DRAFT

Master Fire Plan

City of Greater Sudbury
February 25th, 2004

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TABLE OF CONTENTS

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

Many individuals contributed to the development of this Master Fire Plan for the City of Greater Sudbury. The following are among the key contributors. The contributions are most appreciated.

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SUMMARY

S.1 Background, Objectives & Scope

On February 27, 2003 City Council authorized emergency services staff to proceed with the preparation of a Master Fire Plan 'based on an analysis of needs and risk' and to engage IBI Group to assist in its development. Work on the Plan commenced in early March 2003. This document – the Master Fire Plan - contains the results of the master planning initiative.

The Master Fire Plan is intended ***to serve as a strategic planning framework (blueprint) for public policy, organizational, capital and operational decisions pertaining to the Fire Services Division***. More specifically:

- To ensure that the City's Fire Services Division upholds the legislated requirements under the provincial Fire Protection and Prevention Act (FPPA).
- To document the fire risks within the Greater City.
- To affirm the Division's mission and core services, as well as the resource and capital requirements in support of these services.
- To establish an administrative structure within the Division, which will reflect the composite make-up of the City's fire service and ensure management accountability.
- To ensure the Fire Services' capability to adapt to changing needs and circumstances.

A number of City staff and external resources participated in the Plan's development. They are acknowledged within the body of the document. Also acknowledged are the members of the Fire Advisory Committee, established as an advisory forum in which to advance the Plan's development. The City's Fire Chief functioned as Committee chair. The membership included 2 City Councilors, representatives from the professional (career) and volunteer firefighter associations, 3 citizen representatives and the Ontario Fire Marshal's Office (OFM) functioning in an advisory capacity.

The approach adopted for the development of this Master Fire Plan is consistent with the public fire safety models promoted by the OFM. The Plan's recommendations are based in part on a fire risk assessment, technical analysis of local conditions and services, a review of best (common) practices among municipal fire services, the City's financial capacity to fund changes, and the views expressed by City residents and stakeholders, including the professional and volunteer firefighters.

Meetings of the Fire Advisory Committee were open to the public and media. Information presented to the Committee was posted on the City's web site. Meetings were held with both firefighter associations; they submitted written briefs. In December 2003 fire services management reviewed the preliminary findings with fire services' personnel. In January 2004 a series of public information sessions were conducted throughout the Greater City; the turnout numbered approximately 300 persons. All views were taken into consideration in the development of this document.

S.2 Legislative Context

FPPA is the governing legislation for fire prevention and public safety in Ontario. Within the framework set out by FPPA, municipalities are responsible for funding and delivering fire protection services and the province is responsible for providing municipalities with advice, guidance and support.

Under the Act municipalities are required, as a minimum, to complete an assessment of the community's fire risks and to establish a program that includes public education with respect to fire safety and certain components of fire prevention. This establishes municipal responsibility for fire protection and makes fire prevention and public education services mandatory.

FPPA does not prescribe the level of emergency response (suppression) that a fire department should provide. The Act states that municipalities are responsible to arrange other fire protection services as determined necessary by the municipality's needs and circumstances.

The OFM is required to monitor and review the fire protection services provided by municipalities to ensure that they meet their responsibilities under the Act. If the OFM determines that a municipality is failing to comply with its responsibilities or that a serious threat to public safety exists, they have the authority to present the municipal Council with recommendations by which to rectify the situation. If the seriousness of the situation warrants they may, by way of a Ministerial regulation, establish standards for a municipality's fire protection service and require the municipality to comply.

A key component of the OFM's monitoring and review process is the Municipal Fire Protection Information Survey (MFPIS), which is designed to gather information on municipal fire protection services as they relate to the FPPA minimum service requirements.

S.3 Comprehensive Fire Safety Effectiveness

It is generally accepted that an effective fire protection service delivery system requires the following three lines of fire defence which are integrally intertwined. This is the strategy promoted by the OFM:

- Public safety education and prevention
- Fire safety standards and enforcement
- Emergency response and suppression

The principle objectives of the first two lines of fire defence are fire avoidance and increased fire prevention effectiveness. Fire departments endeavour to achieve these objectives through fire prevention training and education directed predominately to groups prone to relatively higher incidents of fire (children and seniors), early warning detection and notification systems, built-in suppression systems, establishment of municipal fire by-laws, occupancy inspections and code enforcement.

Regardless of the efforts which one may invest in fire avoidance and prevention, fires do happen; accordingly it is essential that each municipality should establish an emergency fire suppression capability, preferably one tailored to the community's local fire risks. This is the objective of the third line of defence. Factors which will influence the rapid response capability and fireground effectiveness of a fire department include dispatch protocols, firefighter availability, firefighter training, and proper maintenance and availability of suppression apparatus.

S.4 Findings

Fire Risk Assessment

The Greater City core, located in the area known formerly as the City of Sudbury, is the area of highest fire risk concentration. The majority of the Greater City's 155,000 population reside in the core. This area also contains 50% of the buildings which cater to public assemblies, 80% of the hospitals, nursing homes and long-term care facilities, and 60% of the City's commercial, business and industrial use occupancies. Many buildings are relatively old.

Outside the Greater City core, the City's geography is a mixture of small urban communities separated by rural development and vast tracts of undeveloped land. These areas present a significantly lower fire risk.

The residential category is the largest occupancy category in the Greater City. It is prone to a relatively high fire incident rate; 60% of all recorded fires over the 6-year period 1997 to 2002 are in this property class.

The City of Greater Sudbury has been relatively fortunate. Over the 6-year period there have been relatively few fire incidents, fatalities and serious injuries. Also, the dollar value loss and community economic impact from fire has been relatively low.

Despite the City's good fortune, the potential occurrence of fire incidents is real and the potential consequences can be significant, if not grave. For these reasons it is essential that the City's Fire Services Division continue to promote fire safety, to be ever vigilant and to maintain an effective and rapid fire suppression readiness.

Service Transitional Challenges

In concert with the 2001 municipal amalgamation a decision was made to consolidate the former seven fire services into a single city-wide 'composite' fire services system; composite being defined to include both career and volunteer firefighters. The service transition has been challenging.

There has been a relatively high turnover at the senior management level of the Fire Services Division. Most of the current management team, including the A/General Manager Emergency Services and Fire Chief, are new to their positions. Their tenures range from 6 months to approximately one year.

The current management team inherited a service lacking organizational structure and accountability at a functional level. Firefighters readily attested to the confusion, overlap, functional omissions and potential health and safety issues. In June 2003, at IBI Group's recommendation, City Council approved a new organizational structure designed to provide an appropriate level of program accountability for core and support services including firefighter training. Among the changes instituted was a singular organizational approach to the support functions required by EMS and Fire. In conjunction with the organizational realignment a recruitment process was undertaken to fill vacancies at the management level.

For much of the past three years the City's fire service has operated without the management systems and controls necessary to track, direct or to ensure effective, cost-efficient and accountable fire operations. The absence of such systems has hindered almost every aspect of fire service operations and impeded fire services management's ability to make sound decisions, based on accurate data. With City Council's approval accountabilities for records keeping, statistical analysis and reporting have been introduced. Also, a recommendation to implement an electronic records management system (RMS) is to be forwarded to City Council in spring 2004.

Fire calls are dispatched by the Police Services communications centre. The centre is staffed with well-trained communicators. The radio and computer-aided dispatch (CAD) systems are state-of-art. A noted exception is the stand-alone time consuming volunteer paging system. With City Council's approval a process to electronically interface the paging system has commenced. This initiative, to be completed in mid-2004, will support concurrent and focused paging of volunteers, and is expected to significantly improve the fire services' response time performance. Other technological issues presently being addressed include limited radio access in the City's fringe areas, improvements to the backup dispatch and the replacement of outdated wireless devices.

As a result of an unfortunate fire tragedy in 2001 and a subsequent Coroner's report, fire services management have directed considerable attention to the former City of Valley East. Management have increased the number of full-time and volunteer firefighters in the area; are revising local dispatch protocols to ensure a rapid multi-station response to structure fires; and in conjunction with this Master Fire Plan, are investigating alternative ways to enhance the local fire response capability.

In May 2003, shortly after the appointment of the A/General Manager Emergency Services and the recruitment of the Fire Chief, the OFM notified the Greater City's elected officials that ***at that time*** the City was non-compliant to FPPA minimum service requirements. Fire services management have worked diligently to address the noted deficiencies and as a result of their efforts, in December 2003 the OFM issued the City of Greater Sudbury a certificate confirming the City's ***current*** compliance.

The capital budget, which the current management team inherited, was determined to be under-funded. The annual capital shortfall for fleet replacement is $1.2 million, and for equipment replacement it is $300,000. Also, there is an estimated one-time expenditure requirement of $600,000 to replace bunker gear for the volunteer firefighters and an estimated one-time capital requirement of approximately $450,000 for the renovation of fire stations. With the Finance Department's assistance the fire service has commenced to address and budget for these items.

Composite fire services such as Greater Sudbury's are relatively economical to operate. This notwithstanding, they are inherently difficult to manage and are prone to conflict because career and volunteer firefighters frequently do not get along. Their disagreements typically centre about such issues as job security, expertise, pride and professionalism. As shown by the experience of other composite fire services, the City's composite fire service will require continuous, discerning, open and balanced management.

Existing Fire Service System

The Greater City's Fire Service is a division of the Emergency Services Department. The Department's mission is to protect life, property and the environment. The Fire Services Division has adopted the OFM's three-pronged strategy as the basis for their fire protection system. The core services – public safety education, fire prevention, enforcement and emergency response – are guided by this strategy.

Public safety education, fire prevention and enforcement programs (i.e., first two lines of fire defence) are applied across the City with relative consistency. In 2003 the fire service division carried out over 300 public safety initiatives reaching out to over 5,000 community residents. They included the delivery of a home fire safety survey, Learn Not to Burn and Risk Watch fire safety programs directed to students, Older and Wiser fire safety directed to seniors, public events and fire safety displays.

The fire service division also carried out over 2,200 fire prevention inspections. Some inspections, for example those of public buildings are legally mandated. Others were conducted to ensure that requisite fire safety components have been installed and that they are in proper working order.

These achievements notwithstanding, fire services management continue to grapple with the question of fire prevention program effectiveness. In this regard the absence of an electronic RMS for tracking and documentation of activities, and defined performance measures, have been major impediments. The recent establishment of accountability for quality assurance and the proposed purchase of an RMS should resolve the situation.

The fire services emergency response and fire suppression capability (3rd line of fire defence) varies across the Greater City.

The built up area of the former City of Sudbury is protected predominately by career firefighters based at station. In this area the fire service strives to deliver an ***initial*** response by a minimum of 10 firefighters within 10 minutes of an alarm. By multi-tasking this level of response will enable firefighters to concurrently undertake interior fire suppression and rescue activities. To achieve this objective the common practice is to deploy a minimum of two companies or stations concurrently. If upon arrival at scene, it is determined that the situation warrants additional resources, then they are called in.

The built up area of the former City of Valley East is protected by a composite firefighter force. In this area the fire service strives to deliver a response by a minimum of 10 firefighters within 10 minutes of an alarm. To achieve this objective the common practice is to deploy three stations concurrently (Val Therese, Val Caron and Hanmer stations). The response will consist of two on duty career firefighters and three volunteer brigades.

The rural / remote areas of the community are protected solely by volunteer fire fighting staff. In these areas the fire service strives to deliver a response by a minimum of 10 firefighters within 10 minutes of an alarm. To achieve this objective the common practice is to deploy two volunteer stations concurrently. The response will consist of two volunteer brigades.

The City's fire service will not always achieve these targets. This is particularly true in areas outside of the built up portion of the City core. The reasons include the City's vast geographic area, the mix of small urban communities separated by rural development and vast tracts of undeveloped land, and the numerous relatively isolated population centres.

The fire services' ability to achieve the objectives depends greatly upon a sufficient number of volunteer firefighters responding rapidly when paged. Despite best efforts, unfortunately this does not always happen. A minimum of 4 firefighters are required before interior fire suppression can be commenced. If less than 4 volunteer firefighters arrive scene residents may expect only exterior fire fighting activities.

If it takes longer than 10 minutes for firefighters to arrive at the scene of a structure fire, the resident may expect only exterior fire fighting activities. Another mitigating consideration are concurrent multiple calls originating in the same geographic area, as fire resources may already be preoccupied.

The targets set out above are based on guidelines for firefighter response set out by the OFM. They have been established by the City's fire service as operational objectives; they are not ingrained in municipal public policy. This is a common practice among fire departments as it provides the requisite flexibility to adjust fire suppression services in response to changing needs and circumstances.

Firefighting is not the fire services' sole preoccupation. The division is evolving into a service capable of delivering a multi-risk emergency response. This transformation is consistent with the Emergency Services Department's overall mission, and per North American trends it reflects the increasing needs by communities such as Greater Sudbury, for a broad range of emergency services.

For emergencies other than fire, residents across the Greater City may expect the following of their firefighters: capability to deal with wildland and vehicle fires, to perform basic vehicle extrication and shore-based ice / water rescue, to respond to fire alarm, carbon monoxide and public assistance calls, and to participate in land search and rescue. From stations based in the City core, Dowling, Vermillion, Levack and Capreol, residents may expect firefighters to perform medical assists.

The fire service system is equipped with approximately 80 vehicles. Virtually all fire stations are equipped with a pumper. In addition there are 9 tankers, 9 rescue vehicles, 2 aerials, 3 telesquirts and 8 bush trucks. Despite this array of vehicles there is a relatively limited elevated master stream

capability. Of the two aerials only one is fully operational[1]. Two of three telesquirts are fully operational.

A recently developed fleet replacement schedule proposes that in 2004, one aerial be replaced at a cost of approximately $1.1 million and that three telesquirt be purchased, each at a cost of approximately $750,000. The current capital budget will not cover the entire cost of these vehicle purchases; for this purpose City Council's approval of additional funding will be required.

The fire service plans to increase the number of spare pumpers from the current three to five. This, they propose to accomplish over time by modifying the pumper replacement schedule. Fire service management anticipate that this initiative will not require new funding (i.e., funding beyond the annual capital budget).

In 2003 the City budgeted $13.2 million for fire services operations. The 2004 proposed operating budget is $14.6 million. The proposed budget is to operate the fire services system at the current level. In this regard the proposed budget provides for anticipated wage and benefit increases due to cost-of-living adjustments, and the changes recently approved by City Council including firefighter staffing adjustments for the former Valley East and the organizational realignment approved in June.

The proposed 2004 budget does not address the annual capital under-funding for fleet and equipment replacement. Nor does it provide for newly proposed service improvements and acquisitions such as the acquisition of an electronic records management system, expanded ice and water rescue training, and high angle and confined space rescue training.

Exhibit 7.1 presents a comprehensive list of current and planned fire service system initiatives along with their financial impacts, as estimated by fire services management. As noted therein, relatively few initiatives require new funding. Fire service management are of the opinion that most can be funded from within the current (and anticipated) operating and capital budgets.

Considerations for Change

Prior to amalgamation the former seven municipalities deployed and dispatched their fire resources in accordance to jurisdictional boundaries. The Greater City's composite fire service continues to dispatch its resources in much the same way. This situation exists because the CAD database and dispatch protocols have yet to be adjusted. Fire services management have commenced recently, to make the necessary modifications. They are expected to go into effect mid-year. The modifications are guided by the following recently developed principles, which in the interest of public safety, have been designed to provide balanced emergency response and coverage regardless of the career / volunteer firefighter distinction:

- Emergency responses by the Fire Service shall not be dictated or influenced by City ward boundaries.

- The fire station capable of providing the fastest response with the appropriate resources shall be required to respond, if not pre-occupied elsewhere.

- Within the annual budget envelope approved by City Council, fire services management reserve the right to adjust the deployment of fire resources when required, to meet the fire risk and emergency response needs of the City.

[1] As of the date of this report this aerial is temporarily out of commission; undergoing engine repair.

Firefighter training was identified repeatedly by career and volunteer firefighters, as an area requiring fire management's immediate attention. The issues ranged from lack of sufficient training to meet the needs of the staff, or the fire risks and emergency services needs of the community, to the absence of comprehensive training records to affirm that firefighters have completed mandatory training modules. In response, fire services management are pursuing the following initiatives:

- Realignment of training programs to ensure a balanced regard for all core services;
- Training and mentoring opportunities for fire prevention and inspection programs;
- Training programs geared to ensure that career and volunteers are trained to the same standards;
- Joint training of career and volunteer firefighters;
- Hands-on practical fireground training for career and volunteer firefighters, possibly in association with other agencies e.g., ALERT Tech;
- Expanded ice and water rescue beyond the present shore-based capability;
- High angle and confined space rescue beyond a basic level training;
- Hazardous materials response training to the awareness level and over time, to include a multi-station response capability at the operations level; and
- Improved training records management.

Fire service management anticipate that most training initiatives can be funded from within the current (and anticipated) operating and capital budgets. As identified in Exhibit 7.1, City Council approval of additional funding will be required to implement expanded ice and water rescue training, and high angle and confined space rescue training.

The fire services' rapid response capability from present station locations was also a subject of particular interest. A number of alternative station arrangements were considered. They included adding additional stations, reducing the number of stations, station consolidations and station relocations. None of the options considered demonstrated a capability to significantly improve the current response coverage. It was concluded that the current fire stations are situated in appropriate geographic areas of the community, so as to afford a reasonable level of fire suppression coverage; major changes are not presently required. In consideration of local coverage needs, this report also does not recommend closing any existing fire stations.

The report acknowledges that the fire response (suppression) capability is relatively low in the remote / fringe areas of the City. However, for these areas the cost of fire operations is a significant factor. Accordingly, for such areas the predominate lines of fire defence are public fire safety education, fire prevention and enforcement. It is recommended that fire service management should review and if necessary adjust, the existing inter-municipal aid agreements.

The former City of Valley East is an area of concern to many. It is a relatively large bedroom community, which generates a relatively high annual volume of fire and rescue calls. This area is becoming increasingly difficult to protect predominately with volunteer firefighters. Specifically, it is becoming increasingly difficult to rapidly assemble a sufficient number of firefighters on a consistent basis. The problem is particularly pervasive during weekday daytime periods.

A number of alternative solutions were considered. They include matching resources to call hour

variations; running procedure adjustments to better define the volunteer level of response by call type, time of day and season; call out procedure adjustments for a more focused call out based on volunteer availability; financial incentives for volunteer on standby at residence or on call at station; and increased career firefighter staffing.

Fire services management's preferred option is to increase the career firefighter presence in the area (essentially doubling the present full-time compliment). The primary benefit would be a 'guaranteed' rapid response by a minimum of 4 salaried firefighters, who upon arrival at the fire scene can immediately commence exterior firefighting. This option will help to ensure a consistent rapid response by a sufficient number of firefighters to undertake interior suppression and rescue. Also, it will significantly reduce (but not totally eradicate) the fire risk to life and property.

This option however, is the most costly to implement; potentially increasing the area's fire operating cost by $1 million or more, annually. The tax implications are also significant. For a $100,000 home located in the area (former Valley East) the taxes toward fire services amounted to $145 in 2003. Once the proposed 2004 budget is approved that home will pay $168. To accommodate an expanded career firefighter presence in the area, that same home will have to pay at least $273, and possibly $300 or more.

This report does not recommend the immediate implementation of an increased career firefighter presence in the area. As indicated above, the costs and tax implications to residents are significant. The extent of the problem in the former Valley East and the need for 24/7 coverage by full-time career firefighters has not been clearly demonstrated. There are relatively few call records on which to justify such a cost-intensive solution; moreover a number of the records are not fully documented.

Work is underway to electronically interface the paging and CAD systems to permit concurrent paging of groups of volunteers. Once completed in mid-2004, volunteer dispatch should be significantly improved. Also fire service management are looking at ways to expedite career firefighter turnout and they are in the midst of adjusting the CAD database and dispatch protocols to ensure that the fastest fire resource is dispatched. In short, alternative lower cost solutions are available; they will contribute meaningfully to a more rapid firefighter response.

Fire services management, despite their stated preference, have agreed for the reasons stated above to support a recommended incremental solution. The solution proposes the following sequence of steps: Implement running procedure adjustments and a more focused call out protocol for volunteers by the fall. At that time commence monitoring and documentation for a period of 6 to 12 months, and subsequently assess the data to ascertain the effectiveness of the initiatives and what additional solutions are required.

With respect to the Greater City core, the situation is not unlike that described previously for the former City of Valley East. In this case the debate is whether the City core is or is not understaffed. As per the situation above the issue is the absence of sufficient reliable data on which to draw a defensible conclusion, and an incremental solution is recommended, commencing with assembly of a sufficient volume of call and response time data. Once this is accomplished fire services management would undertake to reassess the situation.

S.5 Recommendations

The findings of this review affirm that the Greater City's current fire service system is much improved over that which existed one year ago. The change is attributed largely to the diligent efforts of the newly recruited senior management of the Emergency Services Department and its Fire Services Division.

As described by this report, in addition to the changes which the management team have implemented (with City Council's approval) there are a number of initiatives underway, and others either being examined or planned for implementation in the short term. Once implemented, City residents can expect additional fire service improvements over the coming months and years.

As stated repeatedly throughout this document and summarized in Exhibit 7.1, most of the ongoing and planned initiatives can be funded from within the current (and anticipated) operating and capital budgets. City Council approval of additional funding will be required to accommodate current annual capital under-funding and a few specific activities and acquisitions. These are also identified in Exhibit 7.1. For these items, fire services management will submit individual requests at a later date.

In light of the above it is recommended that:

1. City Council should authorize the Emergency Services Department to carry on with the fire services system enhancements and investigations which they have commenced; these actions being contingent upon the receipt of City Council approval for initiatives requiring new / additional funding.

2. City Council should authorize the Emergency Services Department to adopt the following amended mission statement. The overall mission (i.e., to protect life, property and the environment) remains unchanged; however, it more clearly describes the expectations of the Department and its two operating divisions. Also, it affirms the three-pronged fire protection strategy promoted by OFM as City Council's preferred strategy and Council's authority to adjust service levels, as occasionally may be required in response to changing needs and circumstances:

   "To protect the safety, health and welfare of our citizens, and to prevent damage to their property and our environment, through the provision of preventative, educational and emergency services authorized by the City"

3. City Council should approve this Master Fire Plan and subsequently forward a copy to the OFM.

1. INTRODUCTION

The City of Greater Sudbury was created in 2001 as a result of a provincially mandated amalgamation of the Regional Municipality of Sudbury with the former City of Sudbury, City of Valley East, Town of Capreol, Town of Nickel Centre, Town of Onaping Falls, Town of Rayside-Balfour, Town of Walden and the former unincorporated areas of Fraleck, Parkin, Aylmer, Mackelcan, Rathbun, Scadding, Dryden, Cleland and Dill.

Since that time a major focus has been on transitioning, integrating and harmonizing the newly-amalgamated City's emergency services.

