# Attachment 1

## Emergency Services Consulting International (ESCI) Final Report – Comprehensive Joint Fire Services Review

"Innovation and Modernization of the Fire Services for the Town of Georgina and the Town of East Gwillimbury"

Report No. GFRS-2023-0001
February 15, 2023
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# Innovation and Modernization
# of the Fire Services
for
# the Town of Georgina
and
# the Town of East Gwillimbury
Ontario, Canada

**January 27, 2023**

**Emergency Services Consulting International**
*Providing Expertise and Guidance that Enhances Community Safety*

# Acknowledgements

Emergency Services Consulting International (ESCI) would like to acknowledge the input and support of East Gwillimbury and Georgina's Mayors and Councils, their senior and administrative staff and the personnel of the East Gwillimbury and Georgina Fire Services.

## Project Team

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ESCI would like to recognize other individuals from agencies external to the two towns whose insights were also valuable in our gathering a complete picture of the two organizations; we appreciate their input.

# Executive Summary

Fire departments across North America are being challenged to rethink how they approach the services they provide to their communities. Both the Canadian Association of Fire Chiefs (CAFC) and the International Association of Fire Chiefs (IAFC) have identified that cultural, behavioral, and environmental changes over the past few decades have created opportunities for the industry to review, if not rethink, what services they provide to the community and what it takes in resources and finances to provide those services. (Reports from both organizations on these issues are appended to this report.)

In addition, motivations of greater efficiency and cost savings at all levels of government are also catalysts for sometimes difficult evaluations of how government provides services. Lastly, potential demographic growth in both communities, more so in East Gwillimbury, means changes are coming. So how should local fire departments put all of this together in a credible, deliberate manner that provides long-term reliable value to their communities with a modernized fire department?

The Towns of Georgina and East Gwillimbury have acknowledged these issues and have chosen to update their Fire Master Plans as well as examine the opportunities for moving their fire departments into the future. In this report, the fire departments of both towns are considering three possible directions of moving forward:

1) Maintain their individual identities as standalone organizations
2) Maintain their individual identities as standalone organizations and share some services
3) Pursue a consolidation that creates a single fire department organization serving both communities.

Pros, cons, impacts, and expectations of each of the options are comprehensively outlined in the following report along with a simplified pros/cons table at the end of the report breaking down various organizational areas of responsibility that include governance, management, administration and planning, capital assets, finances, operations, education and fire prevention, training, human resources, and corporate shared services.

From a practical evaluation perspective, the report fundamentally uses the primary decision point to be the question of the respective fire departments maintaining their individual identities versus a consolidation of the two organizations. Each of the studied areas were evaluated for both positive and negative impacts of each of the options and compared against the added value that would be received via a consolidated organization.

The main advantage to the first option of each department maintaining its own identity can be summarized in that each department can retain its own values, culture, and community accountability. The fire department retains the character desired by the local community. The main weakness is that the benefits of a larger organization are not as available. In the second option, all of benefits of the first options are retained with the understanding that there could be some financial and efficiency gains through the sharing of services between the two towns. The main weakness is that shared control must be coordinated between the two communities.

In the third option, the primary benefits to a consolidation would be potential economies of scale, efficiency improvements in the service delivery models and functional depth being

increased which could help with future cost avoidance. The main weakness is that loss of local identity and a coordinated shared control that exceeds what would be required in option two.

When ESCI performs studies on departments considering some form of consolidated service delivery, there is hope that a thorough analysis will arrive at a conclusion that would make elected official decision-making fairly straightforward. The analyses would either conclude that it is obvious to consolidate as the value gained would greatly exceed whatever losses would be incurred, or it is obvious to not consolidate, that is, the expected value gain would not exceed perceived losses. There are then those situations where the gains or losses do not significantly outweigh each other. In ESCI's opinion, this is where Georgina and East Gwillimbury find themselves.

During the study, ESCI noted differences between the towns such that it was not clear that the benefits of a consolidated organization would not outweigh what would be perceived as losses. Complicating the decision-making factors that are measurable, such as data, need to be weighed against factors that are not measurable, such as culture change. Differences, such as service prioritization, organizational approaches, and local preferences, while often present in organizations wishing to consolidate, need to be reconciled. These are factors that ESCI noticed between the organizations and would require greater consideration for consolidation. ESCI did not identify significant value increases in response or financial metrics that could not be reasonably achieved through each department maintaining its own identity and pursuing shared services. In summary, while some benefits could be gained from a consolidation, they may not be significant enough in comparison to the challenges and losses that would be experienced.

ESCI does feel that both towns retaining their individuality and sharing services (option 2) is the option that allows for a retention of both town's pasts, cultures, and current philosophies while opening the door to greater interaction between the two departments. When the two organizations are successful in expanding services, they can return to review the benefits of consolidation at a future time.

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# Introduction

## Background

In spring of 2022, the Town of Georgina ("Georgina") and the Town of East Gwillimbury ("East Gwillimbury") contracted with ESCI to update and develop a report that would provide direction towards the modernization of both communities' emergency services. The work included updates to each community's existing Fire Master Plans (FMPs) as well as exploring innovative ideas as to the modernization of the service. Of particular interest was the assessment of opportunities available for modernization of the two standalone departments, as well as the potential consolidation or amalgamation of the two communities' fire and emergency services.

With some provincial guidance encouraging modernization in general within the municipal sector, the two communities were interested in the feasibility, benefits, and processes for future opportunities.

The final deliverables of this project include:

1) Fire Master Plan Updates with modernization component recommendations for each community
2) A dedicated report on Innovation and Modernization of the Fire Service to target three elements:
   a. The modernization of the individual fire and emergency services departments
   b. A model of the individual and modernized fire and emergency services departments remaining as is while sharing services between them, and
   c. A consolidation or amalgamation of both departments based on a single composite fire and emergency services department between the two communities

Data collection was undertaken by both departments (e.g. asset information, financial data, internal/external agreements, etc.).

In total, more than 50 virtual and in-person interviews and group discussions were arranged for the project consultants to seek input from a wide range of stakeholders:

- 14 members of both Town Mayors and Councils
- 12 senior staff members
- 13 Fire Department management members
- Full-time and  paid-on-call/volunteer focus group discussions (four meetings)
- Association representatives
- 9 external agencies

In addition, public information meetings were held for each community (June 28 in East Gwillimbury and June 29 in Georgina). The sessions were livestreamed and the recordings have been posted on the Town's website.

For the purposes of seeking further public input in a convenient manner, an online survey was prepared and released in advance of the public information meetings. The survey remained open until the end of July and resulted in 100 responses for East Gwillimbury and 137 responses for Georgina being collected.

In late June, representatives from ESCI were present for a three-day site visit. This in-person engagement was intended to provide the consultants with an opportunity for site tours to assess first-hand the fire stations, equipment, technology and local geography.

This allowed the consultants to gauge the overall operations of each department.

# Project Approach

The project's main objectives were providing direction to both fire and emergency services departments going forward. The York Region Official Plan had recently identified East Gwillimbury's growth potential from its existing population of approximately 37,000 to approximately 125,000 by 2051. Georgina's population (49,000), which is currently larger than East Gwillimbury's, is also scheduled to grow to 70,300 by the same time. The combined population is expected to be near 200,000 by 2051. Given the growth projections for both municipalities, it's critical that fire and emergency services develops a plan to coincide with this growth.

Below are projected population numbers:

**Figure 1: Projected Georgina Population/Employment Growth[1]**

| | POPULATION | Net Change (2021) | EMPLOYMENT | Net Change (2021) |
|---|---|---|---|---|
| ■ 2021 | 49,278 | | 9,900 | |
| ■ 2026 | 52,900 | 3,622 | 11,500 | 1,600 |
| ■ 2031 | 56,400 | 7,122 | 13,100 | 3,200 |
| ■ 2036 | 60,700 | 11,422 | 15,100 | 5,200 |
| ■ 2041 | 65,000 | 15,722 | 17,100 | 7,200 |
| ■ 2046 | 67,750 | 18,472 | 18,900 | 9,000 |
| ■ 2051 | 70,300 | 21,022 | 20,700 | 10,800 |

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[1] 2022 York Region Official Plan, https://www.york.ca/york-region/regional-official-plan

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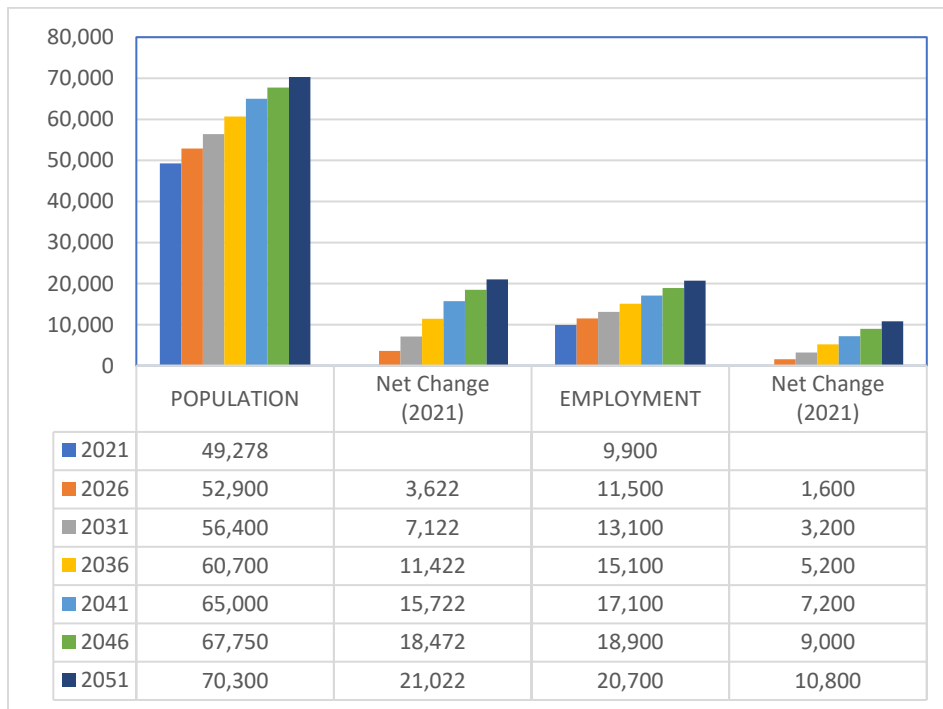
**Figure 2: Projected East Gwillimbury Population/Employment Growth[2]**



| | POPULATION* | Net Change (2021) | EMPLOYMENT** | Net Change (2021) |
|---|---|---|---|---|
| 2021 | 34,637 | | 13,000 | |
| 2026 | 50,100 | 15,463 | 20,732 | 7,732 |
| 2031 | 63,600 | 28,963 | 27,482 | 14,482 |
| 2036 | 81,900 | 47,263 | 36,632 | 23,632 |
| 2041 | 104,700 | 70,063 | 48,032 | 35,032 |
| 2046 | 114,850 | 80,213 | 53,107 | 40,107 |
| 2051 | 125,000 | 90,363 | 58,182 | 45,182 |
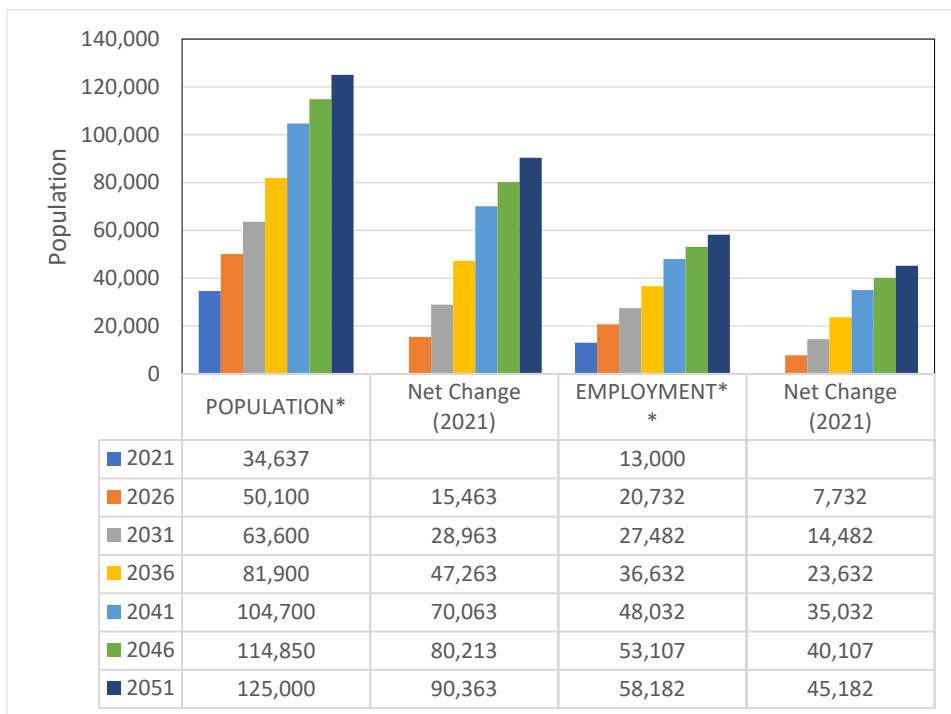
The chart below represents a comparison between population projections in Georgina and East Gwillimbury based on York Region Official Plan data. The graph indicates that the population of both municipalities could potentially equalize just after 2031.

**Figure 3: Combined Population Projections**



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[2] 2022 York Region Official Plan, https://www.york.ca/york-region/regional-official-plan

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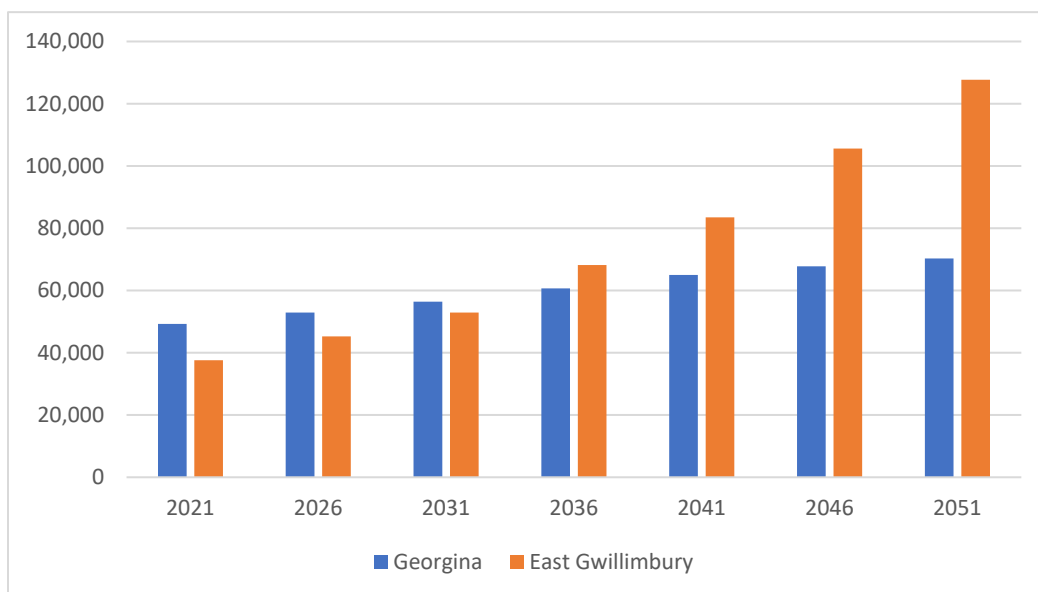
While it is often thought that modernization is largely technological or something that is measurable, it can also be something that is intangible and reflects a modernized philosophy of service. There is no question that the number of fires across the country have steadily declined over the past several decades. This is due to increased fire and life safety awareness and new detection and suppression technologies. However, based on the 2017-2021 statistics provided by the Office of the Fire Marshal, Georgina and East Gwillimbury have not seen the same trend.

Georgina and East Gwillimbury fire and emergency services departments have established three possible directions and these three options have been established as objectives to be evaluated. They are:

- remaining as two separate modernized standalone departments;
- remaining as two separate modernized standalone departments with shared services; or
- consolidate into one composite department.

Broadly speaking, the report uses the first possible direction to outline the 21st century approach to fire service modernization as well as the specific applications of these concepts in each department's master plans.

## Option 1: Modernized Standalone Departments

In the modernized standalone emergency services department, each department retains its identity as a division of the town's local government overseen by that town's elected officials. The modernization of the emergency services department includes the incorporation of not only modern technology and practices but the incorporation of organizational concepts that reflect the current culture and latest practices of excellence.

## Option 2: Modernized Standalone Departments with Shared Services

This option incorporates all the elements of the first option but includes the possibility that sharing some services between the organizations could provide some efficiencies and/or cost savings.

## Option 3: Consolidated (Amalgamated) Composite Department

In a consolidated composite department, both organizations combine into a single organization overseen by a joint oversight governing body comprised of representatives from both communities. In this option, both organizations combine and functionally become an independent organization responsible to a single fire chief that is accountable to the joint governing body and each town's elected officials providing formal oversight. Funding support for this new composite department comes from a cost allocation formula agreed upon by both towns.

## Assumptions

The Georgina and East Gwillimbury project team provided assumptions that were to be used in ESCI's analysis of the options however, the assumptions were intended to be a guide and not necessarily restrict innovative approaches. Those assumptions were:

- One consolidated composite department would utilize "one employer"
- Fire stations would remain the property of each respective municipality
- The tangible capital assets would be inventoried at the onset and then pooled
- The composite department model would be maintained under a consolidated department analysis
- There would be no job loss for full-time staff, paid-on-call staff or volunteers
- The analysis of a consolidated composite department will have a functional program focus on the three lines of defence (education, enforcement, response)
- Consideration will be given to potential alternate sharing arrangements for localized specialized services
- Other assumptions, as identified by the project team, stakeholders and consultants throughout the project

## Challenges

The modernization of emergency services departments is often confined to the evaluation of operations, technologies, and equipment as these tend to be the most tangible and visible. Consequently, they are the easiest attributes to grasp. The fire service has long histories and traditions that are often desired to be preserved as they are one of the few unchanged elements of a community that create links to the cherished past. Consequently, departments often find that operational changes and technology upgrades that are valuable from a service delivery perspective, can be implemented or incorporated while leaving the less tangible organizational culture and its history intact. This long history and traditions should be embraced, but not prevent the organizations from moving forward.

The challenge for the modern fire service is adapting to an expanded mission that will still include its original purpose but due to cultural change and successful fire protection efforts include new purposes, ways of conducting business, and organizational cultures while still being prepared for a fire risk that will never be completely eliminated. The Towns of Georgina and East Gwillimbury are progressive in evaluating options that accomplish this.

Modernization does not include just new tactics, technologies, and equipment but entails organizational adaptation, atypical service delivery models, and making sure adequately trained resources have what is needed to move forward.

## Methodology

ESCI's approach to the project was broken down into several steps that began with understanding the existing organizations, soliciting stakeholder input about the general future of the emergency services departments, updating existing master plans, looking at possible options to move forward and then providing a path to consider for moving forward. To begin understanding the existing organizations, ESCI requested numerous organizational documents that included policies, business and operational practices, finances, community demographics, resource inventories, and compliance requirements. In addition, response, financial, and geographic data were also requested. Through the diligent work of staff from both departments all of this documentation, information, and data requests were uploaded to a webserver that the entire project team was able to access in record time.

As a part of the project initiation, ESCI began constructing community survey interviews and scheduling over fifty stakeholder and stakeholder group interview sessions. Community interaction began with evening online presentations to community members and was followed up with online surveys that were open for approximately six weeks. In late June, a team of three ESCI consultants, including one from western Canada, visited both towns for one and a half days of meetings, in-person interviews, and visits to the fire halls.

Once this initial assessment and information uploads were complete, ESCI's next step was to update each community's Fire Master Plans (FMP) last completed in 2016 and 2017. The new FMPs were to include updated figures and updates to recommendations that were part of the prior plan. In addition, ESCI added "modernization" elements to applicable sections that provided suggestions and recommendations on how the emergency services departments could modernize themselves.

Lastly, the project analysis was to also provide information and suggestions on a modern concept of improving service and efficiencies by combining both communities' fire and emergency services departments into a single larger organization.

## Three Lines of Defense

Rather than a single focus on fire suppression activities, a foundational element of this study is the Office of the Fire Marshal and Emergency Management (OFMEM), three lines of defense in relation to servicing the community. As communities grow, OFMEM advocates incorporation of all three lines of defense in order to keep communities safe. The three lines of defense include:

**Public education** is the key to mitigating the fire and life hazards before they start. In addition, changing the community's attitudes and behaviors as it relates to fire safety. This line of defense help Ontarians understand that working smoke alarms save lives.
Examples**:** workshops, open houses and demonstrations, school presentations to children, persistent reminders through signage and local news media, etc.

**Inspections and enforcement** is a requirement to ensure that community is in compliance with the Ontario Fire Code. The code requirements are there to protect community and firefighters from the impact of fire.
Examples: scheduled inspection of identified occupancies, smoke/carbon monoxide alarm programs, new construction inspections, etc.

**Emergency response** is there to address all hazards in the community, not just fire. The fire department should be prepared to respond in an efficient and effective manner to mitigate the emergencies.
Examples: fire response, medical calls, motor vehicle collisions, specialized rescue, confined space rescue, etc.

# Re-imagination of The Modern Fire Service Organization

The contemporary fire service's rate of change and associated impacts are exponentially growing. What took the industry years to achieve can now be done in months. The changes experienced over the last fifty years will be achieved in a fraction of that time. Change is occurring at a much faster rate than ever before. The leaders of a modern fire service must be proactive and work in an organizational environment ahead of this rapid growth.

To move the industry, leaders must consider the fire service tradition and the modern community firefighters serve. The success and sustainability of modern organizations hinge on the ability to be proactive and future-thinking while mitigating the challenges at the forefront. This creates an opportunity to achieve a primary objective: to create a community perspective that the fire service provides both traditional and non-traditional services in a community-centered way. By executing this objective, fire service organizations can begin breaking down barriers, defeating threats to sustainability, and filling community gaps with measurable and recognizable community outcomes.

Leading organizations both proactively and reactively is not a simple task. It will be essential to address emergency services and response updates while also considering the practices of reducing community risk, establishing a change-minded culture, developing intentional internal and external partnerships, increasing data analysis practices, and implementing new applications of technology. Leaders will need to think differently about how organizations define firefighters, their roles, and their purpose in communities. When departments begin to align cultural changes with a balanced community risk mitigation and emergency response, reimagined modern fire services are born.

## Recognition of Industry Evolution

Fifty years ago, defining the fire service was straightforward. The industry was built upon the foundation of activities reactive to the community environment. The industry's participants, mainly firefighters and the citizens they served, were aligned on service-delivery priorities and the needs for the department. When the community called for help, the firefighters responded quickly and mitigated the hazard, primarily fire.

Over the last fifty years, however, the fire service experienced changes. Those changes included the introduction of 9-1-1, improvements in personal protective equipment, firefighters riding inside moving apparatus rather than outside, lack of or reduction in provincial and federal funding organizational structure, different service delivery models and due to aggressive fire safety awareness efforts, a reduction in the number of actual fires. The old fire service adage, "one-hundred years of tradition unimpeded by progress," cannot be farther from the truth anymore. Out of survival, the industry is recognizing the growth and change occurring in the communities they serve and has adopted a culture where tradition and progress now go hand in hand.

The future of the fire services is in the hands of today's leadership generation. The 2022 and beyond leadership generations will likely manage more change than many of the past generations combined. To prepare the organizations for tomorrow, the leaders must address not only the issues presented today but also the issues of tomorrow. They are at a critical intersection for which they must choose to accept a more traditional approach to service delivery or begin thinking differently.

## Thinking Differently

As Peter Drucker once said, "The best way to predict the future is to create it." To reimagine the modern fire service organization, we must begin creating it today by thinking differently. Creating sustainability in fire departments requires planning and execution so that future generations of firefighters are not threatened by today's change. However, fire chiefs do not have a crystal ball to provide unwavering insight.

First, thinking differently revolves around matching broader community needs with appropriate and effective resources, not just fire safety. Department and community leaders who think differently will create a sustainable fire service that not only responds to fire emergencies but leverages the fire service brand to view the whole community as an opportunity for prioritizing services.

Second, thinking differently means the fire service can embark on a re-identification to improve deployment. Re-identification does not require breaking away from traditional values and branding. It means rethinking the fire department's mission, purpose, and position. As an example, in 2021, Mesa Fire & Medical Department in Mesa, Arizona, changed its name. The department included "Medical" to account for more than 75% of responses to EMS call types. Additionally, their mission began to creep toward training children on CPR, improving outreach around safe driving and installing safety devices for elderly community members.

Third, to think differently, leaders first need to address the perception of the fire department's value and redefine the firefighter. Fire departments across Canada and the United States are threatened by decreased value perception, lack of provincial or federal funding, and recruitment difficulties, just to name a few. Using elements of community risk reduction programs, fire and emergency services departments can conduct activities that provide community value and recognizable outcomes. Putting redefined firefighters in the forefront of positive change institutionalizes a community's reliance on their community fire service. When communities begin to recognize the added value firefighters provide in addition to emergency response, they create sustainability for the industry.

Fourth, when departments begin identifying community needs and prioritizing resource deployments, challenges arise. These instances are excellent opportunities to explore alternative service-delivery models. When departments and communities collaborate, strategic partnership possibilities become visible. Modern fire service organizations will experience challenges to the full benefits of effectively and efficiently meeting community needs without fostering and leveraging partnerships. These partnerships improve outcomes, decrease duplication of efforts, improve efficiency, and decrease the workload of the fire department staff.

## Firefighter Identity

Redefining the firefighter is an essential aspect of creating the future. The demands on today's fire department employees are in stark contrast with the past. The physical, social, technological, and emotional environments are so much different today. Firefighters are no longer primarily fighting fires. Today, firefighters provide social services in conjunction with emergent and non-emergent services. The greatest characteristic of the fire department employee is no longer to be the strongest and bravest man in the community.

The primary requirement of today's firefighters is empathy for their fellow humans. A modern fire service organization will support this environment through updates to facilities, hiring practices, recruitment, and retention efforts needed to align with the reimagined firefighter. People of differing backgrounds, cultures, and professions remain engaged with an organization's mission when they feel included in collective progress.

From emergency medical incidents to aiding a family's rehousing after a fire, social service is a top priority for community needs. When departments work to hire a diverse and inclusive workforce, they experience success in achieving the mission. Community members in need seek out assistance from people with similar backgrounds and communication methods. Gaining community support and future sustainability means redefining the firefighter and placing increased value on soft skills such as compassion, patience, and understanding.

## Culture Strategy

To be successful, however, leaders will need to intentionally address the behaviors of the organization. Creating a change-culture is vital to the organization's future. Chief Alan Brunacini once said that firefighters hate two things: change and the way things are. Labor associations, elected officials, department leaders, and the general staff must be aligned on the direction and reason for organizational change. Implementing the reimagination of the modern fire service organization principles will require strong leaders and coordination of change agents at all levels.

Deploying change requires people, and people are the future of the reimagined fire service. Because of today's stresses on diminished value perception, funding uncertainty, and recruitment difficulties, the fire department staff is stressed. The daily exposure to stressors in both administrative and operational environments is now directly tied to increased rates of cancer, behavioral health issues, and other medical challenges. The health and wellness of the workforce is a key component of sustainability.

Today's leaders must address physical and emotional health. From the processes and procedures around firefighting equipment cleaning and transportation to stress-debriefing activities, physical fitness, and routine counseling services, the modern fire service will have to think differently. Additionally, creating a culture of change will also require a cross-organizational culture of open-mindedness, acceptance, and discussions on topics not generally spoken openly about in fire halls.

## Technology/Data

Lastly, many of the topics discussed above revolve around change, workload, efficiency, and sustainability. Leveraging technology and data in the reimagined fire service lays this foundation. Using technology and data goes far beyond incident reporting. The topic addresses mobile data sharing, field data collection, community data input, data analytics beyond response performance, and data-driven decision-making. Technology, if planned and deployed appropriately, can reduce operational and administrative workload significantly. Using data analysis in non-traditional ways can provide early indicators for employee stress and burnout. The reimagined modern fire service will use technology and data throughout the organization in meaningful and practical ways.

## Community Risk Reduction

Modern fire service organizations can articulate how to think differently and adopt a broader view of the fire service through community risk reduction. Community risk reduction (CRR) is not code enforcement and public education. Instead, it is a whole-organization approach to providing programs and services to best meet community needs. Embracing this broader view and applying the models of CRR, elements such as fire suppression, medical response, technical rescue, recruitment, incident command, and functional fitness all exhibit ties to improved community outcomes.

The real success of a modernized and innovative organization is rooted in data-driven risk assessments. Incremental risk assessments, starting small and growing over time, will provide valuable insight into the community's needs. The risk assessment can guide organizational and community priorities, resource deployment, training academy curriculums, social media, incident command strategies, functional fitness, human resource practice, and policy. A good risk assessment starts small to answer specific questions and then naturally grows over time.

The fire service industry is also beginning to measure everything. From the time staff members spend watching an online training video to the time it takes crews to dress out and roll an apparatus. Slow turnout times and skipped training may have measurable impacts on community outcomes. Thus, departments are entirely on board with the adage, "what is not measured cannot be improved." However, can leaders genuinely articulate why departments use many benchmarks and performance analytics? Can they paint an accurate picture of community opportunities and challenges by visualizing these benchmarks across a timeline?

