



IBI Group
5th Floor—230 Richmond Street West
Toronto ON M5V 1V6 Canada
tel 416 596 1930
fax 416 596 0644

March 3, 2014

Mr. Tim P. Beadman
Chief of Emergency Services
Emergency Services Department
City of Greater Sudbury
239 Montee Principale, Unit 2
Azilda, ON POM 1B0

Dear Mr. Beadman:

COMPREHENSIVE FIRE SERVICES REVIEW

We are pleased to submit our Final Report on the above study.

The study objective is to review the operations of the Greater Sudbury Fire Services division relative to the fire services needs of the City, and to recommend options and solutions for improving operational effectiveness and cost efficiency.

The study was a collaborative undertaking involving City resources - principally resources internal to the Fire Services Division - and those of IBI Group.

This report contains the findings and recommendations arising from the investigation. While the report is based in part on work performed by the City and in part on the results of IBI Group's own research, the findings and recommendations represent the opinions of IBI Group in its role as consultant.

Thank you for giving us the opportunity to work on this most interesting assignment.

Sincerely,

IBI GROUP

Lee S. Sims
Director

Marvin Rubinstein
Associate

Enc.

Preamble

This report, entitled *Comprehensive Fire Services Review*, has been prepared for the Emergency Services department of the City of Greater Sudbury (the Client). In connection with the issuance of this report, we believe it is worthwhile to provide insight, in addition to that contained in the report, concerning IBI Group's involvement in this project.

IBI Group was engaged as an external professional consulting resource. Our participation in this consulting engagement is the direct result of a competitive tendering that required us to formally respond to a Request for Proposals (RFP) issued by the City.

The study was carried out under the leadership of a Steering Committee consisting of the Chief of Emergency Services (serving as Chair), Fire Chief, City's Chief Administrative Officer, Chief Financial Officer / Treasurer and City's Director of Human Resources. A Deputy Fire Chief served as Project Manager, reporting on this study to both the Fire Chief and Chief of Emergency Services.

The City's RFP defined the project scope and approach. In keeping with the RFP, the work program was organized into multiple tasks. City resources (principally resources internal to the Fire Services Division) assumed lead responsibility for a number of key tasks while IBI Group took responsibility for others. IBI Group agreed to this arrangement since this would instill in Fire personnel a greater understanding for the design and delivery of the services.

IBI Group provided project management support services, including advice, guidance, input and feedback on work performed by City resources. The work benefited from our knowledge of industry standards and best practices, and previous experience working on similar consulting engagements.

To a degree the work on this study was influenced by a parallel City initiative in which Fire and EMS are being transformed into an integrated emergency services delivery model that is intended to capitalize on goals in common to both Fire and EMS, and to a sharing of resources.

In respect of their assigned tasks, City resources contributed an assortment of data and assessments-in-progress that are still ongoing. Where it was apparent that City resources required assistance, IBI Group voluntarily assumed some of the work without obligation.

IBI Group was responsible for consolidating the work conducted respectively by City and IBI Group resources into a study report (i.e., this report). While the report is based in part on work performed by City resources and in part on the results of IBI Group's own research, the findings and recommendations represent the opinions of IBI Group in its role as consultant.

Our opinions are based on the information with which we were provided / available to us at the time of writing. It is our understanding that City resources are carrying on with their assessments-in-progress and that from this additional work, they may generate new information and as a result, findings and recommendations that may vary from those contained in this report.

IBI Group acknowledges the Steering Committee for its guidance and direction, and expresses appreciation to City resources for their contributions to the study.

Respectfully,
IBI Group Team

- Marvin Rubinstein, Lead Consultant
- Wayne Gould

Executive Summary

This report, entitled *Comprehensive Fire Services Review*, has been prepared for the Emergency Services department of the City of Greater Sudbury (the Client).

The review was a collaborative initiative involving City resources (principally resources internal to the Fire Services Division) working with IBI Group. The review was conducted under the leadership of a Steering Committee consisting of the Chief of Emergency Services (serving as Chair), Fire Chief, City's Chief Administrative Officer, Chief Financial Officer / Treasurer and City's Director of Human Resources.

IBI Group was responsible for consolidating the work conducted respectively by City and IBI Group resources into a study report (i.e., this report). While the report is based in part on work performed by City resources and in part on the results of IBI Group's own research, the findings and recommendations represent the opinions of IBI Group in its role as consultant.