In July 2002 the Emergency Services Department released a Business Plan in which a recommendation to develop a Master Fire Plan *'based on an analysis of needs and risk*' was included as a cornerstone activity. In October 2002 a provincial Coroner's report on the 2001 Roy Street fire tragedy re-emphasized the City's need to develop a Master Fire Plan.

On February 27, 2003 City Council authorized emergency services staff to proceed with the preparation of the Plan and to engage IBI Group to assist in its development. Work on the Plan commenced in early March 2003.

This document – the Master Fire Plan - contains the results of the master planning initiative.

1.1 Plan Objectives

The Master Fire Plan's overall objective is ***to serve as a strategic planning framework (blueprint) for public policy, organizational, capital and operational decisions pertaining to the Fire Services Division***. More specifically:

- To ensure that the City's Fire Services Division upholds the legislated requirements under the provincial Fire Protection and Prevention Act. According to the Act, the Fire Services Division's primary obligations are public fire safety education and fire prevention.
- To document the fire risks within the amalgamated City.
- To affirm the Division's mission and core business activities, as well as the resource requirements in support of these activities i.e., personnel, facilities, apparatus, communications and capital.
- To establish an administrative structure within the Division, which will reflect the composite make-up of the City's fire service and ensure management accountability for the services provided.
- To ensure the Fire Services' capability to evolve through such means as the recruitment of career and volunteer personnel when necessary, training geared to core activities, professional development, an effective records management system and the application of new technology.
- To assure the Fire Services' capability to establish and maintain a strong, favourable and accountable public image.

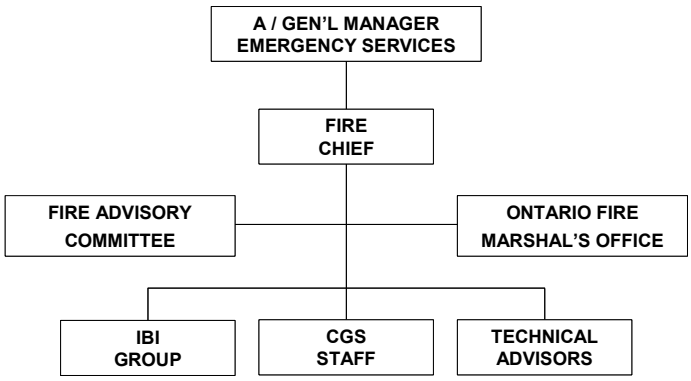
EXHIBIT 1.1
MASTER FIRE PLAN SCOPE

Fire Risk Assessment
Core Services: Public Safety Education & Prevention, Fire Safety Standards & Enforcement, Fire Suppression
Resources: Personnel, Facilities & Apparatus
Fire Service Administration
Training & Professional Development
Records Management
Dispatch Communications
Financial Impacts

1.2 Participants in the Plan's Development

As shown by Exhibit 1.2 a number of individuals participated in the development of the Master Fire Plan. They include:

EXHIBIT 1.2
PARTICIPANTS IN THE MASTER FIRE PLAN'S DEVELOPMENT



- City's A/General Manager Emergency Services, responsible for fire services, emergency medical services and municipal emergency preparedness and planning;
- City's Fire Chief;
- Staff from the City's Emergency Services Department, the Fire Services Division, City's Police Services responsible for Fire Dispatch Communications, City's Finance Department and the City's GIS Department; and
- External technical resources.

A Fire Advisory Committee was established to advance the Plan's development. The Committee chair was the Fire Chief. The membership included: 2 City Councilors; representatives from the Career and Volunteer Firefighter Associations; 3 citizen representatives; and the Ontario Fire Marshal's Office functioning in an advisory capacity.

The Committee's mandate included review, comment and advice on scope, work plan, schedule, progress reports and work product.

1.3 Approach

The approach adopted for the development of Greater Sudbury's Master Fire Plan is consistent with the public fire safety models and guidelines promoted by the Ontario Fire Marshal's Office. The models and guidelines are discussed in Section 2 of this report.

Essentially, the models promote three lines of defence each of which is an integral component of an effective fire protection service delivery system. The lines of defence are: public fire safety education and prevention, fire safety standards and enforcement, and emergency response and suppression.

The recommendations contained in this Master Fire Plan are based in part on:

- Fire risk assessment,
- Technical analyses of local conditions and services,
- Review of best (common) practices by other municipal fire services,
- Financial assessment of the City's capacity to fund changes, and
- Views expressed by City residents and stakeholders, including the firefighters.

1.4 Best (Common) Practices

In addition to the technical analyses of local conditions and services, the Master Planning exercise included a best (common) practices survey of other municipal fire services. Exhibit 1.3 identifies the municipalities surveyed.

The municipalities were chosen on the basis of one or more of the following criteria: population, geographic area, mix of urban and rural development, mix of career and volunteer fire services operations, and municipal amalgamation experience.

EXHIBIT 1.3
MUNICIPALITIES SURVEYED

Municipality	Population	Area (Sq. Km)	Fire Services Staffing	Municipal Amalgamation
Kenora	16,000	211	Composite	--
North Bay	53,900	315	Career	--
Kawartha Lakes	72,000	1,184	Composite	January 2001
Ajax	76,000	68	Composite	--
Niagara Falls	80,000	210	Composite	--
Thunder Bay	109,000	404	Career	--
Barrie	110,000	77	Career	--
Chatham Kent	110,000	2,457	Composite	January 1998
Cambridge	113,000	211	Career	--
Greater Sudbury	**155,000**	**3,600**	**Composite**	**January 2001**
Markham	182,000	211	Career	--
Windsor	208,000	122	Career	--
Vaughan	214,000	274	Composite	--
Halifax	358,000	5,620	Composite	--
Brampton	360,000	269	Composite	--
Hamilton	490,000	1,113	Composite	January 2001

Note: Municipalities are listed by size according to population

The survey results were used to benchmark (i.e., to gauge) Greater Sudbury's fire service relative to those of other municipalities. The service levels and practices of the other municipalities were not adopted outright. Rather, their applicability to the local situation was assessed throughout the formulation of Greater Sudbury's Master Fire Plan.

Among the municipalities surveyed, one stands out as a model for the City of Greater Sudbury. That municipality is the City of Hamilton. Although somewhat larger Hamilton and Greater Sudbury share a number of common characteristics as discussed below. Also, the Hamilton Fire Service is considered by many to be an efficiently managed, quality operation.

The City of Hamilton has recently undergone a municipal amalgamation involving the former Regional government, the former City of Hamilton and the surrounding townships – as did the City of Greater Sudbury. The City of Hamilton is comprised of a relatively small urban core (defined primarily by the former City boundary) surrounded by mostly-rural communities – as is the City of Greater Sudbury.

Hamilton's former area municipalities included a mix of career, volunteer and composite fire services. These area municipal fire services have been amalgamated into a single city-wide 'composite' operation – as has Greater Sudbury's.

Hamilton's fire service is one of two divisions comprising the City's Emergency Services Department; the City's Emergency Medical Services is the other division. Greater Sudbury has a similar emergency services organization.

1.5 Public & Stakeholder Consultation

Throughout the Master Planning exercise, City residents and stakeholders were given various opportunities to provide input; the primary one being meetings of the Fire Advisory Committee, which were open to the public.

EXHIBIT 1.4
FIRE ADVISORY COMMITTEE MEETINGS

April 15, 2003
May 27, 2003
June 24, 2003
September 3, 2003
September 16, 2003
November 4, 2003
February 10, 2004
April ??, 2004

All meetings of the Fire Advisory Committee were held at Tom Davies Square. The information presented to the Fire Advisory Committee was posted on the City's web site.

Throughout the duration of the master planning exercise fire services management and IBI Group met on several occasions with representatives from both the professional and volunteer fire fighters associations. In response to requests for input, both associations provided written briefs.

In December 2003 fire services management arranged a series of meetings with fire services' personnel to review the preliminary findings arising out of the Master Planning exercise. The meetings were chaired by the Fire Chief. The feedback from these meetings was taken into account in the development of this document.

In January 2004 a series of public information sessions were conducted throughout the Greater City. Public notification of these sessions was arranged in advance, through the media. City representation included City elected officials, the Fire Chief and A/General Manager Emergency Services. At these sessions, City staff presented the preliminary findings arising out of the Master Planning exercise and invited public feedback. The views expressed were taken into consideration in the development of this document.

EXHIBIT 1.5
PUBLIC INFORMATION SESSIONS

Ward	Date	Turnout	Location
1	January 7, 2004	70	T.M. Davies Community Centre
2	January 8, 2004	45	Lionel E. Lalonde Centre
3	January 12, 2004	60	Centennial Community Centre
4	January 22, 2004 January 27, 2004	25 25	Garson Community Centre Capreol Arena
5	January 6, 2004	45	Countryside Arena
6	January 26, 2004	15	Minnow Lake Place

2. CONTEXT

The Fire Protection and Prevention Act (FPPA) is the governing legislation which promotes fire prevention and public safety in Ontario. Within the framework set out by FPPA, municipalities are responsible for funding and delivering fire protection services and the province is responsible for providing municipalities with advice, guidance and support. The vision of the FPPA is that every resident of Ontario shall receive an appropriate level of fire protection.

Under the Act municipalities are required, as a minimum, to complete an assessment of the community's fire risks and to establish a program that includes public education with respect to fire safety and certain components of fire prevention e.g., smoke alarm program, home escape planning and fire prevention inspections upon complaint or request. This establishes municipal responsibility for fire protection and makes fire prevention and public education services mandatory.

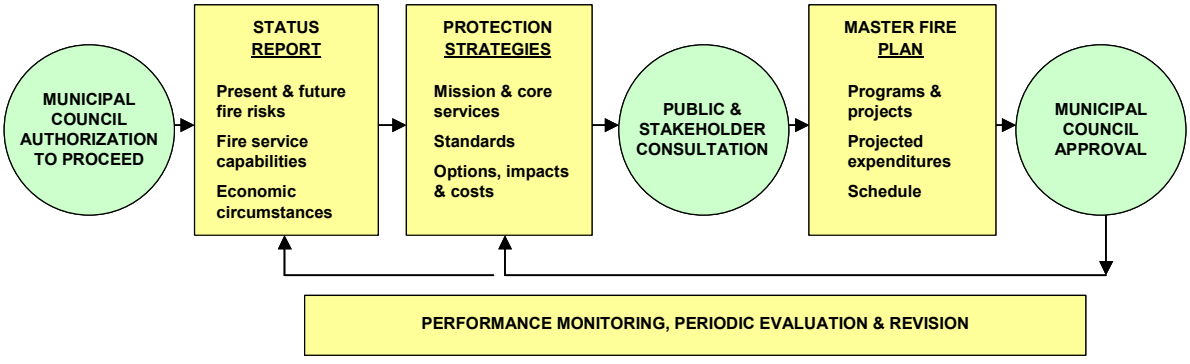
FPPA does not prescribe the level of emergency response service(s) that a fire department should provide. The Act states that municipalities are responsible to arrange other fire protection services as determined necessary by the municipality's needs and circumstances. Essentially, the level and amount of fire protection provided within a community shall be determined by the residents of that community through decisions made by the local municipal council.

2.1 Master Fire Planning – An Overview

Competing demands on limited municipal resources are forcing communities to re-assess the level and nature of fire protection services which they provide. Master fire planning is concerned with evaluating a community's fire risks and where required, changing a community's fire protection system to meet local needs and circumstances, based on a cost that the community can afford.

Exhibit 2.1 presents a flow chart showing the basic steps comprising the master fire planning process. It is this approach, which was adopted for the development of Greater Sudbury's Master Fire Plan.

EXHIBIT 2.1
SIMPLIFIED MASTER FIRE PLANNING PROCESS



The process begins with a municipality's Council giving staff authorization to proceed with the development of the Master Fire Plan. Often accompanying such authorization are an approval of resources to carry out the task, a timeline and the identification of persons / committee responsible for providing project oversight or advice e.g., as in the case of Greater Sudbury, a Fire Advisory Committee.

Step 2 is the development of a 'Status Report' defining the current status of the community's fire service focusing on present and future fire risks within the community, the capabilities of the existing fire service to protect the fire risks within the community and the local economic circumstances.

Step 3 involves the assembly, analysis and organization of pertinent information, which subsequently will enable the municipal council to decide upon a fire protection strategy. Providing optional 'protection strategies' for Council's consideration is integral to the success of this stage of the process, as is the analysis of their respective impacts and costs.

Public and stakeholder consultation (step 4) is another integral factor, particularly so, since municipal councilors will want to take the following into account in their deliberations: public expectations, local fire risks, competing priorities and the costs that the community can afford.

Step 5 is the preparation of the 'Master Fire Plan' document. The Plan is intended to function as a strategic planning framework (blueprint) for public policy, organizational, capital and operational decisions pertaining to the Fire Services Division. At a minimum the Plan should contain the following components:

- Fire Services' mission statement and core services;
- Fire service programs, projects and projected expenditures, approved by the municipal Council;
- Schedule for developing, implementing and maintaining services; and
- Proposed program for ongoing monitoring, and periodic evaluation and revision, based on a predefined set of performance measures.

In step 6, the Master Fire Plan document is submitted to the municipal Council for review and approval. Approval is contingent upon the municipal Council's agreement with the proposed type and level of fire protection services and acceptance of the projected expenditures. The Plan may either be sent back for refinement, or be approved with or without amendments.

Step 7 of the process is a program for ongoing monitoring and periodic evaluation and revision, based on a predefined set of performance measures. This step is essential to ensure the ongoing capability of the locally approved fire protection strategy to respond to changes over time, in the community's fire risks and circumstances.

For additional details on master fire planning, the reader should refer to the public fire safety models promoted by the Ontario Fire Marshal's Office (OFM) specifically the *Optimizing Public Fire Safety Model* and the *Comprehensive Fire Safety Effectiveness Model*[2].

[2] The documents in their entirety are posted on the OFM website at www.gov.on.ca/ofm, as guidelines PFSG 01-01-01, PFSG 01-02-01 and PFSG 03-02-13.

2.2 Comprehensive Fire Safety Effectiveness

It is generally accepted that an effective fire protection service delivery system will consist of the following three lines of fire defence which are integrally intertwined: ***public safety education and prevention; fire safety standards and enforcement; and emergency response and suppression***. This is the strategy promoted extensively by the OFM.

EXHIBIT 2.2
COMPREHENSIVE FIRE SAFETY EFFECTIVENESS

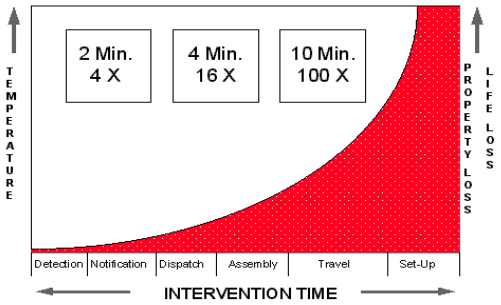
The principle objectives of the first line of fire defence are fire avoidance and increased fire prevention effectiveness. Fire departments endeavour to achieve these objectives through fire prevention training and safety education directed to the public at large and to groups prone to relatively higher incidents of fire e.g., children and seniors. This line of defence relies heavily on community residents, to take greater responsibility to protect their lives and property through such means as fire drills, home escape planning, early warning detection and notification systems and built-in suppression systems e.g., automatic sprinklers[3].

The second line of defence is also geared to fire avoidance and increased fire prevention effectiveness. Here however, the onus is not on the self-reliance of community residents but rather, on municipally established fire legislation, regulations and standards (e.g., municipal fire by-laws), fire inspections carried out by the local fire department to ensure compliance to fire codes and where necessary, enforcement measures, such as charges for violations, temporary or permanent suspension of use of occupancy, etc.

Regardless of the efforts which one may invest in fire avoidance and prevention, fires do happen; accordingly it is essential that each municipality should establish an emergency fire suppression capability, preferably one tailored to the community's local fire risks. This is the objective of the third line of defence. Factors which will influence the rapid response capability and fireground effectiveness of a fire department include dispatch protocols, firefighter availability, firefighter training, and proper maintenance and availability of suppression apparatus.

Exhibit 2.3 conceptually illustrates the relationship between intervention time, temperature in a room of fire origin and the likelihood of loss of property or life. As illustrated by the exhibit, ***early detection and notification, when coupled with effective fire department suppression, can reduce the consequences of a fire appreciably*** i.e., in terms of deaths, injuries, loss of property and damage to the environment.

EXHIBIT 2.3
TIME / TEMPERATURE RELATIONSHIP

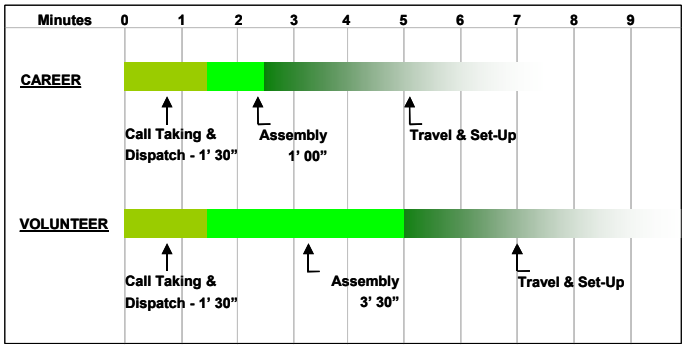


Source: Comprehensive Fire Safety Effectiveness Model
Ontario Fire Marshal's Office PFSG 01-02-01

[3] Traditionally, the use of built-in suppression systems has been limited to assembly, commercial, industrial and manufacturing occupancies. To date there has been relatively little application of this concept to residential development, although governments are giving it greater consideration.

Fire services typically target 1.5 minutes for call taking and dispatch. Career fire services staffed at station typically target 1 minute for station assembly. For volunteers a value typically suggested is 3.5 minutes; although it will vary depending on where the volunteers happen to be at the time of the call / page.

EXHIBIT 2.4
DISPATCH, ASSEMBLY, TRAVEL & SET-UP



To reduce time lost fire services often institute operational procedures wherein only the volunteer firefighters in close proximity to the station will assemble at station and proceed via vehicle (pumper, tanker, etc) to the scene of the fire; the remainder of the volunteer contingent will go directly to the fire scene.

Travel is the one component not totally under the fire department's control. It is to a large degree influenced by such external factors as the distance to the fire scene, traffic volumes, posted speed, road conditions, weather, visibility, accidents, etc. Set-up time at scene will depend upon the nature of the emergency and the number of firefighters available within a specific timeframe to respond to the situation (e.g., may require aggressive interior fire suppression, rescue operations or both).

3. FIRE RISK ASSESSMENT

3.1 Demographic Profile

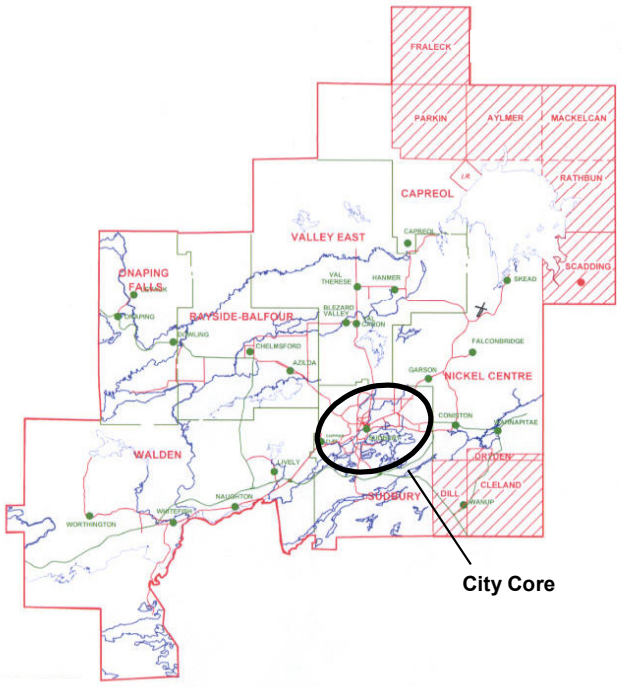
Greater Sudbury's Fire Department serves and protects a population of approximately 155,000 persons distributed over an area of 3,600 square kilometres.

The majority of the population resides in the City core located generally, in the area known formerly as the City of Sudbury. The rest of the City's geography is a mixture of small urban communities separated by rural development and vast tracts of undeveloped land.

A breakdown of the City's population by ward is presented in Exhibit 3.2. The data is based on municipal property assessments conducted in years 2000 and 2003.

Over the 3-year period the City's population has decreased slightly from 157,456 to 155,339. The decline is attributed in part to the departure of young people seeking employment opportunities elsewhere.

EXHIBIT 3.1
FORMER CITY MUNICIPAL STRUCTURE



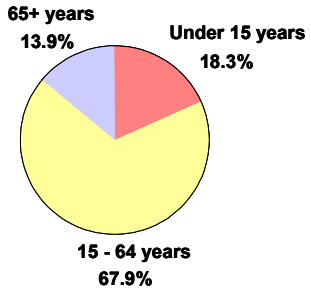
With the exception of seasonal population fluctuations resulting from an annual influx of students, the City does not anticipate a significant change in population over the Master Fire Plan's 5-year planning horizon. Approximately 9,000 full-time and 13,000 part-time students attend Laurentian University and the local community colleges – College Boreal and Cambrian.

EXHIBIT 3.2
ASSESSED POPULATION – YEARS 2000 AND 2003

Ward	2000			2003			% Change
	Male	Female	Total	Male	Female	Total	'00 - '03
1	12,394	13,025	25,419	12,190	12,888	25,078	-1.3%
2	12,921	13,232	26,153	12,619	12,811	25,430	-2.8%
3	12,569	13,105	25,674	12,485	12,986	25,471	-0.8%
4	11,928	12,567	24,495	11,848	12,499	24,347	-0.6%
5	13,605	14,835	28,440	13,529	14,653	28,182	-0.9%
6	12,682	14,593	27,275	12,561	14,270	26,831	-1.6%
Total	**76,099**	**81,357**	**157,456**	**75,232**	**80,107**	**155,339**	**-1.3%**

During fire incidents the most vulnerable age groups are children and seniors. Exhibit 3.3 presents a breakdown of the population by age, using as a basis the Statistics Canada census data for 2001. According to the census data, 18.3% of the City's population is in the under 15 age group. In comparison 19.5% of the province's population is in this age group. Seniors 65 years and over make up 13.9% of the City's population. The corresponding provincial figure is lower at 12.9%.

EXHIBIT 3.3
POPULATION BY AGE GROUP



The City's Fire Service Division regularly delivers fire prevention and public fire safety education programs. A significant portion of the programs is targeted to these two vulnerable groups, particularly the younger age group – the rationale being that a large portion of the parents (i.e., adults) can be reached by way of their children.

The City's Fire Service continues to deliver and enhance the public fire safety education program. For example, since approximately 40% of the City's population is bilingual, speaking both French and English, informational pamphlets are provided in both languages i.e., pamphlets on smoke alarms, home escape planning, kitchen and barbeque fires.

