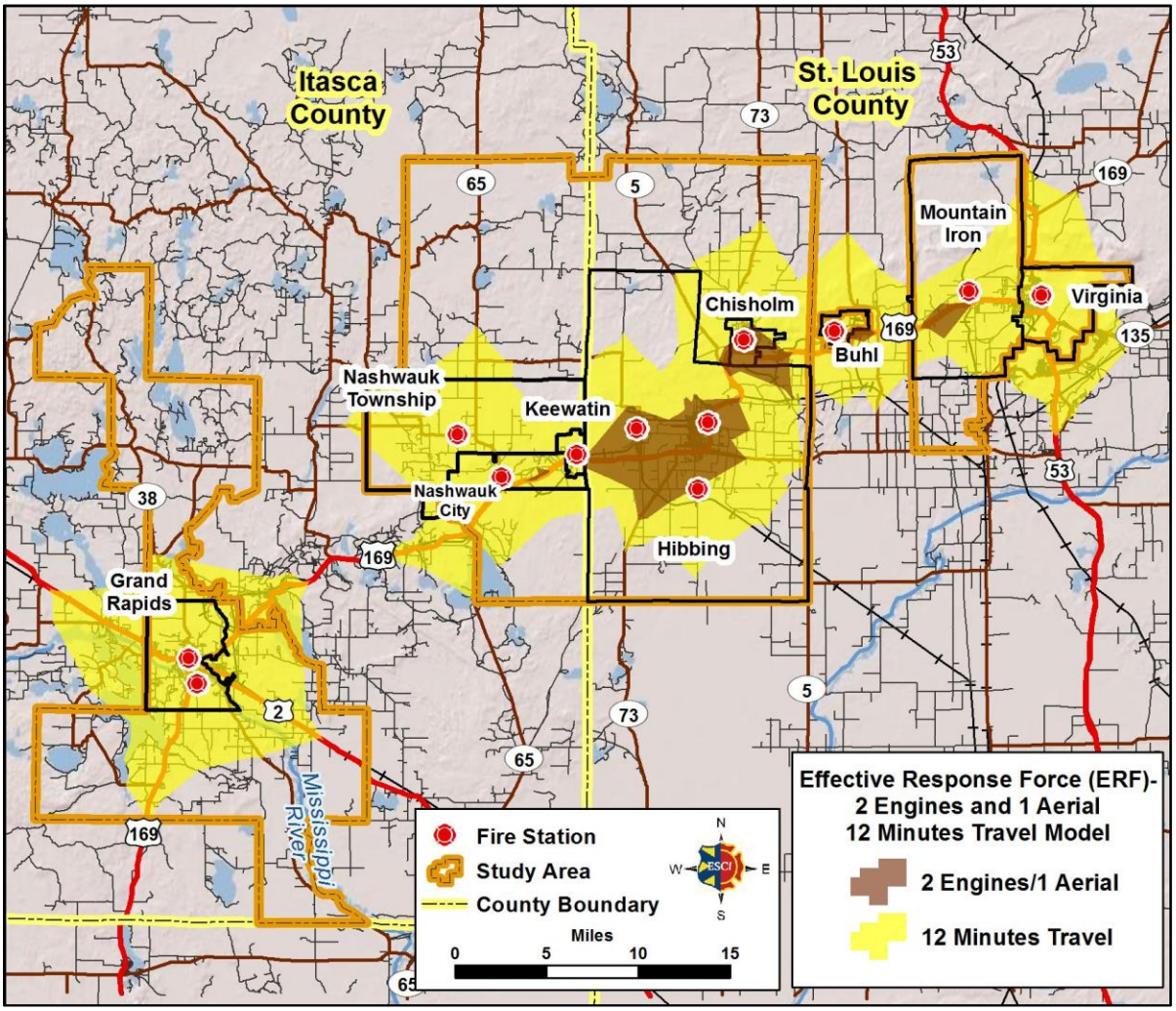
The next section of the report focuses on the departments' ability to concentrate sufficient resources to effectively mitigate emergency incidents.

Concentration Analysis

Concentration of resources is an analysis of a department's ability to assemble sufficient resources (personnel and apparatus) to effectively mitigate emergency incidents. Although communities experience a variety of incident types over a period of time as already discussed, structure fire incidents prove to be the most difficult for fire departments to handle. These incidents require more personnel and apparatus to effectively form an attack and perform all the other ancillary functions necessary to completely mitigate the incident. The Centers for Public Safety Excellence (CPSE), the body that accredits fire departments internationally, suggest that between 12 and 14 personnel are necessary to effectively mitigate a moderate risk fire involving a single family detached residential dwelling. This equates to the utilization of at least three apparatus; two engines/pumpers and one aerial apparatus in some cases.

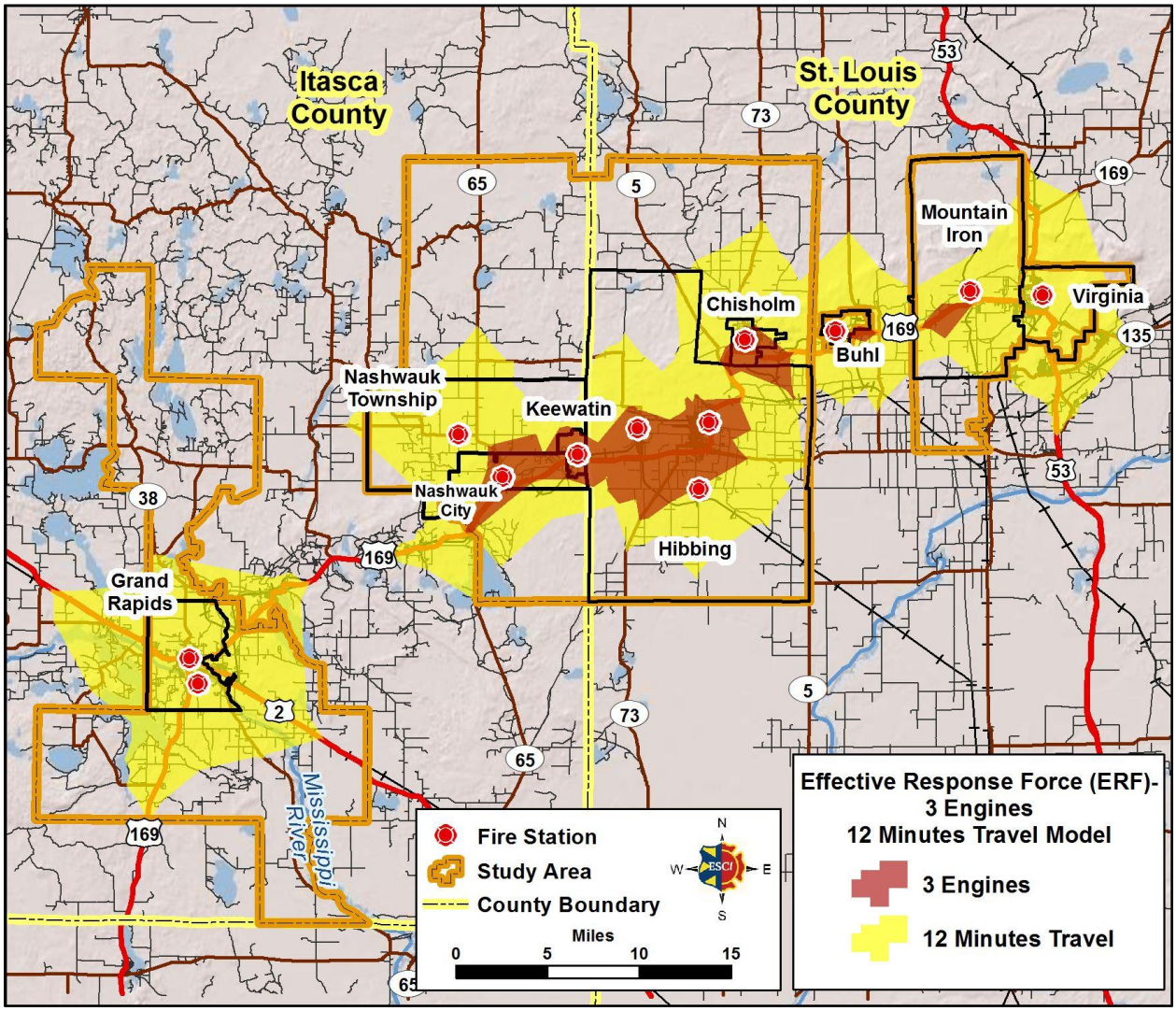
For most volunteer or paid-on-call departments, these incidents may require more resources, particularly apparatus since fewer personnel may be arriving on each piece of equipment. For this reason, ESCI performed two separate concentration analyses: one with two engines/pumpers and one aerial apparatus and one with three engines/pumpers. The following figure represents the first analysis.

Figure 56: Resource Concentration - Two Engines, One Aerial



The following figure illustrates the second analysis.

Figure 57: Resource Concentration - Three Engines



Most of the more heavily populated areas area within at least 12 minutes of travel for the concentration of three engines.

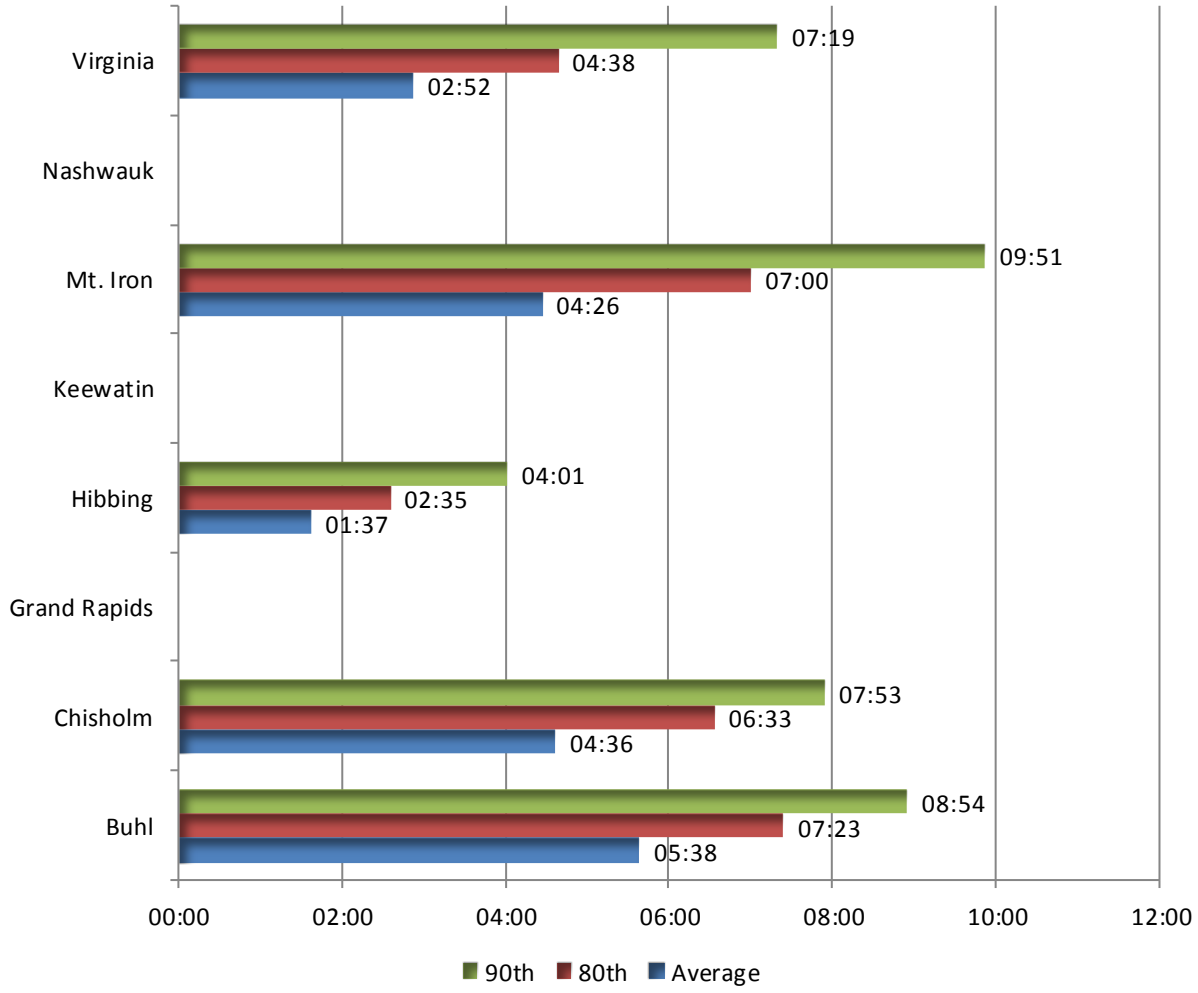
Response Performance

Total response time is the amount of time a resident or business waits for resources to arrive at the scene of an emergency beginning when they first call 9-1-1. This process begins for the fire department once the appropriate unit is dispatched by the communications center. However the total response time should be measured from the time the call is answered in the 9-1-1 center and processed by the dispatcher or telecommunicator. The period between call answer and dispatch is commonly known as processing time. *NFPA 1221*, the standard for fire service emergency dispatch centers recommends that a call processing objective of one minute when measured at the 95th percentile. In short, 95 percent of

all emergency incidents should be answered and dispatched within one minute of call receipt. The data provided to ESCI did not include a 'call receipt' time; therefore, no analysis of call processing performance could be completed.