To transition toward thinking differently, leaders should first consider a simple timeline. In the fire service, many of the timelines start with incident response and include downstream times like "dispatch," "enroute," and "on scene." In most cases, the departments' data stories end with marking a unit back "in-service." There are items, however, on the timeline that contribute to the pre-incident dispatch, which include incident "discovery," "notification," and "hazards and risks." Additionally, after units return to service, there is time for which the staff and community participate in the recovery process.

Department leaders and front-line staff understand that prolonged response times negatively impact the community. For example, a seventeen-minute initial response to a cardiac arrest would likely influence the patient's outcome. Additionally, a delay in incident discovery or a lapse between arriving on the scene and finding the actual emergency will also affect the outcome. The number of scenarios that influence outcomes is overwhelming.

## Incident and Recovery

To simplify the thought process and gain a broader view using community risk reduction, modern fire service leaders should think about our communities using only two primary benchmarks. The first is "incident," and the implications are straightforward. If organizations and community partners institute strategies to mitigate the hazards and risks before an incident occurs, that is called prevention. But unfortunately, loss of control, bad decisions, simple fate, and general human nature will always be excellent incident-generators. No matter how strong the prevention activities are, communities will always require an appropriately sized and reliable emergency response system.

When an emergency happens, the next key benchmark is "recovery." The list of opportunities and influences for the department and community to successfully move across our timeline and achieve recovery are many. Considering a typical emergent response, an efficient response and move towards recovery is composed of a quick turnout time, a knowledgeable driver/operator, good crew management, and reliable training. In the same example, a delay caused by, a driver unfamiliar with the town park's primary access points, poor training, missing equipment, and no follow-up will push "recovery" far down the timeline.

Thinking differently and using these two benchmarks, the goal here has a two-fold approach. Either modern fire service leaders prevent an incident's occurrence or move "recovery" as close to "incident" as possible. In these terms, leaders can look at cardiac arrests, structure fires, pedestrian accidents, falls, and even chronic conditions in a different light. This approach also shows how training and credentials play a unique role, how strategic partners influence the timeline, and how risk reduction in the community is broader than just code enforcement. Additionally, thinking in this manner conveys how incident command, station design, firefighter fitness, and even code enforcement can impact recovery. From the timeline perspective, shrinking or swelling between the incremental benchmarks will push or pull "recovery" to or from the "incident".

The figure below (full page in graphic in Appendix) visualizes many of the elements that may influence incident generation or shrink or swell the timeline.

To consider the factors that influence the road to recovery, leaders can start with some of the elements outside of our control. For example, the time of day and day of the week played a crucial role in discovery and notification. Additionally, the social factors, including population density, human behavior, and bystander assistance, pulled recovery closer to the incident.

An analysis can occur with any incident response and will expose opportunities and influences of community risk mitigation. Furthermore, leaders can visualize more of the elements contributing to community risk reduction along the timeline. A good risk-based code enforcement program may prevent incidents by mitigating hazards and risks, but it also shrinks the timeline between the incident, discovery, and notification. Concurrently, tying post-incident fire investigations into firefighter training, public engagement, and code enforcement provides impacts across the spectrum.

## The Composite Organization

Innovative and modernized fire service organizations think differently to establish organizational priorities. They visualize the impacts of their activities and response performance to best meet the needs of the community. These fire service organizations use robust risk assessments to identify community needs and prioritize service and program delivery. Focusing on preventing incidents through public education and enforcement is only half the battle. Thinking differently and analyzing the response to identifying strategies to impact recovery is the other equally important half.

Emergency response, however, doesn't particularly mean large fire trucks with lights and sirens. Moreso, from a higher vantage point, a response doesn't need to always be emergent to be considered a response. Fire prevention and public education deal with severe hoarding issues, unsafe structures due to fire code issues, illegal grows, etc. Taking into account the guidance of a community risk assessment, a response can look very differently from community to community, and those filling the response position may not even be fire service personnel.

When modern fire departments develop organization and community priorities using risk assessments, forward-thinkers see the opportunity in alternative service and program models. Paid-on-call personnel can provide not only just-in-time service delivery but also services that meet specific community needs. However, the challenge is many paid-on-call personnel are not available for non-emergent needs, and an innovative fire service organization must look outside the box.

## Partnerships

Community partnerships are a vital element of innovative fire service organizations. With limited staffing and resources, community partnerships provide an opportunity to decrease workload, increase efficiency, and avoid service duplication. Creative partnerships come in many forms and can provide a wide range of opportunities. For a moment, think about the reach that food delivery services could offer and, even more importantly, food delivery services that cater to the elderly or at-risk populations.

From a response diversion standpoint, integrating community service organizations and provincial resources into the emergency response framework can have significant impacts on a modern fire service organization. Through technology and policy updates within the emergency communications center, 9-1-1 systems can triage and prioritize emergencies and divert low-priority or non-emergent requests for services.

Using the 9-1-1 system's primary resources for routine needs mismatches resources to needs. Partnering with nonprofit or provincial organizations to begin mitigating frequent 9-1-1 system utilizers can increase the reliability of emergency response. Using data and technology can improve effectiveness and efficiency. Data analysis can provide historical patterns and predict future activity. Embracing mobile technology and simple automation can quickly match resources to community needs.

As an example, fire and paramedic services are called to an unknown problem at a residential address that is familiar to the crews. Upon arrival, and to no surprise, the elderly woman is not experiencing an emergent need. With the permission of the occupant and using that apparatus' mobile tablet, the company officer fills out a simple form outlining the situation and non-medical

needs. Upon submission, the local church's outreach representative, a nonprofit pharmacist group, and the local adult protective services organization are notified. A local fire service representative provides coordination and collaboration, the church provides a routine companion service, pharmacy volunteers make a recommendation around prescription needs, and social service begins oversight.

Matching community response and partnership is a vital part of the modern and innovative fire service organization. Viewing the whole community through the lens of risk-based service delivery, fire service leaders see the opportunities in partnering with organizations more suited to match the needs of individuals understanding that incident prevention and recovery-focused community response generate the greatest opportunities for improved outcomes. Modern, innovative fire service organizations understand the department's and community's priorities and best matches them to program and service delivery.

## Adaptation of Workforce

The National Fire Protection Association (NFPA) publishes the standard that defines the knowledge and skills required to be a firefighter. NFPA 1001, *Firefighter Professional Qualifications*, is a standard used throughout Canada to guide recruitment, selection, and training. New firefighter candidates complete training hours and tasks through structured learning that consistently aligns the NFPA 1001. This standard is the foundation of being a firefighter.

Many times a year, ESCI conducts studies that solicit community feedback to develop strategic and master plans for public safety organizations. In that process, ESCI queries the community's expectations and service delivery priorities. Generally, most communities expect fast service, well-trained staff, and priorities focusing on fire suppression and ambulance transport. The community defines firefighters in the traditional sense and in alignment with NFPA 1001.

Furthermore, every child holds virtually the same definition as NFPA, just without the technical jargon. Throughout society, parents and teachers define firefighters as larger than life, brave, and always available for fire emergencies. Many children's books illustrate the same definition and generally include hose lines, pictures of equipment, and other components to drive a child's imagination. Therefore, the general public across both Canada and the U.S. are generally aligned in their perception of how fire departments define firefighters.

In a modern, innovative fire service organization, the leaders think differently and embrace the change while maintaining alignment with appropriate traditions. From recruitment to filling positions to retaining staff to serve the community, it is important to look at staffing in a differently light.

## Recruitment

From the whole-organization perspective in the modern fire service, not all firefighters need to extinguish fires, perform emergency medical care, or operate in hazardous environments. Some firefighters are best suited for school-aged education, public engagement, code enforcement, and non-emergent incident response. The use of volunteer, paid-on-call, and part-time staff for emergency operations is well known but capturing the degree of this involvement in public engagement, education, and non-emergency interaction is much less tracked.

Across Canada and the U.S., fire departments struggle to recruit individuals to fill vacant firefighter positions, both career and volunteer. Fire departments are responding partially by discussing the role and definitions of firefighters and its impact on the practice of recruitment. Recruiting both traditional and non-traditional firefighters from the communities is important. Fire department members have more of a connection with the community when they serve familiar neighborhoods. During emergent and non-emergent activities, community members are more receptive to services and react more positively when familiar people are assisting. Furthermore, hiring members from the local community, while expanding diversity, also achieves more buy-in from the public. In one American state, leaders are discussing publicizing what firefighters actually do in the community beyond operations and recruiting both firefighters and the public to fill roles traditionally filled by non-operational staff.

Recruiting paid-on-call, part-time, and full-time staff to work within the non-emergency environment stabilizes workloads and increases progress toward measurable community outcomes. Trained educators from the local school systems, retired healthcare workers, social service professionals, and more can fill voids as modern "firefighters" and take part in the brand while increasing community capital.

## Training

When innovative, modern organizations recruit from the community for modern firefighters, the next opportunity is to modernize the organization's approach to member training. Just as recruiting from the local community achieves buy-in and positive outcomes, training personnel specifically on the community's risk is equally as important. While a modern and innovative fire service organization uses a comprehensive risk assessment to drive program and service delivery, that program and service delivery is only as good as the training deployed.

As an extreme example, the Georgina and East Gwillimbury fire departments do not train and deploy resources to Lake Simcoe to mitigate rip currents as Florida departments do. Alternatively, Florida fire departments do not train for ice rescue and extreme hypothermia, as seen in Georgina and East Gwillimbury. These two contrasting communities do not need a comprehensive risk assessment to make these decisions however, there are many other elements that create contrast between communities that risk assessments expose.

With a comprehensive risk assessment, the department can better understand how people live, communicate, and travel. Risk assessments can outline the prevalence of certain medical problems, the instances of poverty and government assistance, and identity uniqueness between neighborhoods. Not only does the risk assessment drive the services, but it also drives member training.

Training academies and routine staff education should create a competency foundation based on industry standards, and risk assessment should fill in all the remaining gaps. From language training to guidance on navigating community health care challenges, training firefighters based on a risk assessment is highly recommended. Just as Florida and the Georgina/East Gwillimbury communities' water rescue resources are fundamentally different, so are the outputs of the community risk assessments and thus training requirements.

Once a modern and innovative fire department redefines the firefighter's role and finds firefighters with community connections and training through community-specific guidance, the community becomes a better place. The fire department personnel are working toward goals that they buy into and with a community that trusts them. The training and education the modern department provides incorporate data and perspectives to effectively achieve the best possible outcomes from and for the people we serve.

## Community and Social Services Deployment

The modern fire service organization recognizes the changes in service delivery demands that have occurred over the past fifty years. When the fire department was first imagined, the profession's primary mission centered around fire suppression activities. Over the last fifty years, however, a shift in service demands and priorities have occurred pushing to a realignment effort with the community.

In progressive fire departments, leaders recognize the expansion from the traditional mission but continue to utilize the fire department brand to produce community outcomes. As an example, during the COVID-19 pandemic, fire departments across North America took part in community vaccination efforts.

Utilizing the components of community risk reduction, departments are moving forward armed with a risk assessment and continually utilizing data analytics, partnerships, and the new fire department identification to guide service delivery. Reimagined and modern fire service organizations, in addition to fire protection, have the potential to be more involved in community education and social services based on specific community needs.

As another example, the City of Charlottesville (VA) Fire Department embarked on an effort to reduce the reliance of community members on the 9-1-1 system for primary care. Using data to drive decisions, the department identified that a large percentage of responses were from only a few individuals in the city. In an overall effort to match appropriate services with individual needs, the department needed to reduce the emergency response value to incidents that did not require emergency responders. The Frequent 9-1-1 Utilizers Workgroup started off with a chief fire officer, a fire department data analyst, and a director of social services, all of which were city employees.

In the end, the group was comprised more of community partners and special-interest group advocates than city employees. The local hospital, local public health department, police department, volunteer rescue squad, community mental health board, nonprofits focusing on homelessness and hunger, and food delivery services all sent a representative to create community outcomes. It did not take long for the Charlottesville Fire Department to realize the best practice was to develop community and social service programs through partnership and collaboration. Modern fire departments do not do it all but they can foster relationships and work with community partners.

As documented above, the approach of community and social service is not about fire, fire prevention, or traditional deployment of services. The approach uses community risk assessment and reliable data to drive decisions. In many North American fire departments, leaders generally announce their departments respond to 67% medical calls and 33% non-medical. Unfortunately, this misrepresents the actual response performance in most communities. (Non-medical is any call for fire department service that does not require a patient assessment. This includes fires, gasoline leaks, stuck elevators, power lines down, etc. From 2019 to 2021, Georgina's medical/non-medical split was 66/34 and East Gwillimbury's was 53/47.)

In modern and reimagined fire service organizations, it is important to clearly articulate the actual response. Using data, staff hours, incident commitment times, and incident reports, a fire service leader will likely find that less than 1% of responses are actual fires that require extinguishment. This perspective opens up an opportunity to think differently and move beyond traditional fire service activities. Using round numbers as an example, if 10% of an agency's call load is commercial fire alarms, a commercial fire alarm mitigation program, service fee, and updated city policy may be in-store. If 10% of the medical incidents results from three addresses, then a collaborative partnership approach to matching resources with individual needs can gain large decreases in incident response workload.

The key here is that, although the fire department's identification is its greatest asset through branding, fire suppression does not necessarily need to be at the forefront. A good risk assessment and the robust use of data analytics can more appropriately align program and service delivery to reduce community risk. When fire departments begin intentionally working in the community and expanding their services, the organization's perceived community value increases, and in turn, the organization is more sustainable.

## Deployment of the Three Lines of Defense

Since 1997, fire service organizations have been balancing the three lines of defense as set forth by Ontario's Office of the Fire Marshal. Ontario's approach establishes the framework that sets forth three measures intended to prevent fire and create safer communities. These provincial measures include public safety education, standards enforcement, and emergency response[3].

Subsection 2.(1) of the Fire Protection and Prevention Act states that every municipality shall participate in two activities. First, every municipality shall establish educational programs for fire safety and prevention. Second, every municipality shall provide fire protection services based on the community's need. The act continues to direct localities in clarifying the intent to provide services without creating an increased cost burden on the community [4].

Utilizing guidance set forth by the National Fire Protection Association (NFPA), localities can bolster their approaches to the three lines of defense. However, if municipalities enhance education and standards enforcement, then the communities may see reduction in fires.

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[3] Combining Forces, Maria Church, 1997
[4] Three Lines of Defense, an Integrated Approach to Fire Protection Services, Baines, 2020

Standards such as NFPA 1031 *Standard for Professional Qualifications for Fire Inspector and Plans Examiner* improve code enforcement. These activities improve the use of building materials during the construction process and address proper storage and building systems maintenance. Additionally, NFPA 1035 *Standard on Fire and Life Safety Educator* creates improvements around initiatives for creating changes in activities and behaviors through public education.

Ontario's approaches to the three lines of defense improve efficiencies. However, there is a critical need to balance the inputs and outputs of lines one and two with the third, emergency response. The balance ensures that the level of effort and resources applied to emergency response balances the measurable mitigation achieved through education and enforcement.

The figure below ties back to Figure 4 which illustrates opportunities and challenges in applying the models of community risk reduction. In the illustration below, the three lines of defense each contribute individually to reducing the reliance on emergency response resources. Additionally, it shows how public education and standards enforcement influence community improvement.

**Figure 4: Three Lines of Defense**
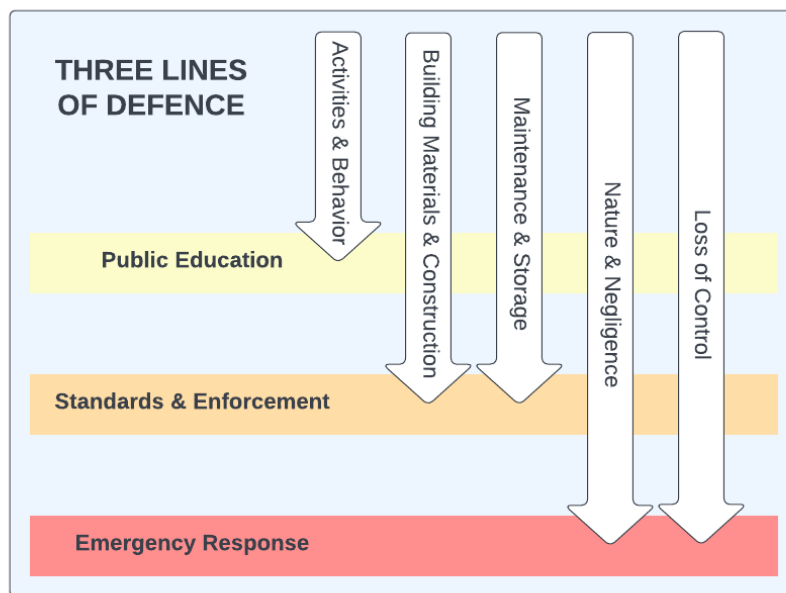


## Public Education (1st Line of Defense)

In modern and innovative fire service organizations, leaders should focus appropriate resources on public education initiatives based on data-driven risk assessments. Identifying community-specific risks can create extraordinary efficiencies in program and service delivery and match resources with needs. Public education is the first line of defense and is intended to change behavior, attitudes and alter activities to create a safer community. Behavior change is difficult but using a risk assessment to drive that change is critical to a department's success. Modern building materials burn hotter and faster and a modern fire service understands that risk of fire is much greater than it ever has been. Residents are required to have early notification of fire and a developed and practiced escape plan for a greater chance of survival.

The City of Charlottesville (VA) utilizes the Neighborhood Risk Assessment (NRA) which identifies critical community challenges in each of the nineteen neighborhoods. In a city of 50,000 residents within ten square miles, the data gathered supports granular analysis. Charlottesville firefighters and company officers consult the online NRA to frame community engagement by referencing the specific neighborhood. Each neighborhood profile exhibits languages spoken, health insurance, households with disabilities, internet availability, vehicle access, and more. Additionally, the neighborhood's risk-based engagement focus documents the educational topics needed to change specific behaviors.

Using data to drive public engagement and education focuses the initiative on the actual community need rather than the generic messaging. The risk assessment also bolsters the impact of the first line of defense by achieving the highest level of influence on human behavior change activity modification. Traditional approaches provide generic outputs that can be achieved with little effort. Modern and innovative approaches improve the effectiveness of public education, thus reducing the reliance on other measures.

## Inspection and Enforcement (2nd Line of Defense)

Behavior changes and modifications to daily activities alone will not create the safest community environment. The application of building codes and standards begins to add a second layer of community protection. Building and fire codes address not only building systems design and construction but also the building systems maintenance and the ongoing use of the structure. This adds a high level of protection and guidance for residents, occupants and firefighters.

Code enforcement, guided by NFPA 1031, fills the gap between codes and human behavior. Plans review of new construction and community development ensures the final product will align with provincial guidelines but also allows modern and innovative organizations to identify potential risks and begin mitigation efforts through improved public education, internal training, and resource allocation.

Code enforcement through inspection, again following NFPA 1031, also exhibits opportunities for modern and innovative organizations. With the robust use of data and records management, fire service leaders can identify influential factors that allow emergencies to break through the first two lines of defense and prompt emergency response. The outputs of code enforcement activities should contribute to framing public education and thus improve both lines of defense.

In Henrico County (VA), the department's fire prevention bureau analyzed reoccurring code violations. In an effort to both capture efficiencies in fire safety inspections and create safer commercial occupancies, the department created the Fire Prevention Associate Program. The program deployed public fire safety education to specific commercial occupancy types throughout the metropolitan area. In the form of a risk assessment, the data analysis and resulting community education reduced fire code violations, increased safety, and decreased the fire prevention bureau's workload. This is an example of how the first two lines of defense can work together to reduce the reliance on emergency response.

## Emergency Response (3rd Line of Defense)

Improved human behavior and addressing building system design and maintenance greatly improve the chances of preventing an emergency response. However, nature, negligence, and the loss of control generate incidents that require firefighter mitigation. No matter the effort applied to the first two lines of defense, communities will always rely on their firefighters' assistance. In Georgina and East Gwillimbury, firefighters not only engage in fire suppression but as an all hazard response agency respond to all emergencies as necessary.

Unfortunately, vehicles will crash, pedestrians will not look both ways before crossing streets, cardiovascular health will fail, residents will leave the kitchen while cooking, and lightning will strike. A well-prepared risk assessment will not only drive programs and services delivery in public education and code enforcement, but also focus emergency response resources typing, location, and availability. When the first two lines of defense fail, a robust third line of defense must be in place to provide emergency response.

## Balancing the Lines

The balance of the three lines is also highly dynamic. The introduction of different populations' characteristics, behaviors, developments (such as industry), and practices changes the balance and reliance on individual lines of defense. The rapid growth, changes in demographics, populations' characteristics, behaviors, developments of one community may require an increase in emergency response resources, while the change in demographics in another community may increase the need for code enforcement. Using a risk assessment, however, will always provide insight and allow modern and innovative leaders to make data-driven decisions.

Organizations that inadvertently weigh too heavily on or ignore one single line will ultimately fall short of their community responsibilities. An organization will run inefficiently, damage its brand and credibility, and lose the connection with its community if they only rely on code enforcement and emergency response. Without communicating, educating, and engaging the public, the department's mission will likely fall short. The same holds true with ignoring the enforcement element. Departments can educate and respond, but without enforcement of codes and standards, the department will work beyond its capacity. Lastly, without emergency response, the community will experience unneeded loss when nature, negligence, and simple fate take control.

Ontario's Office of the Fire Marshal three lines of defense are critical elements in creating an efficient fire service in Ontario. Furthermore, the three lines must be balanced to match the community's current environment and also be flexible to adapt to change. When departments build robust first and second lines, there inherently is a lower reliance on emergency response. However, no matter the balance, all three lines are important to a sustainable organization and safe community.

# Equity, Diversity & Inclusion (EDI)

A diverse, inclusive, and respectful workplace is one element of helping ensure a psychologically and mentally healthy work environment for all. In addition to creating a place where each member feels safe and valued, a workplace that recognizes difference and values the contributions made by all employees is more likely to attract and retain the best employees available. Within the existing departments, service to citizens does not change based on their race, gender, culture, personality, or lifestyle. The treatment of each other should be no different. The departments have the opportunity to refine their skills and abilities to extend the same compassion and care required of the fire service to those internal members that they work with each day.

A modernized department must integrate equity, diversity and inclusion (EDI) throughout their governance, operations, and programs. Through this, the department will recognize that diversity is an integral experience that includes diverse expertise, experiences, and perspectives. This is expressed in many forms, including, and not limited to culture, career, race and ethnicity, gender and gender identity, sexual orientation, socioeconomic status, language, region, national origin, religion, age, disability, political perspective, and veteran status.

It is critical to ensure that the resultant workplace is one where employees feel safe, protected, and valued. Creating a safe work environment means considering both the physical and mental health of the staff. Over the years, both departments have done much work to refine their processes and practices to protect staff in various firefighting and rescue scenarios. In fact, the fire service profession is unique in terms of what it requires of staff and what it exposes firefighters to. The toll it can take is often much more than physical; there are significant mental health consequences associated with firefighting work and the work environment. It will be essential that modernized departments build out a comprehensive Psychological and Mental Health Safety System so as to better connect the pieces of the organization focused on mental health and bolster the programs and resources to support the psychological wellness of staff.

As a component of an Equity, Diversity and Inclusion implementation plan, a modern department should undertake a process to understand the current state of EDI within the departments and complete a department-wide survey of all staff to identify existing culture and respectful workplace behavior, perceptions, and concerns. Once that is completed, the department should develop a strategy focused on diversity and inclusion as a component of the Health and Safety program. This strategy could act as a guide to incorporate a psychological health and safety approach, and inclusive and respectful workplace principles and goals, into their work, thinking and planning. The work outlined in the strategy would be intended to help the department align with corporate policies and assist in advancing EDI practices, support, and programs over the coming years. A model for an action plan can be found with the Commission on Fire Accreditation International.

## Moving Forward

In reimagining the fire service, a modern fire service then needs to think differently about their mission, organization, and purpose. It includes how they approach management, organizational cultures, relationship value, and workforce adaptation. It includes an expanded focus on community risk, not just traditional firefighting, while deploying appropriate resources towards the three lines of defense.

Moving forward, the towns are paying attention to the economics and efficiencies of their fire and emergency services departments. As communities value good services with low costs, it is prudent to evaluate an organization's operations to see where there may be favorable changes that either provide the same service level but at a lower cost or provide a higher level of service at the same cost. Economies of scale, zero-based budgeting, and sharing of services are examples where these benefits may exist. The foremost sharing of service comes through a consolidation of both organizations so that both towns are sharing the same fire department.

The towns are examining three possible strategies for moving forward.

# Strategy 1: Modernized Standalone Department

## Introduction

In contemporary times, a standalone department must be efficient and cost effective in service delivery. However, measurements of success should also extend to areas such as authority, decision-making, identity, relationships, and effectiveness which carry non-quantifiable value that need to also be taken into consideration.

One possible option for the future is that both fire departments maintain their separate identities and progress individually. The advantages of this option are:

- Local community leaders with community input have final decision on the quality of their fire service
- Local fire department retains community identity
- All expenses are applied to the local community
- No issues to compromise on for the benefit of inter municipal cooperation
- A smaller organization can more easily adapt to unique community attributes
- Organization-wide training is easier to accomplish in smaller departments
- Can be easier to carry out shared services within community than within a region

In general, the disadvantages of this option are:

- Greater communication required for cross boundary cooperation
- Increased standardization challenges
- Less opportunities for employee growth
- Reduced opportunities for economies of scale savings, duplication of work (e.g. technology management, procurement, hiring/onboarding of staff, training, etc.), two CAs and limitations for a stronger response)

As individual departments, they will continue to modernize themselves, maintain their relevance and adapt to changing cultural expectations and demographic character in a way that is distinctive to the needs of each community. Current modernization discussions as set forth below are less about the latest tactics and equipment and more about how the modern fire service conducts itself among an increasingly rapid changing culture and community.

# Georgina

In Georgina's updated Fire Master Plan (FMP) which were updates to the 2017 FMP plan, ESCI made the following recommendations for the Georgina Fire and Rescue Services in moving forward independently. See the entire FMP document for complete content:

1.  **Service level monitoring:**

    ESCI recommends since GFRS's mission is to provide a service to the community, indicators of when the service models should be assessed are when the services show signs of strain. This is identified further in the report where the National Fire Protection Association (NFPA) recommends response times as the primary indicator of reliable service.

2.  **Key Performance Standards development:**

    ESCI recommends that GFRS continue to be proactive in its philosophies of change assuming progressive postures that use data, regular community and staff interaction, and benchmarks that regularly evaluate its service model.

3.  **Performance standards approval and adoption:**

    ESCI recommends the Fire Chief, with Town Council approvals, should adopt measurable performance standards for each of the three lines of defence.

4.  **NFPA standards monitoring:**

    ESCI recommends the Fire Chief should monitor the progress of the changing NFPA 1710 and 1720 standards to the new NFPA 1750 and see if new applicable standards are produced.

5.  **Establish and Regulate Bylaw update:**

    ESCI recommends the current bylaw, which is now 18 years old, should be reviewed and updated, as needed. At the least, the organizational structure outlined in Appendix 'B' of the bylaw should be updated.

6.  **Accreditation:**

    ESCI recommends even without pursuing full accreditation, GFRS should strongly consider adopting the Commission on Fire Accreditation International (CFAI) model standard for fire service excellence. This would require staff time to be allocated to begin working towards the accreditation model.

7.  **Communication:**

    ESCI recommends the fire chief should continue to keep open communication channels with both the community and workforce. When possible, the fire chief should keep all staff up-to-date on strategic objective timetables and implementation progress as well as continuing to involve the workforce in implementation processes.

8.  **Growth monitoring:**

    ESCI recommends the Fire Chief should consider the establishment of organizational change trigger points associated with the growth of the community. When trigger points are met, the fire chief and town council should be aligned as to what the next action steps are.

9. **Develop and maintain a Community Risk Assessment (CRA):**

As directed by the Office of the Fire Marshal, complete the CRA by July 1, 2024 to replace the existing Simplified Risk Assessment (SRA). Maintain a CRA framework.

10. **Preplanning:**

ESCI recommends GFRS should continue to strive for including building and preplan data vehicle tablets in pre-fire operations.

11. **Residential sprinklers:**

ESCI recommends GFRS should continue collaboration with builders to offer residential sprinkler installation as a part of new construction.

12. **Performance standards:**

ESCI recommends GFRS should adopt performance standards that are consistent with community expectations and costs that would require incremental improvements of service delivery.

13. **Annual service review:**

ESCI recommends GFRS should continue annual reviews of service provision involving all stakeholders.

14. **Tiered response:**

ESCI recommends GFRS should do a joint engagement with the York Region EMS and the community to discuss EMS response expectations.

15. **Monitor growth and service levels (station 1-8):**

ESCI recommends GFRS should establish trigger points in alignment with response performance standards to determine when the Pefferlaw station should consider transitioning to some degree of career response models.

16. **Fleet services:**

ESCI recommends GFRS should continue previous report recommendations to determine feasibility of expanding fleet service depth or participating in a joint fleet services arrangement with another community or organization.

17. **Emergency management:**

Continue working with York Region on expanding the Emergency Management Program to address specific contingency plans for various hazards, technology improvements and expanding collaborative processes.

18. **Automatic Aid:**

ESCI recommends GFRS should expand its automatic aid agreements with the objective of creating an ERF (effective response force) that is compliant with NFPA standards.

19. **Fire Underwriters Survey (FUS):**

ESCI recommends GFRS should have an updated FUS survey performed.

**20. Collaboration:**

Continue exploring collaborative services with municipal partners.

# East Gwillimbury

In East Gwillimbury's updated Fire Master Plan (FMP) which were updates to the 2016 FMP plan, ESCI made the following recommendations for the Emergency Community and Safety Services (ECSS) in moving forward independently.