3.2 Building Stock & Fire Loss Statistics

Exhibit 3.4 presents a breakdown of Greater Sudbury's building stock by occupancy classification. The information was extracted from the Municipal Property Assessment Corporation (MPAC) which despite the municipal amalgamation, maintains the data by former community.

The column labeled residential presents the number of residential structures, inclusive of single detached and multiple dwelling occupancies e.g., high-rise apartments, semis and duplexes. The City's records indicate a residential count of 48,360 buildings. The City estimates that these buildings house approximately 63,040 dwelling units.

EXHIBIT 3.4
2003 BUILDING STOCK

	Assembly	Institun'l	Resid'l	Business / Services	Mercantile	Industrial	Misc. Struct's
Capreol	16	0	1,300	5	13	10	51
Nickel Centre	45	1	4,088	16	25	65	20
Onaping Falls	24	0	1,891	7	18	26	38
Rayside-Balfour	37	0	4,496	14	56	51	108
Sudbury	227	19	24,738	182	329	399	50
Valley East	46	1	7,062	17	45	93	68
Walden	31	3	4,189	10	17	103	76
Former Unincorporated	4	0	596	0	4	3	5
Total	**430**	**24**	**48,360**	**251**	**507**	**750**	**466**

Exhibit 3.5 presents a summary of reported fires by occupancy class for the 6-year period 1997 to 2002. The data is based on records maintained by the City. The estimated dollar loss for each category is included[4]. The following pages discuss each occupancy class in turn.

EXHIBIT 3.5
GREATER SUDBURY FIRE LOSSES, 1997 TO 2002

Property Class	1997		1998		1999		2000		2001		2002		'97 - '02		
	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	% Loss
Assembly	9	$763	7	$32	6	$5	1	$1	9	$7	9	$181	**41**	**$990**	**4%**
Institutional	4	$36	2	$6	1	$0	1	$1	4	$8	5	$20	**17**	**$70**	**0%**
Residential	136	$3,328	103	$2,423	97	$1,703	69	$2,099	108	$3,162	95	$2,610	**608**	**$15,324**	**69%**
Bus. & Personal	4	$108	5	$66	0	$0	0	$0	2	$0	2	$1	**13**	**$174**	**1%**
Mercantile	7	$832	7	$357	5	$103	2	$1	4	$170	2	$6	**27**	**$1,469**	**7%**
Industrial	5	$158	11	$483	13	$536	8	$416	9	$148	9	$594	**55**	**$2,334**	**10%**
Misc. Structures	44	$121	41	$381	48	$337	27	$110	43	$748	26	$254	**229**	**$1,950**	**9%**
Total	**209**	**$5,345**	**176**	**$3,747**	**170**	**$2,684**	**108**	**$2,627**	**179**	**$4,243**	**148**	**$3,666**	**990**	**$22,311**	**100%**

Note: Dollar losses are expressed in Thousands of Dollars

Assembly Occupancies

Included in this property classification are buildings or areas which cater to public assemblies e.g., sport, dining, recreation or entertainment. They include arenas, stadiums, theatres, restaurants, and other licensed establishments. There are approximately 430 such buildings or properties located throughout the Greater City. Over half are situated within the former City of Sudbury area.

Within this property class there have been relatively few fire incidents - 41 over the 6-year period 1997 to 2002; 9 in fiscal 2002. The recorded fire incidents did not result in fatalities or serious injuries, and the dollar value loss from fire was relatively low.

Despite the City's good fortune, the potential consequences of such fire incidents are significant. For illustrative purposes consider the recent nightclub tragedies reported in Rhode Island and Chicago. Over 100 patrons perished through a combination of misuse of pyrotechnic devices, flammable interior finish materials, overcrowding, poor exits and no fire safety plans.

Despite the relatively low number of fire incidents within this property class, the City's Fire Service continues to be ever vigilant of such occupancies given the potential for serious / grave consequences e.g., through such means as fire prevention planning, public safety education and property inspections.

ASSEMBLY OCCUPANCY FIRES - 2002	
Museum / Art gallery / Auditorium	1
Recreation / Sports facilities	1
Transportation facilities	1
Education facilities	2
Other	4
Total Fires	**9**
$ Loss	**$181,000**

[4] Readers are advised that the dollar loss values shown in the chart is underestimated. It is the officer on scene who prepares the estimate and provides it to the OFM by way of an incident report. Officers however, are not given extensive training in financial appraisals of damage.

Institutional Occupancies

EXHIBIT 3.6
MAJOR INSTITUTIONS

Institution	Est'd Beds
Hospitals	
Sudbury Regional Hospital	575
Sudbury Algoma Hospital – psychiatric residents	45
Long-Term Care Facilities	
Pioneer Manor	342
Finlandia Nursing Home Ltd.	110
Extendicare – York	288
Extendicare – Falconbridge	234
The Elizabeth Centre – Val Caron	128

Institutional occupancies include hospitals, nursing homes and long-term care facilities. There are approximately 24 such facilities in Greater Sudbury. All but five are situated within the former City proper. Exhibit 3.6 identifies the major institutions.

Within this property class there have been relatively few fire incidents over the 6-year period 1997 to 2002 – 17 in total, of which 5 occurred in fiscal 2002.

INSTITUTIONAL FIRES - 2002	
Persons under supervisory care	4
Other	1
Total Fires	**5**
$ Loss	**$20,000**

The data suggests that in this category the occurrence of a significant fire is relatively low – despite the fact that such facilities house vulnerable groups who depend on others for general assistance e.g., elderly, sick, children and infants. This is attributed to such factors as mandatory built-in fire detection and alarm systems, continuous staff coverage and frequent patient rounds.

Whereas the dollar value loss from fire has been relatively low in this category, the 1997 fire incident did result in a fatality. This underscores the importance to be continuously mindful of the potential for serious consequences.

The City's Fire Service inspects institutions regularly. In addition, the Fire Service offers institutional staff various training programs i.e., fire alarm systems, evacuation procedures and extinguisher use.

These buildings are included in the Fire Services' scheduled audit and inspection, as part of the provincially mandated retrofit program of Health Care Facilities. This retrofit program applies to all nursing homes, homes for special care, public and private hospitals with more than 10 residents.

Residential Occupancies

The City of Greater Sudbury contains 48,360 residential structures. Over 50% of the buildings are situated within the former City proper and 15% are located in the former Valley East. The former municipalities of Nickel Centre, Rayside-Balfour and Walden contain approximately 9% a piece. The rest of the residential buildings are dispersed among the remaining amalgamated areas.

The 48,360 residential structures house 63,040 dwelling units. The residential mix includes:

- Single and semi-detached housing subdivisions – many constructed with hydrants for fire suppression;
- Multiple dwelling structures including townhouses, row houses, duplexes, semis, and low-rise and high-rise apartments (20 of the latter) – where the incidence of fire in one unit may adversely impact adjoining residences, particularly if fire suppression is delayed;

RESIDENTIAL OCCUPANCY FIRES - 2002	
Dual / residential / bus / apt	4
Hotel / Motel / Lodge	1
Mobile home / dwelling	7
Multi unit dwelling	21
Detached / semi / attached	51
Rooming / group / retirement home	1
Other	10
Total Fires	**95**
$ Loss	**$2,610,000**

- Seniors and / or fixed income residences – which are predominately low-rise and high-rise apartments;
- Institutional / custodial residences e.g., hostels, treatment centres and university / college;
- Residences located above commercial or business establishments; and
- Relatively isolated rural and recreational properties without hydrant protection. Many of these are relatively expensive structures.

Records for Greater Sudbury indicate that 60% of all recorded fires are residential. Between 1997 and 2002, there were 608 recorded residential fire incidents contributing to a dollar value loss of $15,324,000. In fiscal 2002 there were 95 recorded residential fire incidents with a dollar value loss of $2,610,000. Provincially and nationally the statistics are similar; annually the largest number of fires being categorized as residential.

Exhibit 3.7 presents a summary of injuries and fatalities to civilians and fire fighters, which have resulted from fires in Greater Sudbury. Virtually all of the fatalities and the majority of injuries are attributed to fire incidents in the residential property class.

Within the residential property class itself, there is a significant variance in fire risks. The majority of Greater Sudbury's residential fires, and almost all the fatalities due to fire, have occurred in single-family dwellings – as opposed to multiple dwelling structures. According to available literature this finding also, is consistent with the information generated by other municipalities in Ontario and across Canada; and the information has been relatively consistent for many years.

The frequency of emergency calls and the potential risks to life and residential property have become measures by which one gauges the effectiveness of a municipality's fire service. A primary objective of many municipalities is to ensure the availability of a sufficient number of trained fire fighters and apparatus, to carry out a rapid rescue and / or fire suppression response.

While this is not an unreasonable objective, many readily assert that this solution should not be considered a first line of defense; neither is it a cost-effective approach to managing the risks due to fire, particularly in remote and rural communities. As discussed previously in Section 2.2, other relatively lower cost, yet effective approaches include fire prevention and public fire safety education programs, frequent building inspections, mandatory use of smoke alarms and in the case of commercial / industrial uses built-in fire suppression systems.

Such solutions are particularly applicable to remote cottages, camps or recreational properties that are not readily accessible by fire apparatus.

EXHIBIT 3.7
INJURIES & FATALITIES DUE TO FIRE

Property Class	1997		1998		1999		2000		2001		2002		'97 - '02	
	Inj's	Fat's	Inj's	Fat's	Inj's	Fat's	Inj's	Fat's	Inj's	Fat's	Inj's	Fat's	Inj's	Fat's
Residential	5	3	7	0	10	2	6	2	17	4	0	0	**45**	**11**
Other	1	1	4	0	7	0	0	0	2	0	0	0	**14**	**1**
Total	**6**	**4**	**11**	**0**	**17**	**2**	**6**	**2**	**19**	**4**	**0**	**0**	59	12

The MPAC data base classifies structures by age of construction. According to the data there are a significant number of relatively old buildings throughout the city - many constructed prior to 1975. From a fire prevention perspective these are of particular concern, since at the time of their construction they did not require the installation of smoke alarms etc, hence the absence of an early warning detection system for residents.

An area of particular concern is the downtown core. It is a relatively older area occupied by numerous businesses, stand-alone residences and upper storey residences above commercial / business uses. Another consideration are the City's residential dwellings; approximately 90% were constructed prior to 1991 and many have since been renovated by owners / tenants.

Commercial, Business and Industrial Occupancies

As shown previously by Exhibit 3.4, there are approximately 1,500 commercial, business and industrial use occupancies in Greater Sudbury. Approximately 60% are situated within the former City proper.

Within this property class there have been relatively few fire incidents - 95 over the 6-year period 1997 to 2002; 13 in fiscal 2002; and the reported dollar value loss from fire has been relatively low[5]. The 1998 fire incident resulted in several injuries. The recorded fire incidents did not result in any fatalities.

The buildings range from relatively old, combustible-prone construction to newer construction. There are:

- Numerous multi-level commercial / business buildings – some upwards of 6 stories in height;
- Department and grocery stores with relatively large open floor areas for merchandise;
- Strip malls, many with upper-level residential occupancies;
- Industrial manufacturing buildings with relatively large open floor areas.

This occupancy class is of particular concern to the Fire Service. Many have not been inspected for some time. For a large percentage the occupancies, processes and uses are unknown; and the built in detection and suppression systems have not been tested recently, or evaluated.

What is known is that industrial uses may involve inherently hazardous processes during manufacturing or service applications. Also there is evidence that in some cases tenants may be conducting operations, which one might consider to be more hazardous than that for which the building was originally constructed.

COMMERCIAL, BUSINESS & INDUSTRIAL FIRES - 2002	
Business and Personal Services	**2**
Mercantile (Food / Beverage)	**2**
Industrial	
Vehicle Sales / service	1
Storage Chem / Petrol / Paint / Plastic products	1
Storage Metal / Elect / misc	1
Mfg / process other metal / elect / misc products	2
Other	4
Sub-Total	**9**
Total Fires	**13**
$ Loss	**$601,000**

[5] Note the reported dollar value losses do not include the significant economic impacts, which the municipality has incurred as a result of the temporary or permanent closure of businesses due to incidents of fire.

Department and grocery stores are stocked with combustible prone merchandise; many with quantities of flammable liquids ranging from lamp oils to cleaning and automotive solvents. Some stores stock small propane cylinders for camping or home tool applications. Within these buildings there is a relatively high potential for large fires, injury and fatalities.

EXHIBIT 3.8
GREATER SUDBURY MAJOR EMPLOYERS

Employers	Employees
Inco and Falconbridge	6,000
TeleTech	1,100
Your Independent Grocers and Metro Richelieu (Loebs)	1,000
Omega Direct Response	600
Sears Canada	375

Exhibit 3.8 shows Greater Sudbury's top seven industrial, commercial and business employers. As noted a fire in any one of these, could seriously impact on a number of the City's residents – as could a fire at the City's administrative complex, Laurentian University grounds or Sudbury Regional Hospital complex.

Another concern is the potential to release toxins into the environment or dangerous runoff to local waterways.

The costs for cleanups of spills or releases can be very high and in some instances, it may be impossible to rehabilitate the damaged areas to their original condition.

As shown by the above, in this property class the economic disruption due to a fire can be significant – in terms of both lost wages and economics e.g., reduced tax base, potential closing / relocation of the damaged establishment.

Miscellaneous Occupancies

The category labeled miscellaneous includes facilities such as remote camps, drive sheds and structures not individually classified under the building code.

There are approximately 466 such facilities. Approximately 25% are located in the former Rayside-Balfour. The rest are distributed throughout Greater Sudbury. Within this property class there have been 229 fire incidents over the 6-year period 1997 to 2002; 26 in fiscal 2002. The dollar value loss over the 6 years amounted to $1,950,000; $254,000 in 2002.

3.3 Major Development Plans

While the City may not anticipate a significant change in population over the Master Fire Plan's 5-year planning horizon, there are a number of major developments, either planned / proposed. According to the City's Economic Development & Planning Services Department:

EXHIBIT 3.9
MAJOR DEVELOPMENT PLANS

Sudbury	Residential – 2,830 units Commercial – 618,000 sq. ft Industrial – 75 acres Institutional – 900 beds
Valley East	Residential – 1,160 units
Rayside Balfour	Residential – 300 units
Walden	Residential – 275 units
Nickel Centre	Residential – 275 units

- The residential class includes over thirty current major development proposals; over one-half involving plans to develop 100 or more residential units;
- The commercial class includes three major development proposals. One proposes a 140,000 sq. ft. development; each of the other two plans exceed 200,000 sq. ft;

- The industrial class includes a proposed industrial subdivision of approximately 75 acres; and

- The institutional class includes several retirement / seniors facilities; each proposed to house over 100 beds.

Exhibit 3.9 summarizes the planned / proposed development activity by former municipality. As noted by the exhibit, the bulk of the initiatives are planned / proposed in the former City. The reader is cautioned that the above represent major development proposals; whether or not the proposed developments proceed will depend upon market forces.

3.4 Vehicle Fires & Loss Statistics

Exhibit 3.10 presents the vehicle fire statistics for the 6-year period 1997 to 2002. According to available records there have been 530 vehicle fire incidents over the 6-year period, with a recorded dollar loss due to fire of $13,529,000. Note, the dollar loss due to fire includes the value of both the vehicle and its contents.

Reports for the initial two years 1997 and 1998 show a high volume of fires and dollar loss. The statistics shown for the latter four years 1999 to 2002 are relatively consistent and significantly lower than those reported for the initial two years. The latter four years average 74 fires apiece at an average annual loss due to fire of $650,000.

EXHIBIT 3.10
VEHICLE FIRES & DOLLAR LOSSES

1997		1998		1999		2000		2001		2002		'97 - '02	
Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss	Fires	Loss
128	$6,751	106	$4,181	74	$783	63	$489	84	$772	75	$554	530	$13,529

Note: Dollar losses are expressed in Thousands of Dollars

3.5 Fire & Rescue Call Activity

Exhibit 3.11 located on the following page, presents Greater Sudbury's fire and rescue call volumes for the 7-year period 1997 to 2003. According to City records, last year the fire service responded to 3,953 fire and rescue calls. Annually over the past seven years the fire service responded to an average of 3,160 calls per year.

The call volumes fluctuate from year to year. For year 2000 it is appreciably lower. That year however, was the year the City was amalgamated and the accuracy of the data is suspect. The data for the latter three years (2001, 2002 and 2003) would suggest that call volumes are on the rise. That may be the case however given the following, the trend needs to be validated.

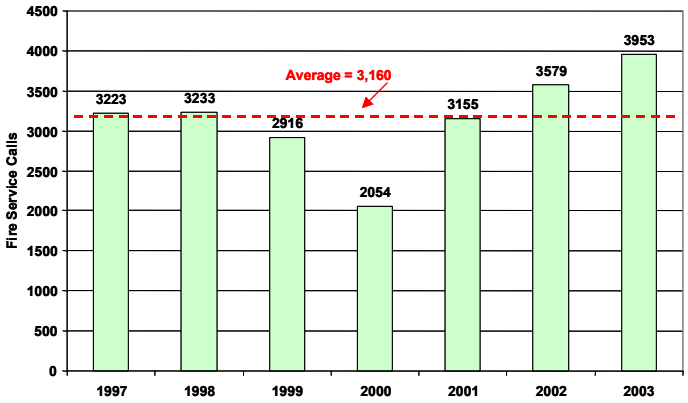
Call statistics have been assembled from multiple sources including fire services records and police dispatch records. The respective statistics do not always agree. In fact significant variations have been identified.

Part of the City's difficulty in maintaining accurate records of calls appears to be attributed to the absence of a computerized fire records management system. Most of the records maintained by the fire service are either produced manually from written correspondence or faxes, or alternatively using rudimentary spreadsheet software. Both approaches rely on a staff representative putting in the time to regularly update the information and check its accuracy. Until recently no single individual in the

fire service division bore accountability for this ongoing function. Consequently statistical reports were prepared only on an as-needed basis by the individual requiring the data.

Police Communications Services handles dispatch on behalf of the Fire Service. Accordingly much of the call data originates with Police Communications Services. In regard to records and reports another identified difficulty is that most of the data is transferred from the one department to the other in written form or via fax – not in an electronic format, which would lend itself readily to the preparation of statistical summaries. For such to happen fire services staff manually re-enter the data into their own spreadsheets.

EXHIBIT 3.11
FIRE & RESCUE CALLS – 1997 TO 2003

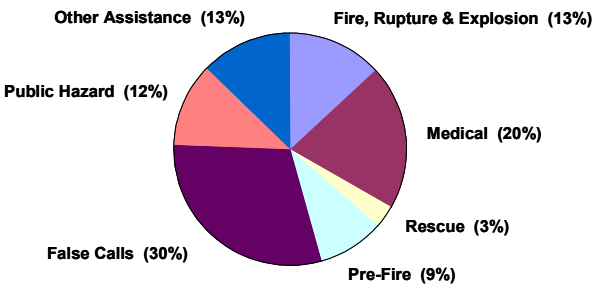


All three of these issues have / are being addressed. The fire services division is in the process of implementing an electronic records management system. Accountability for fire data updates and statistical analysis has been assigned to a single individual within the City's emergency services organization. Police Communications Services, with the Fire Services' support, are in the process of enhancing their computer aided dispatch system. The modules being upgraded will enable Police to provide the Fire Service with an electronic copy of the Event Chronology Record almost immediately following the completion of an event as well as a range of management reports.

Given the above it would be prudent that the Fire Services continue to closely monitor the call volumes to affirm current trends and needs.

Exhibit 3.12 presents a breakdown of the annual calls by classification code.

EXHIBIT 3.12
CALLS BY CLASSIFICATION CODE



As shown by the chart, calls which are designated as actual 'fire' calls represent about 13% of the total call volume. Medical calls are 20% of the total; rescues are 3%; public hazard responses are 12%; and assistance to police and other agencies are 13%. False alarms account for 30% of the total. Note however, for reasons of risk-management the fire department must respond to each.

Approximately 73% of all fire and rescue calls originate in the former City of Sudbury.

This high value is attributed to a number of factors. The former City houses over one-half all residences (the occupancy class most prone to fires) as well as the majority of buildings in each of the other occupancy classifications. In addition the former City accommodates a significant workday population as many of the Greater City's residents are employed therein.

Exhibit 3.14 compares call incidents and fire vehicle activity for year 2003.

Call incidents are counted only once. Vehicle activity includes the 2nd and 3rd responding vehicles in addition to the initial responder, and would include all vehicle types e.g., pumper, tanker, aerial, rescue, etc

For 2003 call incidents are reported to number 3,953; vehicle activity is reported to be 7,563[6].

EXHIBIT 3.13
FIRE & RESCUE CALL ORIGINS

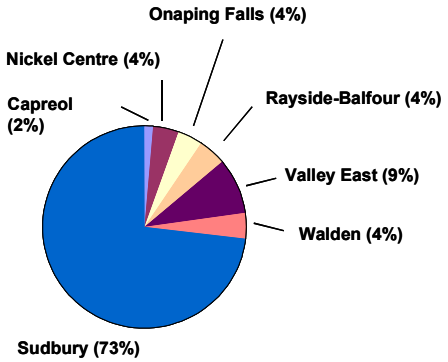
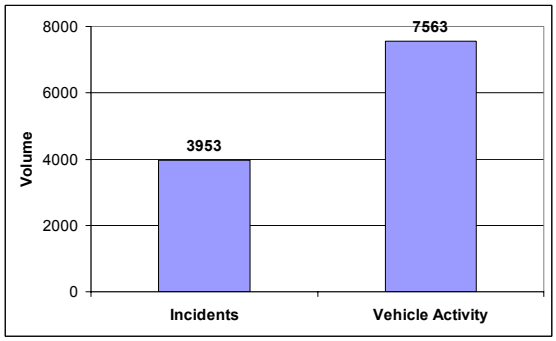


EXHIBIT 3.14
YEAR 2003 CALL INCIDENTS & VEHICLE ACTIVITY



3.6 Summary

As demonstrated by the data presented in this section, the City of Greater Sudbury has been relatively fortunate. Over the 6-year period 1997 to 2002, there have been relatively few fire incidents, fatalities and serious injuries. Also, the dollar value loss and economic impact from fire has been relatively low.

Despite the City's good fortune, the potential occurrence of fire incidents is real and the potential consequences can be significant, if not grave. For these reasons it is essential that the City's Fire Services Division continue to be ever vigilant via initiatives such as public safety education, fire prevention and enforcement. Also, that they continue to diligently maintain an effective fire suppression readiness and rapid response capability by periodically reviewing and refining dispatch protocols and operating policies, ensuring that firefighters receive requisite training, and through proper maintenance and availability of suppression apparatus.

[6] City records pertaining to fire vehicle activity have varied over the course of the master planning exercise. The estimates range from 5,500 to 7,563. The high end estimate is presented above.