The period of time between dispatch and when a unit is en route to the incident is known as turnout or reflex time. The following figure illustrates each agency's historical turnout time performance as recorded in the Computer Aided Dispatch (CAD) data supplied to ESCI. [2]

Figure 58: Turnout Time Performance



NFPA 1710 and *1720* provide recommendations regarding response performance for both career (*1710*) and volunteer/combination (*1720*) fire departments. For career fire departments, the recommended

[2] Itasca County CAD data was not available; therefore, no turnout time performance analysis could be completed for Grand Rapids, Keewatin and Nashwauk.

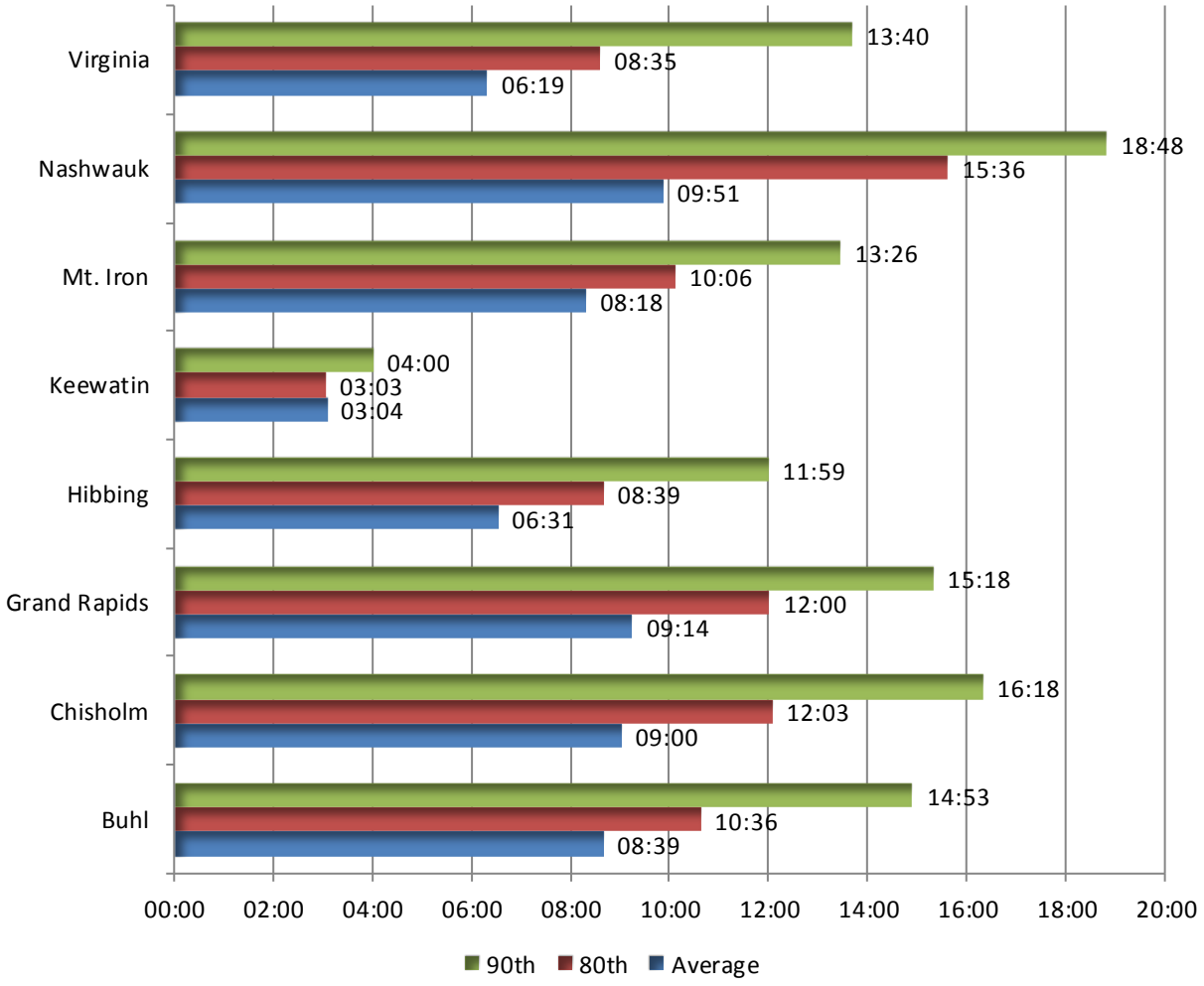
turnout time performance is listed at 60 seconds for medical responses and 80 seconds for fire incidents, allowing extra time to don additional protective clothing. Performance for career or mostly career fire departments is routinely measured at the 90th percentile. In contrast, *NFPA 1720* does not provide a turnout time recommendation for volunteer/combination and mostly volunteer departments but choses rather to focus on overall response, which will be discussed later in this section.

Although the preceding figure does not break out turnout time performance into medical and fire incidents, both HFD and VFD (the two career or mostly career departments) are well above the established turnout time performance as recommended by NFPA for emergency incidents. Both departments should work to identify issues impacting the ability of personnel to effectively respond to all emergency incidents.

Analysis on response performance is often measured differently between departments. Some agencies track response performance for the first 'unit' arrival (which could be a quick response vehicle, chief, or other non-suppression apparatus) while others track performance based on first apparatus arrival. While single non-suppression apparatus performance can be appropriate for medical and non-fire responses, it is also useful to determine when the effectiveness of the first suppression capable apparatus arrival. The following figure provides a review of first unit arrival to emergency incidents. [3]

[3] Itasca County CAD data was not available; therefore NFIRS data from Grand Rapids, Keewatin and Nashwauk were used to create this chart compared to St. Louis CAD data from the other study agencies.

Figure 59: Response Performance – First Unit Arrival



For career or mostly career fire departments, *NFPA 1710* recommends a response performance of five minutes or less when measured at the 90th percentile. None of the study agencies are achieving this level of performance. While it is understood by many that the established NFPA recommendation is extremely difficult to meet for most agencies, those agencies that provide services to varying degrees of population density and large service areas find it even more difficult to meet.

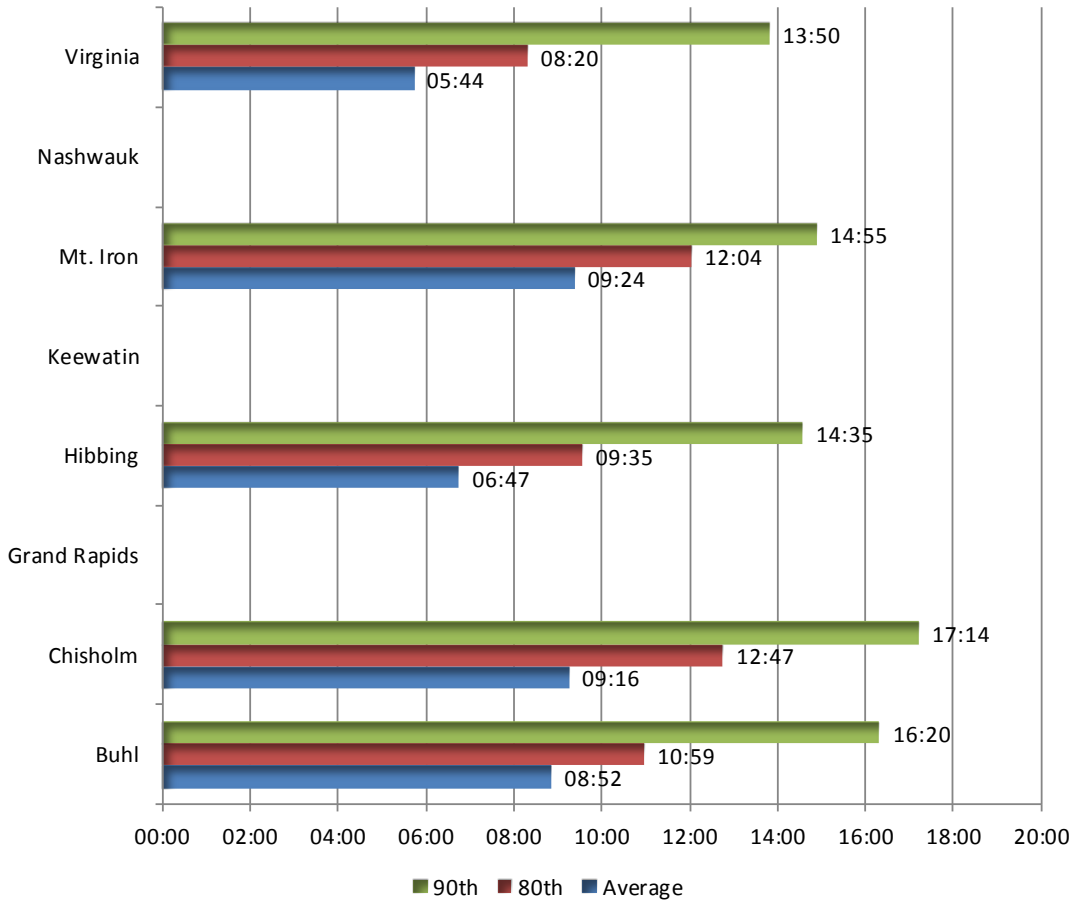
For volunteer/combination and mostly volunteer organizations, *NFPA 1720* provides a tiered response performance recommendation based on population density, as illustrated in the following table.

Figure 60: NFPA 1720 Response Performance Recommendations

Classification	Population Density per Square Mile	Response Performance Target	Percentile
Urban	>1000	9:00	90th
Suburban	500 to 999	10:00	80th
Rural	<500	14:00	80th
Wilderness/Remote	Undeveloped	Undetermined	90th

The figure below illustrates first 'apparatus' arrival whether that be an ambulance for medical incidents or a suppression capable apparatus for fire incidents. [4]

Figure 61: Response Performance - First Apparatus Arrival



[4] Itasca County CAD data was not available; therefore, no first apparatus arrival could be determined for Grand Rapids, Keewatin, and Nashwauk.

ESCI was unable to determine the exact population densities for the various communities and geographies served; only generalities can be made regarding response performance. If ESCI were to use the best response performance for each agency from the two preceding figures and apply the suburban density measure throughout the entire service area, response performance is considered to be adequate as summarized below.

Figure 62: Overall Response Performance Summary

	80th % Response	Goal	Difference
Buhl	10:36	10:00	+0:36
Chisholm	12:03	10:00	+2:03
Grand Rapids	12:00	10:00	+2:00
Hibbing	8:39	10:00	-1:21
Keewatin	3:03	10:00	-6:57
Mt. Iron	10:06	10:00	+0:06
Nashwauk	15:36	10:00	+5:36
Virginia	8:20	10:00	-1:40

Although the preceding table gives the impression that each department is doing relatively well regarding overall response performance, HFD and VFD should be measured against the career or mostly career *NFPA 1710* standard of 5:00 total response when measured at the 90th percentile.