1. **Establish standards:**

ESCI recommends that, since the mission of ESCC is to provide quality service to the community, the fire chief should develop indicators of when the service models should be assessed are when the services show signs of strain. Department growth cannot be based solely on the NFPA response standards (1710 and 1720). Fire suppression triggers, such as turnout and response times, recruiting, retaining and ongoing attendance of paid-on-call staff, etc. are elements to be monitored for the signs of strain.

In addition, it is recommended that ECSS use a variety of tools and programs, such as the Community Risk Assessment, statistics and data from the Office of the Fire Marshal and local data to determine appropriate Key Performance Indicators (KPIs) for the public education, prevention and training divisions.

2. **Establish a framework:**

ESCI recommends that ECSS continue to establish a framework for departmental growth that is appropriate for a composite department in East Gwillimbury. It is recommended that ECSS use information gathered from recommendation #1 to assist with this framework.

3. **Obtain Council approval:**

ESCI recommends the Fire Chief, with Town Council approvals, should adopt measurable performance standards/KPIs for each of the three lines of defence.

4. **Monitoring:**

ESCI recommends the Fire Chief continuously monitor the department's overall performance based on the established and adopted standards.

5. **Bylaw amendment:**

ESCI recommends the current Establish and Regulate By-Law, which is now 11 years old, be reviewed and updated as outlined in Section 8.4 of the existing by-law.

6. **Accreditation:**

ESCI recommends that ECSS consider and pursue full or partial recognition of excellence accreditation with Commission On Fire Accreditation International (CFAI).

7. **Communication:**

ESCI recommends the fire chief should continue to keep open communication channels with both the community and workforce. When possible, the fire chief should keep all staff up-to-date on strategic objective timetables and implementation progress and involve the workforce in the implementation processes.

8. **Develop a Community Risk Assessment (CRA):**

As directed by the Office of the Fire Marshal, complete the CRA by July 1, 2024 to replace the existing Simplified Risk Assessment (SRA).

9. **Maintain a CRA:**

Maintain a CRA framework to be used as a tool for the Town of East Gwillimbury to support the strategies of the organization, determine risk mitigation requirements, and provide justification during annual budget process.

10. **Technology:**

ESCI recommends that ECSS should continue to equip and upgrade applicable apparatus with adequate technology and data access to engage in preplanning and on scene operations.

11. **Residential sprinklers:**

ESCI recommends the fire chief and the fire prevention staff continue to work with all stakeholders to promote increased use of residential sprinklers.

12. **Staffing:**

ESCI recommends that ECSS monitors staffing levels and take a modernized approach to training that includes advanced adult educational principles, course design and development, and oversight of the varied technical skills and abilities required to meet identified performance standards as approved by Council.

13. **Certification and development:**

ESCI recommends that ECSS should continue to support and develop all staff to ensure service levels are met and adequate succession planning is considered. ECSS should also ensure that all staff complete and maintain relevant certification.

14. **Medical response:**

ESCI recommends that ECSS continue their engagement with York Region Paramedic Services and the community to discuss medical response expectations and modify as required.

15. **Operational review:**

ESCI recommends that ECSS should continue to monitor KPIs, in collaboration with all stakeholders, to determine key trigger points for strategic decisions related to operations are made pertaining to the three lines of defence.

16. **Space needs analysis:**

ESCI recommends that ECSS should conduct a department-wide space needs analysis to identify potential space requirements as the organization expands. These space needs analyses can be accomplished through consultant projects ahead of a project to help determine potential costs or they can be accomplished during the design phase of project in process.

**17. Fleet services:**

ESCI recommends ECSS should continue previous report recommendations to determine the feasibility of in-house fleet services as well as joint services with other departments.

**18. Emergency management:**

Continue working with York Region on expanding the Emergency Management Program to address specific contingency plans for various hazards, technology improvements and expanding collaborative processes.

**19. Automatic Aid/Fire Protection Agreements:**

ESCI recommends that ECSS create an automatic aid agreement with Georgina Fire and Rescue Services along Ravenshoe Road and other appropriate areas. Investigate the potential for agreements with other neighbouring communities, such as Bradford West Gwillimbury and Central York Fire Services.

These agreements create an opportunity for the closest unit to be dispatched and create quicker responses, establishing higher ERF (effective response force).

**20. Budget:**

ESCI recommends East Gwillimbury continue to develop healthy budgets that are consistent with best practices and identify its financial philosophy for these types of expenditures and do future calculations to determine the least likelihood of future capital expenditure adjustments versus having reserve funds available when expenditures are to be made.

**21. Shared services:**

ESCI recommends that shared service opportunities be considered, such as:

- Automatic Aid
- Special Teams/Technical Rescue
- Fleet Services
- Training
- Fire Prevention and Education
- Group Purchasing
- Fire Station Sharing
- Emergency Management

# Strategy 2: Modernized Departments with Shared Services

## Shared Services Summary

In addition to the modernization elements of Strategy #1, there are a number of opportunities for Georgina and East Gwillimbury to share services with each other or other organizations.

Historically, the sharing of services in government organizations has been confined to sharing within a local government. Individual departments may share some of their resources and expertise with other departments. The belief is that people look for government to provide services within their community boundaries, on a broad tax funded basis. This community orientation has generally limited the amount of sharing that takes place between separate communities. Sharing of services beyond the organization can create the perception that taxpayer funds are going outside the organization they are paid too.

Within the past several decades, Ontario municipalities have recognized the advantages that may be available through the sharing of service delivery. Indeed today there are many examples across the province of inter municipal shared services, including fire and emergency services. Benefits vary on a case by case basis, but can include efficiencies, cost savings and opportunities that are available to larger scale operations.

 A common example of this to illustrate the point is mutual aid plans between fire departments. In a large-scale incident resources beyond a single community may be required to adequately mitigate. In the case of Georgina and East Gwillimbury, neighboring communities from York Region send their resources to assist with the incident at no expense to the community being affected. They do this with the understanding that if the situation were to reverse, they would be able to receive the same return benefit at no expense. In other words, it does not make economic or practical sense to have enough resources to adequately deal with every situation a fire department may encounter in an independent fashion. It does make sense to share resources where community risk reduction is improved and/or efficiencies can be gained.

## Opportunities

Areas where fire departments regularly share services that could be considered by Georgina and East Gwillimbury are:

- Automatic Aid
- Special Teams
- Fleet Services
- Training
- Fire Prevention and Education
- Group Purchasing
- Fire Station Sharing
- Emergency Management

It is important to remember that the likelihood for success of sharing fire and emergency service in a municipal setting is if the fire department can share a service that they alone use. If a fire

department wants to share a service that is already shared with other departments within the town, the sharing complexity increases.

## Automatic Aid

When a member of the community calls the fire department for an emergency, they expect that someone shows up to help. Rarely, does a person in need look at the markings on the side of an emergency vehicle to verify that the help is coming from the community they live in. Someone is there to help and a firefighter is a firefighter and a paramedic is a paramedic regardless of where they come from. There may be follow-up questions as to how the operation takes place where a department with a different name shows up but that is more out of curiosity than an issue.

This kind of practice occurs when a department chooses a response philosophy that starts with a mission value that someone must get there as quickly as possible to either begin intervention or assess the scene.

According to the Office of the Fire Marshal's Public Fire Safety Guidelines, automatic aid is generally considered in other jurisdictions as a program designed to provide and/or receive assistance from the closest available resource, irrespective of municipal boundaries, on a day-to-day basis. The concept has been practiced for many years in Ontario through what has been known as first response agreements. NFPA 1201 *Standard for Providing Fire and Emergency Services to the Public* defines automatic aid as "a plan developed between two or more fire departments for immediate joint response on first alarms.

While it may sound simple enough to execute, there is complexity to an automatic aid arrangement. Firstly, unless a town is willing to offer their services with no expectation of a tradeoff, most departments establish some form of reciprocity arrangement whereby a benefit of equal value is exchanged. If equal value cannot be established then an impression exists that one department may be subsidizing another town's weakness.

Secondly, both towns must agree to a legal arrangement whereby each town is responsible for its own resources. If equipment is lost or damaged during an incident, the host agency is not responsible for any participating agencies' resources. (Catastrophe reimbursement programs are not part of this obligation.) If a neighboring firefighter is injured, the neighboring fire department handles the injury. In other words, the only obligation an automatic aid town provides to a neighboring one is the ability to assist them at the incident.

Thirdly, staffing and training between the organizations are usually similar especially if strategies and tactics need to be similar. Where there is disparity, automatic aid units may not perform operations similar to that of home units but may end up only being a complement to the operation rather than an active part.

Both Georgina and East Gwillimbury participate in the York Region Mutual and Automatic Aid Plan last updated in 2015. This plan covers all fire departments in the York Region and allows for the fire departments in the region to support each other, via mutual aid, during a large event. The program does allow for automatic aid agreements to be established between local fire departments themselves.

Georgina and East Gwillimbury already have a Highway 404 Response Agreement allowing Georgina to cover a portion of Highway 404 that is located within East Gwillimbury's jurisdiction. In return, East Gwillimbury provides compensation for the coverage.

Georgina and East Gwillimbury can look at two possible objective based options in the consideration of automatic aid agreements that could increase response effectiveness:

## Closest Unit

In a closest unit methodology, the philosophy is the sooner a unit can arrive on a scene to commence operations the better, regardless of the town the unit belongs to. For example in the case of Ravenshoe Road, this approach could apply and automatic aid may be of benefit with simultaneous response from both municipalities.

In a composite department though, closest unit is not defined by the geographically closest unit but rather the unit that may arrive first. Since a volunteer/paid-on-call response takes longer to go enroute to an incident, turnout time (time between dispatch, assembly and going enroute) is a factor to be included. Consequently, a unit from a career fire station that is farther away from an incident may get dispatched because their combined response time, turnout time plus travel time, is quicker than a volunteer response time.

## Effective Response Force

The second objective for an automatic aid agreement is an effective response force (ERF). An ERF is the number of firefighters it takes to safely conduct operations at an incident plus the appropriate number of firefighters to safely handle all the tasks required on an emergency scene. It also implies elements of a response team that are necessary for all emergencies such as incident commander and command structures.

An automatic aid agreement can be established that allows units from both fire departments to respond to certain types of incidents for the purposes of establishing a timely and adequate response force to maximize the effectiveness of minimizing loss to life and property and as well as the safety of all resources.

This option is worth consideration to explore future opportunities.

## Special/Technical Teams

Fire departments are known for their main mission to extinguish fires. Many fire departments also handle other specialized incidents that occur within a community. These incidents are infrequent but when they do occur, they require a unique set of resources to safely mitigate. These unique resources are personnel trained in the unusual situation as well as the unique equipment required for the incident. These specialized events include incidents that involve, but not limited to; hazardous materials, water/ice rescue, above- and below-grade rescues and structural collapses. Trained personnel or teams that deal with these incidents are called special rescue or technical rescue teams.

Large fire departments that have an increased likelihood of experiencing these types of incidents often have round-the-clock on duty units devoted to those special incidents. In regions where these special incidents are rare, it does not make financial sense to have dedicated units. Initial responders are given the basics of how to start intervention on these incidents and wait

for a highly-trained team to arrive. Where a highly-trained team is on-duty, they may be the only special resource to respond.

The York Region Mutual Aid Plan identifies that the closest fire department with technician level training (excluding confined space and water rescue and hazmat) is Richmond Hill - an approximate forty-five minute travel time to East Gwillimbury and one hour travel time to the north end of Georgina. Should they not be available or have an extended response time, Vaughan would be the next closest technician-capable response. This means that rescue intervention, including initial assessment and intervention time could be close to ninety minutes before a rescue is even started.

Each town establishes a regulating bylaw that determines core service delivery as summarized in the chart below:

| Georgina Core Services | East Gwillimbury Core Services |
|---|---|
| Fire Suppression/Emergency Response | Fire Suppression/Emergency Response |
| Emergency Pre Hospital Care | Emergency Pre Hospital Care |
| Technical Rescue services:<br><br>• Confined space<br>• Farm Rescue<br>• Auto Extrication<br>• Water Ice Rescue | Technical Rescue services:<br><br>• Confined space<br>• Auto Extrication<br>• Water Ice Rescue |
| Hazardous Materials Response (Operations) | Hazardous Materials Response (Awareness) |
| Smoke Alarm Program | Smoke/CO Alarm Program |
| Public Education Programs | Public Education Programs |
| Inspections (upon complaint and request or annual program) | Inspections (routine/annual and upon complaint/request) |

The York Region Mutual Aid Plan identifies the following special rescue capabilities of both fire departments. Skill levels are defined (paraphrasing NFPA standards) as the following from lowest to highest capability:

1. Awareness – responders who in the course of their normal duties could encounter an emergency, recognize the presence of the hazard or rescue, protect themselves, call for trained personnel, and secure the scene.

2. Operations – responders who respond to special rescue situations and are capable of implementing and supporting initial mitigation interventions.

3. Technician – responders who have the knowledge, skills, and equipment to resolve unique and complex incidents that require special training and special equipment.

To summarize skill levels for both departments:

| | Georgina | East Gwillimbury |
|---|---|---|
| **Hazardous Materials** | Operations | Awareness |
| **Confined Space** | Technician | Technician |
| **High/Low Angle Rescue** | Operations | None |
| **Water/Ice Rescue** | Technician | Technician |

Both departments need to develop a plan that would cover all technical rescue response requirements.

## Fleet Services

Fire departments spend a great deal of money on their fleets. Depending on the desired characteristics, a modern day fire engine or ladder truck can cost between $1,000,000 and $2,000,000. Maintaining a fleet that assures an appropriate and adequate response 24x7 is a high benchmark to sustain. Depending on the organizational form of government, there are three main methods that are used in singular fashion or in combination that fire departments and fleet services staff use to maintain their fleets:

1) Vehicle maintenance is undertaken by an internal department, for example an Infrastructure/Public Works-type department with a vehicle maintenance division
2) Maintaining the fleet within their own department
3) Contracting fleet maintenance to a third party vendor

Most in-house fleet maintenance, that is, maintenance conducted by the organization that owns and uses the fleet, is limited to routine care and upkeep and minor fleet problem-solving. Oil changes, tire rotations, safety inspections, bulb replacements, weather adjustments and minor repairs are handled at this level. Major specialty work such as transmission service, motor repair, suspension issues and warranty work are generally contracted out to either the vehicle distributor, manufacturer, or manufacturer's representative.

When assessing the potential for sharing fleet maintenance services, these questions can be asked:

- Are these models available for fleet maintenance sharing?
  - a model where one town contracts for services from the other town
  - a jointly owned/managed facility
  - a model whereby one town rents maintenance space and resources from the other town
- Do we use existing facilities where one town has to travel farther than the other town?
- Is there an option to build a facility that is more suitably located for both towns' operations?
- Where would the actual efficiencies come from?
- Are there any fleet maintenance practices/policies of one town that would conflict with the servicing of another organization's fleet?
- Are there benefits to finances, efficiencies, and effectiveness across the board or does the benefit of one item come at the expense of another item?

In the case of Georgina and East Gwillimbury, Georgina has an Operations and Infrastructure department that provides fleet maintenance service for the entire corporation, including the GFRS department fleet maintenance. East Gwillimbury contracts out these services.

Since the routine maintenance for fleet services is somewhat generic, a potential exists for Georgina to provide fleet maintenance services to East Gwillimbury under a service performance contract.

It is costly for East Gwillimbury both in terms of staff time as well as vehicle service hours when vehicles must travel extensive distances for service, resulting in large maintenance times and in turn are offline for extended periods.

An arrangement with the nearby Georgina Operations and Infrastructure department could conceivably reduce the downtime for East Gwillimbury vehicles and equipment and staff time dedicated to travel.

The opportunity for East Gwillimbury to enter into a services provision arrangement with Georgina has been further explored in a more in depth analysis undertaken by Mercury Associates Inc. This option can be further explored in their report.

## Training

Training is one of the core support functions that fire departments provide their staff. The ability to keep staff at a professional skillset level contributes to the effectiveness of the organization.

Most contemporary fire departments use standards that are external to their organization and most likely have a commonality with neighboring fire departments that operate using the same standards. Whether it's a credential/standard offered by the National Fire Protection Association (NFPA) or the Ontario Fire Marshal's office (OFM), fire departments usually have the same or very similar objectives. Consequently, there is potential for sharing training where commonality exists between organizations. In addition, an advanced level of training sharing can begin to develop synergistic organizational practices. Participating towns begin to develop solutions that satisfy both organizations and discussions begin to move towards a jointly approved operational performance standard that enhances both organization's effectiveness.

Some areas of training that are candidates to be shared between organizations are:

- Administration – oversight and training staff can be collaborative between organizations. Leadership rotation, and joint sharing of instructors and teachers has the benefit of routinely getting different perspectives and experiences.

- Schedules – when schedules can be shared or jointly developed, this creates a great deal of opportunity for towns to have shared training experiences. This can be with shared instructors, inter-town company operations as well as possibly having one town cover another while they are in training.

-  Training facilities are expensive to construct and challenging to ensure productive use. If a facility was to be explored for the use of both departments, programming to avoid excessive idle time would need to be taken into consideration.

- Documentation – because of technology, it is much easier to share documentation between organizations and eliminate duplication of effort. Examples: consistent procedures (SOGs), training documentation, data collection, etc.

- Record-keeping – while it's possible to jointly keep records under a shared administration, current software practices are not generally set up to handle a shared record-keeping system however, some vendors are beginning to look at collaborative ways to keep records.

Successful joint training can be one of the initial steps towards larger organizational integrations. Much of what fire departments do is similar, albeit with subtle practice and resources differences. It is not uncommon to develop synergy between two departments and build momentum that can develop into greater support for joint operations or consolidations.

Georgina and East Gwillimbury have one training officer each for their entire staffs including career and volunteer/paid-on-call personnel. These two individuals handle training for almost 200 firefighters.

With both career and volunteer/paid-on-call staff, the development, administration, and evaluation of training for both of East Gwillimbury and Georgina departments can be challenging. Aligning objectives and schedules between the two organizations could allow each department to make a contribution that would be a benefit for the other department as well.

With objectives aligned, the departments could look into the sharing of training resources including the creation of a joint training cache.

Dedicated training facilities are becoming more common as firefighters recognize the value of developing their skillsets through simulated exercises. Neither Georgina nor East Gwillimbury have a dedicated training facility that would include space for fire/smoke simulations, automobile extrications, and driving facilities. A combined one that included all these features plus classroom space would be a premier intergovernmental training asset. Both communities could also benefit by having the facility for rental by other regional fire departments.

The benefits available by coordination described above are worth exploring further to quantify return versus effort.

## Fire Prevention

In the Fire Prevention world, there is a fairly unanimous agreement on what fire prevention programs should contain. Particular to Ontario, the Office of the Fire Marshal has embedded such fire prevention programs within the "three lines of defense".

While there may be resource sufficiency differences, fire prevention programs contain the foundational elements of:

o   Public education – public education is about informing the community about fire and safety hazards and efforts they can take to reduce or prevent fires from occurring.
o   Inspections and Enforcement – property inspections are undertaken upon complaint, request or as part of an annual inspection program whereby fire prevention members review properties to ensure fire code compliance. This service offers a review by a professional identifying potential areas for hazards that a building occupant may be unfamiliar with or unaware of.

In addition to these foundational services, fire prevention divisions can also assume fire investigation functions for investigating the cause and origins of fire.

Both Georgina and East Gwillimbury have strong fire prevention divisions led by a deputy chief. Both have staffs that handle public education, inspections and code enforcement as well as cause and origin investigation and building plan review.

Since both organizations provide the same services and the same commitment levels, there are opportunities for both departments to build position depth as well as identify the unique strengths of each program so that both organizations may embrace them.

A potential sharing arrangement of resources and harmonization of materials and programs could provide a great deal of depth, share reduced costs of larger printing volumes and create joint community messages to both communities.

Learning each other's Community Risk Assessment could also provide opportunities for the fire prevention staff to teach operations personnel about hazards and risks that they may be exposed to in the other community.

This alignment appears to have some potential to build on the similarities and strengths of each department and adopt best practices.

## Group-Purchasing

Group purchasing is another area of shared services to be explored. Group-purchasing, also called cooperative purchasing or joint procurement practices, are built on the economies of scale proposition that larger procurement volumes, in time or quantity, invite discounted products and services and save money. When organizations come together and create purchasing groups, this allows a seller of goods to be able to discount their goods given the larger customer-base. This requires the individual organizations to agree on a product specification or quality standard the vendor can offer which can be simple or complicated to accomplish.

One other method of group-purchasing that is used is for a vendor to establish a specification for a particular product or service which is then offered for a discounted price. In establishing the specification, a vendor will establish their own internal systems that meet the specification reducing the customization time and their costs to create the product or service. Pre-defined specifications exist for everything from fire apparatus to equipment to consultant reports.

In addition to the benefit of a discounted price, group-purchasing relationships can carry a government's lowest bid recognition. For the purposes of assuring a lowest price on a product or services, most governments have a requirement that for any significant expense (amount varies between communities), multiple bids must be received to assure that the community is purchasing the best quality at the best price. Because of vendor processes in establishing specifications and low pricing for volume purchasing, many communities will forego the costs and time of soliciting multiple bids and automatically accept a group-purchased specification as the best price and desired quality. If a vendor's product in a pre-defined specification can meet the organizations' objectives, municipal officials will ask elected officials to accept the specification without any comparison bids. This creates a significant savings in time and effort by only having to process one bid.

Participation in these group-purchasing options can either be accomplished through simple membership to a purchasing program or multiple organizations can get together, identify themselves as a common purchasing organization and marketing their procurement under a volume purchasing contract.

In the case of East Gwillimbury and Georgina, efforts have been made in the past to establish a procurement partnership between various fire and emergency service departments within the N6 collaboration. Disparity in procurement bylaws create challenges with progress alignment.

Eventually group-purchasing by both Georgina and East Gwillimbury could be expanded beyond these two communities. The larger the purchasing group, the greater opportunities there are for scales of economy. However, to make this work, a degree of standardization would need to be accepted by all parties. In some cases, this is fairly simple, in others, it can be quite complicated.

## Fire Station Sharing

An ultimate in sharing service is the sharing of a fire station. In the earlier section, it was outlined the different ways that a fire station can be shared but it begins with a look at the existing stations and whether a new station is warranted by either community. Georgina has determined that new stations are necessary and with ESCI's endorsement is pursuing the relocation and split of one of their fire stations into two separate ones. The existing locations of Georgina and East Gwillimbury fire stations are displayed on the map below. The proposed fire stations can be found in the "Fire Station Coverage" section of the report, Figure 9: Fire Station Coverage w/New Georgina Station.

**Figure 5: Combined Fire Stations Map**
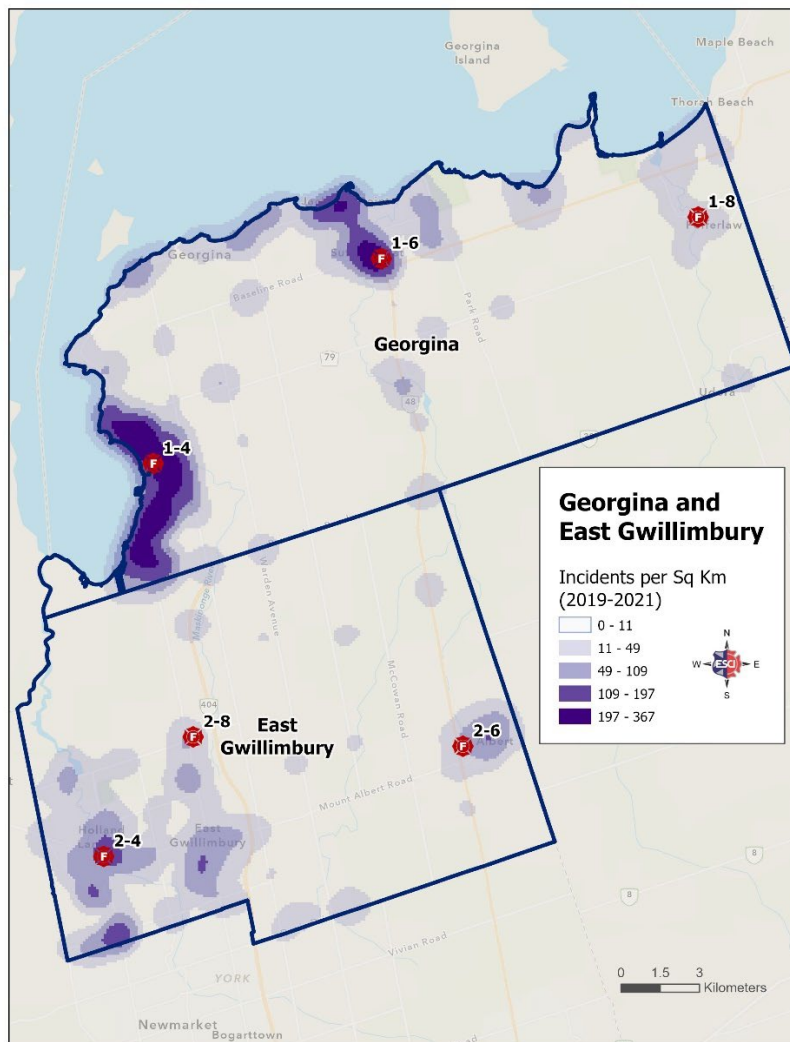


Georgina is pursuing their station relocation based on call density and risk of which the graphic shows most intensely around stations 1-4 and 1-6. The relocation of these two stations also provides greater coverage depth to the southern portion of the town. East Gwillimbury's stations are adequately located near their call volumes but do show long response times to the northeast

section of the town. Both towns show long response times when responding outside of their immediate response districts such as in simultaneous calls and a multi-unit response.

To make final determinations of whether or not additional stations are needed, performance standards approved by election officials need to be developed. While the actual performance numbers in NFPA 1710 are not reasonable, the framework is one that can be adopted. (1710 is the most cited response standard for career departments and 1720 is for volunteer departments. Composite departments are left to determine their own standards as a blend of 1710 and 1720). Performance standards to establish at a minimum would be to include:

- Time from call receipt to dispatch
- Time from call dispatch to unit responding (both career and volunteer)
- Time to travel to the call and arrive on the scene (or time of initial unit on scene)
- Time for 2nd and 3rd units to arrive
- Number of inspections
- Number of households visited
- Public education events (hours)

In the establishment of a performance standard, with the exception of life and death consequences, it is important to recognize that no standard will be met 100% of the time. So in addition to actual performance standards should be the amount of time the standard should be met. NFPA standards are mostly 90% standard but there are some 80% standards as well.

Once standards are established, data can be collected and compared against the standard to determine if standards are met. Then an evaluation takes place to identify the costs associated with meeting the standard. Once the evaluation takes place, a determination can be made of the value of adding an additional fire station to meet a performance standard versus its costs.

Currently, with no formally adopted performance standards to evaluate against in Georgina or East Gwillimbury, current response analyses as outlined in the Fire Master Plans of each communities show that future stations in both communities will be warranted.

## Emergency Management

The *Emergency Management and Civil Protection Act* (*EMCPA*), requires each municipality in Ontario to develop and establish, by By-law, an Emergency Management Program that consists of:

- An emergency plan;
- Training programs and exercises for employees of the municipality and other persons with respect to the provision of necessary services and the procedures to be followed in emergency response and recovery activities;
- Public education on risks to public safety and emergency preparedness;
- Hazard Identification and Risk Assessment (referred to as the "HIRA");
- Critical Infrastructure Review; and
- Any other elements required by the standards for emergency management programs.

The Town of Georgina and the Town of East Gwillimbury consistently maintain compliance with the above legislation.

The Emergency Management Program is the responsibility of the Community Emergency Management Coordinator (CEMC), who is also the fire chief.

The N6 municipal CEMCs, in collaboration with York Region, have established a Memorandum of Understanding (MOU) to retain a shared Program Manager position that would ensure annual compliance with the EMCPA for all six municipalities.

The terms of the MOU have expanded over the years as required and the program continues to be successful. In addition to the annual program, in 2019 this Program Manager position assisted greatly with the COVID-19 response. There could be opportunities to expand the terms of the MOU further to assist municipalities with their Emergency Management Programs.

There is an opportunity to continue working with York Region on expanding the Emergency Management Program to address specific contingency plans for various hazards, technology improvements and expanding collaborative processes. Shared services are great opportunities for organizations to increase their effectiveness and efficiencies by trading their strengths with other organization's strengths. This is a possibility between these two communities.

# Strategy 3: Modernized Consolidated Composite Department

The last strategy option to be considered is a consolidation of both the Georgina and East Gwillimbury composite fire services. In a consolidation of organizations, the two organizations become one adopting values of both organizations, making compromises between the two organizations and, while under provincial law, the fire chief is still being accountable to both towns.

Organizations consolidate for the purposes of:

- Improving service delivery
- Enhancing firefighter safety
- Reducing community risk
- Eliminating duplication
- Increasing resource depth
- Saving on future costs (cost avoidance)
- Improving efficiency of operations
- Sharing resources

While change is never easy, it is often the case that the long-term benefits of a consolidation outweigh the short-term challenges. In the following sections, ESCI outlines what a consolidated organization of the Georgina and East Gwillimbury fire services could look like.

Two nearby Fire and Emergency Services department consolidations are 1) Central York (established in 2001) and 2) Bradford West Gwillimbury/Innisfil (in initial stages of amalgamation). These two models were examined for their lessons learned.

The N6 northern municipalities of York Region have had a history of exploring ways to become more efficient for almost 10 years. This project is a continuation of discussions surrounding greater collaboration between Georgina and East Gwillimbury fire services.