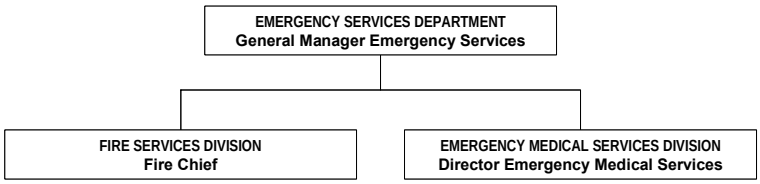
4. SERVICE TRANSITIONAL CHALLENGES

Prior to the 2001 municipal amalgamation, the former City of Sudbury was served by career (full-time salaried) firefighters while the surrounding former municipalities and unincorporated areas were served predominately by volunteer fire services, some with a full-time salaried fire chief. The fire chiefs reported to their respective municipal councils.

In concert with the 2001 municipal amalgamation the multiple local fire services were consolidated into a single city-wide 'composite' fire services system (composite being defined to include both career and volunteer firefighters) and a process of transition, integration and harmonization of the services commenced.

Corporately, the current fire service is one of two operating divisions comprising Greater Sudbury's Emergency Services Department; the City's Emergency Medical Services is the other division. The fire service is managed by the Fire Chief who reports to City Council, by way of the General Manager Emergency Services and the Chief Administrative Officer.

EXHIBIT 4.1
CURRENT CORPORATE ORGANIZATION



For the reasons identified below, the service transition process has proven to be a significant challenge. As will be demonstrated relatively few organizational and operational changes have been implemented, and most of these were put into effect over recent months – not years. This notwithstanding, knowledgeable stakeholders, including the OFM, will readily agree that the City's current fire service system is improved over that which existed but a short 12 months ago.

Also as discussed below, the fire service system continues to undergo change. In the next few months City residents can expect to see additional fire service improvements in light of initiatives underway and operational options under consideration by way of this Master Plan.

The initiatives include system modifications to improve fire dispatch; increased emphasis on fire prevention, building inspections and public safety education; a strengthening of firefighter training programs; and records management modifications to enhance performance tracking capabilities and quality assurance. Operational options include potential modifications to staffing and apparatus to improve the fire services' rapid response capability to geographic areas of relatively higher fire risk.

4.1 Senior Management Turnover

Prior to April 2002 the fire services' senior management team consisted of the Fire Chief, who also functioned as the General Manager of Emergency Services and four senior fire services managers (formerly known as Assistant Fire Chiefs). In April 2002 the Fire Chief resigned creating a vacancy at two levels: Fire Chief and General Manager Emergency Services. Further complicating the situation were the planned retirements by two of the four senior managers. Both have since retired.

The situation was rectified somewhat by the appointment of the current A/General Manager Emergency Services in December 2002 and subsequent recruitment of the current Fire Chief in April 2003 along with two Deputy Fire Chiefs in August 2003. Despite their relatively short tenure the

current management team has demonstrated, through a series of initiatives, a commitment to renewed departmental leadership and to effective, efficient and safe fire service operations.

4.2 Absence Until Recently, of an Accountable Organizational Structure

Prior to June 2003 the fire services' organizational structure was based on geography; one assistant fire chief was assigned to each of three geographic zones – either south, west or east. This organizational structure lacked clear lines of accountability. It was impossible, based on the organizational chart, to identify who within the fire service organization was responsible for key functions such as fire prevention, training, records management, public safety education, quality assurance, etc. The career and volunteer firefighters readily attested to the confusion, overlap, functional omissions and potential health and safety issues.

In June 2003, at IBI Group's recommendation, City Council approved a new organizational structure designed to ensure that the necessary level of programs and training are put into place to meet the fire risks and needs of the Greater City.

In conformance with other well-established / well-operated fire services, the organizational structure is designed to reflect the City's composite fire operation, and to ensure leadership and appropriate levels of staffing of core services and support functions - core services being defined as public safety education, fire prevention, enforcement, emergency response and fire suppression. Support functions are defined to include staff training and professional development, records management, dispatch communications, fleet and equipment management, quality assurance, etc.

Among the changes instituted was a more singular organizational approach to the following previously separate, yet similar support functions required by both the EMS and Fire operating divisions of the Emergency Services Department: records management, quality assurance, dispatch communications, and fleet and equipment management. The consolidation of these similar skill sets and activities are expected to yield greater efficiencies throughout the Department.

4.3 Competencies, Professional Development & Succession Planning

With the introduction and passage of the Fire Protection and Prevention Act (FPPA) fire services around the Province have been moving to increase the number of true management positions beyond the historical 'Chief and Deputy'. This has not been an easy transition. In some cases, simply moving staff from the bargaining unit to the newly created management team positions has done little to augment the necessary management / leadership duties and responsibilities. When one considers all of the services provided by the fire department, public and community expectations, health and safety and liability issues coupled with mandatory regulatory requirements, it is clear that a competent capable management team must be developed if the necessary programs are to be established.

In conjunction with the organizational realignment discussed above, and the subsequent recruitment process to fill vacancies at the management level, the City's fire service has had to direct a portion of their efforts to the establishment of requisite competencies for each of the position. Unlike the past, where to a large extent promotions were based on years of seniority, the core competencies are intended to ensure that the successful incumbents possess the necessary skills and experience to properly carry out their responsibilities, which include management / leadership duties.

Current fire services management continue to direct a portion of their efforts to staff's ongoing professional development and future succession planning, particularly in the areas of fire prevention and public safety education. The following are among the initiatives being developed: in-house orientations and realignment of training programs to ensure a balanced regard for all core services;

training and mentoring opportunities for fire prevention and inspection programs; training programs geared to ensure that career and volunteers are trained to the same standards; and alternative firefighter retention and recruitment, with particular focus on the volunteer component of the operation.

4.4 Fire Records Management & Performance Accountability Systems

For much of the past three years the City's fire service has operated without the management systems and controls necessary to track, direct or to ensure effective, cost-efficient and accountable fire operations. Presently the City has no fire records management systems capable of maintaining comprehensive and accurate records of fire calls, fire prevention initiatives, public safety education initiatives, fire inspections, fire training initiatives, maintenance of vehicles and apparatus, etc. Also until recently, no single individual bore accountability to monitor fire operations and to regularly prepare reports on performance and costs. For the most part, reports are prepared on an as-needed basis or in response to specific requests e.g., for the annual budget cycle, in response to an incident or in response to a request by the OFM, member of City Council, etc.

The absence of appropriate management systems and controls has hindered almost every aspect of fire service operations and impeded fire services management's ability to make sound decisions, based on accurate data, for fire service planning, budgeting and resource deployment. For example, on the basis of currently available data it is difficult for fire services management to ascertain the effectiveness of their fire prevention and public safety education programs (and to effect constructive changes), to gauge their response time performance, to affirm staff's capabilities and training requirements, to schedule preventative maintenance for vehicles and apparatus, or their replacement, to set priorities for occupancy inspections, or to properly budget for their capital and operating needs.

With City Council's support these issues have / are being addressed. As part of the organizational realignment mentioned above, positions responsible for records keeping, statistical analysis and reporting have been introduced into the organizational structure of the Emergency Services Department. Moreover, individuals possessing the requisite competencies have recently been recruited. The fire services division is investigating alternative electronic records management systems. A recommendation to implement a preferred system is expected to be forwarded to City Council in spring 2004.

4.5 Technological Weaknesses in Dispatch Communications

A May 2003 discussion paper by IBI Group concluded that the Police Services communications centre is staffed with well-trained professional communicators using state-of-art radio and computer-aided dispatch (CAD) systems. One noted exception is the ongoing use of a stand-alone, time consuming VHF voice paging system to contact the volunteer firefighters i.e., those who the City relies upon almost exclusively for fire suppression and emergency rescue services outside the former City proper i.e., within the former towns and unincorporated areas.

With City Council's approval Police and Fire services are in the process of electronically interfacing the fire paging system with the radio / telephone and CAD systems. This single initiative, to be completed in mid-2004, will enable the City to page groups of volunteers simultaneously and is expected to improve the fire services' response time performance capability throughout the entire Greater City.

Other identified technological issues include the current limited radio access in the more remote fringe areas of the City, limited radio and paging capability at the backup dispatch located in the

south end of the City and the need to replace a number of relatively outdated pagers. Fire and Police services are addressing these items.

4.6 Attention to Valley East

In 2001 Valley East was the location of a fire tragedy involving three deaths. As a result of this tragedy and the subsequent provincial Coroner's report on the incident, released in October 2002, fire services management have committed (and continue to commit) considerable time and manpower to improve the emergency response capability to structure fires in Valley East – this, all the while continuing to address the fire safety needs of the entire Greater City.

Specific to Valley East, the City's fire service has undertaken / implemented the following enhancements:

- Completed an assessment of needs and fire risks;
- Increased the number of full-time and volunteer firefighters;
- Renewed their efforts in public safety education and fire prevention through inspections. Last year (2003) the fire service conducted almost 400 inspections / re-inspections, covering all occupancy classifications;
- Revised response protocols to ensure an expedient multiple station response to reported structure fires;
- Improved the response information database to more accurately document the number of firefighters arriving at incidents and the time of their arrival;
- With City Council's approval, are proceeding with modifications to the dispatch system, which will enable simultaneous dispatch of volunteers and will significantly improve the fire services' response time performance capability;
- Assisting OFM with the monitoring of response times to reported structure fires in the former City; and
- In conjunction with the development of this Master Fire Plan, are investigating alternative long-term fire safety and emergency response solutions.

4.7 Compliance with FPPA Legislative Requirements

Under FPPA the Fire Marshal is required to monitor and review the fire protection services provided by municipalities to ensure that they meet their responsibilities under the Act. If the Fire Marshal determines that a municipality is failing to comply with its responsibilities or that a serious threat to public safety exists, they have the authority to present the municipal Council with recommendations by which to rectify the situation. If the seriousness of the situation warrants they may, by way of a Ministerial regulation, establish standards for a municipality's fire protection service and require the municipality to comply.

A key component of the OFM's monitoring and review process is the Municipal Fire Protection Information Survey (MFPIS). MFPIS is designed to gather information on municipal fire protection services as they relate to the FPPA minimum service requirements, which as identified previously, are:

- Simplified risk assessment,
- Smoke alarm program and home escape planning,
- Distribution of public education information and delivery of public education programs, and
- Fire prevention inspections upon complaint or request.

Among other applications, the survey results are used to promote by-laws, service agreements and municipal Council policies pertaining to fire protection service levels.

The Greater Sudbury Fire Service was surveyed over the period January to April 2003. The survey's commencement was one month following the appointment of the current A/General Manager Emergency Services. It was completed at about the time of recruitment of the current Fire Chief.

In early May 2003 the OFM released the survey findings which concluded that ***at that time*** the City of Greater Sudbury was non-compliant with the FPPA predominately because the City had yet to conduct a fire risk assessment. Also, there were questions pertaining to the smoke alarm and public education programs and documentation pertaining thereto.

Over the subsequent eight months fire services management worked cooperatively with the OFM to address the noted deficiencies. In recognition of the current management team's efforts and the corrective actions which they have instituted, in December 2003 the OFM issued the City of Greater Sudbury a letter and certificate confirming the City's ***current*** compliance with the public education and fire prevention requirements of FPPA.

4.8 Financial Planning & Budgets

Financial planning and budgeting have also proven to be significant challenges, predominately because the capital funds, which the current management team inherited, was determined to be deficient in key areas including fleet and equipment replacement:

- *Fleet replacement*: In this area there is an annual capital shortfall of $1.2 million. There are a number of relatively old and expensive vehicles (pumpers, tankers, etc) in need of replacement – 8 vehicles in 2004 and about 5 vehicles in each of the next three years. The cost of a pumper ranges between $350,000 and $450,000, a tanker $175,000, a combination tanker, pumper with elevated master stream capability $700,000 to $1.2 million, and a bush truck $150,000.
- *Equipment replacement*: In this area there is an annual capital shortfall of $300,000. This would include the replacement of such items as self-contained breathing apparatus (SCBA), boots, nozzles, generators, pumps, heavy hydraulics, hand tools, communications and wireless devices. In addition there is a one-time expenditure requirement for 2004, to purchase replacement bunker gear for the volunteer firefighters at an estimated cost of $600,000.

In addition to the annual capital shortfalls noted above, there is an estimated one-time capital requirement of approximately $450,000 for the renovation of the following stations, which presently are either in a relatively shabby state or in need of modifications to accommodate the cohabitation of EMS and Fire Services personnel: Van Horne, Minnow Lake, Leon, Long Lake, Whitefish, Beaver Lake, Azilda, Garson, Skead and Red Deer Lake. It is proposed that the required station renovations be carried out over a 5-year period.

The annual operating budget also, was in need of adjustment to accommodate the increased costs associated with the recently approved organizational restructuring and corresponding staffing

increases, general annual wage increases, recommencement of OMERS contributions, increased costs of materials, contract services, professional development and training.

With substantial assistance from the Greater City's Finance Department the fire service has commenced to address and budget for these items. Projected expenditures contained within this year's proposed budget are subject to City Council's review and approval – as are any future year budgets.

4.9 Composite Fire Operations Require Discerning Management

As previously noted, prior to the 2001 municipal amalgamation the former City of Sudbury was served by career firefighters while the surrounding former municipalities and unincorporated areas were served predominately by volunteer fire services. In concert with the 2001 municipal amalgamation it was decided that the multiple local fire services be consolidated into a single city-wide composite fire services system. Taking into account such considerations as service needs and costs, this was an excellent decision.

As shown by the experiences of other municipalities, if properly managed composite fire departments can be on average, equally effective to fully career fire departments. Composite operations however, are more cost-efficient. This makes the composite fire department a particularly attractive alternative for local governments. This notwithstanding, composite operations are inherently difficult to manage. This is so because career and volunteer firefighters frequently do not get along. Their disagreements typically centre about such issues as job security, expertise, pride and professionalism.

This is the situation, which presently prevails in the City of Greater Sudbury. It is one, which is continually prone to conflict and accordingly, requires a continuous, discerning, open and balanced management approach if it is to succeed. This notwithstanding it can succeed as is readily demonstrated by the success of other existing well-managed fire services (e.g., City of Hamilton).

Presented below is a list of best management practices in composite fire departments for Greater Sudbury's fire management to consider. The list was taken from the available literature[7]; minor modifications applicable to Greater Sudbury have been incorporated.

- Hire from volunteers, where practical
- Apply the same training standard to both career and volunteer firefighters
- Conduct joint training sessions
- Set the same performance standard
- Set the same officer standard
- Promote increased volunteer involvement
- Apply the same rules for both career and volunteer firefighters
- Where changes are required, promote gradually by 'selling' new ideas and communicate changes openly in advance

[7] John Benoit and Kenneth B. Perkins, "Leading Career and Volunteer Firefighters: Searching for Buried Treasure" 2001.

- Volunteer coordinator to maintain an open management style
- Consider live-in volunteers, where practical
- Socialize firefighters to a team approach
- Consider financial incentives for volunteers.

According to the literature there is a relatively high degree of agreement on these best management practices. This notwithstanding, some are difficult to achieve. All the more this emphasizes the challenge to fire services management and the need for a continuous, discerning, open and balanced management approach.

5. EXISTING FIRE SERVICE SYSTEM

Section 3 of this report identified the City's existing and potential future fire risks. As indicated therein, the City of Greater Sudbury has been relatively fortunate. Over the 6-year period 1997 to 2002, there have been relatively few fire incidents, fatalities and serious injuries. Also, the dollar value loss and economic impact from fire has been relatively low.

Also indicated in Section 3, despite the City's good fortune, the potential occurrence of fire incidents is real and the potential consequences can be significant, if not grave. For these reasons it is essential that the City's Fire Services Division continue to be ever vigilant via initiatives such as public safety education, fire prevention and enforcement, and that they continue to diligently maintain an effective and rapid fire suppression response capability.

Section 4 discussed the ongoing transitional process to consolidate and harmonize the former local fire services into a single city-wide composite fire service system. This section describes the Greater City's current fire service system and its capabilities to serve the City's needs.

As will be identified, the current system possesses a number of strengths as well as certain weaknesses. Also, a number of the improvements are underway / or planned to address the noted weaknesses and to enhance the effectiveness of the fire services system.

5.1 Mission & Core Services

As discussed previously the Fire Service is one of two operating divisions comprising Greater Sudbury's Emergency Services Department; the other being the Emergency Medical Services division. Both divisions are governed by the Emergency Services Department's mission statement, which according to the City's business plan is "to deliver pro-active and re-active services to protect the safety, health and welfare of our citizens, and to prevent damage to their property and our environment".

Also as discussed previously, the achievement of an optimal level of fire protection in a cost effective and efficient manner, typically requires a balanced approach comprising three lines of fire defence: public safety education and prevention; fire safety standards and enforcement; and emergency response and suppression. This is the strategy promoted extensively by OFM.

Taking into consideration the MFPIS results, and the programs and services instituted by the Fire Services Division, one may conclude that the City of Greater Sudbury has adopted the above three-pronged strategy as the basis of their fire protection system for the City's residents. This observation is confirmed by the City's Fire Services management.

This notwithstanding, as described in the following two sections (Sections 5.2 and 5.3), fire management's challenge is in trying to apply the strategy with relative consistency across the City's vast geographical area.

In consideration of the Master Fire Plan objectives, specifically the objective to affirm the fire service division's mission and core services, the following question is of specific interest. Does the Department's stated mission reasonably reflect what City residents may expect of the Emergency Services Department and its Fire Services Division.

To answer this question a survey of the stated missions of other established fire and emergency services organizations was carried out. The survey indicates that while the wording used by each municipality may vary, the commitment to protect life safety and property is generally consistent.

One observation of note is that some municipalities (e.g., Cambridge, Markham, Kenora) are relatively specific as to the means by which they carry out their responsibilities, while others make little or no reference. In this context Greater Sudbury's Emergency Services mission statement, which refers to 'pro-active and re-active services', is considered to be relatively vague.

Another observation is that several municipalities (e.g., Cambridge) include a brief reference to the municipality's authority to set the level of service. This simply reaffirms that their Councils have taken such decisions following consideration of the local risks and the cost that the community can afford.

Presented below for the City's consideration, is an amended mission statement for the City's Emergency Services Department derived by applying the survey findings:

"To protect the safety, health and welfare of our citizens, and to prevent damage to their property and our environment, through the provision of preventative, educational and emergency services authorized by the City."

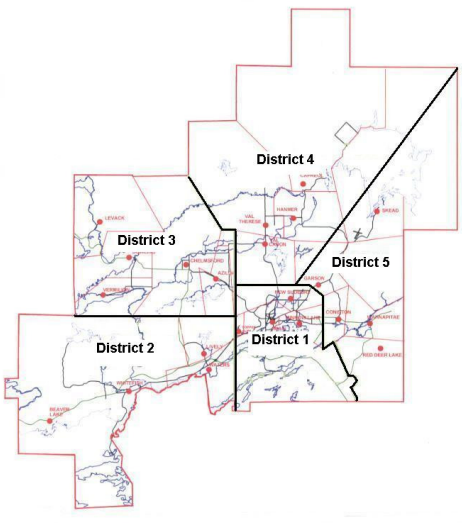
If adopted, the amended statement would more clearly describe the City's expectations of the Emergency Services Department and its two operating divisions. Also, it would affirm the three-pronged fire protection strategy promoted by OFM as City Council's preferred strategy, and Council's authority to adjust service levels, as occasionally may be recommended by the Department in response to changing needs and circumstances.

5.2 Public Safety Education, Fire Prevention & Enforcement

In regard to the first two lines of defence, it is safe to say that the manner in which the programs are currently delivered is significantly improved over that which existed one year ago. Also, that these programs are applied with relative consistency to the City's five fire districts.

As shown by Exhibit 5.1, the City is divided into five fire districts with approximately five stations in each. District 1 is served predominately by career firefighters. The other four, predominately by volunteer fire fighters.

EXHIBIT 5.1
GREATER SUDBURY FIRE DISTRICTS



Part of the success is attributed to the City's completion over the past months, of a fire risk assessment identifying the community's fire risks and needs. Part of the success is also attributed to the recent Fire Services organizational re-alignment, June 2003, which led to the recruitment of an additional two Public Safety Officers, who work with the rest of the Fire Services staff, to develop and deliver public safety programs across the City.

According to the available records for 2003 the fire service division carried out over 300 public safety initiatives reaching out to over 5,000 community residents. They include delivery of:

- Summer home fire safety survey;
- Fire safety programs directed to students e.g., fire drill presentations, Learn Not to Burn, Risk Watch and TAPP-C Arson programs;

- Fire safety programs directed to seniors e.g., Older and Wiser;
- Planning special or public events and fire safety displays; and
- Public education programs to community groups and agencies.

The way fire prevention activities are delivered has also changed. The present approach involves the assignment of a full-time salaried Fire Prevention Officer to each of the City's five fire districts. In the four volunteer districts the activities are carried out jointly by the full-time and volunteer fire prevention staff.

The process by which building plans are examined is presently being modified. The objective is to ensure that all building related plans are appropriately reviewed from a fire perspective, in a standardized fashion. The proposed approach will require that a full-time salaried Fire Prevention Officer be fully trained in building codes and fire codes to properly carry out this function. The individual will work with the City's Building Controls Department, to review all building plans from a fire perspective.

The Fire Services Division conducts fire prevention inspections throughout all areas of the community – some by fire prevention officers dedicated to this function and others by in-service fire fighter staff.

EXHIBIT 5.2
BUILDING INSPECTIONS 2003

Occupancy	Inspections	Revisit	Total
Assembly	348	258	606
Institutional	12	31	43
Residential	532	268	800
Business / Services	474	133	607
Mercantile	71	8	79
Industrial	47	26	73
Total	**1,484**	**724**	**2,208**

Fire prevention inspections generally fall into two categories. The first are inspections which are legally mandated. This group covers public buildings and they are inspected annually.

The second group are inspections conducted to ensure that building owners have installed life and fire safety components (e.g., smoke alarms, built-in fire suppression, emergency exit signage) in their buildings and that they are maintaining them in proper working order. Privately owned buildings are categorized on the basis of fire risk and their inspections are carried out according to the assigned priority. They are also inspected on request (e.g., request by lawyer, realtor, etc). In this regard a fee is applied.

As shown by Exhibit 5.2, in 2003 the fire service division carried out over 2,200 fire inspections[8]. The figures shown do not include call backs generated as a result of an incomplete inspection, violation verification or follow ups on work / corrective actions in progress. According to the available records, in 2003 the fire service division carried out over 700 call backs.

Planned improvements for 2004 include fire incident evaluations, or building audits, which fire prevention officers will be required to carry out of fires involving a fatality (or potential fatality), fires resulting from explosion or determined to be arson, fires involving large loss, or fires attributed to the failure of an identified building component or appliance.

[8] Fire services management confirm that in conjunction with fire prevention inspections, enforcement measures are occasionally necessary (e.g., charges for violations, temporary or permanent suspension of use of occupancy). Statistics pertaining to the number of charges laid are not readily available.