Emergency Medical Services Support and System Oversight

Emergency medical services (EMS) within the study area are provided by several of the participating agencies but not all. EMS can be defined in a number of ways regarding type of services delivered. Generally, EMS is the delivery of emergency medical care to a department's respective response area; this can be accomplished at the Basic Life Support (BLS) or Advanced Life Support (ALS) level. Similarly, these services can be provided as a non-transporting first responder agency or by providing ambulance transport. The figure below summarizes the EMS function across the study agencies.

Figure 63: Comparison of EMS Delivery Models

	Service Level	Service Type	Other
Buhl	BLS	Transport	Receives ALS services from HFD and VFD
Chisholm	BLS	First Responder	
Grand Rapids	BLS	First Responder	
Hibbing	ALS	Transport	
Keewatin	BLS	First Responder	
Mountain Iron	BLS	First Responder	Separate city EMS agency
Nashwauk	BLS	First Responder	Separate city EMS agency
Virginia	ALS	Transport	

Those agencies that are actively involved in EMS, particularly as transport providers, see medical incidents as a majority of their department's workload; as much as 90 percent of total service demand. This is common across North America and, as departments continue to become more involved in EMS responses, the department's total workload will continue to increase.

Another component of workload in regard to EMS as compared to suppression is that medical risk is not static like that of fire. Fire risk is based on structure density, use types, and occupancies. Medical risk is based on human activity and density. As human activity varies by time of day, so does the risk. Similarly, the demographics and socioeconomics of a given community have a certain impact on the medical risk. Those communities that have an aging population or those with depressed socioeconomic conditions tend to use medical resources more frequently that areas that are generally younger or more affluent. This is a generalization realized through ESCI's experience and should not be construed as a certainty. It is mentioned here simply as a means by which each participating agency may gauge future service demand and evaluate that demand for trends based on demographics and socioeconomics.

Medical Control and Oversight

Medical direction is a critical component of any EMS system. Each EMS provider within the State of Minnesota is required to maintain an individual medical director to provide clinical oversight to both

basic life support and advanced life support personnel within the system. These individuals should be board certified physicians and have frequent interaction with departmental staff, including periodic involvement in required training sessions and field clinical care. In fact, these individuals should participate in periodic ride-alongs with field crews to ensure clinical compliance with established protocols.

EMS agencies within the State of Minnesota function under one of several regional associations that function as divisions of the Minnesota EMS Regulatory Board (EMSRB). The EMSRB is responsible for licensing ambulance services, certifying EMS personnel, designating and funding the regional associations, and administering the volunteer ambulance training grant program, longevity program for volunteer ambulance personnel and the EMS for Children (EMSC) program. The mission of this organization is to function as the lead EMS planning agency in Northeastern Minnesota. While this group organizes planning efforts on a regional level (and to a certain exten, coordinates information and educational opportunities), no regional medical protocol is currently in place. Each agency, through its local medical director, is still responsible for development of local medical protocols that are in line with the scope of services provided by that agency. Regional protocols should be developed that ensure a consistent level of care is being provided across all study agencies and throughout the Northeast EMS region.

Quality Assurance/Quality Management Programs

Quality assurance and management (QA/QM) is the process of reviewing clinical records to ensure compliance with established protocols, identifying deficiencies in clinical care and addressing those issues through enhanced and/or remedial training sessions either system wide or on an individual basis. The Medical Director should be heavily involved in the QA/QM process by direct interaction with field personnel as well as monthly reviews of clinical patient care reports. Each critical patient care report (PCR), as well as those identified for specific review, should be reviewed by at least three individuals upon completion of the incident: Field Supervisor, EMS Chief/Coordinator, and Medical Director.

Currently, there is no formal regional quality assurance program and each department is conducting QA/QM processes independently. These programs should be coordinated across the region to ensure that all providers are adhering to local protocols and patient care is being provided at the highest possible level.

Support Programs: Training

Firefighters operate in a complex, dangerous, and dynamic environment, as demonstrated by over 100 fatalities and 3,000 serious injuries annually. Firefighter training is the single most important factor that prepares them to meet the challenges of the situations and environments in which they work. The delivery of safe and effective fire and emergency medical services is, therefore, clearly dependent on a well-trained response force. The International Fire Service Training Association (IFSTA) states:

> *…regardless of the particular system used, an effective training program will include: (1) the continuous training of all levels of personnel in the organization; (2) a master outline or plan; (3) a system for evaluating the scope, depth, and effectiveness of the program: and (4) revising the program, as required, to include changing state and federal mandates, advances in equipment, products, and operational techniques.*

Without a comprehensive training program, emergency outcomes are compromised, response personnel are at risk, and the agency may be exposed to liability for the actions of its personnel. Training and education of personnel are equally critical functions for each of the agencies included in this analysis. The function of a training program is not merely imparting personal knowledge and technical skills to an individual; it is also a process of developing the self-confidence to perform correctly under stressful - if not hostile - conditions. A training program must be systematic and must provide positive feedback to the trainee, firefighter, or officer. The goals of training should always focus on performance, never merely on acquiring a certain number of training hours.

Today's standards outline certain areas that are considered integral to the operation of an effective training program. The program should include the following:

- Identified general training competencies
- Training administration and scheduling
- Training facilities and resources
- Training procedures, manuals, and protocols
- Record keeping (records management system)
- Organizational priority to training
- Training program clerical support services

Each of the fire departments involved in this project reflect a healthy appreciation for the importance of training and its correlation to the safety of their firefighters. The approaches employed and program effectiveness varies greatly, however, among the various participants. The programs are reviewed in the following tables.

Figure 64: General Training Competencies

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Incident Command	NIMS	College is going to do NIMS class	NIMS	NIMS based training	Planned, not in place	Not defined	NIMS	NIMS based, ongoing
Accountability procedures	Passport system	No	Passport system	Passport system	Passport system	Passport type system	Tag system in place	No
Policy and procedures	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Safety procedures	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recruit academy	Mesabi Range College program. FF I & FF II, Haz Mat Operations. All must maintain FF I certification. Also EMS First Responder initial training only, no certification	Same program as Grand Rapids. Limited scene tasks until complete	Same program as Grand Rapids. Limited scene tasks until complete	Firefighter I & II training is a pre-requisite for career firefighters. POC personnel attend FF I & II with limited entry rules until complete.	Bylaws require new recruit to complete EMT Basic in first year and FF I and II by the end of the 2nd year	FF 1 and FF through Mesabi College program. Response is limited prior to completion	Same college program – have 2 years to complete. Respond to calls during training, tasks limited.	Firefighter I & II and MN license eligible required as condition of hire. Also an extensive FTO program.
Special rescue (high angle, confined space, etc.)	Awareness and operations levels	Confined space, high and low angle planned in the next 2 months	Confined space and high angle at the awareness level	Annual confined space, high/low angle training at the technician level	None	Some ice rescue training	None	Confined space operations, high angle at the technician level
Hazardous materials	All personnel trained to the technician level. 6 at specialist level	Awareness level	Awareness level	Technician level for career members. POC trained to operations	Awareness level	Awareness level	Awareness level	Most at operations level, some technician
Wildland firefighting	Yes	DNR class once annually	Basic awareness	S130 and S190 classes offered, not required	Occasional training with DNR	Occasional training with DNR	S 130/190 classes available, not required	Not required. Most have S130/S190
Vehicle extrication	Yes	Yes	Yes	In house, every six months	Yes	Yes	No	Yes
Defensive driving	EVOC	EVOC	In-house program	CEVA course completed every 6 months for ambulances, annual for fire apparatus	EVOC course conducted in-house	EVOC	EVOC	EVOC course completed annually
EMS skills and protocol?	1st Responder only, no continuing education	1st Responder minimum, several EMT-Bs also	1st Responder continuing education requirements	CE requirements met. POC trained at heart saver and 1st aid	EMT-Basic, meet continuing education requirements	None	None	Paramedic CE plus 12 hours additional training annually

A review of the general training competencies identified finds that all of the agencies cover the fundamental topics that should be addressed in an effective training program. However, some exceptions exist that result in inconsistencies in training practices across the region. One is in the area of Incident Command System (ICS) training and application. The Nashwauk, Buhl, and Chisholm Fire Departments have not adopted an ICS system and do not actively train on Incident Command practices. Another critical exception is noted with regard to the use of personnel accountability on the emergency scene. The Nashwauk and Virginia departments indicate that they have not established training and regular use of a personnel accountability system. These systems are an essential component of firefighter safety and should be implemented.

Training of new firefighters is handled similarly in each of the subject agencies. Most use a program that is provided via the Mesabi Range College. The program trains personnel to the Firefighter I and Firefighter II levels, as well as Hazardous Materials Operations. Two agencies do not always use the Mesabi Range program, but they have both established the same baseline training requirement of Firefighter I and Firefighter II as a condition of acceptance in the fire department. The recruit training standards adopted in the agencies are fully appropriate and the fire departments are commended for establishing effective minimum standards.

Figure 65: Training Administration

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Director of training program	Captain assigned duty	Fire Chief	Training Officer	Designated Training Officer. 40 hour/week position	Training Officer	Fire Chief	Training Officer is in place	Captain assigned to training program
Goals and objectives identified	No written goals but FF I maintenance is the standard plus skills development	No written goals. Based on identified needs, flexible	Unwritten goal to maintain FF 1 certification	No	Unwritten. Planning to add to training, meet needs for certification maintenance, update SOGs	No written goals. Goal is to keep everyone equally trained	No defined goals. Targets FF I and FF II standards	No written goals, but program designed to target FF I and FF II skills and certification CE requirements
Governing body support and concurrence	Good. Training budget is $15,000, plus $15,000 travel and outside training	Adequate budget, good support from City for training needs	Supportive. $4,000 annual budget	Excellent	Unknown	Supportive	Very supportive	Limited support, nearly no training and travel budget
Clerical support	None	None	None	None	None	None	None	None

Hibbing is the only agency that has a full-time, dedicated training officer in place. The others assign training to shift officers or to POC personnel. Management and administration of training programs varies considerably between the participants and none of the agencies have defined training program goals and objectives to provide direction and planning assets to their educational efforts.

From a regional standpoint, there is a degree of training interaction between some of the fire departments, but it is limited. All of the agencies involved could clearly benefit from a centralized and collaborative approach to training delivery. A unified practice of training needs assessment, scheduling, and regionalized delivery system offers increased firefighter safety and effectiveness as well as potential savings in costs and personnel efficiency.