IBI Group's recommendations (summarized below) are based on the information with which we were provided / available to us at the time of writing. It is our understanding that City resources are carrying on with their assessments-in-progress and that from this additional work, they may generate new information and as a result, findings and recommendations that may vary from those contained in this report.

Study Objectives and Scope

The principal study objectives were to review the operations of the Greater Sudbury Fire Services division (GSFS) relative to the fire services needs of the City, with specific focus on fire station locations, resourcing, placement of apparatus and costs; and to recommend options and solutions for improving the operational effectiveness and cost efficiency of fire services delivery.

The project scope of work as defined by the City's RFP is presented below:

- To investigate the City's Fire Service needs (risks) and trends, including needs specific to essential services e.g., hospital, long term care facilities, Sudbury airport, etc.
- To assess the operational performance of the City's Fire Services, including number and geographic location of stations, and utilization of resources.
- To investigate the costs to operate the City's Fire Services and how the cost compares to fire services costs in other municipalities of similar size.
- To investigate options for containment of the City's Fire Services costs (capital and operating), including the use of User Fees.
- To investigate options for improving the operational effectiveness of the City's Fire Services, including options for rationalizing (consolidating) infrastructure (stations), resources (manpower, fleet and equipment) and operating protocols.
- To investigate whether Fire Area Rating is impacting service delivery, and provide any recommendations for improvement.
- To review the volunteer operations with respect to the examination of alternative volunteer deployment models, alternative volunteer in-the-field oversight models, as well as alternative approaches to volunteer retention and recruitment used by other municipalities.

- In tandem with the Fire Rationalization review, a Fire Capital Replacement program should be developed for replacement of Fire vehicle, apparatus, and systems. A similar initiative for capital improvements/replacement of Emergency Services facilities should be included.

Fire dispatch, which was recently addressed in a separate report commissioned by the City, is excluded from the scope of this review.

Context

The City of Greater Sudbury was formed on January 1, 2001 with an amalgamation of the following former municipalities and neighbouring unorganized townships: City of Sudbury, City of Valley East, and the communities of Capreol, Nickel Centre, Onaping Falls, Rayside-Balfour and Walden.

GSFS evolved concurrently from an amalgamation of the former municipal fire departments. GSFS is a composite fire service consisting of some 470 personnel who, operating out of 24 fire stations, provide various levels of fire suppression, emergency rescue and medical assist response to about 4,000 calls annually.

The former City of Sudbury is served by career (full-time) firefighters. The former Valley East is served by a composite force of career and volunteer firefighters. The rest of Greater Sudbury is served by volunteer firefighters. Fire dispatch is provided by the Greater Sudbury Police Service Communications Division.

The City's Establishing and Regulating Fire By-law (By-law #2012-146) sets out the levels of service approved by City Council. The approved services include: fire prevention and inspection; public safety education; and various levels of fire suppression, emergency rescue and medical assist response.

Firefighters

Inside the City core, GSFS employs about 1 career firefighter per 1,000 population. In the suburban and rural communities outside of the City core GSFS employs about 5 volunteer firefighters per 1,000 population. These ratios are consistent to those of other Ontario-based career, volunteer and composite services. From this one may conclude that for the greater City's population, the number of firefighters currently employed by GSFS is reasonable.

Geographic Coverage

Among peer fire services, the minimum number of firefighters per station is 21 and the average is 27. At GSFS the figure is considerably lower, averaging 19 firefighters per station. These statistics, suggest that GSFS may be operating with more stations than required.

This is affirmed by the following statistics (and extensive discussion in Section 8 of the report) that demonstrate an extensive overlap in geographic coverage: About 95% of all fire incidents (SIR 1-3) occur within 5 kilometres of a fire station. Ninety-eight percent (98%) are within 7.5 kilometres and 99% are within a 10 kilometre radius.

Fire Services Planning Principles

From a Fire services planning perspective, no discussions are as contentious as those which endeavour to define an optimum number of Fire stations and their placement within a municipality. The study participants clearly recognize the sensitivities associated with any recommendations to close, merge or relocate an existing Fire station, or to alter existing Fire suppression services.