## Organizational Overview

### Governance

To oversee the operations of the consolidated fire and emergency services organization, ensure alignment to the needs of both municipalities, and track compliance to defined performance measures and targets, Georgina and East Gwillimbury will need to institute some sort of governance system. Consolidated departments are unique in that they are not a completely independent organization with a single leadership board. Rather, they are a single organization that is accountable to all participating communities which means governance comes from all communities.

In analyzing governance options for a consolidated department, two model options emerge:

- Joint Coordinating Committee
- Service Board

## Joint Coordinating Committee

In this model, the two departments would consolidate under a single employer where one town would function as the primary employer. A joint coordinating committee (JCC) comprised of representatives from both municipalities would review fire department issues and provide recommendations for each town's council to consider. In this model, the employer town council (ETC) would officially govern the fire department.

The Fire Chief would simultaneously report to the JCC and the Chief Administrative Officer (CAO) of the town which is the primary employer of the fire department. The Fire Chief would also interact/consult with the CAO of the non-employer town as needed to address municipal specific issues and concerns regarding services. The town that operates as the primary employer for the consolidated fire department shall also provide all the required support functions for the fire department, including corporate services such as communications, finance, human resources, legal, information technology, and purchasing. All corporate policies and procedures of the employer town shall be applicable to the consolidated fire department.

The JCC would be comprised of the fire chief, three representatives from each of the two town councils, and the CAO's of both towns. The JCC would be responsible for overall oversight of the fire and emergency services department and would make recommendations for approval to the ETC on items such as the establishment of service level objectives, priorities, and standards. They would also review performance measures and develop and recommend for approval the department's operating and capital plans and budgets.

In this model, the non-employer town council (NETC) would also review recommendations of the JCC and would provide the ETC with their "support or non-support" of the JCC recommendations. Administrative support for the JCC would be provided primarily by the fire department, with additional support for shared services to be provided by relevant administrative staff of both municipalities. The chairman of the JCC would alternate between the two towns on a predefined interval and tenure of each member of the committee would be pre-defined.

While adhering to the policies and procedures of the employer town, the JCC would be guided by the Fire Protection and Prevention Act, Public Fire Safety Guidelines, each town's Fire Master Plan (FMP), and any applicable bylaws enacted by the towns with regard to fire and emergency services.

In this model, the JCC would need to work collaboratively with the municipalities to:

- Define the roles and responsibilities related to governance and decision making
- Defines the roles and responsibilities of the municipality that would be the primary employer of the consolidated department
- Define the cost sharing agreement that indicates the costs to be expensed to each municipality
- Define the process for budget preparation and approval, and the management of capital assets assigned to the department

This model is similar in structure and function as the governance model adopted in other consolidated fire services such as Central York Fire Services.

## Service Board

A second model for consolidation is the two departments would consolidate under an independent "service board" that would be contracted to provide fire protection to the municipalities. In this model, the chief would co-report to the service board and to the councils of each of the municipalities, who would develop and execute a service agreement with the service board that provides guidance and direction for the consolidated department.

This model was considered as a governance model for the Innisfil / Bradford West Gwillimbury fire service consolidation, however, an analysis completed by Ernst and Young (EY) for this review indicated that this option may require legislative changes as an independent board for fire services is not mentioned within Section 2(2)(b) of the FPPA and it is not mentioned within the Municipal Act of Ontario. They concluded that this option would be complex to implement, which would reduce its viability.

Research and discussions with The Office of the Fire Marshall indicated that while they do not endorse or oppose the Service Board concept, they have suggested that a legal review of the relevant legislation would be appropriate to investigate the legality of the model under the Ontario Municipal Act and to ensure that it complies with the FPPA.

## Management & Organizational Components

In a modernized and consolidated department, all of the elements of strategy #1 are adopted and many of the features of strategy #2 are present. The composite model of each department is part of the character of both the Georgina and East Gwillimbury departments and is carried over into the consolidated department description. In this case, both communities see the benefits of an organizational model that includes career and volunteer/paid-on-call personnel allocated according to community demand and risk.

## Organizational Structure

One of the challenges in blending organizations together is determining how to fit existing personnel within a new organizational structure. The project outline assumptions that needed to be adhered to when addressing this issue. They were:

- One consolidated composite department that would be under "one employer";
- The composite department model would be maintained;
- No job loss for full-time staff, paid-on-call staff or volunteers.

With those assumptions, there were a few management structure best practices that could be considered:

- No supervisor should have only one direct report;
- The organization would be led by a fire chief and would be divided into multiple divisions, each one headed by a deputy chief;
- No supervisor should exceed the recommended span of control standards. Within an emergency scene, this recommended accountability standard for supervisor-to-subordinate ratio is three to five subordinates for one supervisor and for administrative functions it is five to seven subordinates for one supervisor; and
- With an organization that is expected to handle 3000-4000 incidents annually from six fire stations, around the clock supervision will be handled by the on-call rotation of the Deputy Chiefs. ESCI can accept this practice provided there is a formal rotation schedule of qualified on-call supervisors to be available after hours.

Beginning with an organizational structure, the graphic on the next page is a sample suggestion for what the consolidated organization could look like. While it is not a complete one-for-one position correlation with the existing organizational structures, it provides an example of how an organization the size of a consolidated Georgina and East Gwillimbury might be structured.

**GEORGINA and EAST GWILLIMBURY**

FIRE AND EMERGENCY SERVICES

ORGANIZATIONAL CHART (Sample)

GEORGINA

EG
East Gwillimbury

```
                        ┌──────────────────────────────────────┐
                        │             FIRE CHIEF                │
                        │   Director of Emergency Services      │
                        │ Community Emergency Management Coordinator │
                        └──────────────────────────────────────┘
```

Fire Program Coordinator

**DEPUTY CHIEF**
Operations and Training

**DEPUTY CHIEF**
Fire Prevention, Public Education,
Investigations and Community Risk

**DEPUTY CHIEF**
Administrative Services
Labour Management, Procurement
Fire Fleet, Facility Maintenance

Administrative Assistant

Fire Prevention Officer - 2

York Region Emergency
Management Liason

Administrative Assistant

Assistant Deputy Fire Chief

Inspectors/Public Educators - 5

Captains - 12

Paid-on-call
Captains/Firefighters - 140

Training Officer - 2

Suppression staff
Career - 58

**Innovation & Modernization of the Fire Service**
*Emergency Services Consulting International*

ESCI

## General Organization

Both leadership and management are critical for the effective operation of a fire department. It is important to do things right and to do the right things. Having effective management ensures the procedures and appropriate functions are in place to operate successfully. Leadership is the skill to know how to implement these procedures and functions as they interface with people.

The consolidation of organizations requires new baseline management components that allows it to move forward in an organized and effective manner. In the absence of foundational management elements, the organization will tend to operate in a random and generally ineffective manner if not degenerate or revert to individual practices of the original organizations creating confusion, complexity and eventually morale. Required of the new organization would be these foundational management elements: a mission statement, a vision statement in form of broad goals, a values statement, and a strategic plans identifying future objectives.

The mission statement should tell why the consolidated department exists and how the mission will be executed. The mission statement will guide decision-making to do what is necessary to minimize loss both of lives and property. This statement is broad enough to allow flexibility in methods but narrow enough to prevent straying from the mission.

The vision statement is the declaration of what the organization wants to become in the future. It is not always reachable within the resources and abilities that are available today. It recognizes that the organization is not necessarily where the members would like it to be but sets goals that are reachable by accomplishing the objectives. This statement effectively communicates how the organization will accomplish their mission through the three lines of defense providing suppression and rescue services while utilizing education and code enforcement to prevent incidents from happening.

The values statement defines common values that members hold important and is key to understanding internal performance standards, rewards and discipline which can be the foundation for defining excellent performance. It is critical the words or phrases used are well understood in the same way by all members, otherwise there can be confusion on actions, rewards, and disciplines.

There is real value in having the mission, vision, and values statements reviewed by a group that represents a cross-section of the organization. This assures that all can understand, support, and live the messages contained in the statements.

An organization should establish appropriate documentation, policies, procedures, and identification of internal and external issues that affect the agency. Processes must also be established to address the flow of information and communication within the organization as well as with its constituents and both towns' elected officials. Regulatory documents consist of bylaws, policies and procedures, employee handbooks, and standard operating procedures or guidelines. These documents may be called different things.

An on-going review of the procedures and policies should be scheduled. It is recommended to have every policy reviewed within a three-year window. Taking one-third of the policies each year can make this less of a task. Also, utilizing a committee of personnel from within the organization can spread the workload and involve others. This is especially true of standard operating guidelines (SOGs). Since firefighters are expected to know and operate under these

guidelines, it makes sense to have them also review for any changes that may have been implemented in practice but not yet changed in the SOGs.

## Capital Assets

Three basic resources are required to successfully carry out the mission of a fire department: trained personnel, firefighting equipment, and fire stations. No matter how competent or numerous the firefighters are, if reliable capital equipment is not available, the department would be unable to safely and effectively execute its mission. The essential capital assets for use in emergency operations are facilities and apparatus (response vehicles). Of course, the agencies' financing ability determines the level of capital equipment it can acquire and make available for use by emergency personnel. The following section assesses East Gwillimbury and Georgina's capital facilities and apparatus.

## Ownership

Under a consolidation, the towns of East Gwillimbury and Georgina would maintain ownership of the current capital assets, such as facilities. Maintaining some jurisdictional ownership through this transition creates simplicity and avoids complicated transfers. However, as the cooperative services organization grows and matures, joint capital asset ownership may be appropriate for new facilities and apparatus.

## Facilities/Halls

Fire halls play an integral role in delivering emergency services for several reasons. A station's location will dictate, to a large degree, response times to emergencies. A poorly located station can mean the difference between confining a fire to a single room and losing the structure. Fire stations also need to be designed to adequately house equipment and apparatus and meet the organization's and its personnel's needs. It is vital to research needs based on service demand, response times, types of emergencies, and projected population growth before making a station placement commitment.

Consideration should be given to a fire hall's ability to support the department's mission as it exists currently and into the future. The activities that take place within a fire hall should be closely examined to ensure the structure is adequate in both size and function:

- The housing and cleaning of apparatus and equipment, including decontamination and disposal of biohazards
- Residential living space and crew quarters for on-duty personnel (all genders).
- Kitchen facilities, appliances, and storage.
- Bathrooms and showers (all genders).
- Administrative and management offices; computer stations and office facilities for personnel
- Training, classroom, and library areas
- Staff fitness area

## Station Assessment

In reviewing the condition of the existing stations relative to the previous factors, the following is a rough criteria used to identify the condition of the existing fire stations.

**Figure 6: Criteria Utilized to Determine Fire Station Condition**

| | |
|---|---|
| **Excellent** | Like new condition. No visible structural defects. The facility is clean and well-maintained. The Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. No significant defect history. Building design and construction match the building's purposes. Age is typically less than ten years. |
| **Good** | The exterior has a good appearance with minor or no defects. Clean lines, good workflow design, and only minor wear on the building interior. The roof and apparatus apron are in good working order, absent any significant full-thickness cracks, crumbling of the apron surface, or visible roof patches or leaks. Building design and construction match the building's purposes. Age is typically less than 20 years. |
| **Fair** | The building appears to be structurally sound, with a weathered appearance and minor to moderate non-structural defects. The interior condition shows normal wear and tear but flows effectively to the apparatus bay or offices. Mechanical systems are in working order. Building design and construction may not match the building's purposes well. Showing increasing age-related maintenance but with no critical defects. Age is typically 30 years or more. |
| **Poor** | The building appears to be cosmetically weathered and worn with potentially structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling concrete on the apron may exist. The roof has evidence of leaking and/or multiple repairs. The interior is poorly maintained or shows signs of advanced deterioration with moderate to significant non-structural defects. Problematic age-related maintenance and/or major defects are evident. It may not be well suited to its intended purpose. Age is typically greater than 40 years. |

### Keswick Fire Hall 1-4 (Poor)

The Georgina Fire Hall, known as Keswick Hall 1-4, is located at 165 The Queensway South, Keswick. The building was built in the late 1980s and operated as a car dealership and service center for several years before the Town of Georgina purchased and renovated the property in the late 1990s. The large parking lots, raised concrete patio, multiple bays, and general layout keeps the building's resemblance to the former car dealership.

Georgina Fire Department utilizes the building as the department's headquarters. Inside, the department made modifications to form a front reception area, captain's office, chief's office, two fire deputy offices, one administration office, and an open-area fire prevention office space. Also included in the previous dealership's showroom is a large classroom area with multimedia and various training props. In addition, there is an emergency standby generator on the premises.

From an operations standpoint, the fire hall uses four forward-facing apparatus bays for frontline units. On the opposite side of the building, other bays serve as storage areas and apparatus shelters for non-essential equipment as well as an active response bay. All the bays at Keswick 1-4 are back-in and the station's primary bays utilize a diesel exhaust filter system. Georgina deploys one engine, staffed by full-time employees, and three volunteer-staffed apparatuses from the Keswick station. The fire hall also houses a physical fitness area in a portion of the apparatus bay, gear storage, a turnout gear extractor, and a breathing-air compressor.

For living quarters for the operational staff, the department uses a variety of rooms on different levels to achieve its housing objective. The department provides male and female bathroom facilities, an open kitchen, a large day room, and storage facilities.

Structurally, the building is primarily constructed of concrete and blocks walls, a steel-truss roof, and some areas with metal siding. The structure and property show signs of heavy use with structural deficits. There are cracks in the walls where the building is settling, signs of roof leaks, and multiple repairs of the apparatus apron. Additionally, the building's layout for a fire hall is awkward and inefficient for the mixed administrative and operational workforce. There are offices located throughout the building adjacent to living quarters, and some administrative areas are only accessible from separate exterior pathways. Also, there are low ceilings in the dayroom and signs that the room was once a tire storage room.

This station is approximately 14,000 square feet

The following pieces of apparatus are assigned to this hall:

- R149 – Full-time staffing
- T144 – Volunteer
- PL147 – Volunteer
- Engine 141 – Volunteer
- Marine 1 – Full-time

## Sutton Fire Hall 1-6 (Fair)

The Georgina Fire Hall, known as Sutton 1-6, is located at 37 Snooks Road in Sutton. The building was built in the early 1970s as a volunteer fire station. The station is primarily constructed with masonry exterior walls, steel structure, and wood roof. According to the 2016 facilities report, portions of the walls are likely constructed with wood. The office area was added to the building later.

Overall, the agency rates the building in poor condition. According to ESCI's facilities rating sheet, Georgina states the building appears to be cosmetically weathered and worn with potentially structural defects, although not imminently dangerous or unsafe. Large, multiple full-thickness cracks and crumbling concrete on the apron may exist. The roof has evidence of leaking and/or multiple repairs. The interior is poorly maintained or shows signs of advanced deterioration with moderate to significant non-structural defects. Problematic age-related maintenance and/or major defects are evident. It may not be well suited to its intended purposes. Age is typically greater than 40 years.

Observations made by ESCI are not as harsh. The building does appear to be well-used, but the condition is fair. Both full-time stations faced difficulties during Covid-19 meeting public health measures with regards to the physical distancing. The building appears structurally

sound, with a weathered appearance and minor to moderate non-structural defects. The interior condition shows normal wear and tear but flows effectively to the apparatus bay or offices. Mechanical systems are in working order. Building design and construction may not match the building purpose well. Showing increasing age-related maintenance but with no critical defects.

The building has 1,350 square feet of living space, three back-in apparatus bays, and is equipped with an emergency power generator. Five personnel can sleep in the facility. The sleeping quarters double as a locker, workout, and training room. There is one shower room, and staff can use in-house laundry equipment. Personnel can wash PPE in an extractor located off the apparatus bay. Additionally, the apparatus bays utilize an exhaust removal system. The facility is equipped with fire suppression sprinklers and smoke alarms.

The following pieces of apparatus are assigned to this fire hall:

- R169 – Full-time Staffing
- T164 – Volunteer Staffing
- A166 – Volunteer Staffing
- Marine 2 – Cross-staffed by Duty Crew

## Pefferlaw Fire Hall 1-8 (Excellent)

The Georgina Fire Hall, known as Pefferlaw 1-8, is located at 270 Pefferlaw Road in Pefferlaw. The building was first occupied in April 2021. The facility is a brick and concrete building with a renovated church attached. The new structure replaced an aging and small two-bay facility next door.

Overall, the agency rates the building in excellent condition. According to ESCI's facilities rating sheet, Georgina states the building appears to have a like-new condition. There are no visible structural defects, and the facility is clean and well-maintained. The interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. There is no significant defect history. The building's design and construction match its purposes. Age is typically less than ten years.

ESCI's observations are consistent with the condition of the building. However, the design of the building, though aesthetic, does not particularly provide efficiency in the staff's movement. Although there is no full-time staff, provisions have been made for future full-time staffing.

The building is 10,690 square feet, has three back-in apparatus bays, and is equipped with an emergency power generator. There are gender-specific shower rooms, and staff can use in-house laundry equipment. Personnel can wash PPE in an extractor located off the apparatus bay. Additionally, the apparatus bays utilize an exhaust scrubber system. The facility is equipped with fire suppression sprinklers and smoke alarms.

The following pieces of apparatus are assigned to this fire hall:

- E181 – Volunteer Staffing
- E182 – Volunteer Staffing
- T184 – Volunteer Staffing
- T185 – Volunteer Staffing

### Holland Landing Fire Hall 2-4 (Good)

The East Gwillimbury Fire Hall, known as Holland Landing 2-4, is located at 19314 Yonge Street, Holland Landing. The building was built in 2002. The facility has a brick facade and non-combustible construction. This paid-on-call fire hall is the headquarters and provides a work location for all administrative staff.

Overall, the agency rates the building in good condition. According to ESCI's facilities rating sheet, East Gwillimbury states the exterior has a good appearance with minor or no defects. Clean lines, good workflow design, and only minor wear on the building interior. The roof and apparatus apron are in good working order, absent any significant full-thickness cracks or crumbling of the apron surface or visible roof patches or leaks. The building's design and construction match its purpose. Age is typically less than 20 years.

ESCI's observations are consistent with the condition of the building. Although there is no full-time staff, the building's design will support the potential transition to 24-hour staffing, however interior modifications will be required and relocation of administrative staff. There is a full kitchen, training room, and individual lockers.

The building is 6,650 square feet, has two drive-through apparatus bays, and is equipped with an emergency power generator. There are gender-specific shower rooms, and staff can use in-house laundry equipment. Personnel can wash PPE in an extractor located off the apparatus bay. Additionally, the apparatus bays utilize an exhaust removal system. The facility is equipped with fire suppression sprinklers and smoke alarms.

The following pieces of apparatus are assigned to this fire hall:

- P241 – paid-on-call Staffing
- T244 – paid-on-call Staffing
- A246 – paid-on-call Staffing
- Technical rescue trailer

### Mount Albert Fire Hall 2-6 (Good)

The East Gwillimbury Fire Hall, known as Mount Albert 2-6, is located at 22 Princess Street, Mount Albert. The building was built in 2015. The facility is of brick facade, non-combustible construction. This is an all-paid-on-call fire hall.

Overall, the agency rates the building in excellent condition. According to ESCI's facilities rating sheet, East Gwillimbury states the building appears to have a like-new condition. There are no visible structural defects, and the facility is clean and well-maintained. The Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. There is no significant defect history. The building's design and construction match its purposes. Age is less than ten years.

ESCI's observations are consistent with the condition of the building. This fire hall is the third of its kind on the lot. There was an original station, a station that burned, and then this facility. Although there is no full-time staff, the building's design will not support the potential for future 24-hour staffing. There are no bunk rooms or overnight facilities. There is a full kitchen, training room, and individual lockers.

The building is 4,924 square feet, and has two drive-through apparatus bays and one back-in bay. The fire hall is equipped with an emergency power generator. There are no gender-neutral facilities or female restrooms or showers. The one non-public restroom and shower is labeled "men." Personnel can wash PPE in an extractor located off the apparatus bay. Additionally, the apparatus bays utilize an exhaust removal system. The facility is equipped with fire suppression sprinklers and smoke alarms.

The following pieces of apparatus are assigned to this fire hall:

- P261 –  paid-on-call Staffing
- T264 –  paid-on-call Staffing
- R269 –  paid-on-call Staffing
- UTV and trailer

### Queensville Fire Hall 2-8 (Excellent)

The East Gwillimbury Fire Hall, known as Queensville 2-8, is located at 1590 Queensville Sideroad Rd, Queensville. The building was built in 2015. The facility is of brick façade, non-combustible construction. This is a composite fire hall with paid-on-call and full-time staff.

Overall, the agency rates the building in excellent condition. According to ESCI's facilities rating sheet, East Gwillimbury states the building appears to have a like-new condition. There are no visible structural defects, and the facility is clean and well-maintained. The Interior layout is conducive to function with no unnecessary impediments to the apparatus bays or offices. There is no significant defect history. The building's design and construction match its purposes. The age is less than ten years.

ESCI's observations are consistent with the condition of the building. This fire hall is a renovated community center that was completed in 2016. The facility supports full-time staff, and the building's design supports future growth. There are bunk rooms and overnight facilities. There is a full kitchen, training room, and individual lockers.

The building is 6,650 square feet and has two drive-through apparatus bays. The fire hall is equipped with an emergency power generator. There are male and female restrooms and showers. Personnel can wash PPE in an extractor located off the apparatus bay. Additionally, the apparatus bays utilize an exhaust removal system. The facility is equipped with fire suppression sprinklers and smoke alarms.

The following pieces of apparatus are assigned to this fire hall:

- P281 – Full-Time Staffing
- T284 –  paid-on-call Staffing
- R289 –  paid-on-call Staffing

### Station Maintenance

Station and facilities maintenance in the consolidated organization does not change from the stand-alone organizational model. Facilities within the jurisdictional borders are maintained and funded by that jurisdiction. Each local government will maintain the current and future facilities within their respective geographical areas.

## Fleet

No piece of mechanical equipment or vehicle can be expected to last indefinitely. As apparatus age, repairs tend to become more frequent and more complex. Parts may become more difficult to obtain, and downtime for repair and maintenance increases. Given that fire protection, EMS, and other emergencies prove so critical to a community; downtime is one of the most frequently identified reasons for apparatus replacement.

Additionally, Georgina's fleet maintenance shop provides a central location for the repairs and preventative maintenance for the consolidated organization. The facility's staff maintain NFPA standards alignment and have the capacity to expand if East Gwillimbury vehicles join the shop's fleet responsibility. Additionally, the on-call road-side mechanics can be formalized and economies of scale improved with services to a consolidated organization.

Both Georgina and East Gwillimbury have fleet replacement schedules through the capital improvement plan. As one innovative approach to monitoring maintenance and replacement, the agencies can monitor the maintenance-to-acquisition ratio. Specific benchmarks can be developed over time using maintenance and downtime data. As an example, when the total maintenance costs reach 60-70% of the acquisition price, the apparatus should move from a frontline service position to a reserve. Before reaching 90%, the agency should liquidate the apparatus asset.

Additionally, an important consideration when evaluating the feasibility of consolidating fire departments into a combined organization is the cost associated with the future replacement of major equipment. NFPA 1901: Standard for Automotive Fire Apparatus recommends that fire apparatus 15 years of age or older be placed into reserve status, and apparatus 25 years or older should be replaced. This is a general guideline, and the standard recommends using the following objective criteria in evaluating fire apparatus lifespan:

- Vehicle road mileage
- Engine operating hours
- The quality of the preventative maintenance program
- The quality of the driver-training program
- Whether the fire apparatus was used within its design parameters
- Whether the fire apparatus was manufactured on a custom or commercial chassis
- The quality of workmanship by the original manufacturer
- The quality of the components used in the manufacturing process
- The availability of replacement parts

**Figure 7: Criteria & Method for Determining Apparatus Replacement**

| Evaluation Components | Points Assignment Criteria |
|---|---|
| **Age:** | One point for every year of chronological age, based on in-service date. |
| **Miles/Hours:** | One point for each 10,000 miles or 1,000 hours |
| **Service:** | 1, 3, or 5 points are assigned based on service-type received (e.g., a pumper would be given a 5 since it is classified as severe duty service). |
| **Condition:** | This category takes into consideration body condition, rust interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the assignment of points. |
| **Reliability:** | Points are assigned as 1, 3, or 5, depending on the frequency a vehicle is in for repair (e.g., a 5 would be assigned to a vehicle in the shop two or more times per month on average; while a 1 would be assigned to a vehicle in the shop an average of once every three months or less. |

| Point Ranges | Condition Rating | Condition Description |
|---|---|---|
| Under 18 points | Condition I | Excellent |
| 18–22 points | Condition II | Good |
| 23–27 points | Condition III | Fair (Consider Replacement) |
| 28 points or higher | Condition IV | Critical (Immediate Replacement) |

The following tables provide an outline of the available fleet of the consolidated fire service organization.

**Figure 8: Apparatus Inventory**

| Unit | Apparatus Type | Manufacturer | Year | Condition | Original Cost | Mileage | Station |
|---|---|---|---|---|---|---|---|
| PL147 | Platform | HME 104' Platform | 2019 | Excellent | $1,300,000 | 14,109 | 1-4 |
| R149 | Rescue/Pumper | Carrier | 2021 | Excellent | $850,000 | 17,300 | 1-4 |
| T144 | Pumper/Tanker | Spartan MetalFab | 2018 | Excellent | $709,000 | 15,967 | 1-4 |
| E141 | Pumper (Engine) | International Engine | 1999 | Fair | $210,000 | 65,207 | 1-4 |
| Marine 1 | Ice/Water Rescue | Husky | 2008 | Fair | $180,000 | N/A | 1-4 |
| Marine 2 | Boat & Trailer | Stanley | 2020 | Excellent | $325,000 | N/A | 1-4 |
| CH1-1 | SUV | Durango | 2022 | Excellent | $65,000 | 0 | 1-4 |
| CH1-2 | SUV | Tahoe | 2019 | Excellent | $49,000 | 130,000 | 1-4 |
| CH1-3 | SUV | Durango | 2015 | Good | $63,000 | 235,000 | 1-4 |
| FP1401 | SUV | GMC Terrain | 2016 | Excellent | $34,400 | 59,109 | 1-4 |
| FP1402 | SUV | Ford Escape | 2019 | Excellent | $28,000 | 21,715 | 1-4 |
| S 1-4 | Pick Up | Ford Super Duty F250 | 2019 | Excellent | $46,000 | 15,002 | 1-4 |
| A166 | Aerial | Spartan Metrostar | 2009 | Good | $650,000 | 216,639 | 1-6 |
| T164 | Pumper/Tanker | Spartan Metro Star | 2016 | Good | $644,000 | 27,775 | 1-6 |
| R169 | Pumper/Rescue | Spartan Metrostar | 2018 | Good | $600,000 | 117,692 | 1-6 |
| U160 | Pick Up | Ram | 2014 | Good | $34,100 | 54,467 | 1-6 |
| T184 | Tanker | GMC 1600 | 1998 | Fair | $136,000 | 28,092 | 1-8 |
| T185 | Tanker | GMC 1600 | 2002 | Fair | $151,500 | 42,298 | 1-8 |
| E181 | Pumper (Engine) | Spartan Force | 2011 | Fair | $300,000 | 202,670 | 1-8 |
| E182 | Pumper (Engine) | Freightliner FL80 | 2003 | Fair | $597,000 (replacement cost) | 310,637 | 1-8 |
| A246 | Aerial/ladder | HME Specter 111' | 2017 | Excellent | $1,223,000 | 18,563 | 2-4 |

| Unit | Apparatus Type | Manufacturer | Year | Condition | Original Cost | Mileage | Station |
|------|----------------|--------------|------|-----------|---------------|---------|---------|
| T244 | Tanker | Spartan Metro Star | 2011 | Good | $450,000 | 39,249 | 2-4 |
| P241 | Rescue/Pumper | Spartan Advantage | 2008 | Good | $400,000 | 90,404 | 2-4 |
| Car 3 | Pickup Truck | Chevrolet Silverado | 2014 | Fair | $40,000 | 85,297 | 2-4 |
| Car 4 | Pickup Truck | Ram | 2013 | Fair | $35,000 | 69,845 | 2-4 |
| Car 5 | Pickup Truck | Chevrolet Silverado | 2015 | Good | $40,000 | 42,375 | 2-4 |
| Car 7 | Pickup Truck | Chevrolet Silverado | 2016 | Good | $60,000 | 104,909 | 2-4 |
| T264 | Tanker | Spartan Gladiator | 2012 | Very Good | $500,000 | 82,668 | 2-6 |
| R269 | Rescue/Pumper | Freightliner FM2 | 2016 | Very Good | $400,000 | 5,801 | 2-6 |
| P261 | Rescue/Pumper | Spartan Metro Star | 2014 | Very Good | $450,000 | 11,614 | 2-6 |
| Car 6 | Pickup Truck | Chevrolet Silverado | 2015 | Good | $40,000 | 28,222 | 2-6 |
| T284 | Tanker | Spartan | 2015 | Very Good | $500,000 | 16,528 | 2-8 |
| R289 | Rescue/Pumper | Freightliner FM2 | 2016 | Very Good | $400,000 | 21,873 | 2-8 |
| P281 | Rescue/Pumper | Spartan | 2021 | Excellent | $1,000,000 | 15,024 | 2-8 |

## Fire Station Coverage

This section provides an overview of the existing stations coverage. Georgina has determined that new stations are necessary and with ESCI's endorsement, is pursuing the relocation of one station further north and an addition of a south station. The existing locations of fire stations and proposed ones are in the next graphic.