Figure 66: Training Resources

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Training facilities (tower, props, pits)	None	None	None	Small drill tower. SCBA maze course at Station 2.	None	None	None	None
Live fire prop	None	None	Burn trailer available by county chiefs association	Live fire prop on main station property.	None	None internally, have used burn trailers at times	No prop available. Uses trailer at times	None available. Use parking lots, buildings as available. Some regional resources
Driving grounds	Streets and parking lots only	City streets and parking lots	Streets and parking lots only	City building parking lots used	City streets used only	Streets and parking lots only	Streets and parking lots	Streets and parking lots only
Classroom facilities	Main Station has a large, well equipped, classroom	Classroom accommodates 20	Large, well equipped classroom	Classroom upstairs at Station 1, seats up to 20 Meeting room at Station 2.	Meeting room in the station seats about 20	Large classroom, capacity of 50	Meeting room in apparatus bays	Classroom on second floor of main station seats 30
Projection, computer and AV equipment	Good	Adequate	Adequate	Marginally adequate AV resources	DVD player and TV. Limited AV resources	Adequate	DVD Player and TV	Adequate AV equipment
Books, magazines, instructional materials	Well stocked, also use college resources	Very limited	Adequate library	Adequate library	Limited, needing additional	Numerous magazines, not manuals	Limited. Magazines, few manuals	Adequate library on hand
Training Procedures Manual								
Manual developed and used	None	None	None	None	None	None	None	Not in print
Primary training manuals	Jones and Bartlett	IFSTA	IFSTA	IFSTA and Jones and Bartlett	Some IFSTA	None	IFSTA	IFSTA and Jones and Bartlett

Figure 67: Training Scheduling

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Career training schedule	N/A	N/A	N/A	Training scheduled 3 hours daily. Well monitored and enforced.	N/A	N/A	N/A	Quarterly drill evolutions assigned to shifts. Schedule determined by shift officer.
Volunteer/POC schedule	2nd & 3rd Tues of each month (3 hours). Months with 5 Tuesdays add a Haz Mat drill. Quarterly Haz Mat Drill on Saturdays.	Two training sessions monthly and one business meeting. Some others as needed	Weekly, every Monday for 3 to 4 hours	Weekly drill, Monday from 6 to 8 PM. Skills development tracked and enforced	Drill once monthly, 3rd Monday. 3 – 3.5 hours.	Variable schedule, one drill per month in the winter, bi-monthly spring and fall, 3 to 4 monthly in July and August	One drill per month of in-house meetings. Attendance is mandatory.	N/A
Annual training hours defined	Minimum State guideline of 24 hours annually to maintain FF I certification	Minimum attendance of 50% of drills required. No defined minimum hours	50% attendance requirement for calls, drills meetings. No min hours but must have hours for FF I recertification.	Exceeds minimum standards for Firefighter I certification maintenance	No defined hours. Training attendance requirement of 75% of training/meetings	No minimum hours. Drill attendance of 50% of calls and drills. Several mandatory training sessions.	Minimum of 24 hours of in-house training per year.	24 hours required for FF I certification. Also 72 hours per 3 years to maintain Minnesota ST FF certification. Meet or exceed.
Record-keeping								
Individual training files maintained	Yes	Only drill sign in sheet and any certificates that are provided in college classes	Yes. Individual paper training file with certificates, drill records	Yes	Separate file for each member	Certificates in individual files	Yes	Yes
Records and files computerized	Image Trend and hard copy	No	Hard copy only	Entered into Image Trend	Hard copy only	Kept on computer, do not use Image Trend	Hard copy only	Maintained in hard copy and recorded electronically in Image Trend

The two career departments in Hibbing and Virginia have established training programs with structured and regular educational approaches for their full time personnel.

Training of Volunteer/Paid on Call members is highly variable across the study area. All agencies indicate that their training objective is that of meeting or exceeding the minimum requirements necessary to meet at least Firefighter I continuing education requirements as a minimum. However, the frequency of training sessions is inconsistent. Some departments hold training sessions only once monthly and others only twice a month. Fully adequate training of firefighters necessitates a higher number of classroom and hands-on contact hours to be effective.

Support Programs: Fire Prevention, Public Education, and Investigation Programs

An aggressive risk management program, through active fire and life safety education and prevention services, is a fire department's best opportunity to minimize the losses and human trauma associated with fires and other community risks.

The National Fire Protection Association recommends a multifaceted, coordinated risk reduction process at the community level to address local risks. This requires engaging all segments of the community, identifying the highest priority risks, and then developing and implementing strategies designed to mitigate the risks.

A fire department should actively promote fire resistive construction, built-in warning and fire suppression systems, and an educated public trained to minimize their exposure to fire and health issues and to respond effectively when faced with an emergency.

The following tables detail the fire prevention and public education efforts that are put forth by the agencies subject to this analysis.

Figure 68: Code Enforcement and Inspection Programs

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Fire codes adopted								
Code used 0 year/version	2005 IFC	Unknown	Unknown	2007 MN. State Fire Code	Unknown	2007 Minnesota Fire Code	City adopted – unknown	No fire code is adopted
Local codes or ordinances adopted, amendments	Commercial kitchen hood maintenance ordinance	None	No	Flammable liquid storage, apartment BBQs, open burning, day care/foster care inspections	None	None	None	None
Sprinkler ordinance in place	No	No	No	No	No	No	No	No
New Construction Inspections and Involvement								
Consulted in proposed new construction	Building Dept. Inspector assigned ½ time to fire inspections/code enforcement	Not consulted	Not consulted	Building and Housing Dept. informs FD, but does not provide plans	No. City outsources building permit activity	Not consulted	Not consulted	Fire department is not consulted in any new construction.
Perform fire and life safety plan review	Yes – city Fire Inspector	No	No	Not submitted to the Fire Marshal	No	No	No	None performed
Sign-off on new construction	Yes	No	No	No	No	No	No	No sign off required
Charges for inspections or reviews	Permit fee	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Perform existing occupancy inspections	By Fire Inspector for commercial and multi-family (annually, but actually about every 2 years)	None	None	Some inspections are conducted. Inspection program is under development currently.	No	Accompanies City Building Official on commercial inspections. Not consistently.	None	Only on occasional request
Special risk inspections	Yes	None	None	Day care and foster care inspections only	No	No	None	None
Storage tank inspections	Yes	None	None	Building and Housing Department	No	No	None	None

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Key-box entry program in place	Knox Box system	Knox Box system	No	Knox Box and Dama Box systems are used	No	Knox Box system	Knox Box system	Knox Box system
Self-inspection program in place	No	No	No	No	No	No	No	No
Frequency of inspections	Goal is annual – actually about bi-annual	N/A	N/A	30 completed last year, working to increase frequency. Goal is tri-annual inspection of commercial properties	N/A	Unknown. Processed by City Building Official.	N/A	None
Citation process in place	Yes	No	No	Written citation issued	N/A	No	No	N/A
• Court cited to	Municipal	N/A	N/A	No enforcement included in the process	N/A	N/A	N/A	N/A
Number of personnel devoted to program	1 - 0.5 FTE	None	None	Fire Marshal is the only person devoted to the prevention program	N/A	Fire Chief only	None	N/A
Fees for specialty inspections	Yes	N/A	N/A	$50 fee for day care/foster care facilities	N/A	N/A	N/A	N/A

Only the cities of Grand Rapids, Hibbing, and Chisholm have adopted a model fire code for the purpose of fire and life safety code enforcement. The other participants either have not adopted a code or they were unaware of what, if any code was in place. Code adoption is the foundational element that allows a fire department to take steps to ensure that new buildings are properly constructed from a fire and life safety standpoint and that existing occupancies are maintained in compliance with generally accepted safety practices. Code adoption by all agencies is recommended.

Active involvement in the process of approving building permits for new construction or extensive remodelling and changes of occupancy is important if a fire department is to be able to assure that buildings are safe. In the city of Grand Rapids, a half-time city building inspector provides fire and life safety reviews of building permit applications. In Hibbing, the Building and Housing Department informs the fire department that plans have been submitted, but does not provide them to the department for review. In all of the other agencies, there is no fire department involvement in the building permit process. The departments are encouraged to inject themselves into this process.

Existing commercial occupancies should be inspected annually, at a minimum, for fire and life safety concerns. The process is completed in Grand Rapids by the half-time fire inspector who is able to inspect building about every other year. In Hibbing, the Fire Marshal is in the process of establishing an ongoing inspection program and reports that about 30 facilities were inspected last year. The other fire departments either are not involved in any form of existing occupancy inspection work or are only minimally involved.

Figure 69: Fire Safety and Public Education

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Public education officer	FF with Public Education stipend	None	None	Fire Marshal additional duty	None	Fire Chief additional duty	None	None
Feedback instrument used	Survey forms at major events	No	No	No	No	No	No	No
Public education in the following areas:	Annual Fire prevention week and other periodic activities	No public education activities	Annual Fire prevention week activities	Fire prevention week events. Some community events	Some fire prevention week activities only	School presentations on request only	K – 6th classes during fire prevention week. .	Annual open house and fire prevention week school program
• Calling 9-1-1	Yes	N/A	Yes	Yes	No	Yes	Yes	Yes
• EDITH (exit drills in the home)	Safety House maintained	N/A	N/A	Yes	No	Yes	Annual YMCA home escape plan	Yes
• smoke alarm program	Yes	N/A	N/A	Home installation program in place	Distribute batteries during Fire Prevention Week	Battery hand out, smoke alarms on request	Yes	3rd grade students get smoke alarms annually
• general fire safety (heating, chimney, electrical, kitchen, etc.)	Yes	N/A	N/A	Yes	No	Yes	Yes	Yes
• injury prevention (falls, burns, bike helmets, drowning, etc.)	Bike helmet program with PD.	N/A	N/A	Included in monthly public education newsletter	No	No	No	No
• fire extinguisher use	On request	N/A	N/A	Yes	No	On request	No	Yes
• fire brigade training	No	N/A	N/A	Yes	No	No	No	No
• elderly care and safety	None	N/A	N/A	Active program in place	AED class at the senior center	Presentation on request	No	Some training for elderly
• baby-sitting classes offered	Risk Watch via SFM	N/A	N/A	Not offered	No	No	None	No
• CPR class, blood pressure checks	No	N/A	N/A	CPR and AED training is offered	No	No	No	Conducted through college
Publications available to public	No	N/A	N/A	Multiple available	No	None on hand	No	One only
Juvenile fire setter program offered	One person is certified in intervention	N/A	N/A	Fire Marshal is taking training via state program.	No	Referred to State Fire Marshal	No	Participates in a St. Fire Marshal's program
Wildland interface education offered	Via area Fire Wise co-op	N/A	N/A	Informal, work with DNR	No	No	No	Yes

Public education activities are one of the most important elements of an effective approach to community fire prevention. It is commonly stated that there are three primary causes of fires: Men, women and children. Informing and educating a community's citizenry will result in fewer fires and fewer losses of lives and property.

Public education is not universally prioritized by the fire departments reviewed. Nashwauk and Buhl indicate that they conduct little or no activities and others complete only limited outreach during fire prevention week. Grand Rapids, Hibbing, and Virginia are more actively involved with more structured fire prevention week activities along with other activities on an ongoing basis throughout the year.

Opportunities should be explored for regional sharing of public education outreach to support the agencies that have fewer resources to commit to the effort.

Figure 70: Fire Investigation

	Grand Rapids FD	Nashwauk FD	Keewatin FD	Hibbing FD	Buhl FD	Chisholm FD	Mountain Iron FD	Virginia FD
Fire origin and cause determination								
Arson investigation and prosecution	Via area team	N/A	N/A	Fire Marshal conducts determination	Referred to State Fire Marshal	Fire Chief handles initially	No	Fire Chief, with assistance for the State Fire Marshal
• arson investigation training provided	Chief is certified plus several trained firefighters	State Fire Marshal	State Fire Marshal	Fire Marshal is adequately trained and certified	No internal training	Fire Chief works with Police Department as needed	Fire Chief and department members have some training.	Three staff have arson training
Person responsible for investigations	With PD or SO and/or SFM	N/A	N/A	Fire Marshal	Fire Chief	Fire Chief	State Fire Marshal	Fire Chief
Local FIT membership (fire investigation team)	Yes	N/A	N/A	No FIT team but being considered	None	No	No	Regional FIT team is being formed
Process for handling juvenile suspects	Chief	N/A	N/A	Referred County Social Services	Not defined	Referred to Juvenile Department	Not defined	Referred to law enforcement as needed
Scene control practices in place	County wide FIT Team	N/A	N/A	Appropriate	Yes	Yes	N/A	Yes
Adequate and appropriate equipment issued/supplied	Yes	N/A	N/A	Yes	State Fire Marshal	State Fire Marshal	N/A	Yes
J. Evidence collection process in place	Yes	N/A	N/A	Yes	State Fire Marshal	State Fire Marshal	N/A	Yes
L. Reports and records of all incidents made	Yes	N/A	N/A	Yes	Hard copy records	Yes	N/A	Yes
Statistical Collection and Analysis								
Records computerized	Yes	N/A	N/A	Yes	No	Image Trend	N/A	
• software used	PD or SO or SFM	N/A	N/A	Image Trend	N/A	Image Trend	N/A	Image Trend
Response Information collected	All NFIRS criteria	Basic NFIRS only	Basic NFIRS only	All NFIRS data collected	Basic NFIRS	NFIRS	Basic NFIRS	NFIRS

The smaller agencies rely heavily on the Minnesota State Fire Marshal's Office to assist them with the determination of a fire's cause and origin, as is appropriate. The Itasca County agencies are fortunate to have access to a county-wide Fire Investigation Team (FIT). Grand Rapids indicated that they use the team, when needed.

There is no regional Fire Investigation Team in St. Louis County, although ESCI was informed that efforts to form one are currently under way. Establishing a FIT team is an effective way to share available fire investigation resources and to meet a need that many, especially smaller, fire departments are simply unable to achieve.