Sensitivities notwithstanding, this review includes an assessment of alternative fire station location arrangements and suggestions pertaining to the use of resources and apparatus that is based predominately on the following principles:

- Services should align to Fire risks and service needs.
- One City / decisions should respond to the needs of the entire municipality, allocating available resources based on priorities.
- Decisions should give consideration to both current settlements and anticipated future growth.
- Public safety, financial sustainability and value for money should be fundamental to any decision.
- Fire prevention and public education should be promoted aggressively as the principal lines of fire defense, particularly in areas distant from a station or fire suppression services.
- Operating model for Fire suppression should give consideration to response time / coverage capabilities and the capabilities of firefighter staffing.
- Fire suppression operations should make best use (and utilization) of resources (both career and volunteer).
- Fire suppression operations should not be impeded by artificial barriers and restrictions.
- Operating model should take advantage of automatic aid agreements where reasonable.

Preferred Fire Station Arrangement

The preferred station arrangement arising from this assessment is shown in Exhibit 8.8. The preferred arrangement includes a total of 18 fire stations (down from the existing 24 stations). The proposed station location changes are summarized below:

- New Sudbury station is relocated to the west near Lasalle and Notre Dame
- Lively station is closed and Lively firefighters are merged with Waters station
- Wahnapiatae station is closed and Wahnapiatae firefighters are merged with Red Deer station
- Copper Cliff, Falconbridge, Hanmer and Vermillion stations are closed.

In IBI Group's opinion, the preferred station arrangement will continue to provide Greater Sudbury residents and businesses with reasonable levels of coverage. Coverage projections are: 92% of calls within 5 kms of a fire station (compares to the current 95%), 98% within 7.5 kms and 99% within 10 kms. The projected values at 7.5 kms and 10 kms do not vary from current percentages.

Assuming that most of the displaced volunteer firefighters will continue to serve from neighbouring fire stations, it is estimated that under the preferred station arrangement, GSFS will operate with an average of about 25 firefighters per station. This figure is up from the present 19 firefighters per station, and it is consistent with peer fire services, where as discussed previously, the number averages about 27 firefighters per station.

Operating Costs

For 2013, the cost to operate GSFS is projected to be \$22.3 million. Career firefighter wages and benefits account for 61% of the total expenditure. Payments to volunteer firefighters account for about 5%. Other operating cost components include vehicle and equipment maintenance, fuel, supplies, firefighter training, and the cost of fire prevention and public education programs.

The 2013 cost of \$22.3 million translates to about \$139 per resident, which not only compares well to the cost of fire departments in other Ontario municipalities but also is 5% lower than the median value among 21 peers that we surveyed.

The cost to operate GSFS is increasing at a rate of about 3.4% per annum. Career firefighter wages and benefits account for almost 85% of the annual increase. Should past trends continue, then the annual cost to operate GSFS may increase to \$30 million by 2021 (+35%) and to over \$40 million

by 2031 (+90%). In comparison, the City's population is expected to increase at a much slower pace of +3% by 2021 and +6% by 2031.

The preferred station arrangement arising from this assessment does not recommend a reduction in the number of firefighters. Therefore, a significant change in current or projected future operating costs is not anticipated.

Facilities Capital

The capital implication of relocating the New Sudbury station is estimated to be about \$2 million. The cost of land acquisition would be an additional cost. A capital investment may also be required to renovate and/or expand the Red Deer station to accommodate the Wahnapiatae volunteer firefighters.

IBI Group anticipates that there will be a capital savings of several hundred thousand dollars in facility improvements arising from the closure of the six stations, and that the facility costs identified above could be offset by selling off these facilities and properties.

We acknowledge the absence of specificity in the anticipated facility costs and savings; however, we anticipate that these items will be the subject of greater scrutiny when City staff commence deliberations in respect of the preferred 18 station arrangement.

Fleet & Equipment Capital

GSFS operates with a fleet of about 100 vehicles and several thousand pieces of equipment. Despite GSFS' best efforts, the service operates with some vehicles and equipment that exceed (no longer comply) to industry standards for fleet and equipment useful life.

The life cycle replacement cost of the present fleet and equipment inventory has been estimated by applying generally accepted industry standards for the useful life of fire fleet and equipment. In 2012 the GSFS capital requirement for fleet and equipment replacement amounted to \$4.52 million; however, the service's capital spending envelope was only \$1.02 million. The projected capital replacement requirement for 2013 is \$4.16 million; however, the operating budget for 2013 includes only \$1.21 million for capital spending. These and other annual capital shortfalls are being carried into future years.