The above advancements notwithstanding, the City's fire services management continues to grapple with the question of fire prevention program effectiveness. Simply put, there are a number of items which the City's fire services management must address before one can assert with a degree of certainty that the fire prevention program is effectively addressing the needs of the community. These items, as identified below, are presently being addressed by fire services management. Most will be rectified in the coming months.

The program delivery system is comprised of the following components: a needs analysis to identify the community's fire risks; development and implementation of appropriate programs to address the identified risks; ensuring that those responsible to deliver the programs possess the appropriate experience and skills (i.e., through training and mentorship); and a process by which to track and evaluate the effectiveness of the programs being delivered.

The first component, that being the fire risk analysis, has been completed. The second component, that being the fire services' initial review of the available data, to determine whether the current fire prevention programs are appropriately tailored to the identified risks, is still underway. When completed it will help to ensure the appropriate use of the community's fire resources and the overall effectiveness of fire prevention program. One of the questions / items being considered is as follows: It is clear from the list of fire prevention activities that many are directed to the predominately higher fire risk groups, children and seniors; would there be a value to realign activities so that more efforts are directed to adult audiences and if so, how might this be accomplished. Note, upon completion of the initial review, fire services management should assume such a function as an ongoing activity.

The third component, that involving appropriate fire prevention training and mentorship, has been identified by numerous career and volunteer fire fighters as being a current weakness. According to the City's fire service records, within the present fire services system relatively few individuals have completed a course dedicated to the delivery of fire prevention programs.

The fourth component, that one involving a process by which to track and evaluate the effectiveness of the programs being delivered, was discussed previously in Section 4. As noted therein, the City's fire service continues to operate without the management systems and controls necessary to track, direct or to ensure effective, cost-efficient and accountable fire operations. The absence of such systems and controls has hindered almost every aspect of fire service operations and impeded fire services management's ability to make sound decisions, based on accurate data.

With City Council's support these issues are being addressed. As part of the recent organizational realignment, positions responsible for records keeping, statistical analysis and reporting have been introduced into the organizational structure of the Emergency Services Department. Moreover, individuals possessing the requisite competencies have recently been recruited. Procedures for documenting and reporting are being reviewed and adjusted, and the fire services division is investigating alternative electronic records management systems, for planned implementation in spring 2004.

5.3 Emergency Response

The level to which the third line of defence is delivered, that being emergency response, varies across the Greater City. This is due to a number of factors including the City's vast geographic area, the mix of urban, rural and relatively isolated developments, the availability of full-time and volunteer fire fighting resources and the City's capacity to fund fire suppression operations.

As shown by Exhibit 5.3 the City's fire service personnel work out of 25 stations.

Three stations - Van Horne, Leon and Long Lake - are categorized as career stations, staffed solely by full-time salaried staff.

Two stations - Minnow Lake and Val Therese - are composite stations, staffed with both career and volunteer firefighters.

The remaining 20 stations are staffed solely by volunteer firefighters.

Exhibits 5.4, 5.5 and 5.6 are a series of maps showing the geographic coverage capability about the existing fire stations at 6-minute, 8-minute and 10-minute response targets. Response time refers to the interval between the time the alarm is sounded until the time of arrival of the initial responder at the scene of the emergency.

EXHIBIT 5.3
FIRE STATION LOCATIONS

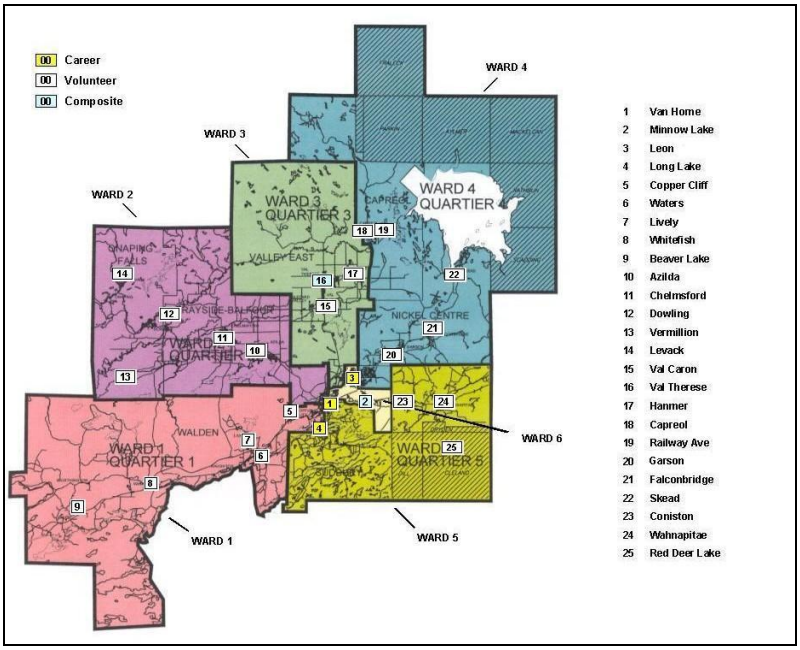
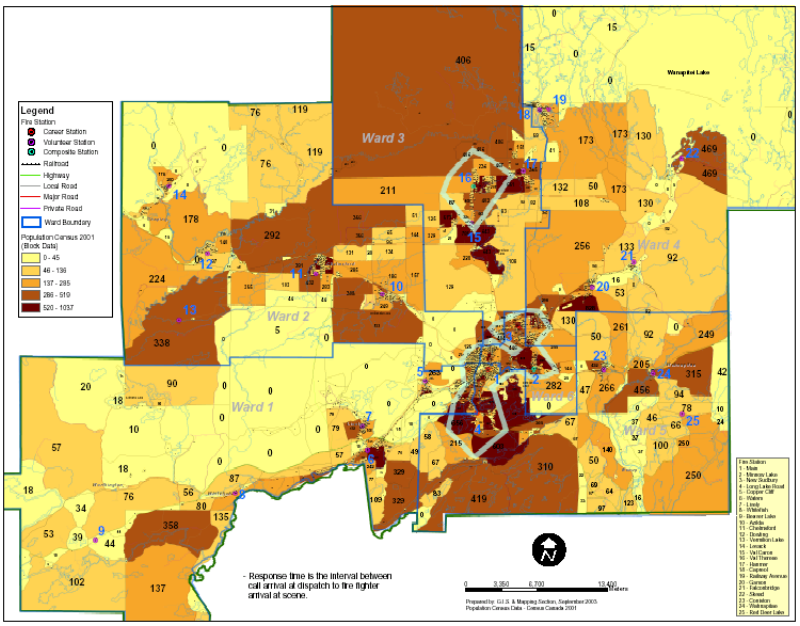


EXHIBIT 5.4
GEOGRAPHIC COVERAGE WITHIN A 6-MINUTE RESPONSE TIME TARGET



The maps were generated for the Master Fire Plan exercise, by GIS specialists working in Greater Sudbury's Economic Development & Planning Services department, using ArcView GIS and a fire router model.

The maps are based on the following assumptions: for call taking and dispatch 1.5 minutes; for station assembly by career firefighters 1 minute; and for station assembly by volunteer firefighters 3.5 minutes.

The model assumes that firefighters responding to scene would travel to scene at approximately the posted speed limit.

The maps show only the initial station response – they do not reflect response times by additional vehicles responding from other stations. Also for ease of presentation, contour overlaps have been eliminated from the exhibits.

The response contours are overlaid onto the Census Canada 2001 population blocks. The results of this assessment indicate that 53% of the City's population resides within a 6-minute initial response target of the existing fire stations.

At an 8-minute initial response time target the population capture rises to 81% and at a 10-minute initial response time target, it increases to 83%.

EXHIBIT 5.5
GEOGRAPHIC COVERAGE WITHIN AN 8-MINUTE RESPONSE TIME TARGET

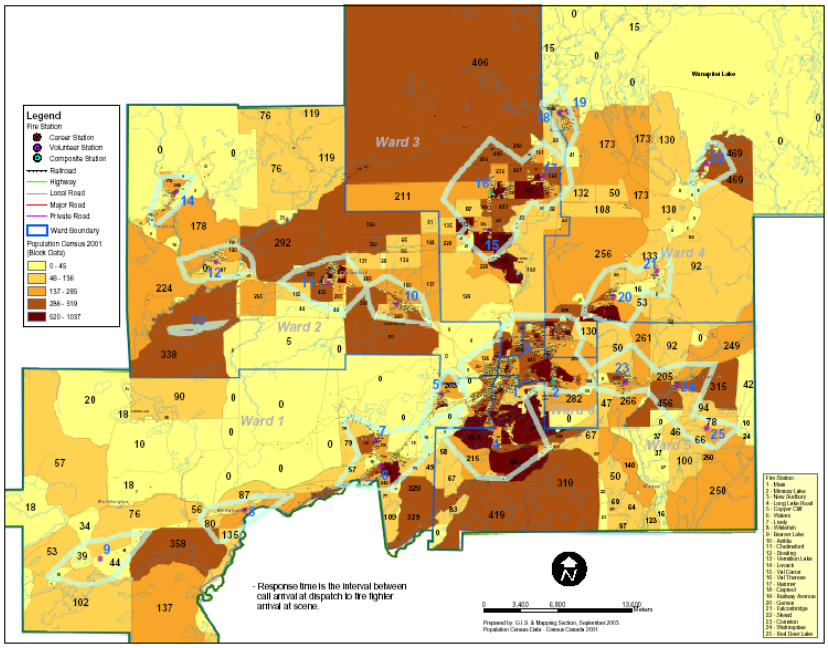
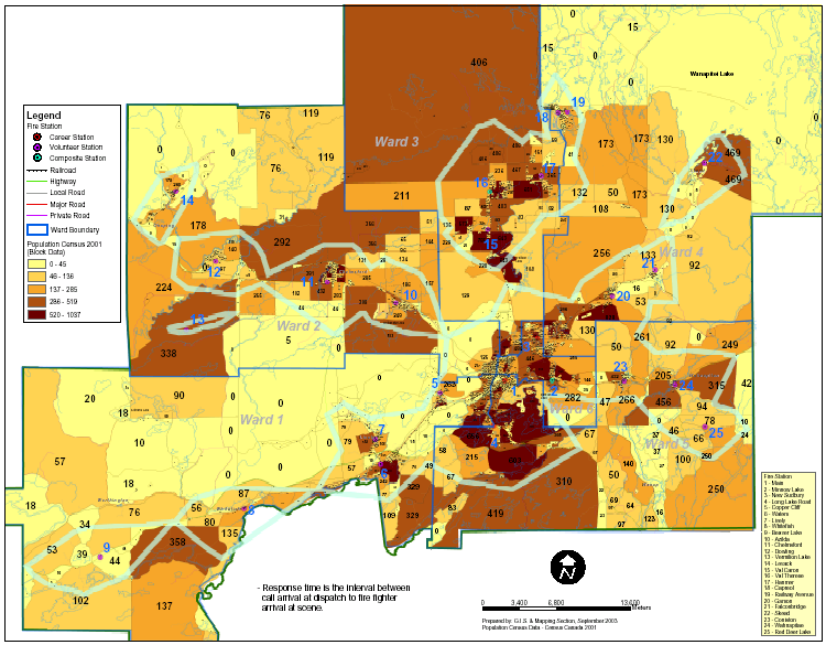


EXHIBIT 5.6
GEOGRAPHIC COVERAGE WITHIN A 10-MINUTE RESPONSE TIME TARGET



What Residents may Expect in the Event of a Structure Fire

Presented below is what the fire service division endeavours to provide residents in the way of an emergency response to a structure fire.

In the ***built up*** area of the former City of Sudbury (Fire District 1), which is protected predominately by career firefighters based at station, the fire service strives to deliver:

- An ***initial*** response by a minimum of 10 firefighters within 10 minutes of an alarm. To achieve this objective they typically will deploy a minimum of two companies or stations concurrently. If upon arrival at scene, it is determined that the situation warrants additional resources, then they are called in;

- Interior fire suppression to commence once a minimum of 4 firefighters arrive scene and set up; typically within 7 minutes or less;

- Interior fire suppression and rescue activities to be undertaken once a minimum of 10 firefighters arrive scene; initially by multi-tasking.

In the ***built up*** area of the former City of Valley East (located in Fire District 4), which is protected by a composite force consisting of 2 career firefighters and volunteer firefighters, the fire service strives to deliver:

- A response by a minimum of 10 firefighters within 10 minutes of an alarm. To achieve this objective they typically will deploy three stations concurrently (Val Therese, Val Caron and Hanmer stations). The response will consist of the two on duty career firefighters and 3 volunteer brigades;

- Interior fire suppression to commence once a minimum of 4 firefighters arrive scene and set up;

- Interior fire suppression and rescue activities to be undertaken once a minimum of 10 firefighters arrive scene; initially by multi-tasking.

In the ***rural / remote areas*** of the community, which are protected solely by volunteer fire fighting staff, the fire service strives to deliver:

- A response by a minimum of 10 firefighters within 10 minutes of an alarm. To achieve this objective they typically will deploy two volunteer stations concurrently. The response will consist of 2 volunteer brigades;

- Interior fire suppression to commence once a minimum of 4 firefighters arrive scene and set up;

- Interior fire suppression and rescue activities to be undertaken once a minimum of 10 firefighters arrive scene; initially by multi-tasking.

While the above are the fire service's objectives, the reader is advised that for various reasons the fire service will not always achieve these targets. This is particularly true in areas outside of the built up portion of the City core.

The reasons include the City's vast geographic area, the mix of small urban communities separated by rural development and vast tracts of undeveloped land, and the numerous relatively isolated population centres.

The fire services' ability to achieve the objectives also depends greatly upon a sufficient number of volunteer firefighters responding rapidly when paged. Despite best efforts, unfortunately this does not always happen. If relatively few volunteer firefighters arrive scene (i.e., less than 4 volunteers) residents may expect only exterior fire fighting activities.

Similarly, in cases of structure fire residents may expect only exterior fire fighting activities if it takes longer than 10 minutes for firefighters to arrive scene. This applies regardless as to whether the residents are located in areas served by career or volunteer firefighters. This notwithstanding, it is the firefighters who upon arrival at the fire scene, will decide whether it is safe to proceed with interior fire suppression and rescue, or to limit their activities solely to exterior fire fighting.

Another mitigating consideration are concurrent multiple calls originating in the same geographic area, as fire resources may already be preoccupied at a call.

The targets set out above, have been established by the City's fire service as operational objectives; they are not ingrained in municipal public policy. This, as further discussed in Section 6.3 of this report, is a common practice among fire departments as it provides the requisite flexibility to adjust fire services in response to changing needs and circumstances. To a great extent they are based on guidelines for firefighter response set out by the OFM. This too is discussed further in Section 6.3 of this report.

A common practice among emergency service providers is to target response performance to a fractile percentage of total reported incidents. For this purpose the fractile percentage often chosen is 90 percent (i.e., that the standard be achieved in 90 percent of reported incidents); although it does vary among municipal fire services, ranging from 75 percent in some jurisdictions to 90 percent in others.

As discussed previously in Section 4 of this report the City of Greater Sudbury fire service does not presently possess an effective records management system. This is impeding their ability to track calls and response performance with any degree of reliability. Solutions are in the works (also as described previously) which shortly, will enable the City to more rigorously measure response performance.

What Services Residents may Expect in the Event of an Emergency Other than Fire

The fire and rescue call records presented previously in Section 3 demonstrate that firefighting is not the fire department's sole preoccupation. Discussions with fire services management and firefighters confirm that the department is evolving into a service capable of delivering a multi-risk emergency response.

This report is of the view that the ongoing transformation is not only consistent with the Emergency Services Department's overall mission, it is also consistent with North American trends and reflects the increasing needs by communities for a broad range of emergency and risk management services.

For emergencies other than fire, residents across the entire Greater City may expect the following of their firefighters: capability to deal with wildland and vehicle fires, to perform basic vehicle extrication and shore-based ice / water rescue, to respond to fire alarm, carbon monoxide and public assistance calls, and to participate in land search and rescue. From stations based in the City core, Dowling, Vermillion, Levack and Capreol, residents may expect firefighters to perform medical assists.

Again, these expectations are not based on approved public policy. They reflect the current equipment with which the department is furnished and the current level of fire fighter training.

Currently residents should not expect extensive expertise in high angle or confined space rescue, or in dealing with hazardous materials. For these situations, the City's fire service will respond and handle the situation in an appropriate fashion.

5.4 Apparatus

The fire service system is equipped with approximately 80 vehicles. Exhibit 5.7 presents a breakdown of the major equipment by station and City ward. As shown by the exhibit, virtually all fire stations are equipped with a pumper. In addition there are 9 tankers, 9 rescue vehicles, 2 aerials, 3 telesquirts with elevated master stream capability and 8 bush trucks.

EXHIBIT 5.7
FIRE SUPPRESSION & RESCUE STAFFING & FLEET

Station	Suppression Staff				Fleet						
	Description	Captains	F.F's	Total	Pumper	Tanker	Rescue	Aerial	Squirt	Bush	Total
Ward 1											
4 Long Lake (Note 2)	career 4-pers 24/7	4	12	16	1	1		1			3
5 Copper Cliff	vol's	3	10	13	1						1
6 Waters	vol's	3	15	18		1	1		1		3
7 Lively	vol's	2	16	18	1						1
8 Whitefish	vol's	3	15	18	1	1	1				3
9 Beaver Lake	vol's	1	6	7		1					1
Ward 2											
10 Azilda	vol's	3	15	18	1		1				2
11 Chelmsford	vol's	4	19	23	1	1	1		1	1	5
12 Dowling	vol's	4	14	18	1	1	1			1	4
13 Vermillion	vol's	1	6	7	1						1
14 Levack	vol's	3	11	14	1					1	2
Ward 3											
15 Val Caron (Note 3)	vol's	2	15	17	1				1		2
16 Val Therese	career 2-pers 24/7	4	5	9	1	1	1			1	4
	vol's	1	16	17							
17 Hanmer	vol's	1	16	17	1	1					2
Ward 4											
18 Capreol	vol's	3	15	18	1		1				2
19 Railway Ave (Note 1)	vol's				1						1
20 Garson	vol's	3	16	19	1		1			1	3
21 Falconbridge	vol's	2	10	12	1						1
22 Skead	vol's	2	10	12	1					1	2
Ward 5											
1 Van Horne (Main)	career 6-pers 24/7	8	32	40	2		1	1			4
23 Coniston	vol's	2	12	14	1					1	2
24 Wahnapitae	vol's	2	8	10	1	1					2
25 Red Deer	vol's	2	4	6	1						1
Ward 6											
2 Minnow Lake	career 4-pers 24/7	4	12	16	2						2
	vol's	2	12	14							
3 Leon (new Sudbury)	career 4-pers 24/7	4	12	16	1					1	2
TOTAL		**73**	**334**	**407**	**25**	**9**	**9**	**2**	**3**	**8**	**56**

1. Railway Ave station is staffed from Capreol station
2. The aerial assigned to Station 4 (Long Lake) is 30 years old and of limited operational use. It is not staffed and is maintained strictly for standby purposes.
3. The telesquirt assigned to Station 15 (Val Caron) is used strictly as a spare pumper. The elevated master stream component has been disabled permanently.

Despite the array of vehicles in the fleet, the Fire Services Division possesses a relatively limited elevated master stream capability. Of the two existing aerials only the one stationed at Van Horne (Station 1) is fully operational. The aerial assigned to Long Lake (Station 4) is 30 years old and of limited operational use. It is not staffed and is maintained strictly for standby purposes. Of the three telesquirts, only two are fully operational; those being the ones located at Waters (Station 6) and Chelmsford (Station 11). Due to age and mechanical malfunction, the telesquirt based at Val Caron (Station 15) serves as a spare pumper without an elevated master stream.

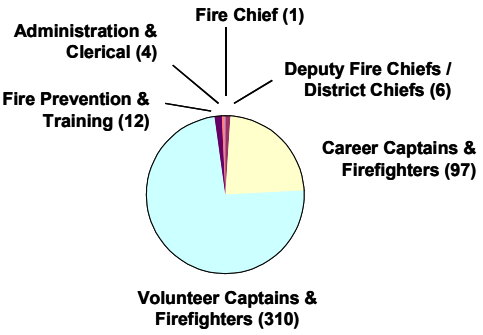
Fire services management have recently developed a proposed fleet replacement schedule, taking into consideration such items as vehicle age, usage, wear and tear, etc. Under the proposed schedule the Long Lake aerial will be replaced in 2004, at a cost of approximately $1.1 million[9], as will the Val Caron telesquirt at a cost of approximately $750,000. The plan also provides for the purchase in 2004, of an additional 2 telesquirts likely to be assigned to Waters and Falconbridge stations.

Currently, the City has 3 spare pumpers. One is situated at Van Horne station and another at Minnow Lake station. The partially functional Val Caron telesquirt serves as the third. The fire service plans to increase the number of spare pumpers to five. This, they propose to accomplish over time by modifying the pumper replacement program.

5.5 Personnel & Administration

As shown by Exhibit 5.8, the Fire Services Division consists of 430 staff. The senior management team consists of the Fire Chief, two Deputy Fire Chiefs and two District Chiefs. Four persons are required to fully staff the District Chief positions. Currently there are two vacancies. They are to be filled in 2005.

EXHIBIT 5.8
FIRE SERVICES DIVISION STAFFING



Front-line staffing consists of 97 full-time salaried firefighters and 310 volunteer firefighters; the latter number being relatively fluid. Twelve staff are assigned to public safety education, fire prevention, enforcement and staff training programs. Four staff provide administrative / clerical support.

Exhibit 5.9 located on the following page shows the Fire Service Division's current organizational structure, as approved and implemented by City Council on June 12, 2003.

The organizational structure is designed to reflect the City's composite fire operation, and to ensure leadership and appropriate levels of staffing of core services and support functions - core services being defined as public safety education, fire prevention, enforcement, emergency response and fire suppression. Support functions are defined to include staff training and professional development, records management, dispatch communications, fleet and equipment management, quality assurance, etc. In conformance with other well-operated fire services, Greater Sudbury's organizational structure includes a clearly defined 'chain of command' and accountabilities for these functions.

Reporting to the General Manager Emergency Services, the Fire Chief is responsible for all administrative and operational activities of the Fire Services Division. The Fire Chief is supported by two Deputy Fire Chiefs who working together, are responsible to direct and manage the day-to-day fire service operations. One Deputy is responsible for the career ranks; the other for the volunteer firefighters. Respectively, the Deputies are responsible to provide leadership and tend to the needs of their respective staff. For reasons of professional development and succession planning the intent is to rotate the Deputies between the two positions.