**Figure 9: Fire Station Coverage w/New Georgina Stations**
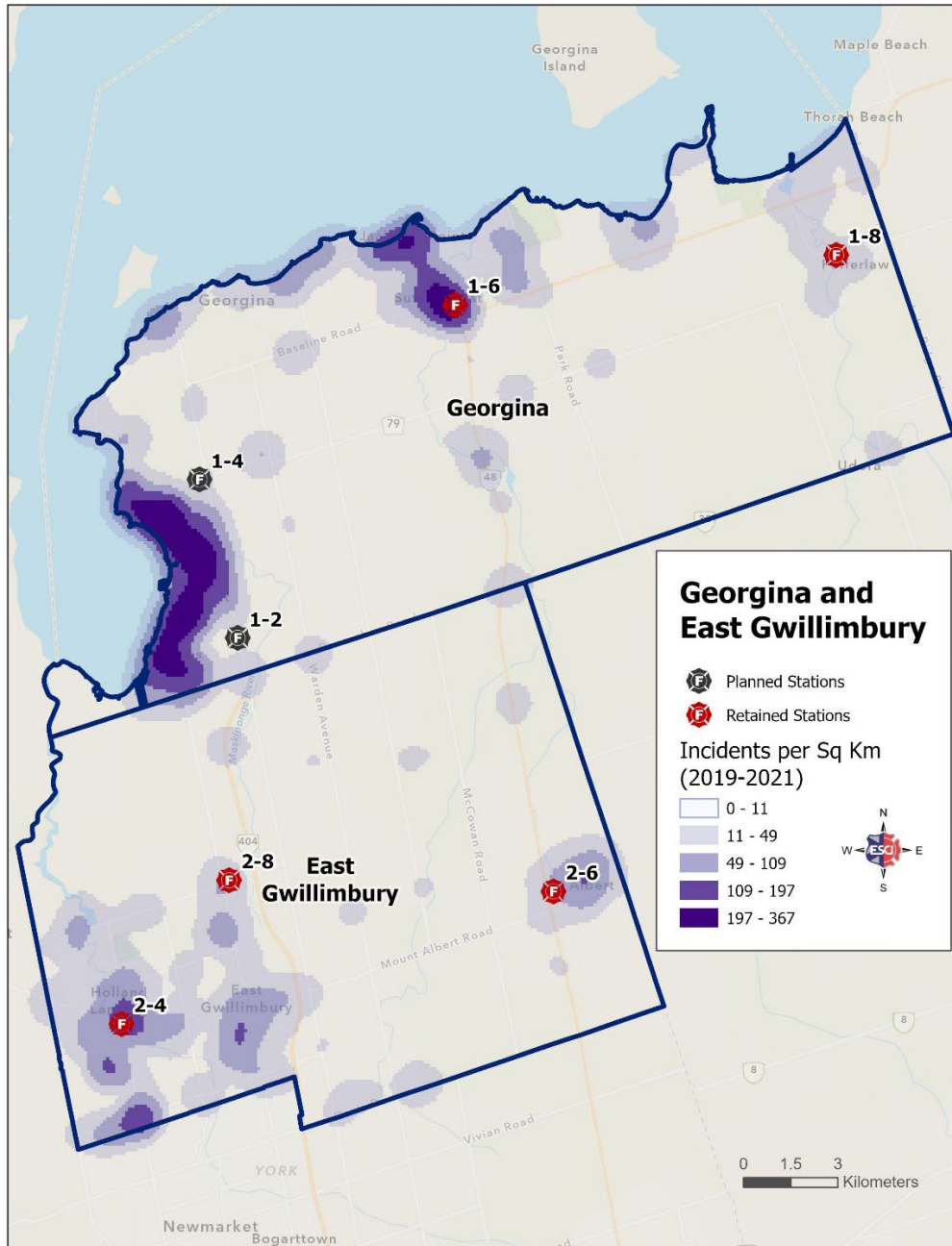


Georgina is pursuing their station relocation based on call density and risk of which the graphic shows most intensely around stations 1-4 and 1-6. The relocation of these two stations also provides greater coverage depth to the southern portion of the town. East Gwillimbury's stations

are currently adequately located according to response statistics and data but do show long response times to the northeast section of the town. In addition, the fourth station is proposed in the 10-year capital plan along the Green Lane corridor to address anticipated increased call volumes in that area. Both towns show long response times when responding outside of their immediate response districts such as in simultaneous calls and a multi-unit response.

Data must continue to be monitored in determination of the proposed future stations as outlined in Strategy 2. Once standards are established, data can be collected and compared against the standard to determine if standards are met. Then an evaluation takes place to identify the costs associated with meeting the standard. Once the evaluation takes place, a determination can be made of the value of adding an additional fire station to meet a performance standard versus its costs.

## Finance

The purpose of this section is to determine if consolidation could provide any long-term savings due to streamlined operational costs. While many have assumed that consolidation will provide only positive results, there are potential impacts that should also be considered.

There are two perspectives regarding financial benefits in consolidation efforts:

1) There will be anticipated long-term financial savings as a result of the reduction of duplication between the communities and gains from economies of scale. In other words, service levels remain the same but at a lower cost.
2) There is an improvement in service levels with no additional costs. In other words, quality of services go up while avoiding potential future costs to increase that service level that may have been required alone.

Service quality and finances are two of the significant benchmarks for consolidation consideration.

In a consolidation of GFRS and ECSS, the nature of the organizations are such that any consolidation would be more of the second perspective than the first. If benefits were to be experienced, it would likely be service quality improving while avoiding future costs as opposed to a cost savings from duplication elimination. The methodology used for this study is that there will be "no job loss for full-time staff, paid-on-call staff or volunteers". Since in the 2022 budgets, Georgina's personnel costs make up 83% of the budget and East Gwillimbury's 85% of their budget, savings would have to be from non-personnel costs and it is likely they would not be significant.

## Analysis Summary

Expenditures for both municipalities are similar to those of other fire departments that ESCI has analyzed. Over the past five years, pay rates between the two organizations are nearly identical with each town occasionally experiencing being the higher of the two. Both towns have nearly the same number of employees when career and volunteer staffs are combined. However, East Gwillimbury has a higher percentage of paid-on-call staff (75.7%) than Georgina's volunteer staff (55.0%) creating a higher per employee expense for Georgina. However, wage and benefit harmonization and consolidation considerations around payroll classes will need to be made to

ensure equity between the two municipalities. This is likely the area that would have the highest costs of consolidation.

If there are decisions regarding continuing with the composite fire service model, incentives may need to be provided to enhance recruitment/retention, which would be another expenditure that would increase costs. However, with this additional cost, this would still equate to a cost effective service compared to transitioning to an all career department.

There will be one-time cost that would be associated with consolidation efforts, including but not limited to process integration efforts, software integration costs, equipment required to bring either municipality up to a mutually agreed upon standards. There would also be costs associated with the new department "startup", such as costs of rebranding, uniform standardization, communications (radios), and any necessary fleet and training necessities.

While the budgets of both municipalities were analyzed to determine feasibility of operations, the financial impact to the service area will depend on the structure of the combination of both departments as there would be some nominal savings in individual line items, such as training, etc. These savings, however, could also be offset due to the increased personnel costs that would be necessary for consolidation such as wage harmonization or staffing adjustments that may come about as a result of operations standardization. Overall, while economies of scale can result from the consolidation, it is likely these savings would also be nominal.

## Analysis Detail

This section of the study provides a financial impact analysis on capital and operating expenditures, including background information on the historical and current financial conditions of the GFRS and ECSS. The forecasted budget for a consolidated department (2022– 2028) follows after the historical analysis (2018– 2021).

In order to provide an overall understanding and provide an accurate analysis and comparison of the fire services, ESCI reviewed the individual historical expenditures for each respective agency. This review is limited based on the historical information provided to the amount of detail that was included. Individual agency historical trends were used to develop assumptions leading to financial forecasts expenditures for the comparable periods provided. It should be noted that forecasting for either town is not straightforward. A model used for expense forecasting is historical trends. ESCI forecasts took the total difference between the 2018 and 2021 grand totals, translated it into an annual average and used that average to project future expenses.

The historical analysis provides the basis for which a general modeling trend can be projected to help determine the assumed fiscal viability of a consolidation. This analysis relies on documentation provided by the departments, including actual and adopted budget documents and both departments' annual comprehensive financial reports (ACFRs) and audits as available.

Financial analysis is an important part of determining the potential for fire department consolidation. While the financial analysis, based on currently available data and assumptions, indicates that consolidation of the fire services provides limited financial benefits to both municipalities, specific savings cannot be determined unless there is detailed information as to where streamlined efforts can be made to provide cost savings.

A modeled projection is designed to fairly represent monetary policy and practices used by each agency and to neutralize differences or account for financial oddities. This modeling approach allows for a fair comparison to be made of the departments, affording a realistic public cost for combined operations to provide a means to evaluate the financial impact of effective integration. However, it is not intended to be an exact budget as much greater detail would be needed as well as a reconciliation between the two towns about how to combine their financial organization in a manner that allows line-by-line comparisons.

## Historical Expenses

The following analysis reviews historical expense for each department. For a quick revenue perspective, each department has different revenue streams, although both rely primarily on property tax revenue.

### Georgina Fire and Rescue Services Department

The GFRS is a department of the general fund for the town of Georgina and allows for a comparison of its impact to the general fund. Operating Expense for the purpose of analysis does include reserves and debt service to supply a review as to how much it affects the town's general fund.

The GFRS makes up 21 percent of the town's general fund (GF) budget. There are multiple divisions in the operating budget for Emergency Management, Fire Prevention, Firefighting Force, Fleet, Keswick, Sutton, and Pefferlaw Fire Halls, and Training Officer. The 10-year capital improvement program (CIP) includes fire station repairs, a new fire station, capital equipment and vehicle replacements, which receives primary funding from Development Charges and tax funded capital reserve.

The town collects development charges to raise funds for infrastructure improvements resulting from growth development. Sutton Fire Hall and Keswick Fire Hall are part of the development charge rates that are set for residential and non-residential developments.

The fiscal year for the department starts January 1 and ends December 31. Shown in the following figure is the total taxable assessed value for 2022 for Georgina, along with the GFRS net operating budget.

#### Figure 10: Georgina Fire Department Budget and Finance Overview, FY 2022

| Component | Description |
|---|---|
| Fiscal Year | Jan 1 – Dec 31 |
| Total Taxable Assessed Value[1] | $9,479,199,259 |
| Total Budgeted Property Tax Revenue (FY 22) | $47,141,340 |
| Net Operating Budget | $9,826,650 |

The budget for the GFRS was broken down into different categories. However, some of ESCI's analysis considered the total combined budget for the entire department, in order to provide more comparable analysis with East Gwillimbury.

The following figures show the GFRS expenses by major category for the period FY 2018-2021 actuals. Debt Service and Reserves were considered part of the operating costs. Salaries and benefits increased by 15.9% over the three year time frame or 5.3% annually. Total building maintenance significantly increased in 2020 but was down by 15% in 2021. Equipment and vehicle maintenance has increased a total of 35.9% over the 2018-2021 time period or an average of 11.97% annually. Expenses to other agencies and municipalities has remained unchanged over the period at approximately $193,000 annually.

**Figure 11: GFRS Expenses, FY 2018 - FY 2021 Actuals**

| Categories | Actuals 2018 | Actuals 2019 | Actuals 2020 | Actuals 2021 |
|---|---|---|---|---|
| **Salaries and Benefits** | $6,771,500 | $6,765,900 | $8,153,376 | $7,850,457 |
| **Property and Building Maintenance, Operations and Repairs** | $133,051 | $165,202 | $208,349 | $178,994 |
| **Equipment and Vehicles Maintenance, Operations and Repairs (excluding technology)** | $280,321 | $291,171 | $313,188 | $380,930 |
| **Materials and Supplies** | $79,422 | $79,448 | $99,195 | $69,265 |
| **Other Agencies/Municipalities** | $193,865 | $187,569 | $196,661 | $195,534 |
| **Software Licenses, Maintenance and Hardware** | $1,294 | $989 | $1,422 | $829 |
| **Training, Professional Development and Memberships** | $58,148 | $50,654 | $56,745 | $56,626 |
| **Uniforms and Safety Clothing** | $26,179 | $37,945 | $28,011 | $28,096 |
| **Debt** | | | | $157,869 |
| **Insurance** | $61,000 | $71,080 | $71,080 | $88,850 |
| **Reserve** | $543,700 | $543,700 | $543,700 | $543,700 |
| **Grand Total** | **$8,148,480** | **$8,193,658** | **$9,671,727** | **$9,551,150** |

**Figure 12: GFRS Expense by Major Category, FY 2018-2021 Actuals**
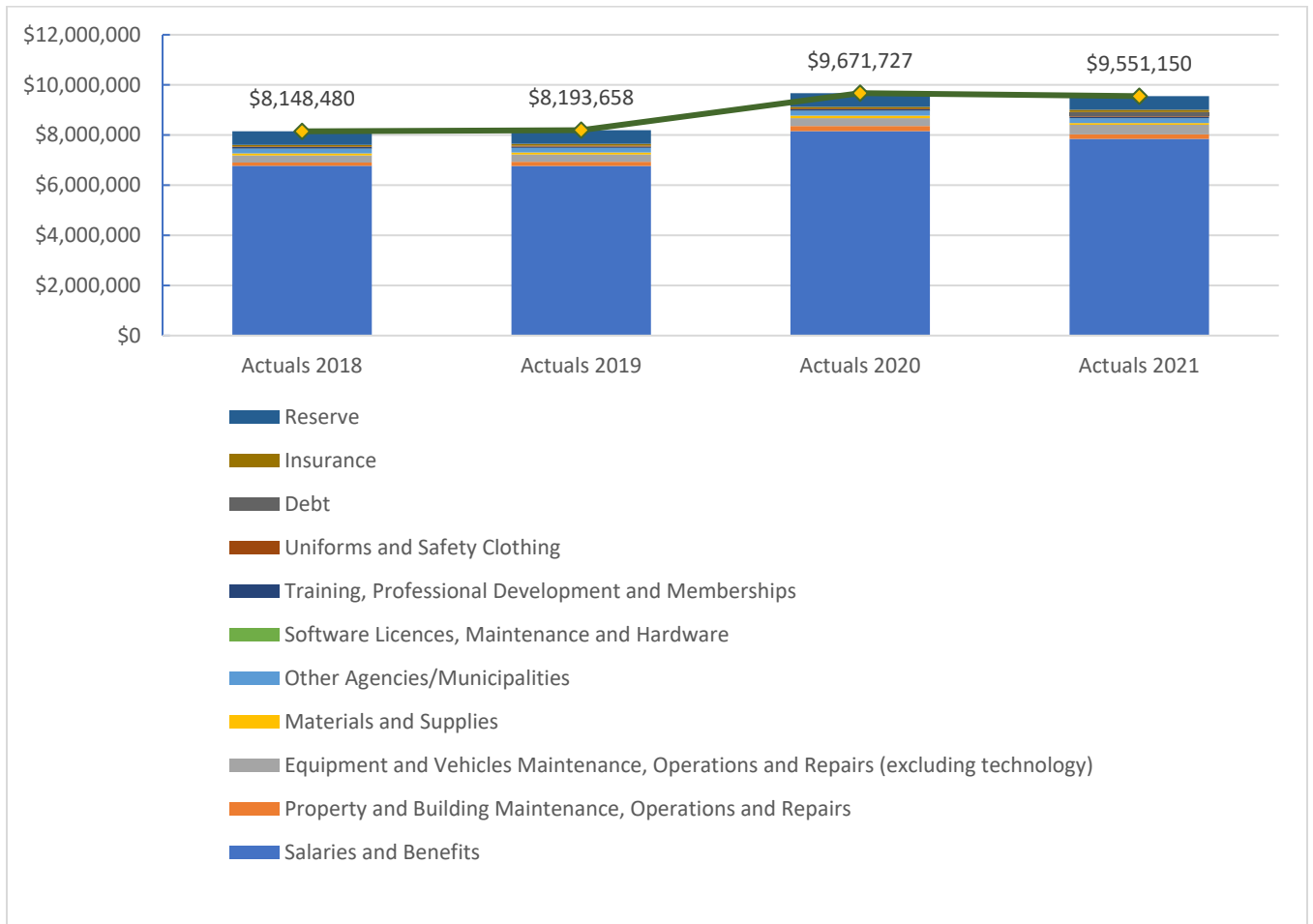
**East Gwillimbury Emergency and Community Safety Services**

The Emergency and Community Safety Services (ECSS) is a department within the budget for the town. The agency operates on a January 1 to December 31 fiscal year. The total expenditure budget for the ECSS department is approximately $5,342,434 which represents 19% of the budgeted property tax revenue for the Town. The town collects development charges to raise funds for infrastructure improvements resulting from growth development.

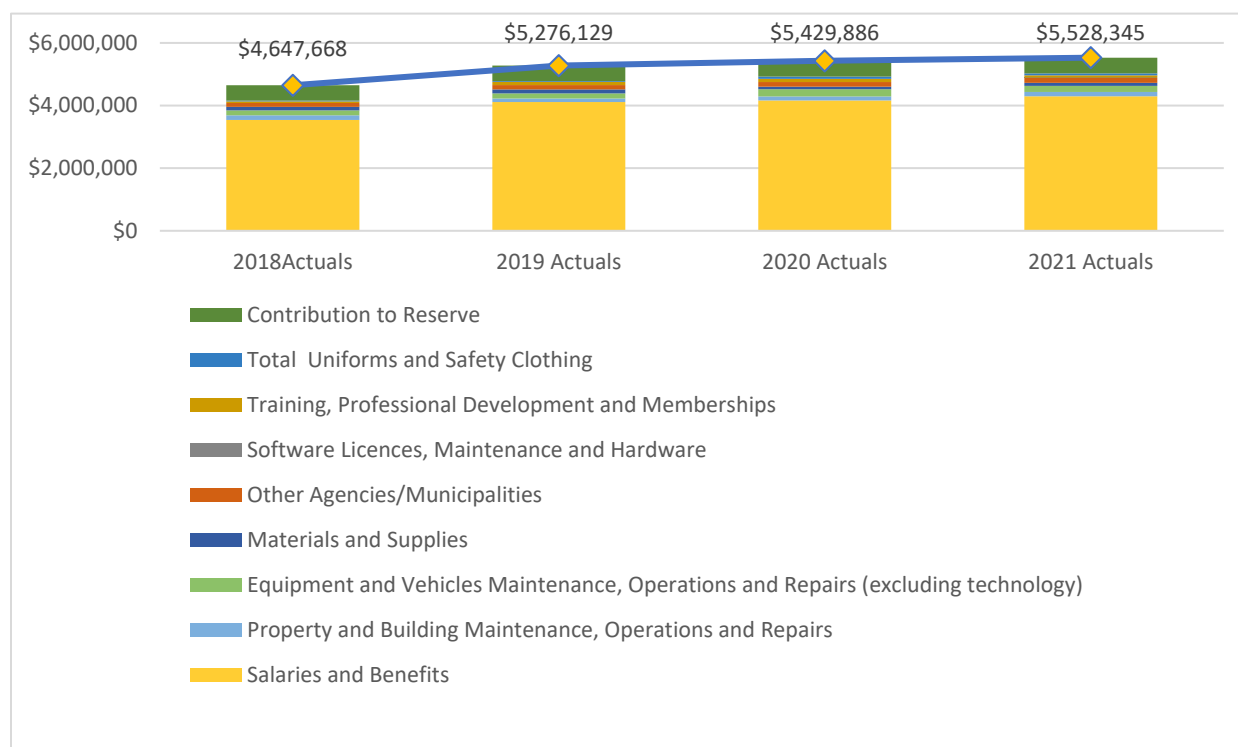**Figure 13: ECSS Budget and Finance Overview**

| Component | Description |
|---|---|
| Fiscal Year | Jan 1–Dec 31 |
| Assessed Property Value (FY 22) | $8,977,280,217 |
| Total Budgeted Property Tax Revenue (FY 22) | $27,641,080 |
| Operating Budget | $5,342,434 |

There are multiple divisions in the operating budget for Strategy and Admin, Emergency Management, Community Education and Fire Prevention, Operations, Fleet, and Training. The 10-year capital plan includes land purchase and construction for a new fire station, capital equipment, recruitment training costs for paid-on-call, and vehicle replacements.

The budget for the ECSS was broken down into different categories. The following figures show the ECSS actual expenses by major category for the fiscal years 2018-2021. Reserves are considered outside of the operating costs, while still part of the total fund balance. Salaries and benefits increased by 21.4% over the three year time frame or 7.1% annually. Total building maintenance decreased in 2019 and has slowly increased over the past two years. On average, building maintenance is approximately $132,000 annually. Equipment and vehicle maintenance has increased a total of 20.5% over the 2018-2021 timeframe with 2020 being higher than the average rate. The annual average is approximately 6.85%. Expenses to other agencies and municipalities has slowly increase over the period to approximately $165,000 annually or an increase of 35.7% over the time frame and an average of 11.9% annually.

**Figure 14: ECSS, FY 2018-FY 2021 Actuals**

| Categories | 2018 Actuals | 2019 Actuals | 2020 Actuals | 2021 Actuals |
|---|---|---|---|---|
| **Salaries and Benefits** | $3,538,253 | $4,111,998 | $4,163,392 | $4,295,458 |
| **Property and Building Maintenance, Operations and Repairs** | $149,181 | $111,263 | $126,277 | $139,637 |
| **Equipment and Vehicles Maintenance, Operations and Repairs (excluding technology)** | $158,181 | $164,126 | $230,308 | $190,679 |
| **Materials and Supplies** | $112,165 | $128,095 | $80,962 | $101,596 |
| **Other Agencies/Municipalities** | $121,706 | $140,507 | $150,836 | $165,103 |
| **Software Licenses, Maintenance and Hardware** | $0 | $0 | $0 | $3,760 |
| **Training, Professional Development and Memberships** | $53,768 | $97,631 | $103,084 | $67,887 |
| **Total Uniforms and Safety Clothing** | $25,814 | $28,909 | $72,081 | $61,279 |
| **Contribution to Reserve** | $488,600 | $493,600 | $502,946 | $502,946 |
| **Total Expenditures** | **$4,647,668** | **$5,276,129** | **$5,429,886** | **$5,528,345** |

**Figure 15: ECSS Expense by Category, FY 2018-2021 Actuals**



Legend:
- Contribution to Reserve
- Total  Uniforms and Safety Clothing
- Training, Professional Development and Memberships
- Software Licences, Maintenance and Hardware
- Other Agencies/Municipalities
- Materials and Supplies
- Equipment and Vehicles Maintenance, Operations and Repairs (excluding technology)
- Property and Building Maintenance, Operations and Repairs
- Salaries and Benefits

## Future Consolidation

In this section, ESCI has completed a forecast to identify the financial impact to each of the Towns of having a consolidated department. This forecast considers expenses only. In the consolidation model chosen to be examined where one fire department joins to the other fire department under a primary employer, the consolidated budget becomes a budget within a town's budget and not a completely independent budget. Services such as information technology, human resources, procurement and others may be a part of the primary employer's budget and not part of the fire department budget. Consequently, every line item that could be affected by a consolidation was not necessarily evaluated however, those with the greatest impact were.

While theoretical analysis is being made, exact amounts as to the dollar amount of consolidation cannot be determined as the character of the studied organization had a great level of detail to be worked out that potentially could affect some costs. However, a sample future cost projection is provided for reference and should not be used as fact. Both departments operate on the same fiscal calendar, therefore consolidation would not pose any effect on financial year ends.

### Consolidated Expenditures

The projected expenditures combined similar line items in a simple addition formula. Given no loss of staff and the locations of the fire stations, the combined assets of both organizations would not be a great deal different from the sum of the two individual ones as each of the stations would function very similar to the way they do now.

For the consolidated department, the capital impact is expected to be minimal, as there are no requirements assumed for the construction of additional joint fire stations. The finance analysis was done for the purposes of comparison between the two communities and does not include any additional staffing that would be part of Georgina building an additional station. This is because no discussions have taken place regarding how this additional station and its associated expenses would be allocated, if at all, between the two communities. While Georgina is budgeting for two new fire stations (one additional and one replacement), the total construction expense is considered a Georgina expense and not an expense to be shared with East Gwillimbury. Given the potential structure of a consolidated organization with each side (town) potentially remaining very close to how it currently performs, both organizations' 10 year capital investment plans (capital plans) are likely to remain in place even though forms of the plans may change with a primary employer model that holds all of the operating costs. Future one-time purchases that are planned in certain years could be used to enhance the effect of the budget, however, status quo is being used for future projections to provide more conservative annual operational impacts.

Within the analysis, ESCI also assessed whether there would be any one-time costs that might occur as a result of consolidation, for example contract and collective agreement costs. While there is a necessity to undertake a process to streamline polices between the two towns, the responsibility for doing so could be undertaken by the administration of one of the towns or could be folded into the existing roles and responsibilities. Finally, there may be one-time costs expected for software integration as all staff would be added to the existing technology enterprise system of the municipality that is the primary employer.

In the calculations below, ESCI used a combination of provided numbers and historic averages to determine projected costs for 2023, the starting point for projections. Beyond that, ESCI used an average of past trend averages between the two communities for the projected expenditures through 2028. Given the low likelihood of significant total organization expense changes as a result of a consolidation, and to keep salaries and benefits of equal proportion between the communities, the projections for each year were based on the joined averages of the individual line items rather than a single overall budget increase number.

The following figure projects combined expenditures with the listed increase percentages: Salaries & Benefits (5.63%), Property and Building Maintenance (2.36%), Equipment and Vehicle Maintenance (2.22%), Materials & Supplies (3%), Other Agencies/Municipalities (5.51%), Software Licenses and Maintenance (6.82%), Uniforms (5%), and Training (6.76%). Debt and insurance lines are based on Georgina's budget lines provided.

**Figure 16: Consolidated Projected Expenses, FY23 - FY27**

| CATEGORIES | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|
| **Salaries and Benefits** | $12,932,093 | $13,659,560 | $14,427,950 | $15,239,563 | $16,096,832 |
| **Property and Building Maintenance, Operations, Repairs** | $316,784 | $334,604 | $353,426 | $373,307 | $394,307 |
| **Equipment and Vehicles Maintenance, Operations and Repairs (excluding technology)** | $482,475 | $509,616 | $538,283 | $568,563 | $600,547 |
| **Materials and Supplies** | $185,496 | $191,061 | $196,793 | $202,696 | $208,777 |
| **Other Agencies/Municipalities** | $380,967 | $402,398 | $425,034 | $448,943 | $474,198 |
| **Software Licenses, Maintenance, Hardware** | $6,177 | $6,525 | $6,892 | $7,280 | $7,689 |
| **Training, Professional Development and Memberships** | $146,337 | $154,569 | $163,264 | $172,448 | $182,149 |
| **Uniforms and Safety Clothing** | $101,537 | $106,614 | $111,944 | $117,542 | $123,419 |
| **Debt** | $308,887 | $326,262 | $344,616 | $364,001 | $384,477 |
| **Insurance** | $91,516 | $96,664 | $102,101 | $107,845 | $113,911 |
| **Reserves** | $1,213,766 | $1,282,044 | $1,354,162 | $1,430,338 | $1,510,798 |
| **Total Expenditures** | **$16,166,035** | **$17,069,916** | **$18,024,465** | **$19,032,526** | **$20,097,104** |

Salary and Benefits will continue to increase as a result of inflation, increases in longevity-oriented compensation and likely increases of benefits due to benefit harmonization between the two communities. Property and Building Maintenance is a line item that will likely decrease in total as a result of Georgina's new stations while at the same time but being offset by higher utility costs as a result of an additional station. Other Agencies which include dispatch expenses should be expected to increase as the population grows as cost formulas for 9-1-1 services are based on population. Materials and Supplies remain unchanged other than inflationary increases. Software and Training will increase as additional technologies are embraced within the organization, equipment needs to be replaced, and more consolidated training develop.

In determining the contribution by each municipality, a cost allocation exercise will need to be held to determine factors such as call volume, service district expenditures, population area served, etc. that will affect appropriations. This is explained in more detail in the Cost Allocation Strategies section.

## Summary

In determining cost savings with a consolidation, the bulk of expenditures are within the wages and benefits categories. Consequently, the impact potential of a consolidation is greatest in these budget categories. However, guidelines on the consolidation identify that there will be no personnel losses due to the consolidation which means savings or expenditures would be limited to the differences in the actual wage scales and not changes in quantities of personnel.

**Figure 17: Wage Analysis**

| | Georgina | East Gwillimbury |
|---|---|---|
| **Full-time firefighters (based on collective agreement)** | | |
| **Salary Schedule** | Date / 1st Class FF: 2018 $99,100; 2019 $100,983; 2020 $103,205; 2021 $105,046; 2022 $106,839 | Date / 1st Class FF: 2018 $98,296; 2019 $100,262; 2020 $102,488; 2021 $104,435; 2022 $106,367 |
| **Progression Scale** (based on 1st class) | • 100% - 1st Class<br>• 90% - 2nd Class<br>• 80% - 3rd Class<br>• 70% - 4th Class<br>• 60% - 5th Class<br>• 55% - Probationary | • 100% - 1st Class<br>• 90% - 2nd Class<br>• 80% - 3rd Class<br>• 70% - 4th Class<br>• 60% - Probationary |
| **Differentials** (based on 1st class) | • Fire Prevention Officer (118%)<br>• Fire Training Officer (118%)<br>• Captain (118%) | • Fire Prevention Officer (116%)<br>• Fire Training Officer (116%)<br>• Captain (116%) |
| **Paid-on-call/volunteer firefighters** | | |
| **Salary Schedule** | • Training: $50.87/hr. (2hr flat rate)<br>• Training: $29.44 (any additional hours)<br>• Incident Response: $45.82 (1st hour and 15 minutes)<br>• Incident Response: $29.44 (any additional hours) | Rank / Response / Training:<br>Senior Officer 60.16 / 35.04<br>Captain 55.83 / 32.24<br>1st Class 48.13 / 28.04<br>2nd Class 43.32 / 25.23<br>3rd Class 38.50 / 22.43<br>4th Class 33.69 / 19.63<br>Probationary 28.88 / 16.82 |

## Cost Allocation

In a jointly managed department, a key element to be agreed up on is how to finance the single organization. The determination of how to allocate costs to individual communities is called cost allocation. Factors describing various methods for cost allocation strategies are described in detail in the Appendix of this report.