We anticipate that if current trends prevail, then the unfunded capital requirement will increase to over \$5 million by 2017, to \$10 million by 2022 and to \$15+ million by 2027.

Under the proposed rationalization to 18 stations (from the current 24 stations) it is anticipated that a minimum of 12 fire vehicles will either be surplus or be relocated deferring other purchases. This will include: a 75' aerial, 1 telesquirt, 5 pumpers, 3 tankers, a bush truck and a van. There also will be a reduction in equipment inventory. In total, IBI Group estimates a potential cost savings in future apparatus replacement (fleet and equipment) of about \$4.5 million (based on replacement costs at current dollars), which is equivalent to a 15% reduction in the existing apparatus inventory.

To close the unfunded capital gap entirely will require an increase in capital spending. In this, our estimates are as follows:

- For the existing 24 stations, capital spending needs to be increased to \$2.2 million a year to eradicate the unfunded capital within 15 years.
- Under the preferred 18 station arrangement, this could be achieved within the same time frame by increasing capital spending to \$1.9 million a year. Further, by increasing capital spending to

\$2.0 million a year the unfunded capital could be eradicated within 10 years, and by increasing capital spending to \$2.3 million a year the unfunded capital could be eradicated within 5 years.

Section 9 of this report offers additional suggestions by which fleet and equipment capital may be better managed. They include replacing end-of-life custom pumpers with commercial units, unless the purchase request is accompanied by a business case that clearly demonstrates the need for a custom vehicle. For relatively low volume fire stations that are situated in non-hydrant areas, GSFS should consider replacing end-of-life pumpers and tankers with more economical combined pumper/tanker units; and in lieu of the existing 11 Bush Trucks, GSFS should give consideration to a fewer number that would be positioned strategically to respond without boundary constraints.

Barriers to Operationally Effective Fire Suppression Services

Best practices pertaining to Fire department operations repeatedly affirm the following as two key principles for effective fire suppression operations: (a) that Fire suppression operations should not be impeded by artificial barriers or restrictions, and (b) that the closest available and appropriate resource should be dispatched to the site of a fire / emergency incident.

Contrary to best practices, fire suppression operations in Greater Sudbury are adversely impeded by two artificial restrictions. One is the collective agreement governing career firefighting operations and the other is the area ratings system that aligns career and volunteer fire suppression services to specific geographic areas. In this regard, it is recommended that:

- The collective agreement should be reviewed and adjusted where possible to eliminate the perception of a restriction and to give greater consideration to the services being provided, and by extension to make more effective use of available career and volunteer firefighter resources in keeping with the principles set out above.
- Area rating boundaries should be adjusted to reflect the greater City's current growth and geographic development; giving particular consideration to areas where sending career firefighters outside of the core would potentially contribute to better services, and concurrently make more effective use of career resources.

One potential scenario is shown in Exhibit 9.2. In this scenario, the core area boundary would be adjusted slightly to align more closely with the service areas of the existing City core stations and the composite area boundary would be enlarged to include the suburban communities of Waters, Lively, Azilda, Garson and Coniston.

Enlarging the composite area boundary would, in our opinion, better reflect existing conditions within these suburban communities that have changed significantly since the 2001 amalgamation, including their respective populations, the relatively large number of incidents that they generate (relative to those of smaller outlying settlements), and their anticipated future residential growths.

Unlike the existing definition for the term composite, the enlarged composite area would not require that additional career firefighters be based at local stations (albeit Val Therese staffing with both volunteer and career firefighters would continue unimpeded). Rather, the term composite area would be redefined to mean a geographic area where volunteer firefighters will be supported actively by career firefighting resources that are stationed in the City core. Further details, including tax implications associated with the suggested boundary realignment, are provided in Section 9.2.

In concert with the above we also recommend that response standards and protocols to various incident types need to be standardized, and adjusted to reflect the principles for effective fire suppression operations set out above. Also, Computer Aided Dispatch (CAD) system recommends should be redesigned to reflect the changes to response standards and protocols, and as the recommends are revised, GSFS should take advantage of the CAD system's ancillary supports to

attain more effective fire suppression operations i.e., focused / single purpose paging, volunteers tracking software, etc.