Section II – Opportunities for Cooperative Efforts

Having completed the evaluation of current conditions process above, ESCI is now armed with the information necessary to effectively evaluate the opportunities that exist in the Itasca and St. Louis County areas for shared service deliver between the agencies. There are many ways that fire agencies can work together, ranging from very fundamental sharing of resources and programs up to and including legal assimilation of multiple agencies into one in the form of a merger or consolidation, where feasible.

The balance of this report examines the multitude of options available to the study agencies and provides direction where appropriate.

General Partnering Strategies

Three basic strategies are generally available when considering cooperative efforts and shared services, beginning with a do-nothing approach (status quo) and ending with complete unification of two or more organizations into what is, essentially, a new emergency service provider. A description of the three primary methodologies is found below.

Functional Consolidation

Public entities usually have broad authority under law to enter intergovernmental agreements (IGAs) for the purpose of cost and service efficiency. Minnesota is no different in this regard. The laws of the State of Minnesota address the issue, allowing intergovernmental contracts for any lawfully authorized governmental function.[5]

Examples of this type of cooperative effort may include any function within the study departments that allows them to deliver services, such as training, fire prevention, equipment purchasing, logistics, etc. Through functional consolidations, each agency benefits from the resources of the whole while maintaining independence as separate organizations. Many times, functional consolidations serve as a prelude to a future merger.

[5] Minnesota Statutes, section 471.59. Joint Exercise of Powers Act.

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.

Unlike functional consolidation, an operational consolidation brings the actual operations of the separate organizations together into a single department that provides services to one or more communities but does not create a new legal entity. The organizational structure, command, and operational model will depend upon the structure and format of the agreements established between the communities. Like functional consolidations, operational consolidations are sometimes considered an intermediate step leading to a full merger. The main advantage of the strategy offers governing bodies the ability to negotiate and monitor desirable outcomes for the management of a particular service. This gives a higher level of comfort in going forward with the decision to unify fire service across a geographical region.

In Minnesota there are several types of IGAs, including Joint Exercise of Powers, Intergovernmental Service Agreements, and Intergovernmental Service Transfers. Within the Joint Exercise of Powers Act there are two primary options for sharing services: Shared Powers Agreements and Service Contracts. In Shared Powers Agreements, governments jointly share responsibility for providing a service such as fire protection. Service Contracts, however, allow one city to 'contract' with another government for services. The Intergovernmental Service Agreement is the most common form of cooperative arrangement in Minnesota. It is an agreement-formal or informal, written or oral, between two or more governments about the delivery of a service or services. These agreements may take many forms. Intergovernmental Service Transfers are a permanent transfer of total responsibility for the provision of a service from one government unit to another.

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 body 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 governing body) in place of the former.

A useful example of this type of unification is the Cloquet Fire District where the City of Cloquet, Perch Lake Township, and the City of Scanlon agreed to petition the legislature for a special law that would create the state's first independent fire district with taxing authority.

Because ESCI often finds that study agencies are reluctant to relinquish control of their respective fire departments to a full consolidation, the intent of this project is evaluate each potential and provide policymakers with the information so that they can make an educated decision regarding the future of fire protection and emergency services within their respective communities.

Options for Shared Services

In identifying potential cooperative and shared services opportunities, the project team considered the key issues now challenging each agency and community. 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 potential shared services strategies available within the study region. Although every attempt has been made to identify all the areas of potential, intimate knowledge of the current system may allow for other areas to be explored outside the parameters of this report.

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.*

If governing bodies are going to pursue the process of joining two or more fire departments, they should do so 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. 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.

Baseline Budget Determination

To assist in answering this question, ESCI projects the financial result of any proposed consolidation. The forecast does not attempt to predict the finances of the departments because changes in law and

politics are certain to make such forecasting inaccurate. Rather, ESCI's analysis shows how trends in the cost of labor and other operational expenditures act on the outcome of a consolidation based on 2012 policy and law. The figure below details the combined baseline budget of the departments using 2012 expenditures as the base from which to build future budget models.

Figure 71: Baseline Budget

	Total
Personnel	**$5,180,002**
Materials and Supplies	**$1,794,683**
Capital	**$1,626,786**
Total 2012	**$8,601,471**

Total costs for personnel services with benefits calculated at $5,180,002 and account for 60.2 percent of total expenditures in 2012. Materials and services and capital outlay are approximately 39.8 percent of the total current baseline budget but the overall percentages will change based on annual capital expenditures. This baseline budget, including budgeted capital expenditures, is used to determine potential cost savings of future cooperative efforts.

Baseline Operational Personnel

The following figure lists each department's current on-duty operational personnel resources and includes only those who are assigned to emergency field operations as a primary responsibility and schedule accordingly.

Figure 72: Baseline Career Staffing

	Buhl	Chisholm	Grand Rapids	Hibbing	Keewatin	Mtn. Iron	Nashwauk	Virginia	Total
Fire Chief	0	0	0	1	0	0	0	1	**2**
1st Assistant Chief	0	0	0	0	0	0	0	0	**0**
2nd Assistant Chief	0	0	0	0	0	0	0	0	**0**
Assistant Chief	0	0	0	0	0	0	0	3	**3**
Fire Prev./ Pub Ed	0	0	0	0	0	0	0	0	**0**
Fire Marshal	0	0	0	1	0	0	0	0	**1**
Battalion Chief	0	0	0	3	0	0	0	0	**3**
Captain	0	0	0	3	0	0	0	4	**7**
Lieutenant	0	0	0	0	0	0	0	0	**0**
Training Officer	0	0	0	1	0	0	0	0	**1**

	Buhl	Chisholm	Grand Rapids	Hibbing	Keewatin	Mtn. Iron	Nashwauk	Virginia	Total
Safety Officer	0	0	0	0	0	0	0	0	**0**
Engineer	0	0	0	12	0	0	0	6	**18**
Firefighter	0	0	0	6	0	0	0	0	**6**
Maintenance	0	0	0	0	0	0	0	9	**9**
Secretary/ Admin Asst.	0	0	0	0	0	0	0	1	**1**
Chaplain	0	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**0**	**27**	**0**	**0**	**0**	**24**	**51**

A total of 51 career positions are assigned to administrative, support, fire suppression, EMS, and service delivery in Hibbing and Virginia. In the remaining departments, POC personnel function as the primary operational staff, as well as overseeing administrative and support responsibilities and would have minimal impact in the overall financing of a shared agency.

Figure 73: Baseline Paid-on-Call Staffing

	Buhl	Chisholm	Grand Rapids	Hibbing	Keewatin	Mtn. Iron	Nashwauk	Virginia	Total
Fire Chief	1	1	1	0	1	1	1	0	**6**
1st Assistant Chief	0	0	1	0	0	0	1	0	**2**
2nd Assistant Chief	0	0	1	0	0	1	1	0	**3**
Assistant Chief	1	1	0	0	0	0	0	0	**2**
Fire Prev./ Pub Ed	0	0	1	0	0	0	0	0	**1**
Fire Marshal	0	0	0	0	0	0	0	0	**0**
Battalion Chief	1	0	0	1	0	0	0	0	**2**
Captain	2	2	1	2	1	1	0	0	**9**
Lieutenant	2	2	0	1	1	0	0	0	**6**
Training Officer	0	0	0	0	1	1	1	0	**3**
Safety Officer	0	2	1	0	1	0	0	0	**4**
Engineer	0	0	0	0	0	0	0	0	**0**
Firefighter	0	0	25	15	10	14	16	0	**80**
Maintenance	0	0	1	0	0	0	0	0	**1**
Supply Officer	0	0	0	0	0	0	0	0	**0**
Secretary/ Admin Asst.	0	1	0	0	0	1	1	0	**3**
Chaplain	0	0	1	0	0	0	0	0	**1**
Total	**7**	**9**	**33**	**19**	**15**	**19**	**21**	**0**	**123**

Functional Cooperative Efforts Strategies

In the Operational Cooperative Efforts Strategies discussion, which follows this section, ESCI will evaluate and present the potential opportunities for combining the study departments into one or more new and larger agencies. However, ESCI understands that cooperative efforts and shared services can take on a much different look, not being limited to formal merger or complete consolidation. As mentioned previously, there are various methods by which department can cooperate while remaining as stand-alone organizations to improve the overall efficiency of the organizations within a given region.

In the following pages, ESCI presents a wide variety of functional shared services for consideration by the participating agencies. These options are ones that two or more fire departments may choose to implement, remaining autonomous and yet benefitting from increased efficiencies of scale.

Regionalized Training Opportunities

Training of emergency responders is a need that is common to all of the participating organizations. Currently, training is generally conducted independently, offering opportunities to address shared training needs based on a regionalized basis. However, geographic distances between the fire departments present additional challenges. Even so, many elements of training activities can be regionalized, including planning, administration and delivery. The approach should be viewed as one that can be applied to the entire study area, in some respects, but can also be used as a more localized option between two or more fire departments that are in a common geographic area.

It is noted that a unique opportunity is presented by the presence of the Grand Rapids Fire Chief who also serves in a key role with the Mesabi Range Community and Technical College Firefighter Training Program.

Regional Training Program Approach	**Timeline:** Short term
Objective: Consolidate training programs to provide more options for volunteer attendance and to capitalize on the instructor base of each agency.	
Summary Background: In regard to ongoing training, the departments currently have separate training programs, which may limit instructional opportunity, duplicate recordkeeping, and foster separation of workgroups. This is already being done to a certain degree regarding recruit training. This program should be expanded to include ongoing continuing education for all levels of personnel.	
Policy Action: Agencies should expand the current model of joint initial training and develop joint ongoing training program standards and objectives that comply with published standards and effectively address all mandatory training requirements.	
Pro • Personnel would have more options to attend training on alternative days/nights. • Interagency training opportunities with consistent instruction should result in enhanced emergency scene cooperation, teamwork, and performance. • Reduced cost and duplication of effort in the planning and development of course materials. • Broader array of topics, apparatus, tasks, and evolutions for the volunteers to experience. • The program could easily expand to include other agencies, further enhancing the training opportunities throughout the region.	Con • Cooperative effort may result in less agency-specific training and flexibility.

Regionalized Fire Prevention and Public Education

Like training, fire prevention and public education needs are similar in the participating agencies. As discussed in the Evaluation of Current Conditions section of this report, prevention focus varies considerably between each of the participants. Several agencies do not address prevention and public education needs at all, generally due to a lack of sufficient staffing to do so. Collaboration in the area of fire prevention and public education offers multiple advantages and can address staffing shortcomings, as discussed below.

<table>
<tr><th colspan="2">Regional Code Enforcement and Life Safety Education Program</th><th>Timeline: Mid term</th></tr>
<tr><td colspan="3">Objective: Provide for a Uniform Fire Code with a single set of local amendments that apply to new construction, remodels, and tenant improvements as well as providing for cost effective, regional code enforcement activities and life safety education programs.</td></tr>
<tr><td colspan="3">Summary Background: The municipalities comprising the study region have adopted the state fire code and, with only a few exceptions, each has added local amendments to address issues considered unique to the jurisdiction. Several have imposed more stringent fire sprinkler requirements. Adopting a single fire code would benefit the fire departments, developers, and the citizens of the region. One such benefit includes a decrease in the cumulative cost of individually developing local amendments to the fire code. This could take the form of a county-funded fire marshal's office to oversee the county-wide program and provide code enforcement and inspections services throughout the unincorporated area.</td></tr>
<tr><td colspan="3">Policy Action:
• Formalize the creation of the coalition through a written agreement.
• Involve others from outside the area and from non-traditional groups (insurance industry, educators, MN State Fire Marshal, media).
• Create standardized messages that can be used across the region.
• Learn from others. Model the coalition after other successful regional public fire safety education programs.
• Some agreements related to current local amendments could be affected by changes or the adoption of new amendments.
• Agencies must work closely with all building officials in the adoption of local amendments.
• Develop a model citation program for local adoption as part of the local amendments.</td></tr>
<tr><td colspan="2">Pro
• Fire codes and enforcement of those codes would be more consistent throughout the region.
• Municipalities can share resources to ensure that programs are delivered throughout the region.
• Reduced cost by consolidated resources.</td><td>Con
• Loss of local control of inspection program.
• Potential loss of municipality-specific education programs.</td></tr>
</table>

Unification of Standard Operating Guidelines

Each of the agencies has developed differing variations of Standard Operating Guidelines (SOGs) and Standard Operating Procedures (SOPs). While the SOGs and SOPs that are in place are generally acceptable in some instances, as they stand, efforts to standardize the procedures regionally will improve operating efficiency and, most importantly, firefighter safety.