## Allocation Summary/Weighting

The information provided in the Appendix serves as a detail of cost allocation factors. Given the lengthy discussion provided with each option, ESCI has compiled the information into a summary figure illustrating the distribution of factors between the two agencies. These examples are for illustrative purposes and may be used as part of a check for fairness of assigning of the cost for service.

**Figure 18: Cost Allocation Summary**

| Town | Area | Assessed Value | Deployment (Total Staff) | Service Demand | Population | Average |
|------|------|------|------|------|------|------|
| Georgina | 54.7% | 51.3% | 53.4% | 64.6% | 58.7% | **56.54%** |
| East Gwillimbury | 45.3% | 48.7% | 46.6% | 35.4% | 41.3% | **43.46%** |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |
| WEIGHT | 20% | 20% | 20% | 20% | 20% | **100%** |

Cost allocation formulas can use all of the above columns with an average as depicted or any combination of them. In addition, the chart in Figure 9 assumes all the attributes are weighted evenly. With five attributes to consider, each attribute carries a 20% weight. (20% * 5 elements = 100%)

There may be preference that one particular attribute, such as service demand, should carry a higher weight than the other attributes. The figure below displays this preference.

**Figure 19: Weighted Cost Allocation Summary**

| Town | Area | Assessed Value | Deployment (Total Staff) | Service Demand | Population | Average |
|------|------|------|------|------|------|------|
| Georgina | 54.7% | 51.3% | 53.4% | 64.6% | 58.7% | **56.54%** |
| East Gwillimbury | 45.3% | 48.7% | 46.6% | 35.4% | 41.3% | **43.46%** |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |
| WEIGHT | 15% | 15% | 15% | 40% | 15% | **100%** |

The next two figures show how costs would change based on weighting assuming an example of a fire department organization with a $5 million budget. The first chart depicts how much a town's contribution goes towards each attribute when they are equally weighted. In the second chart, Service Demand is given a higher weight than the other four. When both charts are compared, Georgina would have a higher than East Gwillimbury net contribution when service demand carries a higher weight. The Central York Fire Service uses a distribution formula that includes population, assessed value, and emergency responses.

**Figure 20: Cost Allocation w/Equal Weight Distribution**

| Town | Area | Assessed Value | Deployment (Total Staff) | Service Demand | Population | Total |
|------|------|------|------|------|------|------|
| Georgina | $547,000 | $513,000 | $534,000 | $646,000 | $587,000 | **$2,827,000** |
| East Gwillimbury | $453,000 | $487,000 | $466,000 | $354,000 | $413,000 | **$2,173,000** |
| **Total** | **$1,000,000** | **$1,000,000** | **$1,000,000** | **$1,000,000** | **$1,000,000** | **$5,000,000** |
| WEIGHT | 20% | 20% | 20% | 20% | 20% | **100%** |

The next figure depicts how much a town's contribution goes towards each attribute when service demand carries a higher weight than the other attributes.

**Figure 21: Cost Allocation w/Weighted Attribute**

| Town | Area | Assessed Value | Deployment (Total Staff) | Service Demand | Population | Total |
|---|---|---|---|---|---|---|
| Georgina | $410,250 | $384,750 | $400,500 | $1,292,000 | $440,250 | **$2,927,750** |
| East Gwillimbury | $339,750 | $365,250 | $349,500 | $708,000 | $309,750 | **$2,072,250** |
| **Total** | **$750,000** | **$750,000** | **$750,000** | **$2,000,000** | **$750,000** | **$5,000,000** |
| WEIGHT | 15% | 15% | 15% | 40% | 15% | **100%** |

Note that weighing service demand higher than the other four equally-weighted attributes increased Georgina's contributions from $2,827,000 to $2,927,750, an increase of $100,750 or 3.5%. This would be appropriate since Georgina had a higher call volume than East Gwillimbury.

Weighting is not used to correct perceived discrepancies. It is used when there is agreement that one particular attribute has a greater VALUE to be considered than the others.

## Potential Funding Scenarios

With the various cost allocation funding identified, below are potential costing scenarios based on the increases in the above consolidated department projections over the next 5 years. These scenarios combine the latest budgets for the purposes of comparison assuming that costs will not increase or decrease relative to standalone department budgets but rather the consolidation provides a service improvement at the same cost. Also, it assumes that proportions between the two communities' funding attributes stays the same for the next five years. It is likely though that attribute proportions, such as assessed value and population would likely change and should be evaluated annually or bi-annually. This should be part of the Terms of Reference Agreement between both towns.

## Scenario #1

Equal weighted (20%) measurement across area, assessed value, deployment, service demand, and population attributes.

**Figure 22: Cost Allocation Scenario #1**

| SCENARIO #1 | | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|
| Total Budget | | $17,069,916 | $18,024,465 | $19,032,526 | $20,097,104 | $21,221,371 |
| GEORGINA | Pct | | | | | |
| Area (20%) | 54.7 | $1,867,449 | $1,971,876 | $2,082,158 | $2,198,623 | $2,321,618 |
| Assessed Value (20%) | 51.3 | $1,751,373 | $1,849,310 | $1,952,737 | $2,061,963 | $2,177,313 |
| Deployment (20%) | 53.4 | $1,823,067 | $1,925,013 | $2,032,674 | $2,146,371 | $2,266,442 |
| Service Demand (20%) | 64.6 | $2,205,433 | $2,328,761 | $2,459,002 | $2,596,546 | $2,741,801 |
| Population (20%) | 58.7 | $2,004,008 | $2,116,072 | $2,234,419 | $2,359,400 | $2,491,389 |
| TOTAL CONTRIBUTION | 56.54 | $9,651,331 | $10,191,033 | $10,760,990 | $11,362,903 | $11,998,563 |
| | | | | | | |
| EAST GWILLIMBURY | Pct | | | | | |
| Area (20%) | 45.3 | $1,546,534 | $1,633,017 | $1,724,347 | $1,820,798 | $1,922,656 |
| Assessed Value (20%) | 48.7 | $1,662,610 | $1,755,583 | $1,853,768 | $1,957,458 | $2,066,962 |
| Deployment (20%) | 46.6 | $1,590,916 | $1,679,880 | $1,773,831 | $1,873,050 | $1,977,832 |
| Service Demand (20%) | 35.4 | $1,208,550 | $1,276,132 | $1,347,503 | $1,422,875 | $1,502,473 |
| Population (20%) | 41.3 | $1,409,975 | $1,488,821 | $1,572,087 | $1,660,021 | $1,752,885 |
| TOTAL CONTRIBUTION | 43.46 | $7,418,585 | $7,833,432 | $8,271,536 | $8,734,201 | $9,222,808 |

## Scenario #2

Equal weighted (33%) measurement across assessed value, service demand, and population attributes.

**Figure 23: Cost Allocation Scenario #2**

| SCENARIO #2 | | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|
| Total Budget | | $17,069,916 | $18,024,465 | $19,032,526 | $20,097,104 | $21,221,371 |
| GEORGINA | Pct | | | | | |
| Assessed Value (33.3%) | 51.3 | $2,916,037 | $3,079,101 | $3,251,307 | $3,433,168 | $3,625,226 |
| Service Demand (33.3%) | 64.6 | $3,672,046 | $3,877,387 | $4,094,239 | $4,323,249 | $4,565,099 |
| Population (33.3%) | 58.7 | $3,336,674 | $3,523,260 | $3,720,307 | $3,928,401 | $4,148,163 |
| TOTAL CONTRIBUTION | 58.2 | $9,924,756 | $10,479,748 | $11,065,853 | $11,684,818 | $12,338,487 |
| | | | | | | |
| EAST GWILLIMBURY | Pct | | | | | |
| Assessed Value (33.3%) | 48.7 | $2,768,245 | $2,923,046 | $3,086,524 | $3,259,167 | $3,441,491 |
| Service Demand (33.3%) | 35.4 | $2,012,236 | $2,124,760 | $2,243,592 | $2,369,087 | $2,501,618 |
| Population (33.3%) | 41.3 | $2,347,608 | $2,478,887 | $2,617,524 | $2,763,935 | $2,918,554 |
| TOTAL CONTRIBUTION | 41.8 | $7,128,090 | $7,526,692 | $7,947,640 | $8,392,189 | $8,861,663 |

## Scenario #3

Weighted measurement across area and deployment (35%) but equal weight (10%) across assessed value, service demand, and population attributes.

**Figure 24: Cost Allocation Scenario #3**

| SCENARIO #3 | | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|
| **Total Budget** | | $17,069,916 | $18,024,465 | $19,032,526 | $20,097,104 | $21,221,371 |
| **GEORGINA** | Pct | | | | | |
| **Area (35%)** | 54.7 | $3,268,035 | $3,450,784 | $3,643,777 | $3,847,591 | $4,062,831 |
| **Assessed Value (10%)** | 51.3 | $875,687 | $924,655 | $976,369 | $1,030,981 | $1,088,656 |
| **Deployment (35%)** | 53.4 | $3,190,367 | $3,368,773 | $3,557,179 | $3,756,149 | $3,966,274 |
| **Service Demand (10%)** | 64.6 | $1,102,717 | $1,164,380 | $1,229,501 | $1,298,273 | $1,370,901 |
| **Population (10%)** | 58.7 | $1,002,004 | $1,058,036 | $1,117,209 | $1,179,700 | $1,245,694 |
| **TOTAL CONTRIBUTION** | 56.54 | $9,438,810 | $9,966,628 | $10,524,035 | $11,112,694 | $11,734,357 |
| | | | | | | |
| **EAST GWILLIMBURY** | Pct | | | | | |
| **Area (35%)** | 45.3 | $2,706,435 | $2,857,779 | $3,017,607 | $3,186,396 | $3,364,648 |
| **Assessed Value (10%)** | 48.7 | $831,305 | $877,791 | $926,884 | $978,729 | $1,033,481 |
| **Deployment (35%)** | 46.6 | $2,784,103 | $2,939,790 | $3,104,205 | $3,277,838 | $3,461,206 |
| **Service Demand (10%)** | 35.4 | $604,275 | $638,066 | $673,751 | $711,437 | $751,237 |
| **Population (10%)** | 41.3 | $704,988 | $744,410 | $786,043 | $830,010 | $876,443 |
| **TOTAL CONTRIBUTION** | 43.46 | $7,631,106 | $8,057,837 | $8,508,491 | $8,984,410 | $9,487,014 |

## Scenario #4

Weighted Measurement on Assessed Value (60%) and Population (40%).

**Figure 25: Cost Allocation Scenario #4**

| | | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|
| **Total Budget** | | $17,069,916 | $18,024,465 | $19,032,526 | $20,097,104 | $21,221,371 |
| **GEORGINA** | Pct | | | | | |
| **Assessed Value (60%)** | 51.3 | $5,254,120 | $5,547,930 | $5,858,212 | $6,185,889 | $6,531,938 |
| **Population (40%)** | 58.7 | $4,008,016 | $4,232,144 | $4,468,837 | $4,718,800 | $4,982,778 |
| **TOTAL CONTRIBUTION** | 56.54 | $9,262,136 | $9,780,075 | $10,327,049 | $10,904,689 | $11,514,716 |
| | | | | | | |
| **EAST GWILLIMBURY** | Pct | | | | | |
| **Assessed Value (60%)** | 48.7 | $4,987,829 | $5,266,749 | $5,561,304 | $5,872,374 | $6,200,885 |
| **Population (40%)** | 41.3 | $2,819,950 | $2,977,642 | $3,144,173 | $3,320,042 | $3,505,770 |
| **TOTAL CONTRIBUTION** | 43.46 | $7,807,780 | $8,244,390 | $8,705,477 | $9,192,415 | $9,706,655 |

## Comparison of all scenarios

The next chart shows a comparison of the four different scenarios. A decision on which attributes should contribute to the determination of the formula as well as whether or not any weighting of the individual attributes should be incorporated once a final decision on consolidation is made. Cost allocation strategies are used to represent organizational differences. These differences may be in local value or priorities, work force disparities, community demographics and valuations, and/or geographical factors which are then translated differences to a representative dollar figure.

**Figure 26: Cost Allocation Scenarios Summary**

|  | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|
| **Total Budget** | $17,069,916 | $18,024,465 | $19,032,526 | $20,097,104 | $21,221,371 |
| **SCENARIO #1** |  |  |  |  |  |
| **\* Georgina** | $9,651,331 | $10,191,033 | $10,760,990 | $11,362,903 | $11,998,563 |
| **\* East Gwillimbury** | $7,418,585 | $7,833,432 | $8,271,536 | $8,734,201 | $9,222,808 |
|  |  |  |  |  |  |
| **SCENARIO #2** |  |  |  |  |  |
| **\* Georgina** | $9,924,756 | $10,479,748 | $11,065,853 | $11,684,818 | $12,338,487 |
| **\* East Gwillimbury** | $7,128,090 | $7,526,692 | $7,947,640 | $8,392,189 | $8,861,663 |
|  |  |  |  |  |  |
| **SCENARIO #3** |  |  |  |  |  |
| **\* Georgina** | $9,438,810 | $9,966,628 | $10,524,035 | $11,112,694 | $11,734,357 |
| **\* East Gwillimbury** | $7,631,106 | $8,057,837 | $8,508,491 | $8,984,410 | $9,487,014 |
|  |  |  |  |  |  |
| **SCENARIO #4** |  |  |  |  |  |
| **\* Georgina** | $9,262,136 | $9,780,075 | $10,327,049 | $10,904,689 | $11,514,716 |
| **\* East Gwillimbury** | $7,807,780 | $8,244,390 | $8,705,477 | $9,192,415 | $9,706,655 |

# Sustainable Community Workforce

## Organizational needs of a composite department

No organization will survive long-term without the successful use and support of its workforce. Especially in public safety where the staff on the front lines is the face of the organization, it is imperative that employees feel like they have purpose and value, are adequately trained and equipped and are well-informed on the direction of the organization. In addition, having organizational leadership focus on the why and what of an organization's mission while leaving the how, where, and when to the people responsible for its application can provide enormous benefit as employees adopt the standards accountability that they themselves have set forth.

Georgina and East Gwillimbury have similar organizational structures which means in a consolidated organization, overlap with job responsibilities will exist. Some consolidation efforts with a superficial view, might view this as an opportunity to save money by eliminating positions however what is often overlooked is position depth. Position depth is simply the ability to have more than one person able to perform a specific job function. The benefits of position depth are several:

- Relieves pressure to have a single individual with a significant amount of responsibility
- Allows individuals to be away from their jobs for a period of time without having to be concerned with how their job responsibilities will be accomplished while they are away.
- In leadership positions, provides opportunities for succession planning
- Increases personal motivations for people to aspire to higher positions when they can sample the additional responsibilities
- Encourages a team approach to solution development as more experience and perspectives can be evaluated
- Allows multiple functions to take place simultaneously as team members can be distributed reducing the workload on any one individual.

Poor communications, participation or management can take what appears to be a very viable situation and because of the personal impacts of change can delay or defeat the best of efforts. Understanding the impacts of change on people especially when aspects of their secure and stable environment are at risk can be minimized with good communication and involvement. No matter how logical a decision may appear, affected stakeholders will always look at the impact of the change on themselves. This can be hopefully just an initial reaction to proposed change but to some individuals it will be the only response they have and needs to be addressed.

The Towns of Georgina and East Gwillimbury utilize the composite fire services model with career administrative and operational components as well as volunteer/ paid-on-call response components that would be unchanged in a consolidation. Both municipalities' fire and emergency services consolidation requirements and needs analyses, support the maintenance of the composite fire service model.

From the perspective of the first two lines of defense, both towns have strong support for their fire prevention practices and public education programs. They use the same public materials and have the same organizational philosophies. Consolidating these two divisions will require minimal effort. Both towns have indicated that there is a need to increase their staffing in in fire prevention and education portfolios to continue to address the community risks within their communities.

From the perspective of the third line of defense, total call volume is high enough to warrant a degree of career staffing where the risk and call volume are highest. This will remain unchanged. However, lower population densities and associated low call volumes for large parts of the town areas mean career staffing is not justified especially if there is a reliable volunteer/ paid-on-call workforce, which there is in both communities. Summarily, a consolidated workforce would initially include career-staffed stations (1-4 Keswick, future Keswick South, 1-6 Sutton, and 2-8 Queensville) and volunteer/ paid-on-call stations (1-8 Pefferlaw, 2-4 Holland Landing, and 2-6 Mount Albert). Both organizations operate on identical work schedules with career firefighters working 168 hours over 28 day period. Volunteer/ paid-on-call firefighters are called as needed to respond to incidents to support the initial career staff response or to respond to other incidents. A Working Group should be formed to create a plan for transitioning to a consolidated composite response model.

## Emergency Response

As discussed in the FMPs, both Georgina and East Gwillimbury are challenged to meet fire response standards set out in NFPA 1710 and 1720. With population growth forecasted to rise by up to 40% in the next 10 years, call volumes are expected to also increase substantially. The towns have both acknowledge that these response time delays have significant risk implications for communities unless staffing levels are reviewed to align with the growing demand for services. To meet this growing demand, both towns may need to invest in improving staffing levels through the addition of more fire suppression personnel, including both full time and paid-on-call/volunteer firefighters. This will improve time for response of the first arriving engine, ensure faster assembly of an effective response force, minimize the time spent alone by the first responding unit at a fire scene, and mitigate some of the health and safety implications for firefighters. Performance standard monitoring can assist with establishing trigger-points of when additional staffing is needed.

In East Gwillimbury, the current staffing model places a high reliance on paid-on-call firefighters to meet service needs. Currently, the Town has one career station. This will have to be continually monitored for sustainability over the long term.

In Georgina, the Town relies on the two career station with a depth of response from volunteers to meet service requirements, along with a fully volunteer station.

The Towns currently have different staffing models that need to be taken into consideration in the event of consolidation.

## Administration

Initial analysis and discussions with both Towns indicated that current administrative staffing levels in both towns is insufficient to manage the existing needs and a consolidated department.

The exception to this is that some of the business support roles, specifically in the area of HR, have indicated that they will require additional resources to assist the consolidated department in managing the staffing needs of the employees and to pursue the harmonization of wages, policies, and procedures. That being said, however, it was also acknowledged that the consolidation of fire services may provide quantitative benefits such as economies of scale during activities such as recruitment.

The primary workforce concern then for a consolidation is not whether the consolidation creates an opportunity for reallocation of the workforce but rather how to combine the similar workforce elements between the two organizations. While the two organizations both have composite makeups, the proportion of volunteer/paid-on-call firefighters to career staff and associated values are different; in Georgina they are approximately half the total staff, in East Gwillimbury they are a majority. Since the staffing models are different which means response models are different, a consensus of the models must take place.

## Leadership Team

One of the early questions asked in a consolidation is who will be fire chief of the new organization. A joint process conducted by the towns would need to take place. It is also possible the towns could choose someone other than one of the existing chiefs, possibly from outside both organizations to take the new organization into its new direction. Should the two departments merge, there will be a need for a strong leadership team for a new consolidated composite department. The leadership team will consist of a fire chief, supported by deputy chiefs, as required.

## Labour Agreements

Both organizations' operational career labour forces have collective bargaining agreements. This report will not go into the detail of what needs to transpire to accommodate both collective bargaining agreements however, as part of the consolidation one collective agreement will need to be developed. The ideal situation would be an agreement that the two unions and the two towns can agree upon. Should this fall short, a dispute resolution process can be utilized.

Some elements that would require reconciliation between the two associations are:

- Different employee classification approaches to non-career staff
- Wage and benefit differences including wages and time-off
- Retirement benefit differences
- Command structure and authority

Currently, Georgina and East Gwillimbury do not have formal associations within their volunteer/ paid-on-call ranks. Collaboration and concessions will be required between all parties in order to transition to an effective consolidated composite department.

## Employee & On-Call Resources Work Environment

Both organizations operate on identical work schedules with career firefighters working an average 42 hours per week on 24 hour shifts. Volunteer/ paid-on-call firefighters are called as needed to respond to incidents in their response areas as well as complement career staff response to areas where career firefighters are first to arrive on a scene. Both towns operate similarly. A consolidation though will put the workforces into a single organization and require either adopting one of the existing organization's practices or a compromise of both. This also allows both organizations' staffs, now as a single organization, to be participants in the other's community.

## Health & Wellness

Both organizations value the health and wellness of their staffs and actively participate in the evolving fire service organizational priority of well-being. A consolidated organization will continue to make physical and mental health and wellness of its staff their priority. Initially, as change takes place, it should be expected that there will be stressors encountered as members navigate the new environment. The consolidation of the organizations will provide a depth of resources and experience that allows staff to grow as well as share burdens. Employee assistance programs exist in both municipalities to deal with any transitional issues. Fitness areas and equipment are provided as well.

## Human Resources Support

Moving from two organizations to one under one employer will mean a significant and immediate increase in employees. Both organizations each have approximately one hundred employees. This will require additional human resources staff for the "one employer" organization, as the workload for the human resource division for fire services will double. Additional resources will be required for the initial consolidated department implementation in order to manage the staffing needs of the employees and to pursue the harmonization of wages, policies, and procedures.

Both a Society of Human Resource Managers 2017 report[5] and a Bloomberg Law 2018 HR report identified an average of two HR employees per one hundred employees. While career employees typically occupy more HR time, it should be expected that the HR staff of the employing organization would need to increase by one or two employees. These additional costs would become part of the cost allocation considerations when financing formulas are considered.

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[5] https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/2017-Human-Capital-Benchmarking.pdf

## Recruitment & Retention

In meeting the challenges of the three lines of defence, both Georgina and East Gwillimbury need to examine the recruitment and retention of staff that would be available and ready to meet the standards, guidelines, and expectations of their respective community response and targets as identified in the Fire Master Plans.

## Redefining "Operational" Staffing

Operations staff in a traditional fire department focus primarily on fire suppression and strategy and tactics training. Modern, innovative fire service organizations use the community's risk and the identified needs to drive the programs and services delivered. The operational staff of the modern organization is accountable to their community both in suppression readiness and the ability to mitigate community-specific risk.

## Qualifications

Operational firefighters and company officers work together to deploy services to the community. Within the modern and innovative fire service organization, the staff qualifications establish a baseline for training and education. The Office of the Fire Marshal published, on July 1, 2022, the *Mandatory Certification Information Package for Ontario Fire Services*. The document provides a baseline for firefighter training that generally focuses on traditional emergency operations activities.

In a modern, innovative fire service organization, however, there are qualification that exceed the mandates by the Office of the Fire Marshal. The following are those qualifications:

*NFPA 1035 Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Professional Qualifications:* Within the first two years, a firefighter should complete the qualifications and achieve the knowledge base consistent with NFPA 1035. Operational firefighters in the innovative and modern fire service organization have a life safety education opportunity in every interaction with community members. Capitalizing on these opportunities with training firefighters fosters positive outcomes in the community.

*Vision 20/20 Community Risk Reduction Modules:* The Vision 20/20 Project is hosted by the Institution of Fire Engineers (IFE) – USA Branch (IFE-USA) and is a 501(c) (3) non-profit global organization. Vision 20/20 offers a six-module, free self-study course that covers in-home injury prevention, communications, burn prevention, and more. All firefighters must understand community risk reduction to complement the department's activities.

*Blue Card Command:* Although firefighters typically don't assume incident command roles, there is value in front-line operational staff being trained in incident command topics. All firefighters should take the introductory modules of Blue Card and participate in continuing education through simulation training.

*Emergency Medical Technician*: Firefighters in modern, innovative organizations respond to all types of emergencies. Training to the EMT-Basic level achieves baseline knowledge required for all operational staff.

## Company Officer Qualifications

In addition to the firefighter qualifications listed, there are officer-specific qualifications required by the modern and innovative fire service organization.

*NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plan Examiner:* Within the first two years, an officer should complete the qualifications and achieve the knowledge base consistent with NFPA 1031. Operational officers in the innovative and modern fire service organization have a fire code education and enforcement opportunity during community interactions.

*Blue Card Command:* Company officers should maintain the requirements for the Blue Card Command training program. The program requires self-study, classroom, and scenario-based training. Maintaining Blue Card will provide consistency in incident command across the combined fire service communities.

*Emergency Medical Technician (Paramedic Preferred)*: Officers in modern, innovative organizations respond and support firefighters at all types of emergencies. Training to the EMT-Paramedic level achieves what has become an industry standard across the fire service.

*Bachelor's degree from an Accredited Institution*: Higher education degrees do necessarily make firefighters better firefighters. However, a bachelor's degree (or higher) instills certain characteristics required for supervisory personnel in a modern and innovative fire service organization. Reading, writing, critical thinking, analytics, accountability, and dedication are all tested elements of a high-education degree and align with the needs of the organization.

## Credentialing

The Commission on Professional Credentialing (CPC) through the Center for Public Safety Excellence (CPSE) offers peer-reviewed professional credentialing model that support continuous personal improvement. The model offers six designations that covers fire service professionals. The following are the six designations:

- ▪ Chief Fire Officer – CFO
- ▪ Chief EMS Officer – CEMSO
- ▪ Chief Training Officer – CTO
- ▪ Fire Officer – FO
- ▪ Public Information Officer – PIO

Of the six, only the Chief Fire Officer designation requires the applicate to have a "chief" status. The other five designations are available fire service professionals. The one designation that provides exceptional value to the operational staff in a modern and innovated fire service organization is "Fire Officer." FO is available to all junior officers, company officers, and those individuals who service as acting officers.

Submitting to the credentialing process requires the candidate to create a professional portfolio that the candidate self-assesses on a collection of professional competencies. The competencies measure elements consistent with the knowledge base of the modern fire service. Additionally, the candidate sets professional goals and addresses alignment with firefighter safety initiatives.

The Fire Officer professional competencies are:

- Human Resources Management & Employee Engagement
- Health and Safety
- Community Engagement
- Training, Education, and Instructional Design
- Risk Assessment, Resource Deployment, ICS/IMS, IAP
- Department Administration
- Administration of Incident Reporting
- Codes, Inspections, and Pre-Planning
- Origin and Cause Investigations
- EMS Systems, State and Local Protocols, Infection Control
- Emergency Communications

Once the portfolio is completed, the candidate submits the package to the Commission on Professional Credentialing, who assigns a peer-review team. The peer review team conducts a portfolio review and interview then reports their findings to the CPC.

The credentialing process should be embedded in the modern and innovative fire service organization. From an operational staffing standpoint, the Fire Officer credential offers an excellent opportunity for the company officer and acting officer to develop a professional improvement plan. This approach is outside traditional staff development measures and embraces modernization and innovation.

# Modern and Composite Service Delivery

## Prioritized Community Service

Even the simplest community risk assessment will inform and prioritize community service delivery. Using a risk assessment to service deployment decision-making is a critical piece to transforming a fire service organization's model from traditional to modern and innovative. Building a simple risk assessment into a comprehensive decision-making tool is not an easy task, however, incremental improvements using available data is a great method for success in optimizing the capabilities of the workforce.

## Operations Response Capabilities

A modern, innovative operational workforce is highly trained and capable of mitigating a wide range of community risks. Some community risks evolve into emergencies which need an emergent response by specially trained personnel. These emergent risks, however, may benefit from early intervention.

Firefighters and emergency responders in the modern emergency services organization not only respond to emergencies but respond to identified community risks. Using a comprehensive community risk assessment, operational personnel can prioritize emergency response but also work within the whole-community prevention arena.

The organization should embrace modern and innovative best practices to establish response and prevention performance efficiencies. First, the combined organization should implement a triaged and tiered response procedure in the emergency communications center. The center can process calls for service, assign priority, and assign the most appropriate resource within established timeframes. Integrating automation, vehicle location technologies, and the emergency communication center can calculate response times and assign the most appropriate resource.

Operations personnel should always be available for high-priority emergency response. However, using technology and policy, those operations personnel can be more efficiently used for community service. Considering the measured workload of the operations staff, the fire service organization should determine the level of community risk reduction activities expected from each operational resource.

Considering the time for apparatus checks and maintenance, training, report writing, meals, and rest combined with the total commitment time for emergency response, the department leaders can establish expectations. If the department's expectations for Unit X are four combined hours of inspections, education, and public engagement daily, the department should continuously monitor the unexpected workload fluctuations and manage expectations.

The operations staff's primary responsibility is emergency response. However, there is a significant opportunity for complementing community risk reduction efforts with operations personnel. Managing expectations for the additional workload is important, as is capitalizing on technology application and policy change.

## Education Capacities

It's the responsibility of the entire workforce to expand and optimize all three lines of defense. Education is an important element of decreasing emergency response and improving community outcomes. The key to successful education is determining the community risks that are best intervened through strategic learning. A comprehensive risk assessment will contribute to improved performance in this line of defense.

Considering the communities and neighborhoods in the area of responsibility, the department should define risk-based engagement topics for education. Internal and external data sources provide insight into community risk, and the data's interpretation exposes the foci for engagement. As an example, the City of Charlottesville in Virginia analyzed its nineteen neighborhoods. Each neighborhood community had some similarities but showed differences in many risk factors. Some neighborhoods showed a high prevalence of structure fire risk, whereas others showed an increased risk of cardiovascular disease, pedestrian accidents, and ground-level falls.