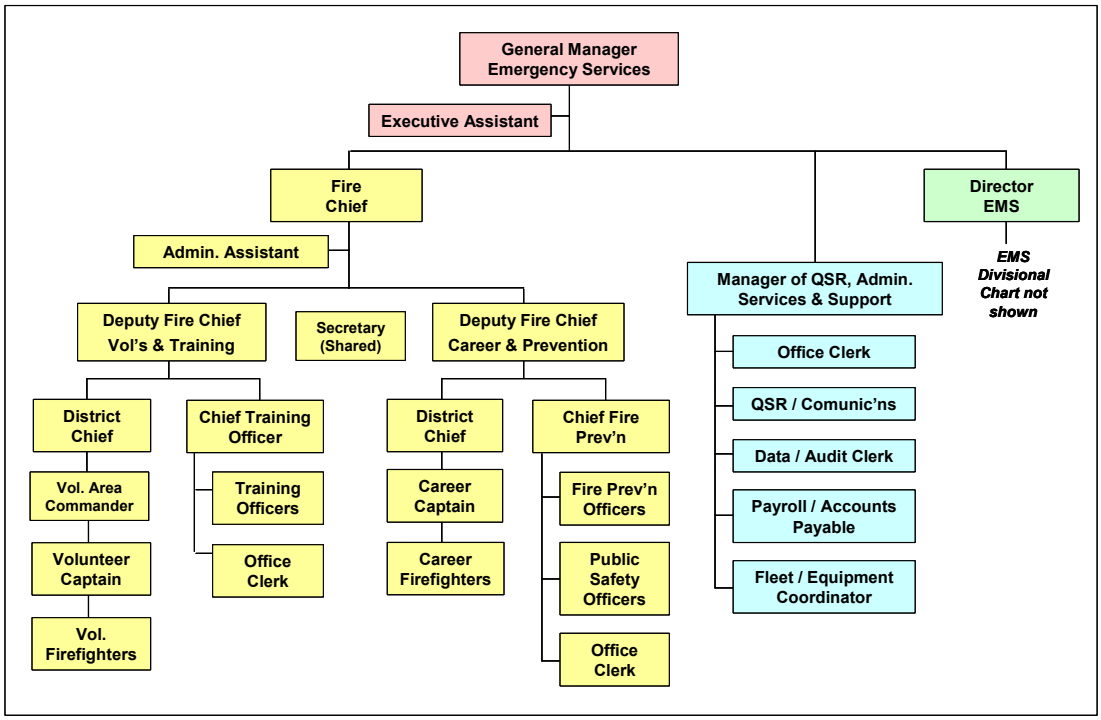
[9] This initiative, approved by the former City Council, is a carry over from 2003.

Next in rank to Deputy Fire Chief, the District Chief may occasionally be required to act in that capacity. The District Chief is responsible to the Deputy Fire chief and Fire Chief for the general management, discipline, efficiency performance and training of all personnel under their command. It is their responsibility to oversee fire operations, and to ensure that staffing, fire fighting apparatus and ancillary services are in place. The District Chiefs are expected to support one-another and when required, fill in during one-another's vacations, etc. For reasons of succession planning and to ensure exposure to all aspects of fire service operations (urban and rural) the intent is that the District Chief's rotate within the position on a regular basis.

The Chief Fire Prevention Officer & Chief Training Officer are responsible to direct the daily operations of the Fire Prevention and Training functional units. Forming a part of the management team, these positions are expected to support and occasionally provide backfill for the District Chiefs.

In designing the organizational structure the following previously separate, yet similar support functions required by both the EMS and Fire operating divisions have been consolidated into a single 'shared support' unit: records management, quality assurance, dispatch communications, and fleet and equipment management. Herein the primary objectives are to reduce functional overlap and increase the overall organizational effectiveness of the Emergency Services Department.

EXHIBIT 5.9
FIRE SERVICE ORGANIZATIONAL STRUCTURE



5.6 Communications

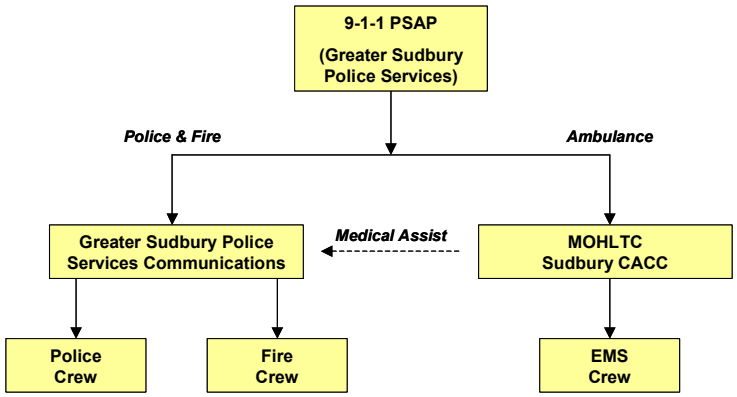
In March 1999 the former City of Sudbury entered into an agreement with Sudbury Regional Police Services, in which the latter party through contract would provide the City's fire department with dispatch communications services. The contract did not include the outlying municipal fire departments. They continued to contract with a private company for call taking and notification.

In 2001, as part of the amalgamation of the former City and outlying municipalities, the Sudbury Police Services' responsibilities for fire communications were expanded beyond the former City, to include the outlying areas.

The Police Services' communications centre is located at 190 Brady Street. From this location the Police Services communications centre serves as the 9-1-1 Public Safety Answering Point (PSAP), and handles communications and dispatch for the Greater City's police and fire services.

Police Services communicators transfer medical emergencies to the Sudbury Central Ambulance Communications Centre (CACC) operated by the Ministry of Health and Long-Term Care.

EXHIBIT 5.10
EMERGENCY SERVICES COMMUNICATIONS NETWORK



All calls are tracked by way of a computer aided dispatch (CAD) system. The system, manufactured by Intergraph[10] was obtained through the Integrated Justice Project, a cooperative lead by the OPP involving 40 municipal police forces.

On each 12-hour shift the communications centre is staffed with 2 designated call takers, 2 police dispatchers, 2 fire dispatchers and 1 supervisor. The Centre's operation is overseen by the Manager of Communications.

Dispatchers receive 23 weeks intake training. The intake training program includes orientation, training in computer aided dispatch, 9-1-1 call taking, fire dispatch training and police dispatch training. The training program includes extensive practice; new recruits being required to dispatch calls under the close supervision of senior communicators and supervisors. They are subsequently assessed on their performance.

For voice communications the police service uses an 800 MHz trunked radio system. The radio system has a computer integrated user interface with the CAD.

[10] The following are examples of other Canadian fire and police agencies which use the Intergraph system: Thunder Bay Police Services (which also dispatches the fire department), Hamilton Fire Department, Hamilton Police Services, Toronto Fire Services, Toronto Police Services, London Fire Department and the Edmonton Emergency Response Department.

The communications centre utilizes a stand-alone VHF voice paging system manufactured by Zetron, to contact volunteer firefighters. The system employs five radio towers. The communicators must manually select the appropriate tower for each page, resorting to a paper-based index to locate the nearest fire station for 1st and 2nd response, and the appropriate tower for paging transmissions. Time out features on paging transmissions require that dispatchers page one volunteer station at a time – repeating the process for 2nd and 3rd response.

In a May 2003 discussion paper entitled 'Greater Sudbury Fire Service Communications', IBI Group offered the following two observations. First, the Greater Sudbury Police Services communications centre is staffed with well-trained professional communicators using state-of-art radio and CAD systems. Second, this notwithstanding, there are technological weaknesses in the communications system, which impact negatively on response time performance and limit the Police Services communications centre's capabilities to carry out automated performance tracking and management information system (MIS) reporting.

The discussion paper offered a number of suggestions by which to improve the Police Services' communications operation. The suggestions pertain predominately to electronically interfacing the fire paging system with the radio / telephone and CAD systems, and to providing a range of management reports to support monitoring, evaluation (quality assurance) and planning of fire and police services.

With City Council's approval senior management of the City's Fire and Police Services have jointly undertaken to implement the suggested improvements. They are expected to be fully implemented by mid-2004.

Other identified technological issues include limited radio access in the more remote fringe areas of the City, limited radio and paging capability at the backup dispatch located in the south end of the City and the need to replace a number of relatively outdated pagers. Fire and Police services are addressing these items.

5.7 Fire Services Operating Costs

Proposed 2004 Fire Operating Budget

Last year (in 2003) the City budgeted $13.2 million for fire services operations. This year's proposed operating budget (2004) is $14.6 million. The proposed budget is to operate the fire services system at the current level. In this regard the proposed budget provides for the changes recently approved by City Council.

The proposed 2004 budget does not address the annual capital underfunding for fleet and equipment replacement (a discussed in Section 4.8). Nor does it provide for newly proposed service improvements and acquisitions such as the acquisition of an electronic records management system, expanded ice and water rescue training, high angle and confined space rescue training, and over time the recruitment of additional staff. The newly proposed initiatives are identified in Exhibit 7.1 along with their financial impacts.

The projected expenditure increase contained within this year's proposed budget is attributed predominately to the following factors. As noted some of the factors were approved by City Council in 2003, while others are subject to City Council's approval as part of the 2004 budget process:

- Valley East firefighter staffing adjustment, approved by City Council and implemented in spring 2003, resulting in the present staffing by two full-time salaried firefighters on duty at station 24/7;

- Organizational realignment, approved by City Council and implemented mid-way through 2003;
- Increase in fire services personnel, corresponding to the approved organizational realignment, to ensure leadership and appropriate levels of staffing of core and support services, with particular emphasis on public safety education, fire prevention, enforcement, firefighter training and quality assurance;
- Increased wages and benefits due to cost-of-living adjustments. Fire services management have earmarked funds pending the outcome of current contract negotiations;
- Recommencement of OMERS contributions in January 2004; and
- Sundry additional costs attributed to increased costs of materials, contract services, professional development and training, etc.

Municipal Performance Measurement Program

In 2001 the provincial government introduced through legislation, the "Municipal Performance Measurement Program" requiring Ontario municipalities to provide taxpayers with information on an annual basis, on the performance of the services which they are mandated to deliver. The program requires municipalities to provide the information in a consistent manner, using a common set of measures, by September 30 each year on the previous year's activities.

Firefighting is one of those services. The government's objective is to promote and ensure efficient municipal fire services. For reporting purposes the chosen performance measure is the operating cost for fire services per $1,000 of assessment.

EXHIBIT 5.11
COMPARISON OF MUNICIPAL FIRE SERVICE OPERATING COSTS

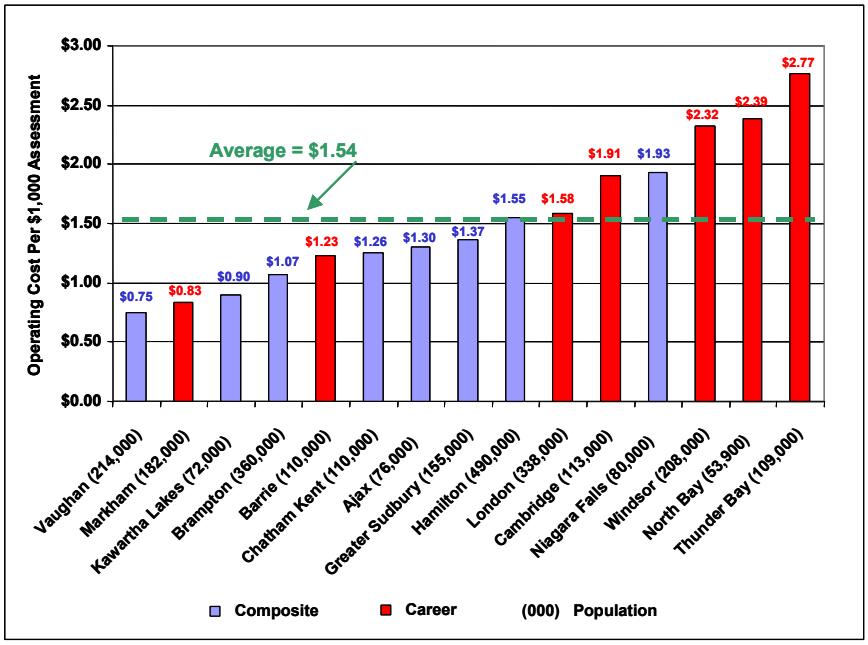


Exhibit 5.11 presents a summary of the fire costs reported under the Municipal Performance Measurement Program, by 15 municipal fire services including the City of Greater Sudbury. The data shown is for 2002, which is the most current information available.

Of the 15 municipal fire services surveyed, Greater Sudbury ranked 8th, reporting a cost of $1.37 per $1,000 assessment. Seven municipalities reported costs lower than Greater Sudbury's and seven reported higher fire service costs.

Vaughan, a municipality with 214,000 persons reported the lowest cost, at $0.75 per $1,000 assessment. Residential development in Vaughan, unlike Greater Sudbury, is highly concentrated into fewer population centres, thus making it less costly to service with fire protection services. The Cities of North Bay and Thunder Bay, both with fully career fire departments, reported costs which are significantly higher than those reported by the City of Greater Sudbury.

The average cost is $1.54 per $1,000 assessment. Nine of the fifteen municipalities, including almost all of the composite fire departments reported costs, which are lower than the average value. Of the six municipalities which reported costs higher than the average value, all but one are staffed fully with full-time salaried (career) firefighters.

From this data one may conclude the following. First, compared to other municipalities the City of Greater Sudbury's fire services operation is relatively economical. Second, in general, composite fire services are relatively cheaper to operate.

Area Rating

Area rating was introduced to the City of Greater Sudbury at the time of amalgamation. Section 15 of the City of Greater Sudbury Act 1999 sets out the rules and permitted area ratings relating to special services applicable to the former municipalities, assets and liabilities of the former municipalities and for five services, namely: water, sewage, street lighting, fire and public transportation.

Prior to amalgamation, fire service levels were considerably different throughout the seven former area municipalities and the former unorganized area. It was not possible to harmonize service levels without significantly increasing the annual operating budget, nor was it felt necessary to have full-time salaried (career) service throughout the newly created City of Greater Sudbury. In order to recognize the differing levels of service and also maintain the same relative tax position for this service, area rating was adopted. Three distinct areas were recognized:

- Career: The former City of Sudbury area which was predominantly serviced by full time career firefighters supplemented marginally by volunteer forces. Essentially, the areas served by the following fire stations: Van Horne, Minnow Lake, Leon, Long Lake and Copper Cliff.

- Composite: The former City of Valley East area which is serviced by both full time career firefighters and volunteer forces. It includes the areas served by Val Caron, Val Therese and Hanmer fire stations.

- Volunteer: All other areas of the new City of Greater Sudbury including the former unorganized areas. These areas continue to be serviced solely by volunteer firefighters.

Fire service costs are comprised of two components: base costs which are common to all areas and direct suppression costs which vary according to the above area categories. The base costs include costs of administration, facilities and apparatus, public education and prevention. Because these costs are common to all areas, they are allocated to each of the fire service areas on the basis of weighted assessment. The direct suppression costs plus the allocated base costs determine the total cost for each of the areas.

Exhibit 5.12 located on the following page, illustrates the costs and taxes for each of the three service areas, calculated on the basis of the proposed 2004 budget and preliminary 2004 weighted assessment.

On the basis of these calculations, the tax level in the career service area (i.e., the area with the highest level of fire services) would be $191.45. The tax level for the composite area would be $168.11 and for the volunteer area $96.06. Again, the reader is cautioned that these figures are subject to City Council's approval, as are any other figures which may be based on future fire service level improvements.

For comparative purposes the last column in Exhibit 5.12 shows in italics what the uniform tax rate would be if the City had not adopted fire area rating. If a uniform tax rate were used at existing service levels, then the volunteer area would see a substantial increase in taxes while the career area would see a moderate drop in taxes and the composite area would remain at about the same level.

Over the next year, fire deployment strategies will be reviewed and adjusted as appropriate to ensure a rapid response to incidents of fire and other emergencies. These adjustments may require a realignment of the three designated service areas – either increasing or decreasing the size of each area as appropriate. The consolidation of the career and composite service areas may be another possible outcome. Such changes and their impacts upon area ratings will be subject to City Council approval.

EXHIBIT 5.12
PROJECTED 2004 SERVICE AREA COSTS & TAXES

Service Area	Career	Composite	Volunteer	Total
Base Costs	$2.99 M	$0.50 M	$1.33 M	$4.82 M
Direct Suppression Costs	$7.68 M	$1.10 M	$0.98 M	$9.76 M
Total Costs	$10.67 M	$1.60 M	$2.31 M	$14.58 M
Weighted Assessment	$5,575.11 M	$953.00 M	$2,403.07 M	$8,931.18 M
Fire Tax Rate	0.0019145	0.0016811	0.0009606	*0.0016329*
Taxes per $100,000 home	**$191.45**	**$168.11**	**$96.06**	***$163.29***

Taxes per $100,000 (2003)	**$180.24**	**$144.98**	**$91.85**	

6. CONSIDERATIONS FOR CHANGE

Section 5 of this report described the Greater City's fire service system and its capabilities to serve the City's needs. As identified through that discussion, the current system possesses a number of strengths as well as certain weaknesses; a major weakness being the lack of adequate management systems and controls to track, assess and report on the effectiveness of the services provided.

Also identified in Section 5 are a number of improvements either underway / or planned to address the noted weaknesses and to improve the present fire services system (e.g., planned implementation of an electronic fire records management system).

This section introduces additional options and strategies considered by this assessment, intended to ensure the Fire Service Division's ongoing capability to maintain and if practical, and affordable, to enhance upon the present level of fire protection. Some options / strategies will entail additional costs; these will require City Council's prior approval.

6.1 Deployment Geared to Rapid Response

Prior to amalgamation each of the former seven municipal fire services deployed and dispatched their resources in accordance to the jurisdictional boundaries of the jurisdictions, which they were established to protect.

Currently the City's composite fire service continues to dispatch its resources in much the same way; this despite the municipal amalgamation. This situation exists because the CAD database and dispatch protocols have yet to be adjusted to ensure that the fastest fire resource is dispatched, regardless of former municipal jurisdictional limits.

Fire services management have commenced recently, to adjust the database and protocols. The changes, which are expected to go into effect mid-year, are guided by the following recently developed principles, which in the interest of public safety, have been designed to provide balanced emergency response and coverage.

- Emergency responses by the Fire Service shall not be dictated or influenced by City ward boundaries.

- The fire station capable of providing the fastest response with the appropriate resources shall be required to respond, if not pre-occupied elsewhere.

- Within the annual budget envelope approved by City Council, fire services management reserve the right to adjust the deployment of fire resources when required, to meet the fire risk and emergency response needs of the City.

In the context of the City's composite fire operations, adherence to the above principles will allow for rapid dispatching of the appropriate resources, regardless of the career versus volunteer firefighter distinction.

Over time, it is expected that the overall level of interaction and cooperation between these two essential parts of the emergency response system will increase, as they have the opportunity to attend at fires together, train together etc.

Exhibit 6.1 located on the following page, lists the Greater Sudbury Fire Services' normal response protocols for various types of calls. For structural calls, the basic response is to dispatch two stations; thus providing sufficient firefighting resources, to initiate interior fire suppression. For relatively high

risk occupancies, management are considering a multi-vehicle response involving up to three stations. If the dispatcher is unsure of the call type, they are required to dispatch the nearest station. On arrival the firefighters will determine whether additional resources are required, and if so call for additional assistance.

6.2 Fleet Rationalization

Another option under consideration is to reorganize / rationalize the fleet within the five fire districts, so as to enable each fire district to function somewhat independently on its own.

Also in the event of an emergency requiring additional resources, each fire district would be capable to either provide / call upon an adjacent area for rapid assistance.

The following are the basic elements under consideration in this option:

- Each fire station be equipped with a pumper.
- Each of the five fire districts be provided with an aerial master stream capability and rescue truck.
- Outlying districts be provided with two tankers (thus assuring a continuous supply of water via tanker shuttle).
- Bush trucks, utility vans and specialty units (e.g., boats) to be assigned to districts according to where they can be of greatest value.

EXHIBIT 6.1
DISPATCH PROTOCOLS

TYPE OF CALL	MINIMUM NORMAL RESPONSE
Structure fire	2 pumpers, 1 rescue, 1 aerial or telesquirt
Automatic alarm	2 pumpers, 1 rescue, 1 aerial or telesquirt
High risk occupancy fire call	2 pumpers, 1 rescue, 1 aerial or telesquirt (proposing plus 1 pumper)
Hydro pole fire	1 pumper
Garbage bin fire	1 pumper
Vehicle fire	1 pumper
Medical call	1 crew - pumper or rescue unit
CO call or smell of gas	1 crew - pumper or rescue unit
Assistance calls	1 crew - pumper or rescue unit as required by the incident details
Bush fire	1 pumper/bush and also 1 tanker if required
Motor vehicle collision (MVC)	1 pumper, 1 rescue
Flooding	1 pumper
Rescue - ice/water	1 pumper and 1 rescue (with appropriate equipment)
Rescue - confined space	1 pumper and 1 rescue (with appropriate equipment)
Rescue - high angle	1 pumper and 1 rescue (with appropriate equipment), 1 aerial
Spills	1 pumper and 1 rescue (gas detection)
Authorized control burns	1 pumper
Unauthorized control burns	1 pumper

6.3 Structure Fire Response Target

Fire departments throughout North America rely extensively on the suggested guidelines and standards promoted by National Fire Protection Association (NFPA). Ontario municipalities also rely upon the suggested guidelines promoted by the Ontario Fire Marshal's Office.

For incidents of fire, both agencies strongly promote a firefighting response by a sufficient number of trained and properly equipped firefighters, within a time frame which allows for efficient, effective and safe conduct of emergency operations (preferably prior to flashover).

Both agencies recognize that most structure fires will require either a multi-station, or multi-company, response if a sufficient number of firefighters are to be deployed to the fire ground scene. Both agencies promote, where practical, that a minimum of 4 firefighters be dispatched and arrive together

on the initial apparatus, and both encourage a coordinated response to be managed by a single company officer.

Exhibit 6.2 summarizes the NFPA and OFM suggested guidelines for a firefighter response to a two-storey residential fire in an *urban* setting. This as identified previously, is the largest occupancy category in most municipalities including Greater Sudbury. Also, it has a relatively high fire incident rate. The information presented was extracted from various guideline documents including NFPA 1710 and the OFM's Public Fire Safety Guideline PFSG 04-08-12.

The OFM guideline suggests that a minimum of 10 firefighters be on scene within 10 minutes of an alarm; also if practical, a minimum of two vehicles, one preferably to be a triple combination pumper. The guideline is designed to provide sufficient staffing to accommodate either interior fire suppression or rescue operations – not both.

EXHIBIT 6.2
GUIDELINES FOR FIREFIGHTER RESPONSE TO TWO STOREY RESIDENTIAL DWELLING IN URBAN SETTING

OFM	NFPA
10 firefighters on scene within 10 minutes of alarm	**14 to 16 firefighters on scene within 10.5 minutes of alarm**
Provides interior fire suppression *OR* rescue operations	**Provides full interior attack *AND* rescue, with aerial operations as required**
1.5 minutes for call taking & dispatch **1 minute turnout for full-time salaried (career) firefighters** **90th percentile performance target**	

The NFPA guideline calls for a full first alarm assignment to be on scene within 10.5 minutes, the time interval being calculated by this report as follows: a stated 8 minutes for deployment plus a stated 1 minute turnout and a 1.5 minute dispatch. The full first alarm assignment contingent is 14 firefighters if an aerial is not in operation and if the Incident Manager does not require aid. Otherwise for full fire attack, the required team could be up to 16 firefighters.