Unified Standard Operating Guidelines/Procedures	**Timeline:** Short term
Objective: Provide guidelines for operation during emergencies, emergent, and non-emergent incidents.	
Summary Background: Currently each fire agency in this study is responsible for developing a unique set of standard operating guidelines for their organization.	
Policy Action: Adopt common operational guidelines that are kept in electronic format for ease of updating and distribution. Give initial and recurring education to personnel on the use of the joint guidelines. Provide for periodic review of manuals and update as necessary.	
Pro • Improvement in on-scene safety, efficiency and effectiveness of personnel. • Reduced confusion in the delivery of service. • Common methods of approach	Con • Limited individuality in specific administrative policies and procedures.
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.	

Enhanced Use of Mutual and Automatic Aid

The agencies in the study area currently utilize mutual and automatic aid but to varying degrees. If more closely examined, opportunities to further enhance existing practices may be recognized and, in many instances, significant improvements in ISO ratings may be realized along with enhanced response effectiveness.

Enhanced Mutual and Automatic Aid Agreements	**Timeline:** Short term
Objective: Enhance existing mutual and automatic aid agreements and formalize those agreements with city council approval.	
Summary Background: One of the most elemental levels of cooperative service delivery is that of the sharing of valuable resources, both equipment and people. A primary means for sharing resources is by the use of Mutual Aid and Automatic Aid. Mutual Aid involves establishing agreements under which a fire department can request and receive equipment and personnel support for an emergency incident from a neighboring fire department. Automatic Aid is the same, with the exception that it is automated based on dispatch protocols, absent the need for an incident commander to request the assistance.	
Policy Action: Review mutual aid and automatic aid procedures that are currently in place to identify opportunities to increase effectiveness. In jurisdictions for which Automatic Aid procedures have not yet been established, complete the implementation process. Review response times, including the maps provided in this report, to identify areas in which Automatic Aid can be initiated to enhance response. Do not limit consideration to the study agencies, but include review of station locations and travel times from other neighboring fire departments.	
Pro • Formalization of existing agreements • Identification of responsibilities, duties and liabilities • More efficient response • Reduced requirements on command personnel (automatic dispatch) • Increased interdepartmental cooperation	Con • Potential of imbalance in responses • Substantial differences in current equipment load lists, compartmentation, and staffing models
Fiscal Considerations: • Number and frequency of responses • Volume of equipment and personnel sent to incidents outside of the agency's jurisdiction • The cost of implementing these practices is generally offset by the fact that a similar level of assistance is provided by another agency in return. As a result, an organization may be able to avoid costs if Mutual or Automatic Aid resources are made available instead of adding new stations, apparatus and personnel to provide coverage in a response area.	

Pre-Incident Planning

Some of the study departments conduct pre-incident planning and others do not. More effective use of pre-incident planning practices in the agencies will increase effectiveness of fire suppression efforts while also increasing firefighter safety.

Develop Uniform Pre-Incident Planning Processes	**Timeline:** Short term
Objective: Provide a system of shared operational plans for use during emergencies and non-emergent incidents.	
Summary Background: 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.	
Policy Action: Inventory current pre-incident planning development in each agency. Evaluate commonality between current systems of pre-incident planning. Consider the establishment of a 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.	
Pro • Increased safety for all regional responders • More accuracy in planning of critical properties and high risk occupancies	Con • None
Fiscal Considerations: • Current hardware and software assets and cost to upgrade or purchase hardware and software, if desired • Number of facilities/buildings with existing pre-incident plans versus those yet to be developed • Pace of new construction requiring pre-incident plans • Personnel costs to gather and assemble plans • Unquantifiable potential for prevention of injury or death to emergency responders and the public	

Regionalized Incident Command

Incident Command System (ICS) practices vary between the subject agencies. Standardization of a regionalized approach is important, especially considering that agencies are responding into other areas and other counties in some cases where ICS practices may differ. A lack of standardized, regional, ICS protocols can compromise firefighter safety as well as impede the effectiveness of fireground operations.

Implement Regional Incident Command and Operational Supervision	**Timeline:** Short term
Objective: Provide for IC (Incident Command) supervision of emergency operations. Provide for supervision of Paid per Call personnel during routine operations.	
Summary Background: The fire chiefs in the study departments have authority and responsibility for all aspects of day-to-day operations and personnel management. The chief will also assume command of emergency incidents or the role may be assumed by other trained command level officers in the department.	
Policy Action: Use standards of coverage and deployment planning to determine an appropriate level and number of incident commanders that may be needed at an incident. Compare current incident command practices and training activities to determine what is needed to combine them. Conduct joint incident command training exercises.	
Pro • Improved communications for scene command and control • Increased efficiency in scene size-up and request for additional resources • Improved interdepartmental cooperation	Con • None
Fiscal Considerations: • No significant financial considerations.	

Capital Replacement Planning

Planning for long-term replacement of capital assets was identified as a shared need between all of the agencies. Apparatus replacement schedules are maintained in Grand Rapids, Nashwauk, and Keewatin; the other agencies replace vehicles on an as-needed basis, absent a structured plan. Approaching planning from a regional perspective offers opportunities for cost savings and operational efficiencies.

Regional Capital Replacement Planning	**Timeline:** Short term
Objective: Adjacent agencies should work together to adopt a regional capital replacement plan that adequately funds the purchase of future apparatus. Outside regional cooperation, each city should adopt such a plan.	
Summary Background: Each fire department uses and maintains a variety of emergency apparatus types. Among the common types of apparatus, 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.	
Policy Action: •Assemble data on current department apparatus, including: age, mileage, operating hours, maintenance costs, cumulative down time, and annual test results. Use the information to create a single apparatus refurbishment/replacement plan and schedule. 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.	
Pro • Formalizes capital replacement and identifies it as a priority • Allows for long-range planning for apparatus and equipment replacement • Reduces the need for special financing or bonding to purchase high value items	Con • Will require a substantial investment to bring current fleet up to necessary levels for future funding • Will require additional annual funding to ensure that the plan is fully funded
Fiscal Considerations: • Time and effort savings by preparing fewer bid specifications. • Effort avoided by 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.	

Apparatus and Equipment Purchasing

In concert with the above initiative, purchasing of fire apparatus and equipment can be shared, often resulting in significant cost savings and/or future cost avoidance.

Joint Purchasing of Equipment and Apparatus	**Timeline:** Long term
Objective: Create a single set of emergency apparatus specifications and provide for single-source uniform emergency apparatus for all study fire agencies.	
Summary Background: The study fire departments use and maintain a variety of emergency apparatus types and equipment such as self-contained breathing apparatus (SCBA), personal protective equipment (bunker gear, helmets, gloves, etc.), and all sorts of small and large tools and ancillary equipment . Among the common types of apparatus and equipment each department uses different makes, models, and configurations. A standard specification and procurement process for each apparatus and equipment type would result in lower cost, faster production, training efficiencies, and safer and more efficient scene operations. A joint purchasing program can also lead to a long-term program of sharing equipment across the region to enhance the capabilities of all participating departments. This could include a joint capital replacement plan that encompasses all heavy rolling stock within the region.	
Policy Action: Use provided data on current multi-agency fleet to generate a comprehensive apparatus replacement schedule including agreed upon replacement interval and projected life expectancy of all equipment. Examine the potential of refurbishment, rehabilitation, or remounting of apparatus if feasible and evaluate technological updates necessary in small tools and safety equipment. Develop and follow a prescribed load list for apparatus standard equipment.	
Pro • The cost savings of purchasing a stock unit is often 20 percent or more when compared to a custom unit. • Consistency in equipment and compartments on apparatus can increase on scene efficiency and effectiveness. • Ease of training personnel from multiple agencies on use and operation of apparatus and equipment. • Apparatus can be painted in accordance with current department models without losing effectiveness of consistency in construction and operation.	Con • Potential loss of customization by study agencies. • Long process of increasing consistency. • Specialization of apparatus based on community risk will impact certain equipment needs.
Fiscal Considerations: • Time and effort savings by preparing fewer bid specifications. • The prospect for conducting fewer bid processes. • Cost savings in acquiring emergency fire apparatus and equipment. • Consider the purchase of stock versus custom apparatus. • Consider leasing versus outright purchase of emergency apparatus.	

Shared Recruitment and Retention Efforts

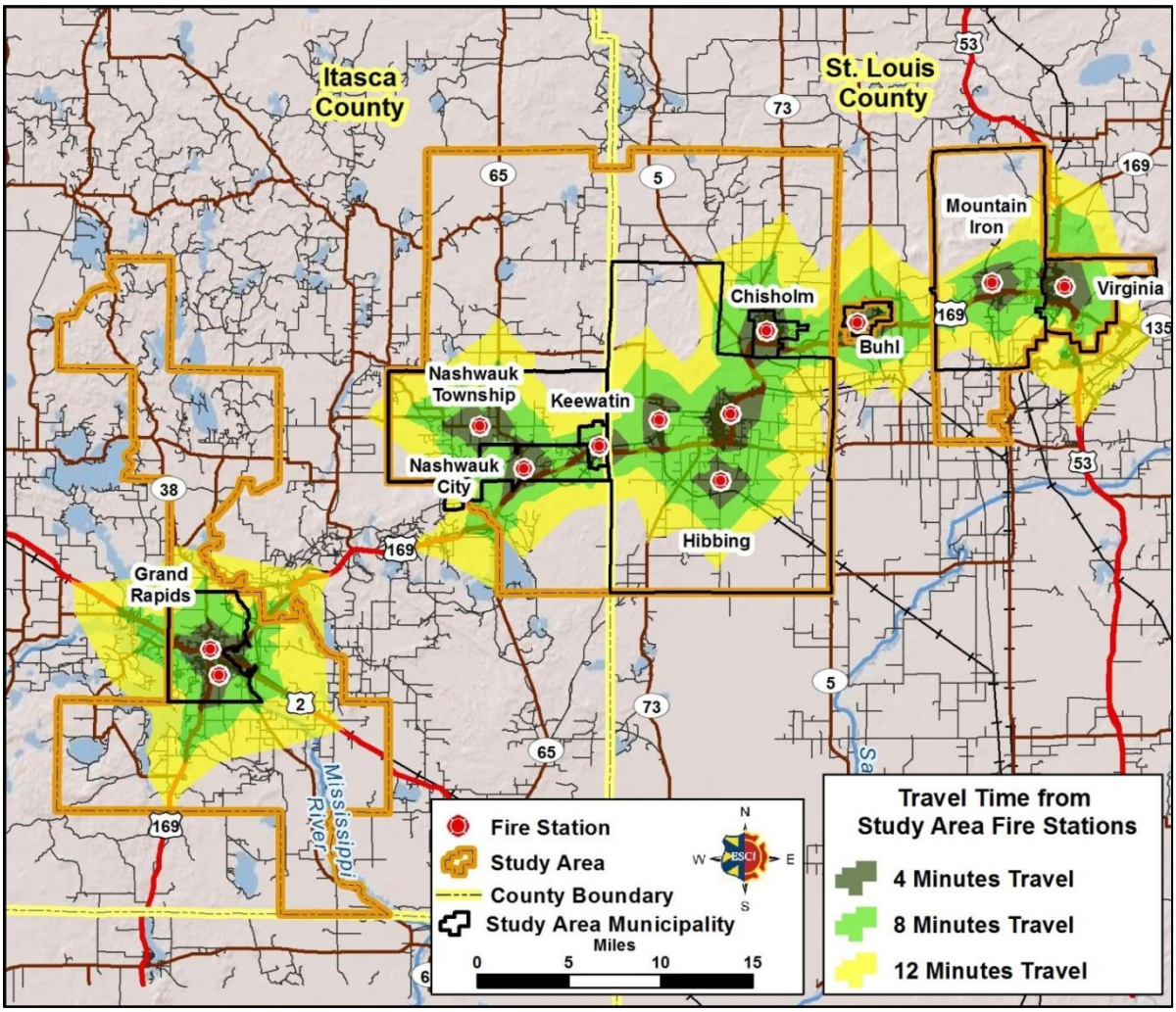
The majority of the participating agencies depend heavily on the use of paid-on-call responders, with the exception of Virginia and, to a lesser extent, Hibbing. As a result, most share a common need for recruitment and retention of capable personnel. Shared recruitment and retention activities offer the opportunity to pool personnel resources and offer additional gains, as noted below.