Not all education is fire safety education. Not all communities have a fire problem. Data-driven risk assessments guide community risk reduction activities to provide the right content, in the right location, for the right audience. In Georgina and East Gwillimbury, community risk reduction practitioners should use risk assessment to create canned educational material for specific communities or populations. Company officers and department educators can use the canned material to guide the conversations and outreach.

Capitalizing on technology, the department can use mapping applications to show the engagement topics and links to available materials based on the location of the educator. Cloud-based file storage and web links are powerful tools when deploying information to people outside of a typical office environment. With today's mobile technology, there are few limitations on deploying practical innovations.

Since nearly all of the department members carry a smartphone in their pockets and mobile devices are in frontline apparatus, there is an opportunity to increase efficiency. Using tools such as ArcGIS Survey123 or ArcGIS FieldMaps, field data collection is easier than ever and both fire and emergency departments have been successfully using this technology. Department personnel should easily collect demographic and attendance information during education events and engagements. The collected information and location of the submission will drive future decision-making and can help expose the outcomes of risk-reduction activities in the community.

## Prevention Capabilities

When all company officers complete the NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plan Examiner training, the capabilities for prevention are optimized. Combining the efforts of dedicated prevention staff in the combined organization with operations staff supplementing their efforts, the department can capture improved outcomes.

Operations staff conducting prevention inspections can also achieve economies of scale by combining activities into one visit. Inspections are great opportunities for strategy and tactics discussion, business engagement, and pre-incident planning. Additionally, as mentioned previously, department members can collect inspection, pre-planning, and business

engagement information on mobile devices using mobile technology solutions. The real-time data collection will decrease the administrative workload when they return from the stations.

Dedicated prevention staff should align their inspection activities with a community risk assessment. Again, a good risk assessment can drive efficiency and decrease workload. Fire safety inspections should be prioritized and scheduled based on the risk. Inspections in facilities where visitors sleep, areas of childcare, and housing for the elderly may be of higher priority than off-season retail establishments or non-hazardous storage buildings.

Climate and seasons can affect prevention priorities. In the month preceding the first freeze, the prevention staff should (directly or indirectly) engage with facilities with dry sprinkler systems. A phone call, email, or postcard can remind the maintenance staff to express the collected water in low-point drains, thus reducing the number of alarm activations because of frozen pipes. Furthermore, December each year brings increased stock to retailers, which may block exits and increase fire potential. The increased inspector presence can remind store managers to keep their areas safe for patrons and employees.

## Service Delivery Efficiencies Through Partnership

There are common side effects of adopting the models of community risk reduction. The actions of a modern and innovative fire service organization using risk assessments and data will improve efficiency and decreases workload. Additionally, community risk reduction identifies potential strategic partnerships.

Matching community response and partnership is a vital part of the modern and innovative fire service organization. Viewing the whole community through the lens of risk-based service delivery, fire service leaders see the opportunities in partnering with organizations more suited to match the needs of individuals. Understanding that incident prevention and recovery-focused community response generate the greatest opportunities for improved outcomes. Modern, innovative fire service organizations understand the department's and community's priorities and best matches them to program and service delivery.

Strategic partnerships in the fire service are those collaborations with third-party service providers that eliminate duplication of efforts. When fire service personnel identify a service provider working in the same space, there is likely an opportunity for a strategic partnership. Considering the three lines of defense, education is generally the most impacted by the partnership. School teachers, church volunteers, meal service organizations, and more can be a complementary addition to deliver consistent messaging and material. Using risk assessments, the modern and innovative fire service organization can provide insight to the strategic partners and improve their service delivery too.

The University of Virginia Health System is a great example. In 2020, the Charlottesville Fire Department engaged the large health system and provided risk assessment insight. As a result, the health system changed its approach to community health and used the fire department's risk assessment to guide its service delivery. The partnership served as a catalyst for improved health outcomes, decreases in emergency response in specific communities, and increases in community workload efficiency.

As a result, the partnership eliminated service duplication. Now, community health workers from the health system are engaging community members on fire safety topics, checking smoke

alarms, requesting smoke alarms and CO alarm assistance, and increasing the awareness of healthy habits in neighborhoods of specific risk. The reach of Charlottsville's educational line of defense is extended through partnership and, in turn, decreases the department's workload.

# Data Collection, Visualization, and Utilization

Data collection, visualization, and utilization in the modern, innovative fire service organization is the foundation for progress and sustainability. The data and resulting analytics drive decision-making throughout a progressive organization. Performance data analytics reaches far beyond simple response times and can encompass unit commitment, quantitative incident weighting, and more. Data drive decision-making, and the robust use of data through storytelling exposes outcomes that change the hearts and minds of policymakers.

However, the decisions and stories are only as good as the data and resulting analytics. Weak analytics or self-guided interpretation can result in negative outcomes and unsustainable progress. Poorly managed data collection and records management quickly results in misinformation. Knowing the organization's data is insufficient or inaccurate and moving forward is just bad practice.

The Towns of Georgina and East Gwillimbury should continue the data collection and management to ensure visualization, and utilization is on point. The policy and continuous staff training will drive clean and complete data collection and retention. Furthermore, modern fire service organizations use quality assurance and management practices to monitor information. For Georgina and East Gwillimbury's consolidated organization, ensuring the quality assurance and data consistency is an appropriate first step.

Currently, Georgina and East Gwillimbury utilize FireHouse software for maintaining their records. In 2024, a new RMS system will be implemented in both municipalities to replace the current system which is the end-of-life. This is an added advantage in the event of the departments'' consolidation. Collecting standardized records across the two communities allows for an environment where community and response data can be compared. The common RMS must be supported and up-to-date. Fire service leaders must monitor and plan for a system's end of life and avoid working in systems that no longer support updates and innovations.

A reliable and efficient RMS should act as a hub and spokes system. Fire inspections, community engagements, fleet management, incident responses, and supplies should all be integrated and related. Daily apparatus checks should inform the fleet manager. Incident reports should inform the logistics officer. Incident response reports should inform fire prevention activities.

## Technology for Improved Community Outcomes

### Mobile Data Collection

In a modern and innovative fire service organization, the information collection and management process should leverage data from mobile devices. Field data collection is a standard in many industries; however, the fire service has historically lagged behind technology. With nearly every member carrying a smartphone in their pocket, the opportunities are endless. Additionally, utilizing mobile devices in frontline apparatus provides a similar opportunity. Both Georgina and East Gwillimbury currently using mobile devices for this exact purpose.

Since nearly all innovative RMS/software solutions offer cloud-based platforms, integrating smartphones is easier than ever. Staff should be able to use municipal devices to collect and report information. However, they should have the option to use their personal device to do the same. Apparatus checks, pre-incident planning, inspections, and public engagement information are great opportunities for personal devices. Introducing QR codes to provide immediate access to information can be a game changer in a fire hall.

## Community Data Collection and Crowd Sourcing

Using the community connect process, placing QR codes on apparatus and literature can improve field data collection. These practices lead to improvement in data collection and decision-making. To take a step further, it is vital to show the outputs of data collection. Providing public-facing dashboards, reports, and interactive tools can increase buy-in by the community and the workforce alike. Both Georgina and East Gwillimbury are using QR codes for various applications.

Software companies, such as First Due, provide tools for community members to interact with their fire service organization. Their community connection tool allows family members to provide care details, business owners to provide after-hours contact information, and more. Gathering information from outside of the organization is important because workforce data collectors are not everywhere.

Outside of the RMS environment, there are times to collect "one-off" data. In the instances of natural disasters and civil unrest, creating and deploying a mobile data collection tool can yield amazing results. ESRI, a global GIS company, offers a host of data products. Using ArcGIS Survey123, the fire service organization can spin up a simple form that collects point data, images, and user-generated information to identify downed trees, closed roads, groups of people, and more. ArcGIS Survey123 is a great tool for both public and workforce collection. Both Georgina and East Gwillimbury have been successfully using this technology.

ArcGIS Field Maps is a tool that can be used to update existing information. For example, if the public used ArcGIS Survey123 to identify the location of a damaged fire department connection, a fire service member can use ArcGIS Field Maps to verify and update the location, condition, or status of the device.

As discussed early in the report, fostering community partnerships increases the reach of the fire service organization and improves outcomes. Innovative fire service organizations should implement measures to collect partner activity and progress information to improve communication with the partnering organizations. Community connections through the RMS, available tools through GIS or other innovative approaches can be used.

# Summary Consolidated Fire Service vs Modernized Standalone Departments

As the fire service continues to evolve in response to changes in the community both culturally and demographically, human nature will always require public safety. Change is now one of the few things that is constant. A modernized fire department must get comfortable with the thought that cultural expectations and community adaptation will be a regular part of good strategic thinking. As a result, evaluations like these may be more frequent and talked about more than just occasionally.

As local governments continue to research the best ways of keeping costs low while maintaining levels of service, potential economies of scale and the reduction of duplication will be inviting. However, community expectations will carry weight as measurable costs and efficiencies may not be sufficient against intangibles such as control, tailored community services, and community character. These are also factors elected officials must weigh.

A 21st century fire department modernization effort is not only about determining measurable economics but also the character of the organization. The larger an organization gets through consolidation, the more competing priorities from member communities can create complexity.

Both Georgina and East Gwillimbury are poised to grow significantly over the next few decades, East Gwillimbury a bit more than Georgina. Both fire service organizations recognize the character of their communities are changing and wonder whether a consolidation would make them better prepared for the anticipated growth.

There are pros and cons to both standalone organizations and a consolidated one for Georgina and East Gwillimbury. The pros and cons of standalone versus consolidated oppose each other.

Below is a comparison chart of the three options, comparing them from various perspectives. Since this is a strategic-level report, the three strategies are representations of long-term conditions that reflect the quality of the service long-term. They do not include change management issues that may create a few temporary challenges that are expected to disappear once the change is complete.

| | Standalone Department | | Standalone Department with Shared Services | | Consolidated Department | |
|---|---|---|---|---|---|---|
| | Pros | Cons | Pros | Cons | Pros | Cons |
| Governance | Local authority and control stays with local town | Services may appear duplicate<br><br>Continuation of any existing (e.g. funding, policies, etc.) issues (if any) will continue. | Local authority and control stays with local town | Complexity to some approval processes, such as procurement, etc.<br><br>Greater coordination and mutual considerations required | Efficiency and consistency in decision making as it affects larger area | More difficult for unique approaches to each community's needs<br><br>Must address community priority differences<br><br>Loss of local identify<br><br>Implementation complexity<br><br>Multiple reporting channels |
| Management | Smaller departments usually result in better understanding of staff needs and closer working relationships between leadership and staff | Each fire and emergency service has its own leadership team.<br><br>Risk of management overload, limited strategic resources, lack of functional depth and specialization for management functions. | Smaller departments usually result in better understanding of staff needs and closer working relationships between leadership and staff<br>Sharing of best practices | Complexity is added to decision-making over services that are shared<br><br>Necessitates a strong working relationship between each town's leadership<br><br>Greater coordination and mutual considerations required | Potential functional duplication can be transitioned to depth<br><br>Potential managerial effectiveness increases<br><br>Greater potential for streamlining job responsibilities | Larger organizational hierarchy<br><br>Potential larger workload for management team<br><br>Competing demands for service and priority make it challenging to find an optimal allocation of time across the priorities of both municipalities |

| Administration & Planning | Strategic activities focus solely on the needs, expectations and aspirations of the local community | Limited inter-municipal cooperation required for strategic activities (development of a master fire plan, community risk assessment etc.) | Sharing of best practices<br><br>Alignment of processes between two communities | Complexity of the initial implementation<br><br>Constant communication and collaboration to prevent disputes<br><br>Greater coordination and mutual considerations required | Focused effort to optimizing municipal initiatives such as developing strategic and operational plans Common activities such as Key Performance Indicators analysis and reporting, development of continuous improvement programs etc.<br><br>Consistent data collection | Technology challenges of shared collaboration platforms between the municipalities<br><br>Ongoing complexity to determine strategic goals, objectives, and service levels |
|---|---|---|---|---|---|---|
| Capital Assets | Sole ownership of assets | Greater asset expense for acquisition and lifecycle maintenance | Shared assets can reduce expenses | Greater coordination and mutual considerations required | Capital can be shared<br><br>Potential lower capital requirements<br><br>Potential for asset optimization<br><br>Greater potential for capital projects to meet the needs of a modernize fire service | Assets may need to be negotiated<br><br>Since assets will be funded by both organizations, there is potential for a debate on municipal needs<br><br>The ability to demonstrate the need of one area or another<br><br>Equalization of assets |

| **Finances** | Complete decision-making authority over expenditures

Local taxpayers see a direct benefit to their investment | May not be able to take advantage of economies of scale

Lower financial resources | Complete decision-making authority while being able to share some expenses | More complexity to financial decision-making and prioritization

Greater coordination and mutual considerations required | Some purchasing economies of scale

Reduce need for future organizational depth by combining resources

Increased depth of operation

The capital and operating cost of services can potentially be reduced

A larger department creates opportunities to pursue larger scale partnerships and collaboration | Complexity to financial allocations

Potential mismatch over funding priorities

Complexity to financial allocations

Potential mismatch over funding priorities

Conflict potential over the earlier allocations of operating or capital reserves

Potential disparity in benefits programs for employees coming from the non-primary employer. |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **Operations** | Local community establishes performance standards and priorities<br><br>Staff are serving their local community and have greater commitments and knowledge of risks<br><br>Each department continues to operate as a separate municipal department with its own policies and procedures and municipal reporting structure | Cannot meet some performance standards due to organizational size<br><br>Continued limited initial capacity to respond to large scale or simultaneous incidents | May be able to improve services and performance standards through cooperative agreements<br><br>Financial impact of fire services is marginally lower<br><br>Each department continues to operate as a separate municipal department with its own policies and procedures and municipal reporting structure | Some initial expenditures may be required for standardization<br><br>Greater coordination and mutual considerations required | Higher performance standards potential<br><br>Member towns gain access to other town's strengths<br><br>Improved service delivery due to access to a larger pool of resources<br><br>Broader consistency in training and performance standards | Requirement to agree on minimum attendance requirements and minimum training standards for all staff across the consolidated department<br><br>Harmonization of processes, procedures and equipment will be required<br><br>Difference of levels of career staff<br><br>Harmonization of volunteer/ paid-on-call structure |
| **Education and Fire Prevention** | Customized programs to local needs | No economies of scale purchasing and lack of depth | Economies of scale on material purchases<br><br>Depth or support from counterparts or peers of neighbouring municipality<br><br>Best practices sharing<br><br>Greater opportunities for partnerships | Greater coordination and mutual considerations required | Economies of scale on material purchases<br><br>Depth or support from counterparts or peers<br><br>Enhanced expertise in specialized areas (i.e. investigations) | Harmonization of processes, procedures and equipment will be required<br><br>Implementation complexity<br><br>Workspace capacity, facility needs to accommodate consolidated workforce |

| Training | Annual training plan to meet local needs<br><br>Smaller service allows to readily identify individual needs | Limited resources<br><br>Limited training facilities | Annual training plan to meet local needs<br><br>Smaller service allows to readily identify individual needs<br><br>Adoption of best practices<br><br>Potential for enhanced resources<br><br>Potential for sharing costs<br><br>Potential for a shared training facility | Greater coordination and mutual considerations required | Enhanced capacity<br><br>Consistent training programs<br><br>Ability to strategically plan and develop future programs and resources | Lack of autonomy – annual training plan is more generic<br><br>Quality assurance needs increase<br><br>Transitional interim training complexity (i.e. SCBA, various equipment)<br><br>Harmonization of recruitment and training approach for paid-on-call/volunteers |
|---|---|---|---|---|---|---|

| **Human Resources** | Flexibility on staffing structure, hiring process, salaries and benefits packages | Reduced personnel development opportunities | Nature of sharing services could reduce personnel costs (i.e. emergency management)<br><br>Shared resources (i.e. fire fleet services)<br><br>Reduced insurance premiums for volunteer/ paid-on-call<br><br>Peer support<br><br>Flexibility on staffing structure, hiring process, salaries and benefits packages | Greater coordination and mutual considerations required | Greater opportunities for personnel development and career enhancement<br><br>Depth or support from counterparts or peers<br><br>Enhanced expertise in specialized areas (i.e. health and wellness) | Greater organizational structure requirements<br><br>Need for enhanced corporate HR functions necessary to manage the larger workforce in the primary employer and carry out tasks related to payroll management and employee development<br><br>Complexity of implementation and dedicated implementation resources required<br><br>Harmonization of compensation packages<br><br>Robust transition and change management plan<br><br>Collective agreement harmonization<br><br>Difference of levels of career staff to be addressed<br><br>Harmonization of volunteer/ paid-on-call structure |
|---|---|---|---|---|---|---|

| One employer corporate services Support (HR, Finance, IT, Procurement, etc.) | | | | | Centralizing support functions creates consistency of practice and efficiency of scale<br><br>Collaborative opportunity to create a comprehensive records management system, with more empirical data, to support evidence based decision making | Relies on shared functions from the primary employer<br><br>Will require additional capacity for all Corporate Support Services of the primary employer to manage the needs of a larger fire department |
|---|---|---|---|---|---|---|

# Community Survey Results

For the purposes of seeking further public input in a convenient manner, an online survey was prepared and released in advance of the public information meetings. The survey remained open until the end of July and resulted in 100 responses for EG and 137 responses for Georgina being collected.

The survey results for Georgina are reflected in the chart below:

Rank the following planning elements on important. Using a weighted average methodology, 9 is the most important and 1 is the least important. (Count: 137)

| Planning Element | Value |
|---|---|
| Ensure diverse workforce reflective of the community | 2.4 |
| Provide a cost effective and efficient service | 3.77 |
| Ensure fire service has adequate facilities and equipment | 5.34 |
| Ensure the technical competence of all personnel | 5.63 |
| Strategically locate resources to create an efficient all-hazards response | 4.97 |
| Ensure adequate resources and staffing | 6.67 |
| Ensure adequate fire department response time to emergencies | 7.46 |
| Ensure adequate inspection programs | 4.57 |
| Ensure adequate public education programs | 4.84 |

The survey results for East Gwillimbury are reflected in the chart below:

**Rank the following planning elements on important. Using a weighted average methodology, 9 is the most important and 1 is the least important. (Count: 100)**

| Planning Element | Value |
|---|---|
| Ensure diverse workforce reflective of the community | 2.33 |
| Provide a cost effective and efficient service | 3.41 |
| Ensure fire service has adequate facilities and equipment | 4.69 |
| Ensure the technical competence of all personnel | 5.76 |
| Strategically locate resources to create an efficient all-hazards response | 5.12 |
| Ensure adequate resources and staffing | 7.27 |
| Ensure adequate fire department response time to emergencies | 7.23 |
| Ensure adequate inspection programs | 4.89 |
| Ensure adequate public education programs | 4.81 |

# Appendices

## Appendix 1 - Definitions and Abbreviations

|   | Terms and abbreviations | Description |
|---|---|---|
| 1 | Georgina | Town of Georgina |
| 2 | East Gwillimbury | Town of East Gwillimbury |
| 3 | ESCI | Emergency Services Consulting International |
| 4 | GRFS | Georgina Fire and Rescue Services |
| 5 | ECSS | Emergency and Community Safety Services |
| 6 | CAFC | Canadian Association of Fire Chiefs |
| 7 | IAFC | International Association of Fire Chiefs |
| 8 | FMP | Fire Master Plan |
| 9 | OFMEM | Office of the Fire Marshal and Emergency Management |
| 10 | CRA | Community Risk Assessment |
| 11 | NRA | Neighborhood Risk Assessment |
| 12 | CRR | Community Risk Reduction |
| 13 | NFPA | National Fire Protection Association |
| 14 | CFAI | Commission of Fire Accreditation International |
| 15 | EDI | Equity, Diversity And Inclusion |
| 16 | FUS | Fire Underwriters Survey |
| 17 | KPI | Key Performance Indicators |
| 18 | OAFC | Ontario Association of Fire Chiefs |
| 19 | ERF | Effective Response Force |
| 20 | SOG | Standard Operating Guideline |
| 21 | EMCPA | Emergency Management and Civil Protection Act |
| 22 | HIRA | Hazard Identification and Risk Assessment |
| 23 | CEMC | Community Emergency Management Coordinator |
| 24 | MOU | Memorandum of Understanding |
| 25 | JCC | Joint Coordinating Committee |
| 26 | CAO | Chief Administrative Officer |
| 27 | ETC | Employer Town Council |
| 28 | NETC | Non-Employer Town Council |
| 29 | FPPA | Fire Protection and Prevention Act |
| 30 | EMT | Emergency Medical Technician |
| 31 | CPC | Commission on Professional Credentialing |
| 32 | CPSE | Center for Public Safety Excellence |
| 33 | CFO | Chief Fire Officer |
| 34 | CEMSO | Chief EMS Officer |
| 35 | CTO | Chief Training Officer |
| 36 | FO | Fire Officer |
| 37 | PIO | Public Information Officer |
| 38 | QR codes | Quick Response Code |
| 39 | CO | Carbon Monoxide |
| 40 | RMS | Records Management System |
| 41 | GIS | Geographic Information System |

| 42 | ICS | Incident Command System |
|----|------|--------------------------------------|
| 43 | IMS | Incident Management System |
| 44 | IAP | Incident Action Plan |
| 45 | ACFR | Annual Comprehensive Financial Reports |
| 46 | GF | General Fund |
| 47 | CIP | Capital Improvement Program |
| 48 | FY | Fiscal Year |
| 49 | GCA | Georgina Collective Agreement |
| 50 | EGCA | East Gwillimbury Collective Agreement |

## Appendix 2 - Table of Figures

# Appendix 3 - Cost Allocation Methodologies

What follows is a listing of system variables that can be used (singularly or in combination) to allocate cost between allied communities. Each option is summarized by the concept, its advantages and disadvantages, and other factors that should be considered. Regardless of the option(s) chosen to share the cost of community service, the resulting intergovernmental agreement needs to address the issues of full cost versus marginal cost and should be clear about the inclusion of administrative or overhead cost. In addition, agreements often must reconcile the exchange of in-kind services between the participating agencies.

ESCI has provided this set of cost allocation factors and service delivery options to provide the towns with an accurate and diverse view of a range of allocation possibilities. In addition to this analysis, ESCI has provided a cost-modeling tool that will allow the study participants to build scenarios and assumptions into the model for service options. This modeling tool will allow the changing and weighting of staffing and financial projections as well as a variety of budget and cost assumptions.

The following cost allocation strategies can be adopted in whole or in part to determine appropriate and fair costs to both towns.

## Area

The cost of emergency service can be apportioned based on the geographic area served relative to the whole. For instance, the jurisdictional boundaries of the two towns represent approximately 525 square kilometers. The following figure displays the services area in square kilometers and the percentage for each jurisdiction.

**Figure 27: Cost Allocation by Area**

| Cost Allocation by Service Area Jurisdiction | Service Area in Square Kilometers | Percentage of Total |
|---|---|---|
| Georgina | 287 | 54.7% |
| East Gwillimbury | 238 | 45.3% |
| **Total** | **525** | **100.00%** |

Apportionment founded on service area alone may work best in areas that are geographically and developmentally homogeneous.

PRO: Service area is easily calculable from a variety of sources. Size of service area generally remains constant with few, if any, changes.

CON: Service area does not necessarily equate to greater risk or to greater workload.

CONSIDER: Service area may be combined with other variables (such as assessed value and number of emergencies) to express a compound variable (such as assessed value per square kilometer and emergencies per square kilometer).

## Assessed Value

The assessed value (AV) of agencies is established by the Municipal Property Assessment Corporation under laws of the province. Usually, higher-valued structures and complexes carry

a greater risk to the community from loss by fire. Consequently, assessed value also tends to approximate the property at risk within an area. Fire and emergency departments are charged with being sufficiently prepared to prevent property loss by fire. Therefore, the cost of fire protection may be apportioned relative to the assessed value of the allied jurisdictions. Typically, AV is used to apportion cost of shared service by applying the percentage of each partner's AV to the whole. The following figure illustrates the allocation of cost by the assessed value of Georgina and East Gwillimbury.

**Figure 28: Cost Allocation By Assessed Value**

| Cost Allocation by Assessed Value | Assessed Value | Percentage of Total |
|---|---|---|
| Georgina | $9,479,199,259 | 51.3% |
| East Gwillimbury | $8,977,280,217 | 48.7% |
| **Total** | **$18,456,479,476** | **100.00%** |

PRO: AV is updated regularly, helping to assure that adjustments for changes relative to new construction, annexation, and inflation are included. Because a third party (the assessor) establishes AV in accordance with provincial law, it is generally viewed as an impartial and fair measurement for cost apportionment. Fire and emergency services is typically considered a property-related service, thus, apportionment tied directly to property value has merit.

CON: AV may not reflect the property risk associated with certain exempt property, such as schools, universities, government facilities, churches, and institutions. AV may not always represent the life risk of certain properties, such as nursing homes or places of assembly, which might dictate more significant use of resources. In addition, some large facilities may seek economic development incentives through AV exemptions or reductions. Adjustments may need to be made to AV if such large tracts of exempt property in one jurisdiction cause an imbalance in the calculation. Last, AV typically includes the value of land, which is not usually at risk of loss by fire.

CONSIDER: Discounted AV depending on the class of property (commercial or residential), which may skew the overall proportion of those properties compared to risk. As an additional consideration, assessors usually establish the AV in accord with the property tax cycle, which can lag somewhat behind the budget cycle.

## Deployment

The cost for service is based on the cost of meeting specific operational goals. Deployment goals may be tied to the physical location of fire stations, equipment, and personnel (strategic deployment) or by stating the desired outcome of deployment (standards of cover). A strategic goal could specify the location of two stations, two engines, and four on-duty firefighters (process). A standard of cover might state the desired outcome as four crews and 15 emergency workers on the scene of all structure fire emergencies within eight minutes 90 percent of the time (outcome). While both strategic and outcome goals can be used effectively

to assist in allocating cost, ESCI views outcome goals to be more dynamically linked to the quality of service and therefore preferable to strategic goals. This alternative is highly variable due to the independent desires of each community in regard to outcome goals.

A weighted scoring system uses a critical task analysis. This type of scoring system for each agency allows the ranking of each area based on the assigned risk as well as the apparatus, manpower, and Needed Fire Flow (NFF).

The following figures illustrate the allocation of cost by the number of resources deployed to serve each jurisdiction, including staff and frontline apparatus and assigned full-time operational personnel.

**Figure 29: Cost Allocation by Engines/Staff (Example)**

| Cost Allocation by Engines | Number of Career Staffed Engines | Percentage of Total |
|---|---|---|
| Georgina | 2 | 66.7% |
| East Gwillimbury | 1 | 33.3% |
| **Total** | **3** | **100.00%** |

| Cost Allocation by Career Staff | Number of Career Staff | Percentage of Total |
|---|---|---|
| Georgina | 40 | 68.97% |
| East Gwillimbury | 18 | 31.03% |
| **Total** | **58** | **100.00%** |

| Cost Allocation by POC/Volunteer Staff | Roster of POC/Volunteer Staff | Percentage of Total |
|---|---|---|
| Georgina | 60 | 42.86% |
| East Gwillimbury | 80 | 57.14% |
| **Total** | **140** | **100.00%** |

| Cost Allocation by Total Staff | Number of Total Staff | Percentage of Total |
|---|---|---|
| Georgina | 100 | 50.51% |
| East Gwillimbury | 98 | 49.49% |
| **Total** | **198** | **100.00%** |

PRO: Deployment and number of personnel is intuitively linked to the cost of overall services required. The outcome of deployment based on a standard of cover can be monitored continuously to assure compliance. Such deployment can be adjusted if standards are not met. This assures the continuous quality of emergency response throughout the life of a joint agreement.

CON: Strategic deployment may not equate to better service because such goals are prone to manipulation wherein resources may be sited more for political reasons and less for quality of

service reasons. Outcome goals require common reporting points and the automatic time capture of dispatch and response activities to assure accuracy. Record keeping needs to be meticulous to assure the accurate interpretation of emergency response outcomes.

CONSIDER: Agreements for deployment-based fire protection should address the inclusion of administrative or overhead cost, as well as capital asset cost, depreciation, rent, and liability insurance.

## Service Demand

Service demand may be used as an expression of the workload of a fire and emergency services department or geographical area. Cost allocation based on emergencies would consider the total emergency response of the service area and apportion system cost relative to the percentage of emergencies occurring in the jurisdictions.

**Figure 30: Cost Allocation by Service Demand**

| Cost Allocation by Service Demand | 2021 Number of Calls | Percentage of Total |
|---|---|---|
| Georgina | 2,245 | 64.6% |
| East Gwillimbury | 1,231 | 35.4% |
| **Total** | **3,476** | **100.00%** |

PRO: Easily expressed and understood. Changes in the workload over the long term tend to mirror the amount of human activity (such as commerce, transportation, and recreation) in the corresponding area.

CON: Service demand fluctuates from year to year depending on environmental and other factors not directly related to risk, which can cause dependent allocation to fluctuate as well. Further, the number of alarms may not be representative of actual workload, for example, one large emergency event requiring many emergency workers and lasting many hours or days versus another response lasting only minutes and resulting in no actual work. Last, emergency response is open to (intentional and/or unintentional) manipulation by selectively downgrading minor responses, by responding off the air, or by the use of mutual aid. Unintentional skewing of response is most often found in fire systems where dispatch and radio procedures are imprecisely followed. Further, service demand does not follow a predetermined ratio to land area. As such, the service demand per square mile ratios may produce large variations.