Both agencies promote the tracking of performance and as a measure of performance that the above standards be achieved in 90 percent of reported incidents.

As indicated previously, FPPA does not prescribe the level of emergency response that a fire department should provide. It leaves that responsibility to municipalities.

According to available information, fire suppression capabilities vary among Ontario municipalities and within municipalities, between built up and rural areas. Relatively few municipalities can afford fire services systems, which will consistently achieve the firefighter response standards promoted by NFPA or OFM throughout their entire community. The approach taken by most municipalities is to realign their firefighting resources placing greater emphasis on the attainment of a more rapid firefighter response to their higher fire risk areas and occupancies (e.g., downtown commercial core, institutions, assemblies).

The position commonly taken by municipal fire service agencies is to use the guidelines promoted by NFPA / OFM as an ***operational objective***, rather than as an official standard. In this way they reserve the necessary flexibility to adjust response levels within their community, taking into account changing local fire risks and circumstances, and the costs that their community can afford.

As described previously in Section 5.3 this is the approach taken by Greater Sudbury's fire service. Their operational objectives are based on the less stringent of the two guidelines, namely those suggested by the OFM. The decision not to promote an official standard is considered reasonable

particularly when one considers the City's records of urban structure fires, which indicate that the City's fire service is unable to attain the OFM standard consistently, and that to be able to do so would require a prohibitive investment in the City's fire services system.

6.4 Expanded Technical Capabilities

As noted previously in Section 5, the fire service is evolving into a service capable of delivering a multi-risk emergency response. Also, this transformation is consistent with the Emergency Services Department's mission and North American trends, and reflects the increasing needs by communities for a broad range of emergency and risk management services.

Currently the fire service lacks expertise, beyond a basic level training, in the following areas: expanded ice and water rescue beyond the present shore-based capability, high angle and confined space rescue and in dealing with hazardous materials. Presented below are the options under consideration:

- **Expanded ice and water rescue beyond the present shore-based capability**: Of the options under consideration, this one is considered to be of highest priority. Firefighters are already receiving a basic level training in shore-based ice and water rescue. The proposal is to provide training and equipment for a higher level ice and water rescue response to a select number of stations and firefighters: as a minimum to Van Horne station in fire District 1, and to two stations in each of the other four volunteer fire districts. Equipment needs will include several boats and cold water immersion suits, as well as the seasonal rental of several snowmobiles. The cost to implement this option is estimated at a one-time expenditure of $200,000.

- **Confined space and high angle rescue**: These two situations utilize the same equipment and require similar training and thus are treated together. The proposal is to ensure that all firefighters are given a basic level training as part of their ongoing in-service training program. In addition, that a select number of stations and firefighters be provided with training for a higher level response: as a minimum to Van Horne station in fire District 1, and to two stations in each of the other four volunteer fire districts. Equipment needs will include tripods, ropes, harnesses, spreader bars etc. The cost to implement this option is estimated at a one-time equipment expenditure of $100,000 plus $20,000 annually for training and equipment maintenance.

- **Hazardous materials (HAZMAT) response**: There are three defined levels of HAZMAT response: awareness, operations and technician. At the awareness level emergency responders are appraised of local hazards, placards used for the transport of dangerous goods and basic mitigation strategies. At the operations level emergency responders are equipped and trained in basic containment, rescue and decontamination (e.g., chemical spills). At the technician level emergency responders are trained to a higher level of decontamination, clean up and removal of contaminants. Very few fire services are trained to the technician level; provincially designated technician teams have been established in Toronto, Ottawa and Windsor. The evolving proposal is initially, to train all of Greater Sudbury's firefighters to the awareness level and over time expand the fire services' capabilities to include a multi station response at the operations level. Current information indicates that the City's fire service should be able to achieve the initial objective within the existing budget and training program. However before proceeding to the longer term objective, a further analysis is required of options and costs.

6.5 Geographic Coverage

Herein the investigation focused on the following questions: Are the current fire stations situated in the appropriate geographic areas of the community, so as to afford a rapid emergency response in

the event of a fire. Should any of the fire stations be relocated. Would coverage be significantly improved by the construction of an additional fire station(s). Are any of the fire stations redundant.

Numerous options were considered. They are grouped into three categories: expansion, concentration and rationalization.

- ***Expansion***: In this category the dominant theme is recruiting additional full-time salaried firefighters, relocating stations and constructing new stations. In addition specific volunteer stations are closed. Note, the volunteer contingent would not be reduced; the options proposed suggest that they be realigned to other adjacent stations.

- ***Concentration***: These options involve replacing the existing 25 stand-alone stations with fewer stations strategically located to provide better protection to areas of relatively higher risk concentration. Firefighter resources would be adjusted and increased as follows: career firefighters to be assigned to the City core (area of highest risk concentration); composite crews of career and volunteer firefighters to be assigned to stations within relatively developed suburban communities; and volunteer firefighters to be assigned to stations in the more rural areas.

- ***Rationalization***: These options involve a potential re-alignment of the existing fire service resources (rather than the recruitment of additional staff) to achieve a better matching of resources to geographic areas prone to relatively higher incidents of fire. The options included moving career firefighters out of the City core to suburban communities, and shifting volunteer resources from outlying areas into the core.

The options were assessed using a number of criteria including the impact of changes on the fire services' capability to protect the City's infrastructure; impact on response coverage; impact on the distribution of fire suppression and emergency services across the City; impact on core service programs; impact on the Fire Service Division's annual operating budget; and capital cost implications. The findings of the analysis are summarized below.

The analysis demonstrates a reasonable matching of career and volunteer fire resources to fire risks. The majority of career firefighters are stationed in the City core i.e., the area of highest risk concentration. A smaller career contingent augmented by volunteers, is stationed in the Valley, an area of lesser but notable risks. Volunteer firefighters serve in communities of relatively low risk.

Despite the array of alternatives examined, none stand out as a major improvement over the existing station arrangement. Response coverage does not improve appreciably under any of the proposed station re-arrangements. It does however, decrease substantially under the Concentration options.

From the analysis of currently available data, it is concluded that the present configuration of stations and resources provides a reasonable level of fire suppression coverage and that major changes are not presently required. The analysis highlighted two areas warranting more detailed consideration; Valley East and the City core. These areas are discussed further in Sections 6.6 and 6.7.

The assessment of station closings included potentially shutting down one of the Core area stations (Minnow Lake) and the consolidation of several volunteer stations including Waters and Lively, Val Caron and Val Therese (which is actually a composite station), Capreol and Railway, and Wahnapitae and Red Deer Lake. The assessment took into consideration call volumes, overlaps in emergency response coverage and potential cost savings.

From the data generated it was concluded that the City would save *up to* $25,000 annually in operating costs for each consolidation / station shut down. However, for many such actions there

would be significant capital cost implications, in the order of $300,000 or more to accommodate the realignment of volunteers, vehicles and equipment to other stations (e.g., for building expansions, additional parking, etc). Moreover, local coverage within the immediate proximity of the exiting stations would be reduced. In light of these facts this report does not recommend the closure of any existing fire stations.

Closing the Azilda volunteer station and converting Chelmsford station from volunteer to composite by introducing a career firefighter contingent, to work alongside the volunteer firefighters, are other suggestions considered by this analysis. It was argued by some, that the proposed changes would improve the fire response capability within those areas. In consideration of the area's relatively low annual volume of calls and the likelihood that local coverage within the immediate proximity of the Azilda station would be reduced, it was concluded that the proposed changes are unnecessary in the short term.

Options by which to increase firefighting resources in the following fringe areas were discussed at length: Kukagami (in the northeast), Wahnapitae Lake (in the northeast), Panache Lake (in the southwest), Fairbanks Lake (in the southwest), Windy Lake (in the northwest) and Wanup (at the City's south end). It was concluded that the costs involved to increase firefighting resources in these and other rural and remote communities, cannot be justified. For such areas the predominate lines of defence are public fire safety education, fire prevention and enforcement. It was recommended however, that fire service management should review and if necessary adjust, the existing inter-municipal aid agreements.

6.6 Valley East

The former City of Valley East has been identified as an area of concern. It is a relatively large residential area. In 2001 the area was the location of a fire tragedy involving three deaths. It generates a relatively large annual volume of fire and rescue calls. It is a bedroom community, which is becoming increasingly difficult to protect predominately with volunteers. Volunteer retention is also becoming an issue.

For the past year the Fire Services Division and OFM have monitored the response time performance of the three locally based fire stations at Val Therese, Val Caron and Hanmer using as a benchmark, the OFM guideline for firefighter response to a residential structure fire i.e., 10 firefighters at scene within 10 minutes of alarm. Not unexpected, the results confirm that the three stations frequently do not attain the guideline.

While there is no legislation requiring a fire department to meet the suggested guideline, its use as a comparative benchmark is reasonable. A fire station, which under-performs relative to the benchmark, either by a slight margin or on an occasional basis, may yet be deemed a reasonable operation. However, if a station located in an area prone to fire incidents consistently under-performs by a significant margin, then closer investigation is warranted.

Presented below is a summary of the area's call volumes.

EXHIBIT 6.3
2003 FIRE & RESCUE CALLS – VALLEY EAST

	Total Calls		Fire Calls		
	No.	%	No.	% Fire	% Total
Weekdays					
08:00 to 19:59	135	*45%*	31	*44%*	*10%*
20:00 to 07:59	68	*23%*	9	*13%*	*3%*
Sub-total	**203**	***68%***	**40**	***57%***	***13%***
Weekends					
08:00 to 19:59	62	*21%*	23	*33%*	*8%*
20:00 to 07:59	32	*11%*	7	*10%*	*2%*
Sub-total	**94**	***32%***	**30**	***43%***	***10%***
Total	**297**	***100%***	**70**	***100%***	***24%***

Collectively the three locally based fire stations responded to 297 calls in 2003; 24% are designated fire calls. They may be a minor flame (e.g., pan on stove) or a major structure fire.

Of the annual 297 calls, 68% (203 calls) occurred on weekdays and 32% (94 calls) on weekends. The corresponding breakdown for the 70 designated fire calls is 57% (40 calls) on weekdays and 43% (30 calls) on weekends.

Exhibit 6.4 presents the fire and rescue calls broken down by hour of the day.

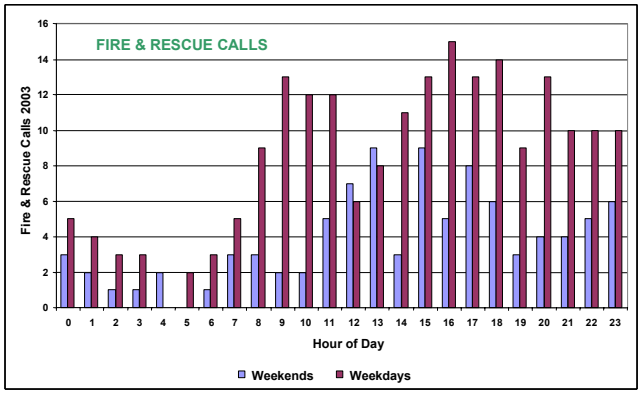
Sixty-six percent (66%) of all fire and rescue calls occur during the 12-hour interval 08:00 to 19:59 hours. Seventy-seven percent (77%) of the designated 'fire' calls occur during these hours.

While it is prudent to consider all call classifications when setting a staffing level, calls designated as 'fire' calls are given particular consideration since it is this area on which the response time guidelines focus.

As shown by Exhibit 6.5 fire calls in Valley East average at one every 5.2 days. The frequency of fire calls is highest on weekends between 08:00 and 19:59 hours; during this period averaging at one every 4.5 weekend days. The next highest period are the weekday hours 08:00 to 19:59 hours. During this period fire calls average at one every 8.4 weekdays. The night time frequency of fire calls (20:00 to 07:59 hours) is substantially lower averaging at one every 14.9 weekend days and one every 28.9 weekdays.

By breaking down the response times into their component parts (dispatch, turnout / assembly and travel) it is clear that a portion of the problem is attributed to the time consuming stand-alone volunteer paging system and as stated several times previously, dispatch times (for volunteers) should be significantly improved within a matter of months, with the electronic interface of the paging, CAD and radio systems.

EXHIBIT 6.4
2003 CALLS BY HOUR OF DAY - VALLEY EAST



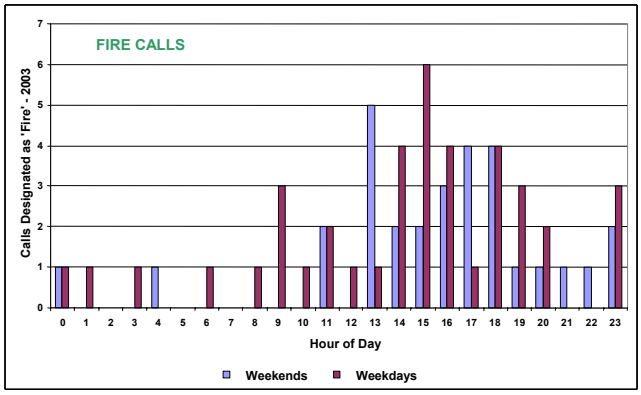


EXHIBIT 6.5
2003 CALL INTERVAL - VALLEY EAST

	Total Calls		Fire Calls	
	Calls Per Day	Call Interval in Days	Calls Per Day	Call Interval in Days
Weekdays				
08:00 to 19:59	0.52	1.93	0.12	8.39
20:00 to 07:59	0.26	3.82	0.03	28.89
Sub-total	**0.78**	**1.28**	**0.15**	**6.50**
Weekends				
08:00 to 19:59	0.60	1.68	0.22	4.52
20:00 to 07:59	0.31	3.25	0.07	14.86
Sub-total	**0.90**	**1.11**	**0.29**	**3.47**
Total	**0.81**	**1.23**	**0.19**	**5.21**

Firefighter turnout also appears to be at issue; turnout by full-time salaried staff often exceed the one-minute target. Fire services management are looking into this issue.

The above notwithstanding, there is still the challenge to rapidly assemble a sufficient number of firefighters at scene, so that interior fire suppression activities and rescue activities may be commenced; particularly so during weekday daytime periods when volunteers may be at work in other parts of the City. For this purpose a number of alternative approaches were considered. They include:

- Matching resources to call hour variations
- Running procedure adjustments to better define the volunteer level of response to various types of calls, based on time of day and season
- Call out (paging) procedure adjustments including volunteer platooning, for a more focused call out based on volunteer availability[11]
- Financial incentives for volunteer on standby at residence or paid on call at station
- Increased career firefighter staffing.

EXHIBIT 6.6
FIREFIGHTER STAFFING OPTIONS – VALLEY EAST

Option		Description	
		Val Therese Station	Val Caron & Hanmer Stations
1	Status Quo	2 career FF 24/7 & 17 vol FF	17 vol FF at each station
2	Status quo w' running & call out procedure adjustments	2 career FF 24/7 & 17 vol FF	17 vol FF at each station
3	Standby at Val Caron & Hanmer	Status Quo	4 vol FF on standby 24/7 at each station
4	Resources at Val Therese Varied to Calls	Days: 4 career FF Nights: 4 vol FF on standby	4 vol FF on standby 24/7 at each station
5	Vol FF Paid on Call – all stations	4 vol FF paid on call 24/7 at each station	
6	Resources Varied to Calls – all stations	Days: 4 career FF Nights: 4 vol FF on standby	Days: 2 vol FF paid on call at each station Nights: 4 vol FF on standby at each station
7	Increased Career Staff at Val Therese - days	Days: 4 career FF & vol's Nights: 2 career FF & vol's	Status Quo
8	Increased Career Staff at Val Therese – 24/7	4 career FF 24/7 & 17 vol FF	Status Quo
9	Increased Career Staffing & Vol FF Standby	4 career FF 24/7 & 17 vol FF	4 vol FF on standby 24/7 at each station

Note: To varying degrees running & call out procedure adjustments could be applied to Options 3 to 9

The approaches were combined into a series of alternative staffing options, shown in Exhibit 6.6.

Option 1 is the status quo. Option 2 introduces running & call out procedure adjustments. Option 3 introduces volunteers 'on standby' at residence or within proximity to the fire station. In Option 3 the resources are matched to hourly call variations. Option 4 introduces volunteers 'paid on call' at station. Option 5 is a combination of resource matching, paid on call and standby. Options 6, 7 and 8 introduce increased career staffing in combination with the other options.

The options were assessed using the following criteria: annual operating cost; impact on local area taxes; ability to improve firefighter response time performance; opportunity to address potential OH&S concerns; likelihood of securing a sufficient number of volunteers to fill standby or paid on call assignments; labour considerations; and incident command considerations.

[11] In conjunction with the above adjustments, fire services management are investigating options for targeted recruitment e.g., giving hiring preference to volunteer recruits who live in close proximity to the fire station or can commit their availability during weekday daytime hours.

The assessment results are presented in Exhibit 6.7, using a series of diamonds to denote levels of performance. A high level of performance is assigned 5 diamonds. Fewer diamonds are assigned for relatively lower levels of performance. The findings are discussed below.

EXHIBIT 6.7
ASSESSMENT OF FIREFIGHTER STAFFING OPTIONS – VALLEY EAST

Option		Annual Op'g Cost ($M)	Impact on Area Taxes (add'l $ / yr)	Assessment Criteria				Risk Relative to Status Quo (Loss of life or damage to property)	
				Perf. / OH&S	Vol FF Avail'ty	Labour	Incid Cmnd		
1	Status Quo	$1.60	--	♦♦	♦♦♦	♦♦♦	♦♦♦♦	--	--
2	Status quo w' Running & Call Out Procedure Adjustments	$1.60	--	♦♦♦	♦♦♦	♦♦	♦♦♦♦	Lower Risk	Guaranteed response is maintained at 2 career firefighters 24/7. Running & call out procedure adjustments should improve volunteer turnout to structure fires.
3	Standby at Val Caron & Hanmer	$1.88	+ $29	♦♦♦	♦♦♦	♦♦	♦♦♦♦	Lower Risk	Guaranteed response is maintained at 2 career firefighters 24/7, and through financial incentive, may be further augmented by volunteers.
4	Resources at Val Therese Varied to Calls	$1.95	+ $37	♦♦♦♦	♦♦	♦♦	♦♦	Higher Risk	Lose guaranteed response at night. Experience has shown night fires tend to be larger and more challenging.
5	Vol FF Paid on Call – all stations	$2.10	+ $52	♦♦♦♦	♦♦	♦	♦♦	Higher Risk	Will be difficult for volunteers to handle the relatively large call volumes. Risk of volunteer burnout, contributing to lower levels of turnout and resulting in decreased response performance.
6	Resources Varied to Calls – all stations	$2.16	+ $59	♦♦♦	♦♦	♦♦	♦♦	Higher Risk	Lose guaranteed response at night. Experience has shown night fires tend to be larger and more challenging.
7	Increased Career Staff at Val Therese - days	$2.40	+ $84	♦♦♦	♦♦♦	♦♦	♦♦♦♦	Lower Risk	Guaranteed response is increased to 4 career firefighters on days and maintained at 2 on nights.
8	Increased Career Staff at Val Therese – 24/7	$2.60	+ $105	♦♦♦♦	♦♦♦	♦♦	♦♦♦♦	Sigftl'y Lower Risk	Guaranteed response is increased to 4 career firefighters 24/7.
9	Increased Career Staffing & Vol FF Standby	$2.88	+ $134	♦♦♦♦	♦♦♦	♦♦	♦♦♦♦	Sigftl'y Lower Risk	Guaranteed response is increased to 4 career firefighters 24/7, and through financial incentive, may be further augmented by volunteers.

The Status Quo is not considered to be a viable alternative. According to available records for the built up area of the former City of Valley East, there are relatively few instances in which the fire service has been able to rapidly assemble a sufficient number of firefighters at the scene of a structure fire, so as to commence interior fire suppression and rescue activities (i.e., relatively few instances in which 10 firefighters have been assembled at scene within 10 minutes of alarm). Further, in many instances it is taking an inordinate amount of time to assemble a minimum of four firefighters at scene, so that exterior fire fighting may be commenced.

Among the options, the following two stand out more so than the others: Options 8 and 9. These are the options preferred by the City's fire services management. They present a 'guaranteed' rapid response by a minimum of 4 salaried firefighters, based at station 24/7, who upon arrival at the fire scene can immediately commence exterior firefighting. These options will go a long way to ensuring a consistent rapid response by a sufficient number of firefighters to undertake interior suppression and rescue. Also, they will significantly reduce the fire risk to life and property.

Options 8 and 9 however, are the most costly options to implement. For Option 8 the annual operating cost to protect the composite service area (i.e., former Valley East) would increase by $1 million (to $2.6 million from the present $1.6 million). For Option 9 the annual operating cost would increase by $1.28 million (to $2.88 million from the present $1.6 million).

Also, options 8 and 9 would significantly increase the taxes, which local residents must pay for fire services. In 2003, for a $100,000 home located in the composite area, the taxes toward fire services amounted to $145. Once the proposed 2004 budget is approved that same home will pay $168. If Option 8 is adopted the figure will rise to $273 (an increase of $105 over that projected for 2004) and if Option 9 is adopted it will rise to $302 (an increase of $134 over that projected for 2004).

This report does not favour the immediate implementation of Options 8 or 9. For the reasons listed below, this report recommends that the City adopt a tempered incremental solution commencing with less costly alternatives:

- As described above, the costs and tax implications to residents of the composite service area are significant.

- The extent of the problem in the former Valley East and the need for 24/7 coverage by full-time career firefighters has not been clearly demonstrated. While generating 297 calls annually, the number of calls attributed to fire is appreciably low – averaging at one every 5 days, and of these major structure fires are a relatively small proportion (the rest being relatively minor flames such as a pan on stove).

- Despite a year's worth of monitoring, there are relatively few occurrences of structure fires on which to make a definitive determination of the problem (approximately 35 reported fire related call incidents). Of these a number are not fully documented. Additional monitoring is warranted to clearly define the extent of the problem before cost-intensive solutions are implemented.

- Delays due to the current stand-alone volunteer paging system and occasional lengthy career turnouts have been identified as factors contributing to a less than desirable firefighter response. As described previously, work is underway to electronically interface the paging and CAD systems to permit concurrent paging of groups of volunteers. Once completed in mid-2004, volunteer dispatch should be significantly improved. Also as indicated previously fire service management are looking into the career turnout issue.

- Fire services management are in the midst of adjusting the CAD database and dispatch protocols to ensure that the fastest fire resource is dispatched. Currently dispatching is somewhat impeded by remnants of former municipal jurisdictional limits. The changes are expected to go into effect mid-year.