Joint Recruitment and Retention Program	**Timeline:** Short term
Objective: Create a regional recruitment program that draws on the specific demographics of the communities served and coordinates hiring processes that provides for consistent application and evaluation components. Make retention programs (pay, benefits, etc.) more consistent in order to prevent personnel from leaving one agency and joining another.	
Summary Background: A joint recruitment and retention program would allow all the study departments to pool their resources and apply for regional grant opportunities in order to attract more paid-on-call personnel to the system.	
Policy Action: Evaluate the demographics and potential of each community regarding paid-on-call personnel. Work as a region to develop and implement a joint recruitment program. Apply for a joint grant that covers the entire region's recruitment efforts. Support other departments as applications come in through a system of coordinated review. Work as a region to make pay and benefits more consistent. Work with each municipality to align relief association benefits across the region.	
Pro • Reduced costs of recruitment and application processes. • Potential for regional grants for recruitment and retention programs. • Information sharing between departments on potential members.	Con • Potential of increased costs due to alignment of relief association benefits for existing members. • Increase in soft costs of coordinating recruitment campaigns and application review processes.
Fiscal Considerations: • Time and effort savings by joining recruitment efforts. • The prospect of potential grant funding for a regional effort. • Potential cost savings in conducting coordinated application reviews and background checks.	

Future Facility and Deployment Considerations

Aside from the potential functional and governance options for the study area, ESCI evaluated the current locations of existing fire stations and compared them against service delivery and response performance data. The figure below illustrates the existing station locations.

Figure 74: Fire Station Locations



Based on review of existing station locations, combined with the response performance data that is detailed in the Service Delivery and Performance section of this report, ESCI evaluated the locations of fire stations, the equipment housed therein, and the staffing that is available to respond from the stations.

ESCI's analysis finds that the existing fire station locations provide a generally acceptable level of coverage in the study area, given that the response areas are so large and geographically distant. Moving forward, ESCI recommends that the following considerations be factored into future station-siting decisions:

Grand Rapids

Grand Rapids would benefit from locating its South Station in a position that is farther down either Highway 169 or Highway 2, to extend 4, 8, and 12-minute response coverage over a larger geographic area. Alternatively, an additional station could be placed to the south. However, a key factor in making the placement decision must include determination of the availability of personnel in the area to staff the station.

Chisholm

From a response coverage standpoint, Chisholm would realize advantages from placing an additional station to the north of the city. The station deployment decision must also take into account whether sufficient numbers of responders live and/or work in the area to staff a new facility. Another consideration is the aging condition of the existing station, which may warrant consideration of a new, single station at a location that would better serve the community as a whole.

Operational Cooperative Efforts Strategies

The level of interest in fully merging all of the study area fire departments or combinations of some agencies was found to vary throughout the region when ESCI spoke with fire department personnel, citizens, and elected officials. As is commonly found, most people understand the potential gains and opportunities that may be realized by working more closely together, while also being mindful of concerns such as service level degradation, local identity, and financial factors.

This section evaluates the potential feasibility of consolidating fire and emergency services across the study area. Several options are analyzed and contain details as to advantages and disadvantages of each, where appropriate.

When evaluating the feasibility of fully combining fire departments via legal merger, ESCI considers the following factors:

- Cost savings that may be realized by reducing staffing numbers and/or redeploying personnel for increased efficiency
- Opportunities to consolidate fire station locations and apparatus deployment to reduce numbers of stations overall or improve response coverage by relocating existing stations
- Other measures that may reduce maintain costs while maintaining or enhancing service delivery overall

The above evaluation considerations are applied in the following scenario discussions.

Strategy 1 – Consolidation of All Study Fire Departments

Level of Cooperation

- Operational

Timeline for Completion

- Long Term

Affected Stakeholders

- All Agencies

Objective

- Consolidate all eight fire departments 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 study fire departments.

Summary

Under this conceptual strategy, all eight of the participating fire departments would be combined into a single entity. The fire departments within the study area already benefit from some collaborative programs such as mutual and automatic aid and some shared training efforts, suggesting that continuing the long-term strategy of cooperation could eventually lead to the whole area forming a single fire agency. However, a variety of impediments exist that make the strategy difficult, the majority of which are geographic and operational in nature.

Discussion and Financial Analysis

Service Delivery Models: The present system of providing emergency services by the agencies throughout the region has little continuity. Service delivery methodologies differ considerably, with six of the agencies providing services primarily by using paid-on-call personnel, while Hibbing uses a combination of career and POC personnel and Virginia is fully career staffed. EMS transportation practices also differ, with three agencies operating ambulances and the remaining five using non-fire department transport resources.

Geography: The study agencies are geographically dispersed with large gaps between many of the department's boundaries. Further, the eight agencies lie within two separate counties, which can be a complicating factor in a regional consolidation effort.

Facility and Staffing Deployment: While multiple efficiencies can be realized from implementation of the Functional Cooperative Efforts strategies discussed elsewhere in this report, significant cost reduction opportunities under the strategy cannot be realized. In evaluating fire station deployment, overlaps or duplicative coverage areas are not present that could provide benefit by relocating or reducing the number of fire stations. Similarly, in reviewing staffing and workload information, ESCI does not find excess personnel capacity or duplication of effort that could be addressed by reduced staffing and resultant financial advantages.

Financial Analysis Financial disparities also exist. Per capita costs for services vary widely, from as little as $22 in Grand Rapids to $206 in Hibbing and $294 in Virginia. The higher costs are being realized because the latter two agencies deliver a high number of emergency medical transport responses, but the broad dissimilarities present additional challenges to the full consolidation approach.

Conclusion

From an operational perspective, the consolidation of all of the participating fire departments does not prove to be feasible. The lack of geographic continuity, differing service delivery models, and disparate financial configurations in the eight agencies make a full merger or consolidation impractical. The implementation of multiple shared functional strategies, however, is highly encouraged.

Other Consolidation Alternatives

As an alternative, ESCI evaluated a 'less-than-total' consolidation options that may be feasible. The alternatives are identified in three geographic areas, based on proximity of fire departments relative to their neighbors.

Initially, ESCI concludes that Grand Rapids is not a candidate for merger or consolidation with the other agencies at this time. Geographically, the city is too distant to the next closest participating agency, Nashwauk, to make an integration feasible. However, it is noted that there are other fire departments adjacent and in close proximity to Grand Rapids that were not a part of this study. Consideration of shared service delivery opportunities with neighboring fire departments is recommended.

Strategy 2 – Consolidation of the Hibbing, Nashwauk, Keewatin, Chisholm, and Buhl

Level of Cooperation

- Operational

Timeline for Completion

- Long Term

Affected Stakeholders

- Hibbing, Nashwauk, Keewatin, Chisholm and Buhl

Objective

- Consolidate Hibbing, Nashwauk, Keewatin, Chisholm, and Buhl fire departments 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 five fire departments.

Summary

The second strategy assembles five of the participating fire departments in the Hibbing area into one. Because these agencies are closer together geographically, they are better able to work together more

closely that in the previous strategy. ESCI finds that multiple Functional Cooperative Efforts strategies can prove beneficial in this scenario including most if not all of those listed in the previous report section. Assuming that those initiatives are to be considered, more structured operational efficiencies may be feasible as well. However, as with Strategy 1, some obstacles exist that make the approach challenging.

Discussion and Financial Analysis

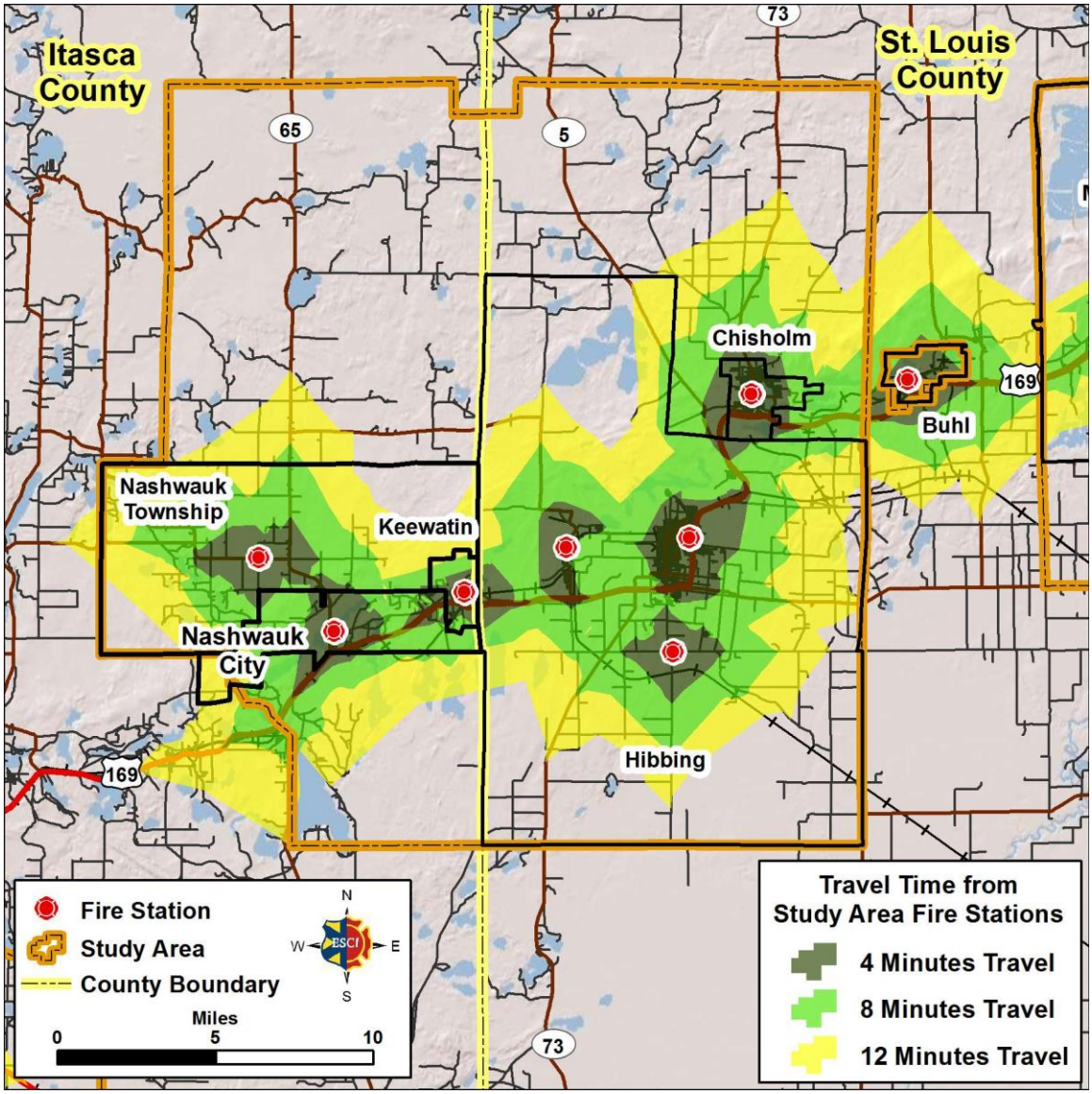
An immediate area of concern in viewing this strategy is the fact that the five agencies identified exist in two separate counties. A potentially significant barrier is presented in that dispatching services are provided from separate sources. The impediment is not insurmountable and could be managed successfully; however, it does present a unique challenge.