24-Hour Shift Rotation

In 2012 the City of Greater Sudbury and the Sudbury Professional Firefighters Association (IAFF Local 527) entered into a Letter of Understanding, agreeing to trial a 24-hour work schedule for the Fire Suppression Division. The trial (or pilot) would last two years unless extended by mutual agreement.

For firefighters the 24-hour shift rotation trial has been a benefit resulting in more personal time at home with family and for activities other than firefighting; whereas, as discussed below, for the Fire Services Division, the 24-hour shift rotation trial has been a challenge creating a number of issues that in particular are adversely impacting the Fire Training Section i.e., increased difficulty to recruit Fire Trainers from Fire Suppression, increased challenge to track firefighter training activity, progress and proficiency, etc.

Peer Fire services also report that in their organizations there has been some disconnect between supervisors and firefighters due to less frequent interaction and some issues with respect to station chores.

In IBI Group's opinion, going forward GSFS may wish to give consideration to alternate shift schedules e.g., a 12-hour shift that may align Fire and EMS. This in particular, is something that merits consideration if, as is the case in GSFS, there is a desire to consolidate to an integrated Fire and EMS service.

Also, solutions are needed for keeping firefighters active and productive over a 24-hour shift. GSFS may wish to consider a 24-hour work schedule that assigns estimated times for different programs and routine activities, i.e.: in-service training, fire prevention inspection activities, public education, pre-incident planning, apparatus maintenance, fire station maintenance and break periods.

Fire Prevention and Public Education

Both a 2011 Strategic Review and a more recent review of Volunteer Firefighter Operations (discussed in Section 13 of this report) have recommended that there should be a greater role for suppression staff (career and volunteer) in inspection, prevention and education activities. Also, that internal processes and technological support requirements need to be addressed, with particular emphasis on the acquisition of an RMS system suitable to the needs of Fire Prevention.

Given the myriad of initiatives facing the FPPE Section, it is our opinion that greater emphasis should be placed on the role that suppression personnel play in alleviating some of the Section's workload in addition to promoting prevention and public fire safety education throughout the community. Having said this, one needs to be mindful of the ancillary requirements for training, resources and time.

It is recommended that the Chief Fire Prevention Officer should assess and report on the role of staff (career and volunteer) relevant to the department's FPPE requirements in terms of time allocation, program effectiveness, pre-incident planning and training.

Fire Training

The staffing needs of the Training Section need to be addressed as a priority initiative, to ensure the ongoing responsibilities of the Section and that firefighters (career and volunteer) are receiving the requisite orientation, training and skills enhancement support, to ensure a safe and successful Fire response to emergency incidents.

In conjunction with the above there needs to be a strategy for addressing the ancillary needs of any new Training Officer hires i.e., scheduling, workspace, resources, technology and vehicle needs.

The Training Section should consider implementing a documented quality management program by which to ensure that the training curriculum is appropriate to the needs of the service as defined by the Chief Training Officer in consultation with senior fire management, and to track firefighter training activity progress and proficiency.

Volunteer / Career Cultural Issues

During the course of the review we consulted with numerous volunteer firefighters, almost all of whom commented on tension and dissension that presently exists within the GSFS organization.

The discord, we are advised, stems from a number of perceived, and in some cases, real conflicts between career and volunteer firefighters, e.g.: The greater City not being served by one fire department, but rather by two departments of which, one is staffed with career firefighters and the other with volunteers. Career firefighters being given preference. Volunteer firefighters being treated as second class citizens / not receiving the respect that is due.

In our opinion, it does no good to debate the existence of such issues, what is important to note is that, to many volunteer fire fighters, these issues matter, as evidenced by the fact that the volunteers opted to organize in February of 2013. Moreover, these issues need to be addressed if the City is to continue to rely on a volunteer firefighter force for rural fire fighting services.

This point is all the more important in light of the current direction toward the integration of fire and emergency medical services.

Our research of other amalgamated fire departments shows that many have successfully addressed such issues by promoting a "One Fire Department" approach, joint career / volunteer activities, and pro-active recognition and reward of achievements.

We recommend that GSFS should develop a strategic statement supporting a "One Fire Department" approach, including mission, vision and values that extend to both volunteer and career firefighter resources. It is further recommended that in conjunction with the City's Human Resources Department, GSFS should explore alternate means by which this may be implemented.