- As shown by Exhibit 6.7 alternative lower cost improvements are available. The following are two which may not incur additional costs: running procedure adjustments to better define the volunteer level of response to various types of calls, based on time of day and season, and the development of more focused call out procedures based on volunteer availability. Fire services management are assessing the feasibility of both these alternatives. Preliminary results suggest that both can be implemented in the short term. While these lower cost alternatives will not

eradicate all fire risks to life and property, the data currently available indicates that they will contribute meaningfully to a more rapid firefighter response.

- Once a cost-intensive alternative, such as Option 8 or 9, is implemented, other suburban communities within the Greater City may demand equivalent treatment. The resulting financial implications to the City would be prohibitive.

In summary, the recommended incremental solution commencing with less costly alternatives would provide the City the time necessary to implement the initiatives presently underway, or under consideration above, and to monitor their effectiveness to enhance firefighter response performance. Most of the initiatives are likely to be operational by mid-year, or fall. Rigorous monitoring and documentation could commence in the fall and continue until a reasonable database is assembled. For this purpose a period of 6 to 12 months should do. Once the data is assembled fire services management would assess the information to ascertain what additional solutions are required.

The City's fire services management – despite their stated preference for Options 8 or 9 – have agreed for the reasons stated above, to support the recommended incremental solution. The recommended sequence of steps are to implement the initiatives underway / planned by the fall (including the running procedure adjustments and a more focused call out protocol for volunteers); at that time commence monitoring and documentation for a period of 6 to 12 months; and subsequently assess the data to ascertain the effectiveness of the initiatives and what additional solutions are required.

6.7 City Core

There has been a great deal of debate as to whether the City core is or is not understaffed. Those who assert that the City core is understaffed contend that local fire resources are often fully committed either to one major call, or to a number of concurrent calls. When this occurs, additional firefighter resources must be called in to handle additional incoming calls. The first step of this process is to page out the Minnow Lake volunteer firefighters. On assembly, they move a pumper to Van Horne station. Concurrently, off-shift career firefighters are called in (numbers as required). When a sufficient number of off-shift career firefighters are assembled, then the volunteers are released.

Others are of the view that the City core as a whole is not understaffed and that the issue is localized to Van Horne station. These individuals contend that the assigned crew of 6 firefighters is not of a sufficient size to properly and safely operate the 3 pieces of equipment assigned to the station (i.e., pumper, aerial and rescue vehicle). Further, they point out that the station is frequently staffed with only 5 firefighters, the sixth being pre-occupied on other matters.

Another area of debate pertains to the composite Minnow Lake station. As noted above, there are those who attest to the importance of Minnow Lake volunteers for backup. Others however, argue that the Minnow Lake volunteers are not required; and that in their view, Minnow Lake station is adequately staffed with career firefighters. By removing the volunteer contingent at this station, which numbers 14 persons, they argue that the City could save operating dollars and defer vehicle capital replacement costs.

Exhibits 6.8 and 6.9 located on the following page, present an overview of the annual 2003 fire and rescue calls handled by City core fire resources.

The four stations based in the City Core - Van Horne, Minnow Lake, Leon and Long Lake - responded to a total of 2,862 fire and rescue calls in 2003; 8% (241 calls) are designated as 'fire' calls. As noted previously, fire calls may be a minor flame (e.g., pan on stove) or a major structure fire.

The call volume does not vary significantly by day of the week. Sixty-one percent (61%) of all fire and rescue calls occur during the 12-hour interval 08:00 to 19:59 hours. Fifty-four percent (54%) of the designated 'fire' calls occur during these hours.

The above data, while informative, does not lend itself readily to an assessment of the City Core firefighter staffing requirements. With the data at hand it is relatively difficult to draw defensible conclusions about City core staffing levels.

Such analysis requires consideration of the following types of information: statistics on response time performance of City Core fire stations; statistics on the number of occurrences of concurrent multiple calls in the City core, when firefighting resources were fully depleted; and statistics on the number of fire occurrences in the City core involving insufficient staffing to handle both interior fire suppression and rescue activities. Such data is not presently available.

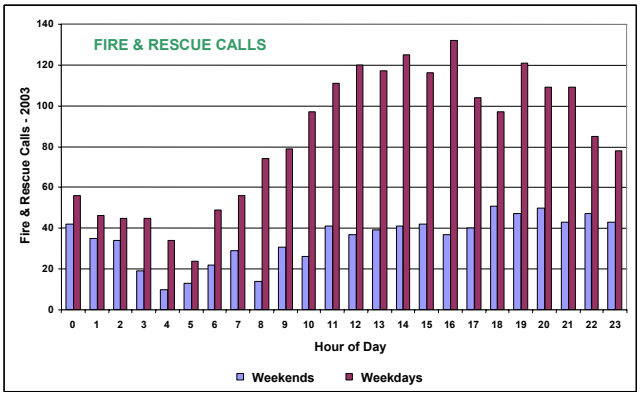
Section 6.6 previously identified a number of initiatives underway / planned for implementation in the short term, to improve firefighter responses to structure fires in the composite service area (former Valley East).

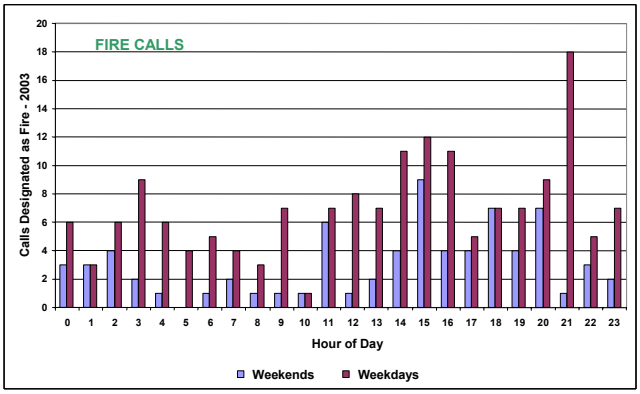
They included the electronic interface of the volunteer paging and CAD systems to permit concurrent paging of groups of volunteers; adjustment of the CAD database and dispatch protocols to ensure that the fastest fire resource is dispatched to each call; running procedure adjustments to better define the volunteer level of response to various types of calls, and a more focused volunteer call out protocol.

EXHIBIT 6.8
2003 FIRE & RESCUE CALLS – CITY CORE

	Total Calls		Fire Calls		
	No.	%	No.	% Fire	% Total
Weekdays					
08:00 to 19:59	1293	*45%*	86	*36%*	*3%*
20:00 to 07:59	736	*26%*	82	*34%*	*3%*
Sub-total	**2029**	***71%***	**168**	***70%***	***6%***
Weekends					
08:00 to 19:59	446	*16%*	44	*18%*	*2%*
20:00 to 07:59	387	*14%*	29	*12%*	*1%*
Sub-total	**833**	***29%***	**73**	***30%***	***3%***
Total	**2862**	***100%***	**241**	***100%***	***8%***

EXHIBIT 6.9
2003 CALLS BY HOUR OF DAY – CITY CORE





The influence of these initiatives will not be limited solely to the composite service area; the City core will also benefit.

In summary, the situation with respect to the City core is not unlike that described previously for the former City of Valley East. Taking into account the absence of a reliable response database or statistics, and the potential financial implications (approximately $100,000 for each additional career

firefighter) this report does not recommend an immediate increase in City core staffing. Rather, as per the approach taken with the former Valley East, it is recommended that the fire service proceed with the following actions. The City's fire services management concurs with this approach:

- Commence immediately to assemble the call volume and response time data as described above;

- In the fall, following implementation of the initiatives underway / planned, expand the data assembly to include sufficient information by which to assess their effectiveness / influence in the City core;

- Continue monitoring and documentation for a period of 6 to 12 months and subsequently,

- Assess the data to ascertain what changes to City core staffing are required; recommendations should include an implementation phasing plan.

7. SUMMARY OF INITIATIVES

Throughout Sections 4, 5 and 6 there has been a great deal of discussion pertaining to actions taken by fire services management to improve the City's fire services system, actions underway and additional suggestions / recommendations for the City's consideration. A summary of all of the major initiatives is presented in Exhibit 7.1, which commences on the following page.

In addition to identifying the initiative, the exhibit presents a schedule, the department or functional unit responsible to carry out the initiative and the financial implications.

A financial impact is shown only where there is (or may be) an operating or capital shortfall, or a requirement for additional funding e.g., for a newly proposed initiative, which at present is unfunded. For such items, City Council approval will be required.

As noted by the exhibit, there are relatively few such items. Most of the initiatives are (can be) funded from within the current (anticipated) operating and capital budgets.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
MANAGEMENT ACCOUNTABILITY (Organizational, investigative and functional activities intended to ensure ongoing management accountability)									
Organizational realignment of FSD to introduce clearly defined positions of authority for core services and support functions	xx					General Manager & Fire Chief		Budget	Not Applicable
Establish requisite competencies for management positions, and for leadership of core and support functions	xx					General Manager & Fire Chief	HR Department	Budget	Not Applicable
Recruit management team and leads for core and support services	xx					General Manager & Fire Chief	HR Department	Budget	Not Applicable
Fill remaining organizational vacancies (two District Chiefs)			xx			General Manager & Fire Chief	HR Department	$200,000	Not Applicable
Consolidate support functions common to EMS and FSD e.g., records management, QSR, communications	xx	xx				Manager QSR, Admin & Support		Budget	Not Applicable
Re-assess proposed consolidation of FSD & EMS fleet (and equipment) management support function		xx				General Manager & Fire Chief	Manager QSR, Admin & Support	Budget	Not Applicable
Implement and promote amended mission statement		xx				General Manager & Fire Chief		Budget	Not Applicable
Adopt, perform and promote best management practices for composite fire services	xx	xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs	Budget	Not Applicable
Review and realignment of training programs	xx	xx	xx	xx	xx	Fire Chief	Chief Training Officer	Budget	Not Applicable
Review / re-tailor firefighter recruitment		xx	xx			Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support HR Department	Budget	Not Applicable
Succession planning		xx	xx	xx	xx	Fire Chief	Chief Training Officer HR Department	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Investigate volunteer firefighter retention difficulties		xx	xx			Fire Chief	Deputy Fire Chiefs HR Department	Budget	Not Applicable
Carry out fire risk assessment	xx					General Manager & Fire Chief		Budget	Not Applicable
Secure certificate of compliance to provincially legislated public education and fire prevention requirements	xx					General Manager & Fire Chief	Deputy Fire Chiefs	Budget	Not Applicable
Annually review and report on City's changing needs and fire services' capability to address the requirements		xx	xx	xx	xx	General Manager & Fire Chief	Manager QSR, Admin & Support	Budget	Not Applicable
Accommodate scheduled IAO review		xx				General Manager & Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Financial planning, budgeting and participation in annual budget process	xx	xx	xx	xx	xx	General Manager & Fire Chief	Manager QSR, Admin & Support Finance Department	Budget	Not Applicable
Review and recommend area rating adjusts as appropriate		xx	xx			General Manager & Fire Chief	Finance Department	Budget	Not Applicable
PUBLIC SAFETY EDUCATION, FIRE PREVENTION & ENFORCEMENT (Ongoing activities in compliance with provincially legislated requirements and new / proposed realignment of activities for fire avoidance and increased fire prevention effectiveness)									
Review and realign public safety education, fire prevention and enforcement programs to the needs identified by the fire risk assessment		xx	xx	xx	xx	General Manager & Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Maintain delivery of fire prevention and life safety education programs to the community at large, and to relatively higher risk / vulnerable groups (children, seniors, schools, institutions, etc)	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
In response to the community's needs, distribute educational literature on fire prevention and public safety, in English and French	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Annually conduct fire prevention inspections of municipally owned buildings, and facilities posing a relatively higher risk for serious consequences due to fire (e.g., institutions, assembly)	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Annually repeat summer home safety survey	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Maintain smoke alarm program and promote home escape planning	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Undertake fire prevention inspections upon complaint or request	xx	xx	xx	xx	xx	Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Expand fire prevention services to fire incident evaluation of major fires involving fatalities		xx				Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Promote in-service inspections of remote or isolated properties by fire suppression crews		xx				Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable
Develop framework for self-inspections for specific occupancies		xx				Chief Fire Prevention Officer	Fire Prevention Officers Career & volunteer firefighters	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Encourage local contractors to incorporate built-in fire suppression systems (e.g., automatic sprinkler systems) in new residential construction		xx	xx	xx	xx	Fire Chief	Chief Fire Prevention Officer	Budget	Not Applicable
Review / amend / consolidate municipal by-laws pertaining to fire services		xx				Fire Chief	Deputy Fire Chiefs Chief Fire Prevention Officer Legal Department	Budget	Not Applicable
Review and affirm fire prevention officer capabilities and training requirements to lead / carry out public safety fire prevention and inspection duties		xx				Chief Fire Prevention Officer		Budget	Not Applicable
Upgrade fire prevention officers' training and skills in fire prevention and ensure that skills and knowledge are maintained		xx	xx			Chief Fire Prevention Officer	Planning, Public Works & Legal Departments OFM	Budget	Not Applicable
Review and adjust FSD capabilities and activities vis-à-vis fire code enforcement (e.g., inspections of commercial establishments, by-law enforcement training, charges for violations where appropriate, etc)		xx				Chief Fire Prevention Officer	Planning, Public Works & Legal Departments Chief Training Officer	Budget	Not Applicable
In concert with QSR, upgrade tracking and documentation of public safety education and fire prevention activities; commence evaluation and reporting of effectiveness, as a routine matter		xx	xx	xx	xx	Chief Fire Prevention Officer	Manager QSR, Admin & Support	Budget	Not Applicable
EMERGENCY RESPONSE & FIREFIGHTER TRAINING (Realignment of operational procedures, dispatch protocols, staffing, apparatus, training and support functions to maintain / improve FSD's readiness and rapid response capabilities)									
Affirm and communicate deployment principles designed to ensure a response by station capable of providing fastest response with appropriate resources		xx				Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Revise response protocols and CAD system database to match deployment principles and ensure an expedient multi-station response	xx	xx				Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Review and update standard operating procedures		xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
In concert with QSR, amend incident reporting and response information database to more accurately document number and time of arrival of firefighters at incidents		xx				Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
In concert with QSR, routinely track, document, evaluate and report on response performance by geographic area (built up City core, built up composite area and volunteer areas); corrective actions as necessary		xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Post and follow-up on station turnout and response to incidents		xx	xx	xx	xx	Deputy Fire Chiefs	Manager QSR, Admin & Support	Budget	Not Applicable
Ongoing monitoring / incremental improvements in Valley East fire protection services	xx	xx	xx	xx	xx	General Manager & Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Ongoing monitoring / incremental improvements in City core fire protection services		xx	xx	xx	xx	General Manager & Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Review fire suppression equipment requirements for remote or isolated properties		xx				Deputy Fire Chiefs		Budget	Not Applicable
Strengthen partnerships w' airport and other high risk industries		xx	xx	xx	xx	Deputy Fire Chiefs		Budget	Not Applicable
Review / establish inter-municipal or inter-agency aid agreements		xx				General Manager & Fire Chief	Deputy Fire Chiefs Police Services Manager QSR, Admin & Support	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Review and affirm current firefighters' capabilities; identify immediate and longer term training requirements		xx				Fire Chief	Deputy Fire Chiefs Chief Training Officer	Budget	Not Applicable
In concert with ALERT Tech, OFM and others, review / re-tailor training program curriculum to ensure balanced regard for all core services, including a basic capability in technical rescues and to deal with hazmat at the awareness level	xx	xx	xx			Chief Training Officer	Training Officers	Budget	Not Applicable
Commence fleet rationalization across fire districts		xx				Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Expanded ice & water technical rescue capability in each fire district		xx	xx			Fire Chief	Deputy Fire Chiefs Chief Training Officer	$200,000 in 2004 (one-time)	Not Applicable
Expand capability in confined space and high angle rescue in each fire district			xx	xx	xx	Fire Chief	Deputy Fire Chiefs Chief Training Officer	$100,000 in 2005 (one-time) plus $20,000 annually	Not Applicable
Provide career firefighters with hands on practical fireground training in partnership with ALERT Tech (currently provided to volunteer firefighters)		xx				Fire Chief	Deputy Fire Chiefs Chief Training Officer	$165,000 (annual)	Not Applicable
Introduce a hazmat response capability at the operational level (will involve special training for one or more firefighters)			xx	xx		Fire Chief	Deputy Fire Chiefs Chief Training Officer	TBD	Not Applicable
Review / re-tailor delivery procedures to ensure that career and volunteer firefighters are trained to same standards	xx	xx				Chief Training Officer	Manager QSR, Admin & Support	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Investigate alternative training and mentoring opportunities (e.g., as may pertain to fire prevention, enforcement, technical rescue, etc)		xx	xx	xx	xx	Chief Training Officer	Deputy Fire Chiefs	Budget	Not Applicable
Review and amend records management processes, for tracking and documenting staff training	xx	xx				Manager QSR, Admin & Support	Chief Training Officer	Budget	Not Applicable
Ensure that all firefighters are properly outfitted and equipped		xx				Fire Chief	Deputy Fire Chiefs	Budget	Costs identified below under capital management
Increase FSD's elevated master stream capability; involves purchase of 1 aerial and 3 telesquirts		xx	xx			Fire Chief	Deputy Fire Chiefs	Budget	Costs identified below under capital management
Increase number of spare pumpers from 3 to 5		xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs	Budget	Not Applicable
DISPATCH COMMUNICATIONS (Initiatives intended to address dispatch communications limitations attributed to current technology)									
Electronically interface current stand-alone volunteer paging system with radio / telephone & CAD systems to provide concurrent paging capability of groups of volunteer stations		xx				Fire Chief	Manager QSR, Admin & Support Police Services	Budget	Not Applicable
Investigate limited radio access in the remote, fringe areas of the City		xx	xx			Fire Chief	Manager QSR, Admin & Support Police Services	Budget	Not Applicable
Investigate limited radio and paging capability at backup fire dispatch site (located in the south end of the City)			xx	xx		Fire Chief	Manager QSR, Admin & Support Police Services	Budget	Not Applicable
Replace outdated pagers	xx	xx	xx	xx		Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
MANAGEMENT SYSTEMS & CONTROLS (Management systems & controls to enhance FSD's capabilities to track, document, assess & report on activities, services, performance and costs)									
In conjunction with QSR, define management's information needs, reporting format and frequency (i.e., call incidents, response performance, staff training, fleet management, finance, etc)		xx	xx			General Manager & Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Review and amend records management processes, tracking, information gathering and documentation procedures		xx	xx			Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
Activate CAD/Link, for expedient capture and transmission of emergency incident event chronologies in an electronic format		xx				Manager QSR, Admin & Support		Budget	Not Applicable
Complete current RMS tendering; select preferred system and supplier; request City Council approval to fund, purchase and implement		xx				General Manager & Fire Chief	Manager QSR, Admin & Support	Budget	$150,000
Implement and populate RMS with relevant information on the current fire services system; also routine tracking and database updates		xx	xx	xx	xx	Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
QUALITY SERVICES REVIEW (Develop & implement QSR program by which to track FSD services, service performance, effectiveness and costs)									
Using Departmental mission as a basis, review / define FSD organizational and operational policies, objectives & standards		xx				Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Define measurable performance measures, procedures and accountabilities for ongoing monitoring, periodic evaluation and reporting		xx				Fire Chief Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
Communicate initiatives to personnel and stakeholders		xx	xx			Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
Initiate tracking of services, and routine assessments & reporting of performance, effectiveness and costs		xx	xx			Deputy Fire Chiefs	Manager QSR, Admin & Support	Budget	Not Applicable
Establish a departmental forum for review / exchange of information		xx				Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
Define departmental procedures for dealing with problems and variances, including investigation, documentation, reporting, communications, corrective action, feedback, retraining, etc)		xx				Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
Augment QSR program to include benchmarking relative to other peer group municipal fire services		xx	xx			Manager QSR, Admin & Support	Deputy Fire Chiefs	Budget	Not Applicable
Augment program to include procedures for dealing with complaints		xx	xx			Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Explore the potential application of new technology to improve data entry, record keeping, reporting, etc		xx	xx			Manager QSR, Admin & Support		Budget	Not Applicable
CAPITAL MANAGEMENT (Initiatives intended to ensure facilities conducive to fire service operations, and vehicle and equipment readiness)									
In conjunction with Public Works Department renovate the following fire stations: Van Horne, Minnow Lake, Leon, Long Lake, Whitefish, Beaver Lake, Azilda, Garson, Skead and Red Deer Lake		xx	xx	xx	xx	Fire Chief	Public Works	Not Applicable	$450,000 over 5 years
Fleet replacement i.e., aerials, telesquirts, pumpers, tankers, rescue, bush, etc		xx	xx	xx	xx	Fire Services Division		Not Applicable	$1.2 million annually
Equipment replacement i.e., SCBA, boots, nozzles, generators, pumps, heavy hydraulics, hand tools, communications and wireless devices, etc		xx	xx	xx	xx	Fire Services Division		Not Applicable	$300,000 annually
Replace volunteer firefighter bunker gear		xx				Fire Services Division		Not Applicable	$600,000 one-time
In conjunction with QSR, review vehicle and equipment preventative maintenance programs		xx	xx			Manager QSR, Admin & Support	Deputy Chiefs	Budgeted	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.

EXHIBIT 7.1
RECENTLY COMPLETED, CURRENT & PLANNED INITIATIVES

INITIATIVES	SCHEDULE					RESPONSIBILITY		FINANCIAL IMPACT	
	2003	2004	2005	2006	Beyond	LEAD	SUPPORT	OPERATING	CAPITAL
PERIODIC SERVICE UPDATES & ADJUSTMENT (Periodic review of ESD / FSD's capabilities to fulfill the City's fire risks and emergency needs expectations)									
Annually update City's fire and emergency risk assessment, and FSD service capabilities to respond		xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs Manager QSR, Admin & Support	Budget	Not Applicable
Annually identify service / operational adjustments, and financial implications (e.g., modifications to operational objectives, standards or services; modifications to procedures; changes in resourcing, apparatus, training, etc)		xx	xx	xx	xx	Fire Chief	Deputy Fire Chiefs	Budget	Not Applicable
Advise City officials, OFM and stakeholders of changes, as appropriate		xx	xx	xx	xx	General Manager & Fire Chief		Budget	Not Applicable
For service adjustments requiring new funding, seek approval in conjunction with annual budget process		xx	xx	xx	xx	General Manager & Fire Chief		Budget	Not Applicable
COMMUNICATIONS W' CITY COUNCILORS, OFM & STAKEHOLDERS (Periodic communications to establish and maintain a strong, favourable and accountable public image)									
Annually prepare and distribute an Annual Report on FSD services and performance		xx	xx	xx	xx	General Manager & Fire Chief		Budget	Not Applicable

Notes: 1. Under 'Financial Impact', dollars if shown, indicate additional funding requirements e.g., where there may be an operating or capital shortfall or for a newly proposed initiative, which at present is unfunded. 2. 'Budget' is defined as follows: For 2003, initiatives were paid out of approved operating budget. For 2004, provisions for activities are contained in proposed 2004 operating budget. For 2005 and beyond, proposed 2004 operating budget with annual escalation for cost-of-living should accommodate proposed activities.