Service Delivery Models: Approaches to service delivery differ broadly. In this scenario, Hibbing is the only participant that operates with a combination career and POC staffing model, while the other four are purely POC fire departments. Ambulance transportation also varies widely. Hibbing provides ALS transport services to its constituents, and Buhl provides BLS transportation, depending on ALS backup from Hibbing. Nashwauk receives transport services from a separate city-owned provider that is also contracted to the city. Chisholm EMS patients are served by an ambulance from Hibbing or Buhl. The EMS transportation models are fragmented and could be improved upon by applying a regional vision to the approach, a consideration that is recommended but beyond the scope of this study.

Geography: The five agencies are closer together geographically than in the initial strategy and a higher degree of interaction exists here simply because the departments work together more often. Again, the fact that two lie within Itasca County and the other three in St. Louis County is problematic.

Facility and Staffing Deployment: The implementation of many of the Functional Cooperative Efforts will result in gains in efficiencies and improved service delivery overall. However, in considering operational strategies, including relocation of fire stations, significant cost reduction opportunities cannot be developed while maintaining acceptable response coverage. As demonstrated in the following map, existing station locations provide acceptable coverage and excessive overlaps are not present.

Figure 75: Hibbing Area Station Locations



In the absence of the ability to reduce the overall number of stations, reductions in numbers of paid personnel also do not exist. Further, Hibbing operates as a combination staffed department and staffing levels to not indicate an excess capacity that would allow for lessened manpower levels to achieve financial savings.

Financial Analysis: Considerable financial disparities are present between the five fire departments. Per capita costs for services vary widely, as do tax rates and foundational financial factors. Integrating all into a single entity may result in small cost reductions in Hibbing but would likely increase tax rates in the others, which is unlikely to receive approval of the agencies' constituents.

Conclusion

A functional consolidation of the Hibbing, Nashwauk, Keewatin, Chisholm and Buhl fire departments is viewed as not only feasible, but also recommended. Multiple gains can be realized by regionalizing training and fire prevention programs, establishing common Standard Operating Guidelines, enhancing the use of Mutual and Automatic Aid and most if not all of the other identified functional strategies. However, based on the factors listed above, an operational consolidation or full merger of the agencies into one does not offer sufficient gains to make the strategy feasible.

Strategy 3 – Consolidation of the Virginia and Mountain Iron Fire Departments

Level of Cooperation

- Operational

Timeline for Completion

- Long Term

Affected Stakeholders

- Virginia and Mountain Iron

Objective

- Consolidate the Virginia and Mountain Iron fire departments 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 five fire departments.

Summary

The final strategy combines the Virginia and Mountain Iron fire departments into one. These agencies are geographically adjacent to each other and work together with some frequency. They do not routinely train together and do not share operating procedures or a number of the other opportunities for Functional Cooperative Efforts that have been discussed throughout this section, as would prove beneficial. ESCI encourages the consideration of those initiatives to gain operational efficiencies moving forward. We also evaluated higher levels of operational consolidation in the context of these two agencies, identifying potential benefits as well as some obstacles that exist to a higher level of integration.

Discussion and Financial Analysis

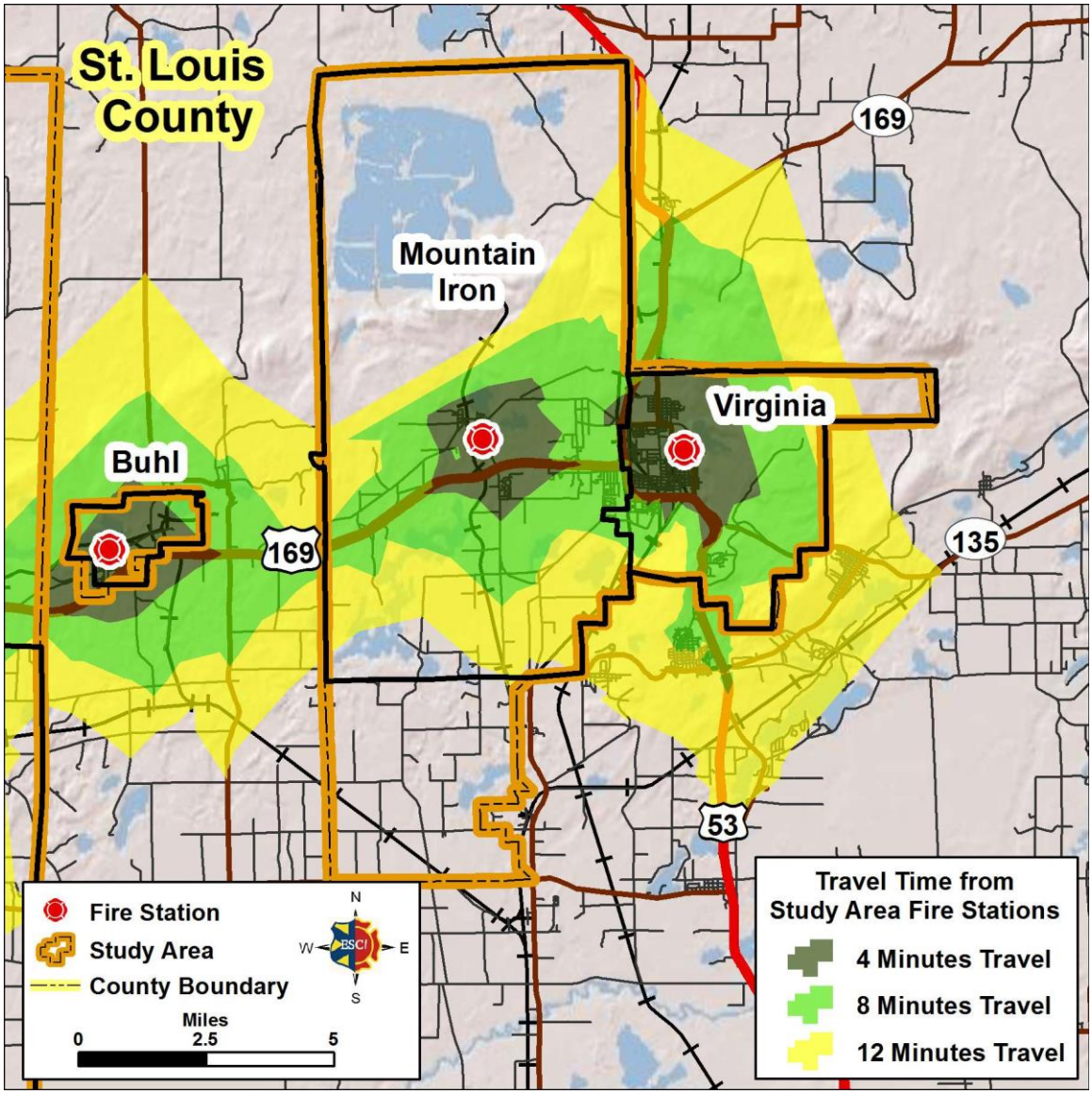
Service Delivery Models: Service delivery methodologies in Virginia and Mountain Iron are different. Virginia is a fully career organization and does not use POC personnel to deliver services. Mountain Iron, conversely, is a fully POC organization. Fire suppression is addressed similarly in both agencies, but Virginia provides ambulance transportation to its service area as well as that of Mountain Iron.

Geography: The two departments are in close proximity to each other, which is advantageous to the strategy. They also work together with some regularity, although there is little routine interacting with regard to training, operating procedures, or other collaboration.

Facility and Staffing Deployment: in reviewing fire station placement, it is noted that some overlap occurs in 8 and 12-minute response coverage between the two stations. The amount of overlap is advantageous to response efficiency and is not duplicative in nature. Were either station to be removed in the interest of cost reduction, coverage would be compromised to an unacceptable level, so re-deployment of facilities is not an option.

The following map shows the existing station locations and response times discussed above.

Figure 76: Virginia and Mountain Iron Area Station Locations



The next question is whether cost savings may be realized via reductions in staffing. As with Strategy 2, opportunities to reduce the number of stations do not present themselves in this scenario. As a result, nor do personnel reduction options. Further, any staffing cuts that might be considered in Mountain Iron will not result in cost reductions of significance because they are POC positions. Finally, career staffing levels in Virginia are not found to be at a level that suggests excess capacity and opportunities for reduction.

Financial Analysis: Financial disparities also are found in this strategy. As a larger, fully career fire department, costs for the provision of fire protection in Virginia are considerably higher than they are in

Mountain Iron, as is to be expected. Combining the two disparate budgets will not positively affect the city of Virginia and would most likely increase costs in Mountain Iron.

Conclusion

In considering the factors listed above, and the advantages that could result from combining the two fire departments, a full operational consolidation or merger of the Virginia and Mountain Iron Fire Department does not offer advantages that are sufficient to result in a feasible option. However, a functional consolidation of the two agencies, leveraging the Functional Cooperative Efforts initiatives that are applicable in these agencies is appropriate and ESCI encourages the departments to pursue them.

Findings and Recommendations

A variety of Operational Cooperative Efforts Strategy alternatives have been identified and analyzed in this report. Several potential consolidation combinations have been explored including the merger of all of the participating agencies into a single organization, as well as two other alternatives involving smaller geographic areas that held potential for integration into smaller combined entities. Throughout the process, it became apparent that geography, financial and taxation disparities, and service delivery models in all eight fire departments mean that all of the alternatives identified are not feasible in the context of formal operational merger.

In completing numerous shared service delivery feasibility studies over the course of many years, ESCI most often is able to demonstrate a host of advantageous reasons to integrate separate fire departments that result in significantly increased efficiencies and financial savings. In the instance of the agencies that chose to participate in this study, those advantages are not present.

Although a merger of some or all of the fire departments has not proved to be feasible, multiple other gains can be realized in the form of Functional Cooperative Efforts. Some of the strategies that are listed can be applied regionally, involving all eight agencies, and can even be expanded to include neighboring departments that did not participate in this study. Others may not apply to all eight participants and can, instead, be adopted by smaller regional consortiums of agencies.

Decisions about how to proceed and what initiatives are to be implemented will need to be carefully evaluated by the participants. When properly analyzed, it is likely that the organizations will find that some strategies will be readily adopted and initiated and others will be more complex and time consuming. It may also be found that some are not feasible at all. Care should be taken in making decisions that will affect the agencies for years to come. Guidance on the decision making process and implementation planning is provided in the next section.

Implementation Process

This section 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 organization to continue with the process or not. The implementation begins with that step.

Conduct Vision Session(s) with Policymakers

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 representatives 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 policymakers 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 bodies have determined what is in the best interest of their citizens as a matter of public policy.

It is equally important that the policy bodies 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 policymakers 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 or more communities to decide not to finalize and implement the plan.

The term “vision session” is used here because the policymakers 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 policymakers.

One of the best methods for initiating this vision process is to begin with policymakers sharing an open discussion of critical issues. Each entity representatives 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 their 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 come out with a decision by the policy bodies 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 policymaker group should meet together at set intervals, or as needed, to hear the progress of the 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 Manager (or equivalent) from each community
- Fire Chief
- Finance Director from each community
- Volunteer representatives from each volunteer organization involved

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 voting is necessary, 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 begin 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 Policymaker 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 work and may need to establish multiple sub-groups to accommodate its workload. The group will work out all of 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, if established. The membership of this group typically involves senior agency management, mid-level officers, training staff, and volunteer representatives. This list often expands with the complexity of the services being provided by the agencies.

Support Services and Logistics Working Group (Optional)

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, etc., will also be represented.

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 important 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 coordinate with findings and processes of the other working groups. Where necessary, the Joint Implementation Committee and a working group chairperson can meet with the Policymakers 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.

Conclusion

A tremendous amount of data and information is contained within this document, much of which was supplied by the agencies involved and then analyzed and evaluated by the ESCI project team. In the end, the study departments, like many other fire departments across North America, are operating at a level that is currently meeting the expectations of the communities served but realize that there is always room for improvement. Regardless of the path that policymakers chose moving forward, the information contained with this report is intended to be used by the fire departments to follow a process of continuous quality improvement in a non-ending cycle of self-evaluation.

ESCI began collecting data and working with community stakeholders for this project in January 2013. Analysis of data and collection of stakeholder input has taken over five months to compile to develop options for future service delivery within the study area. It is ESCI's sincere hope that the information contained within this document is seen as useful in enhancing the way in which fire and emergency services are delivered throughout the area.

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