CONSIDER: Using a rolling average of alarms over several years can help to suppress the normal tendency for the year-to-year fluctuation of emergencies. Combining the number of emergencies with the number of emergency units and/or personnel required may help to align alarms with actual workload more closely. However, doing so adds to the complexity of documentation. In a similar manner (and if accurate documentation is maintained), the agencies could consider using the total time required on emergencies as an aid to establish the comparative workload represented by each jurisdictional area.

## Fixed Rate

The use of fixed fees or rates (such as a percentage) to calculate allocation of shared cost is more common between municipalities and independent fire districts. Occasionally, fixed-rate contracts involve the exchange of in-kind services.

PRO: The concept is simple and straightforward. A menu of service options and the fees corresponding to those alternatives can be developed by the municipality supplying the service. The municipality can tailor a desired level of service based on risk and community expectation by choosing from the various menu items.

CON: Partnering communities may change (i.e., population, jobs, commerce, structures, and risk) at divergent rates, causing disconnection between the rationales used to establish the fee and the benefit received. A fixed-rate contract may be difficult to coherently link to the services provided and/or received, which can lead to a lack of support by officials and the community.

CONSIDER: Partnering agencies need to assure that provision for rate adjustment is included in the agreement, including inflation. The agreement should address the issue of full cost versus marginal cost. The inclusion or non-inclusion of administrative and/or overhead cost also requires statement, as does the reconciliation of in-kind service exchange. The ownership and/or depreciation of capital assets should be addressed, as should rent, utilities, and liability insurance. In the case of a fixed fee, the agreement should establish how the participation of other public agencies in the partnership would affect cost.

## Population

Payment for service can be based on the proportion of residential population to a given service area. The following figure lists the population by jurisdiction and the percentage of the total number of individuals living in each service area.

**Figure 31: Cost Allocation by Population**

| Cost Allocation by Population | 2022 Population Estimation | Percentage of Total |
|---|---|---|
| Georgina | 49,000 | 57.0% |
| East Gwillimbury | 37,000 | 43.0% |
| **Total** | **86,000** | **100.00%** |

PRO: Residential population is frequently used by governmental agencies to measure and evaluate programs. Statistics Canada maintains an easily accessible database of the population and demographics of cities, counties, and states. Estimates of population are updated regularly.

CON: Residential population does not include the daily and seasonal movement of a transient population caused by commerce, industry, transport, and recreation. Depending on the local situation, the transients coming in (or going out) of an area can be very significant, which can tend to skew community risk. Residential population does not statistically link with emergency workload; rather, human activities tend to be the linchpin that connects people to requests for emergency assistance.

For example, if residential population actually determined emergency workload, emergencies would peak when population was highest within a geographic area. However, in many communities where the residential population is highest from about midnight to about 6:00 a.m. (bedroom communities), that time is exactly when the demand for emergency response is lowest. It turns out that emergency demand is highest when people are involved in the activities of daily life traveling, working, shopping, and recreating. Often, the persons involved in such activities do not reside in the same area. Additionally, simply relying on population will not account for the effects that socio-economic conditions have on emergency service response activity.

CONSIDER: By counting the residential households within the area in question, then applying demographic estimates of persons per household, it may be possible to reach a relatively accurate estimate of population within the area in question. Alternately, residential population can be estimated by using information obtainable from some public utility districts by tallying residential electrical meters within a geographic area and then multiplying by the persons per household.

Both study agencies experience a daily or seasonal influx of people who are not counted as residential population. This transient population can be estimated by referring to traffic counts, jobs data, hotel/motel occupancy rates, and, in some cases, park visitor statistics. Residential population plus transient population is referred to as functional population. Where functional population is significantly different from residential population, service agreements based on population should be adjusted to account for it.

## Appendix 4 – Implementation Strategy Sample – Consolidated Composite Department

Below are several detail steps to be used in the transition to a consolidated organization. The steps are broken down into functional categories that can be delegated to functional directors or supervisors. This list is to mostly answer the question, "If we're going to consolidate, what all do we need to do or be aware of?"

The steps are intended to be a "checklist of thought processes" and consequently the specific necessity and application of each step is left to each of the towns to customize. There may be steps that can be deleted and there may be steps a town chooses to add but it should be used as a reminder of the tasks to be done, mostly prior to the actualization of the consolidated organization.

The steps may be used in sequence but that also will vary to how the town chooses to implement its transition processes. The estimated hours are hours that it *may* take to accomplish the task but at the least it is minimal calendar time that should be set aside for the task. This gives ideas of how long certain processes will take and supports scheduling efforts. For example, the establishment of a Fire Chief's position may not take 150 hours to accomplish but at a work week of 40 hours, it could take almost four calendar weeks (150 hours) at a minimum to work through and complete the task. Also, most of the tasks are intended to be accomplished simultaneously with others and should not be viewed as one needs to be completed before going on to the next.

Lastly, where responsibilities are given to "Fire Chiefs", depending on how the towns approach the selection of a Fire Chief, whether one of the existing chiefs or a new one, the tasks outlined with "Fire Chiefs" responsibilities, may be given to an incoming fire chief depending on the wishes of the town and the departments.

| 1 | Governance | Estimated Hours | Responsibility |
|---|---|---|---|
| 1.1 | Both towns elected officials vote to decide to consolidate fire department services.<br>**Output:** Decision to move forward with a consolidation. | 160 | Elected Officials<br>Chief Administrative Officers |
| 1.2 | Decide/establish primary and non-primary employer. Decide on primary and non-primary responsibilities along with accountability processes, and decision-making methodology.<br>**Output:** Decision on who will be primary employer and how towns will make decisions. | 160 | Elected Officials<br>Chief Administrative Officers |
| 1.3 | Decision on conducting a pilot exercise or begin full transition - Pilot would be an evaluation for a set period of time to determine long-term feasibility.<br>**Output:** The extent of the consolidation process may be limited during a pilot phase. | 160 | Elected Officials<br>Chief Administrative Officers<br>Fire Chiefs |
| 1.4 | Select Fire Chief<br>**Outcome:** A decision by both towns on whether to select one of the existing fire chiefs to lead the joint organization or to choose an external candidate. | 480 | Chief Administrative Officers |
| 1.5 | Approve a Governance Model - The primary models for governance are a joint governance council or a service board. The Ontario Fire Marshal has provided an opinion that service boards may not be an option for fire departments.<br>**Outcome:** A governance model is selected. | 160 | Elected Officials<br>Chief Administrative Officers<br>Fire Chief |
| 1.6 | Establish a Joint Transition Committee (administrative staff) and assign a dedicated Transition Manager (Project Manager) to lead the implementation, create the governance model and temporary Terms of Reference. To be approved by elected officials, this function would include:<br>a. Setting formal terms of reference<br>b. Creating selection process and reporting requirements<br>c. Establishing relationships<br>d. Recommending transition plan to move from current to future state<br>e. Determining administrative support, government board logistics (meeting frequency, leadership rotations, etc.)<br>f. Establishing budget approval process<br>**Outcome**: A joint committee that is responsible for establishing the Terms of Reference for the new governance oversight group. | 160 | Fire Chief |
| 1.7 | Inform necessary levels of government (province, fire marshal's office, etc.) of intent to consolidate the fire departments of each community.<br>**Output:** Notification of any necessary government entities of the creation of the new organization. | 80 | Fire Chief |

| 1.8 | Approve a funding mechanism - cost sharing<br>**Output:** An agreement between both organizations that outlines the new organization's funding and allocations between the two communities. | 240 | Elected Officials<br>Chief Administrative Officers<br>Fire Chief |
|---|---|---|---|
| 1.9 | Establish organizational Key Performance Indicators (KPIs)<br>**Outcome:** Formalized measureable expectations of the KPIs of the new organizations. This may include response times, education hours, inspection quantities, etc. | 160 | Fire Chief |
| 1.10 | Approve a Joint Advisory Committee<br>**Output:** Formal establishment of the governance committee | 160 | Elected Officials<br>Chief Administrative Officers<br>Fire Chief |
| 1.11 | Determine implementation date<br> **Output:** A date in which the formal transition will take place. This is not the date that preparations begin but rather the date the new organization begins operating. | 80 | Joint Advisory Committee |
| 1.12 | Establish any necessary service level agreements between the Towns<br>**Output:** Formal agreements between the two organizations as to how they will interact and provide accountability with each other. | 160 | Joint Advisory Committee |
| **2** | **Organization and Operations Tasks** | **Estimated Hours** | **Responsibility** |
| 2.1 | Joint Transition Committee is to prepare detailed project plan, including a Communication Plan, branding for a consolidated composite department (e.g. naming, logo, etc.), Change Management, Risk Management Plan, etc. Implement a regular meeting schedule and update process.<br>**Outcome:** Transition activities are well coordinated, and all parties are invested in the result. | 80 | Fire Chief |
| 2.2 | Clearly define the level of service expected to be provided by the joint department in a new bylaw.<br>a.  Fire suppression<br>b.  Medical and other emergency and non-emergency response<br>c.  Education and Fire Prevention<br>d.  Hazardous materials<br>e.  Technical rescue<br>**Outcome**: Level of service is defined allowing joint resources and systems to be developed and acquired to provide that level of service. | 80 | Fire Chief |
| 2.3 | Determine if the current staffing levels can manage the anticipated new workload associated with joint organization. Identify and quantify staff and other resources that will be needed.<br>**Outcome:** Workload is quantified, and the resources required to support the new workload have been identified. | 40 | Fire Chief<br>Finance Manager<br>Human Resources<br>IT<br>Fleet<br>Procurement |

| 2.4 | Implement a Communications and Change Management Plan. Create and regularly distribute information to staff, departments in the area and the public about the transition. Emphasize that service continuity will be preserved.<br>**Outcome:** The staff, departments and public are fully informed of transition activities and its impact on them. | 150 | Fire Chief<br>Communications Division<br>Project Manager |
|---|---|---|---|
| 2.5 | Identify location of joint fire prevention personnel. Arrange for space and furnishings.<br>**Outcome:** Co-location with community development departments, if practical, promotes strong interaction. | 10 | Fire Chief |
| 2.6 | Develop a procedure for a joint review of new development proposals for building projects.<br>**Outcome:** Developers experience a seamless transition of services between GFRS and ECSS. | 20 | Fire Chief<br>Building Department |
| 2.7 | Establish a detailed matrix for the construction code elements that are reviewed by the Building and Fire Prevention staff.<br>**Outcome:** Division of authority and responsibility between the Building and Fire Prevention and joint staff is clearly defined. | 40 | Fire Chief<br>Building Department |
| 2.8 | Develop joint policies, procedures, and standard operating guidelines. Review current GFRS and ECSS policies, procedures, and standard operating guidelines for use as a base.<br>**Outcome:** Joint organization policies, procedures, and guidelines are comprehensive and appropriate to achieved defined levels of service. | 210 | Fire Chief<br>Dedicated staff |
| 2.9 | Identify alternative revenue opportunities to support joint operations. Propose revenue opportunities for implementation as appropriate.<br>**Outcome:** GFRS and ECSS are capturing all appropriate revenue to support the delivery of services. | 40 | Fire Chief<br>Finance Managers |
| 2.10 | Establish workflow procedures for the plans review and site inspection process.<br>**Outcome:** Workflow expectations between the joint fire prevention department and the Building and Fire Prevention are clearly defined. | 30 | Fire Chief<br>Building Department |
| 2.11 | Determine the most appropriate source of medical director services and execute agreements to provide that service. Consider using the current GFRS and ECSS medical director(s).<br>**Outcome:** Medical director services are available on the transition date. | 30 | Fire Chief |
| 2.12 | Identify records maintained by GFRS and ECSS that should be transferred to the joint organization. Identify the most appropriate method for transferring the records to new organization and address record transfer costs.<br>**Outcome:** All records maintained by the GFRS and ECSS that are needed by GFRS and ECSS have been identified and transferred. | 20 | Fire Chief<br>Project Manager |

| 2.13 | Determine whether the joint organization can continue to use the GFRS and ECSS Knox Box keys or whether joint area boxes will need to be re-keyed.<br>**Outcome:** The joint organization has access to Knox Boxes installed in its service area. | 10 | Fire Chief |
|------|------|------|------|
| 2.14 | Develop effective response forces, response assignments, and station order tables for the computer-aided dispatch (CAD) system. Provide assignments and station order tables to the dispatch provider for implementation.<br>**Outcome:** Dispatch protocols are developed and in place by the transition date, ensuring seamless service delivery to the community. | 60 | Fire Chief<br>Project Manager |
| 2.15 | Develop technology based policies and procedures for administrative functions to be performed by the joint organization.<br>**Outcome:** Joint support staff members have the tools to assist them in performing their work. | 70 | Fire Chief<br>IT |
| 2.16 | Determine the exact date and time for the transition of service delivery from the GFRS and ECSS to the joint organization. Develop a transfer of service process and notify all cooperating and area agencies of the details.<br>**Outcome:** The transfer of service responsibility occurs with no impact on the delivery of fire and emergency services. | 20 | Fire Chief |
| 2.17 | Acquire occupancy and inspection records for the joint organization from GFRS and ECSS.<br>**Outcome:** GFRS and ECSS fire prevention staff has any historic inspection information to use for their work. | 20 | Fire Chief |
| 2.18 | Quantify existing firefighting, EMS, etc., supplies inventory that will become part of the new joint service. Identify and acquire supplies that need to be in-stock.<br>**Outcome:** Supplies are available on the date of transition. | 50 | Fire Chief<br>Dedicated staff |
| 2.19 | Develop a radio communication utilization and deployment plan in conjunction with Richmond Hill Dispatch.<br>**Outcome:** A radio communication and deployment plan are in place by the transition date. | 70 | Fire Chief |
| 2.20 | Determine the mapping system that will be used for the joint organization's mapping mobile data computers and map books. Produce new map systems for all joint apparatus.<br>**Outcome:** Map systems using a common system are available by the date of transition. | 120 | Fire Chief<br>GIS Representatives |
| 2.21 | Revise the station and apparatus numbering system for the joint organization.<br>**Outcome:** The numbering system is established and all stations and apparatus are properly marked by the date of transition. | 80 | Fire Chief<br>Fleet Manager |
| 2.22 | Develop and deliver training for all staff on geography, risks, and target hazards in the service area.<br>**Outcome:** Staff are familiar with the service area. | 100 | Fire Chief<br>Training Officers |

| 2.23 | Purchase, as needed, any new firefighting and EMS equipment to be used by the joint organization.<br>a. Personal Protective Equipment-for all firefighting, EMS activities<br>b. Uniforms, badges, etc.<br>c. Helmets<br>d. Footwear<br>e. Medical Equipment<br>**Outcome:** Equipment consistency is provided to ensure effective operations and minimize training requirements. | 120 | Fire Chief<br>Deputy Fire Chief |
|---|---|---|---|
| 2.24 | Develop a list of community fire prevention programs delivered by staff. Determine which of these will be delivered by the joint organization. **Outcome:** The type and level of fire prevention services to be delivered are determined. | 20 | Fire Chief |
| 2.25 | Implement provincial and regional EMS protocols for all levels of EMS service to be provided. Gain approval by the joint organization's medical director.<br>**Outcome:** EMS protocols are developed so that appropriate levels of EMS service can be delivered. | 30 | Fire Chief |

| 3 | Human Resources Tasks | Estimated Hours | Responsibility |
|---|---|---|---|
| 3.1 | Create and implement a HR management and transition plan. Prepare, refine and finalize the staffing plan and position list for all operations and support positions. Establish positions, including classification specifications.<br>**Outcome:** A comprehensive staffing plan has been developed that fully supports jointly defined service levels. | 60 | Fire Chief<br>Human Resources |
| 3.2 | Review potential new Human Resources workload and determine the staffing needed to effectively manage the workload.<br>**Outcome:** Human Resources workload is quantified and resources required to support that workload have been identified for pay administration, records, employee relations, benefits administration, labour relations, legal, and training. | 30 | Fire Chief<br>Human Resources |
| 3.3 | Work with Human Resources to produce and publish notifications to hire firefighters and staff members fulfilling required staffing as indicated by staffing templates. Set deadlines well in advance of transition for receiving applications, interviews, background checks, and all testing processes.<br>**Outcome:** All requires staff members have been appointed, and are in place prior to transition. | 100 | Fire Chief<br>Human Resources |
| 3.4 | Obtain personnel files from any former GFRS and ECSS employees to determine former class, hire date, promotion dates, certifications, etc.<br>**Outcome:** Information has been gathered regarding former GFRS and ECSS employees. | 20 | Human Resources |

| 3.5 | Develop promotional/classification specifications for all joint organization positions.<br>**Outcome:** Promotional/Classification specifications are available for all positions. | 80 | Fire Chief<br>Human Resources<br>Labour Association |
|---|---|---|---|
| 3.6 | Identify wages, benefits, and other considerations for newly hired joint organization employees.<br>**Outcome:** The wage and benefit packages have been identified. | 40 | Fire Chief<br>Human Resources<br>Labour Association |
| 3.7 | Complete a skills, knowledge, and certification inventory for all employees.<br>**Outcome:** The current level of knowledge and capability of all employees is known. | 80 | Fire Chief<br>Human Resources<br>Training Officers |
| 3.8 | Based on the knowledge, and certification inventory, defined job requirements, and skills needed that are unique to each service area, develop a training plan that maintains required personnel capability and develops personnel for succession purposes.<br>**Outcome:** A comprehensive training program is in place and ready to be delivered on the transition date. | 80 | Fire Chief<br>Human Resources<br>Training Officers |
| 3.9 | Develop curriculum and deliver orientation training to all new joint organization personnel.<br>**Outcome:** All joint organization employees have received quality orientation training. | 80 | Fire Chief<br>Human Resources<br>Training Officers |
| 3.10 | Deliver compliance training to all joint organization employees (workplace harassment, substance abuse, etc.)<br>**Outcome:** All joint organization employees have received quality compliance training prior to the transition date. | 60 | Fire Chief<br>Human Resources |
| 3.11 | Identify personnel file information that will be maintained by the joint organization and information to be maintained by Human Resources. Establish procedures to ensure information is routed correctly.<br>**Outcome:** Complete personnel files are maintained. | 40 | Fire Chief<br>Human Resources |
| 3.12 | Negotiate labour association collective bargaining agreements for the new organization.<br>**Outcome:** New joint collective agreement is established. | 160 | Fire Chief<br>Human Resources<br>Labour Consultants<br>Legal |
| 3.13 | Review human resources rules to determine their suitability for the joint organization. Add or modify rules as appropriate to accommodate human resources activities.<br>**Outcome:** Fully developed human resources rules have been established and are in place in the joint organization prior to transition. | 40 | Fire Chief<br>Human Resources<br>Labour Consultants |

| 3.14 | Establish the joint organization and Human Resources functions:<br>a. Employee complaints<br>b. Disciplinary investigations<br>c. Classification process<br>**Outcome:** Responsibilities, authorities, and processes have been defined and acknowledged by all. | 20 | Fire Chief<br>Human Resources |
|---|---|---|---|
| 3.15 | Identify sources and costs for contracted EAP and wellness/fitness programs for the joint organization employees. Establish vendor relationships as appropriate.<br>**Outcome:** Wellness/fitness programs are available to the joint organization employees. | 40 | Fire Chief<br>Human Resources |
| 3.16 | Coordinate health benefits coverage with workers' compensation coverage provided to the joint organization employees.<br>**Outcome:** Health insurance and workers' compensation benefits coverage have been coordinated. | 30 | Risk Management<br>Human Resources |
| 3.17 | Provide joint organization employee count and payroll information to Risk Management for insurance application updates.<br>**Outcome:** Information is provided that allows insurance applications to be updated. | 20 | Fire Chief<br>Human Resources<br>Management Services |
| 3.18 | Develop workers' compensation coverage to support joint organization staff members. Identify any alternative coverage for the joint organization as appropriate.<br>**Outcome:** An administrator has been identified with the capacity to support the joint organization workers' compensation processes. | 20 | Fire Chief<br>Human Resources |
| 3.19 | Determine if current staffing levels can manage the anticipated new workload associated with the joint organization. Identify staff and other resources that will be needed.<br>**Outcome:** Risk Management workload is quantified and resources required to support that workload have been identified. | 30 | Fire Chief<br>Human Resources |
| **4** | **Finance Tasks** | **Estimated Hours** | **Responsibility** |
| 4.1 | Identify appropriate funding for GFRS and ECSS transition costs.<br>**Outcome:** Sufficient funds are available to complete transition activities. | 80 | Fire Chief<br>Finance Manager |
| 4.2 | Establish and implement a process to ensure active coordination between Finance, Human Resources, and Technology Services as records systems, processes, and labour agreements are being developed and implemented to ensure GFRS and ECSS internal systems can support changes.<br>**Outcome:** All related financial systems support the GFRS and ECSS operations. | 10 | Fire Chief<br>Finance Manager<br>Technology Services<br>Human Resources |

| 4.3 | Identify the type and level of financial administration capability that should exist within the joint administrative staff. Determine if that capability is best provided by contracted services or full-time staff. If full-time staff, ensure that position(s) is included in the joint staffing plan:<br>a. Budget development and reporting<br>b. Annual audit preparation<br>c. Other accounting activities<br>d. Coordination with GFRS and ECSS Finance Department<br>**Outcome:** Fiscal administration capability has been defined and the source of that capability identified. | 80 | Fire Chief<br>Finance Manager<br>Human Resources |
|---|---|---|---|
| 4.4 | Administer labour agreements regarding employee compensation with Finance to ensure financial systems and payroll can accommodate accounting requirements.<br>**Outcome:** Financial systems can efficiently support employee compensation processing. | 30 | Fire Chief<br>Finance Manager<br>Human Resources |
| 4.5 | Establish cost centers within the financial accounting system so that costs can be appropriately attributed to functional activities.<br>**Outcome:** Cost centers are established that provide detailed functional area cost accounting information. | 20 | Fire Chief<br>Finance Manager<br>Technology Services<br>Human Resources |
| 4.6 | Develop a 10-year capital improvement plan for the joint organization.<br>**Outcome:** The 10-year capital improvement plan has been developed and adopted. | 40 | Fire Chief<br>Finance Manager |
| 4.7 | Negotiate and enter into a heavy equipment vendor contract.<br>**Outcome:** Heavy equipment is available to support the joint organization response by the date of transition. | 30 | Fire Chief<br>Finance Manager |
| 4.8 | Confirm that joint assets are accurately recorded in an asset management system. Update the system as needed for missing assets.<br>**Outcome:** A complete and accurate list of GFRS and ECSS assets is available. | 40 | Fire Chief<br>Finance Manager |
| 4.9 | Identify and establish open purchase orders needed to support joint organization operations.<br>**Outcome:** Open purchase orders are in place to support joint organization activities. | 50 | Fire Chief<br>Finance Manager |
| 4.10 | Identify the number of purchasing cards that will be needed for the joint organization operations. Establish a policy and procedure for the use of purchasing cards.<br>**Outcome:** Purchasing cards are provided to appropriate employees, procedures are in place for their use, and training on the procedures has been provided. | 20 | Fire Chief<br>Finance Manager |
| 4.11 | Develop and adopt One Employer budget process and strategy for the period of transition.<br>**Outcome:** The joint organization has adopted budgets by the date of transition. | 80 | Fire Chief<br>Finance Manager |

| 5 | Asset Management - Assets and Equipment Tasks | Estimated Hours | Responsibility |
|---|---|---|---|
| 5.1 | Develop a Fleet Master Plan. Meet with appropriate staff to establish a mutually agreeable fleet transition plan. Evaluate assigned fleet resources for condition and serviceability. Determine minimum standards for fleet acceptance. Evaluate the fleet to determine if surplus apparatus/vehicles exist and if sufficient numbers of apparatus by type are available. Surplus or acquire apparatus/vehicles as needed based on the evaluation. **Outcome:** A Fire Fleet Master Plan listing all apparatus reflecting the most appropriate quantity and type of front line and reserve equipment. | 160 | Fire Chief Project Manager Fleet Services Manager |
| 5.2 | Review workload of new Facilities Management staff and determine if additional staffing and other resources are needed. **Outcome:** Adequate staffing and resources are available to conduct facilities maintenance for the joint organization. | 20 | Fleet Managers |
| 5.3 | Perform a space needs assessment study to identify space requirements for the joint organization administration based on, but not limited to, the following criteria:<br>a. Employee count<br>b. Functional needs<br>c. Connectivity (telephone, computer, radio)<br>d. Parking<br>e. Power<br>f. Growth Planning<br>**Outcome:** Suitable building space is available for the joint organization's administrative personnel. | 60 | Fire Chief Facilities Manager |
| 5.4 | Complete a current condition assessment of the GFRS and ECSS stations:<br>a. Conduct inspection<br>b. Identify maintenance and repair needs<br>c. Determine responsibility for repairs required prior to the transfer of operations.<br>**Outcome:** Facilities staff has a thorough understanding of the current condition of GFRS and ECSS stations and any repair work required prior to the transition. | 20 | Facilities Managers |
| 5.5 | Acquire maintenance and repair records for all apparatus. Retain an outside contractor and complete an evaluation of the condition of the apparatus/vehicles. **Outcome:** Equipment Services fully understands the condition of the fleet, can anticipate ongoing maintenance costs, and all repairs required prior to transition have been completed. | 80 | Fire Chief Fleet Managers Project Manager |

| 5.6 | Develop an accurate inventory of all apparatus and equipment. Evaluate apparatus, equipment, radios, station inventory, and other assets owned by GFRS and ECSS for suitability to the joint service area. Reach an agreement with GFRS and ECSS on inventory transfer to the joint organization. Develop specifications for any necessary apparatus and equipment that is needed or needs to be replaced. Develop an apparatus replacement plan. **Outcome:** The most appropriate apparatus type and configuration for joint operations have been defined. GFRS and ECSS owned assets have been converted by the date of transition. | 50 | Fire Chief |
| 5.7 | Evaluate existing fire stations. Develop a plan for any modifications required. Identify station maintenance that will be provided by the individual towns and the staffing/budget needed by Facilities to support that service. Include appropriate costs in future joint organization facilities budgets. **Outcome:** Fire Stations renovation and replacement plan for a state of good repair. The impact of the additional work is identified and resources are available to maintain facilities. | 40 | Fire Chief Facilities Managers Project Manager |
| 5.8 | Identify outside contracts that will be needed for station equipment and services such as communication/tech services, generator maintenance, alarm system maintenance, appliance maintenance, landscaping, etc. **Outcome:** All outside contracts are in place on the date of transition. | 50 | Fire Chief Facilities Managers |
| 5.9 | Decide how the fleet costs will be managed and planned for as the joint organization responsible for replacement planning. This should include agreement on the use of the one town's fleet in the other town. **Outcome:** The most appropriate method for charging fleet costs has been determined. | 30 | Fire Chief Fleet Managers |
| 5.10 | Set up apparatus and vehicles in a fleet records management system. **Outcome:** Apparatus and vehicle maintenance and repair can be accurately tracked in a fleet records system. | 30 | Fleet Managers |
| 5.11 | Establish preventative maintenance schedules for each apparatus and vehicle. **Outcome:** Schedules are in place on the date of transition. | 20 | Fleet Managers |
| 5.12 | Identify any GFRS and ECSS owned shop equipment, parts, and supplies that are devoted to GFRS and ECSS operations. **Outcome:** GFRS and ECSS owned shop equipment, parts, and supplies devoted to GFRS and ECSS operations have been identified. | 10 | Fire Chief Fleet Managers Project Manager |

| 5.13 | Identify the annual cost of fleet maintenance and repair for a future joint organization budget.<br>**Outcome:** The joint organization has budgeted sufficient funds for fleet repair and maintenance. | 20 | Fire Chief<br>Fleet Managers<br>Finance Managers |
|------|------|------|------|
| 5.14 | Identify parts that should be in stock for the joint organization's apparatus. Purchase and/or identify a ready source for the parts.<br>**Outcome:** Parts are readily available to ensure a minimum of apparatus down-time. | 30 | Fleet Managers |
| 5.15 | Acquire fuel cards for apparatus that will need them. Consider the use of an independent system.<br>**Outcome:** The source of fuel for the joint organization apparatus has been determined and made available. | 10 | Fleet Managers |
| 5.16 | Recruit, hire, and train new Equipment Services employees/fleet, if required.<br>**Outcome:** New staff is employed and ready to begin service on the date of transition. | 20 | Fire Chief<br>Fleet Managers<br>Human Resources |
| 5.17 | Transition the fleet to the joint organization's maintenance.<br>**Outcome:** Apparatus are transitioned to GFRS and ECSS maintenance. | 10 | Fire Chief<br>Fleet Manager |
| **6** | **Risk Management Tasks** | **Estimated Hours** | **Responsibility** |
| 6.1 | Work with Clerks to develop a property and liability claims database for the joint organization.<br>**Outcome:** A property and liability claims database is in place. | 30 | Fire Chief<br>Technology Services<br>Clerks |
| 6.2 | Conduct inspections of facilities to identify any potential risk issues, such as code compliance, OSHA, etc., that may be present (in conjunction with Facilities).<br>**Outcome:** All risk issues have been identified and resolved by the date of transition. | 50 | Fire Chief<br>Facilities Manager |
| 6.3 | Work with insurance broker/carriers to update all applicable insurance applications:<br>a. Workers' compensation, adding new full-time workers<br>b. Property and equipment<br>c. Motor vehicles<br>d. General liability<br>**Outcome:** Insurance is in effect, providing coverage when needed. | 60 | Human Resources<br>Risk Management |

| 7 | Legal Tasks | Estimated Hours | Responsibility |
|---|---|---|---|
| 7.1 | Identify and implement a dispute resolution process to address disagreements regarding transition issues, costs, and activities. **Outcome:** A dispute resolution process has been implemented and disagreements are resolved through this process. | 40 | Fire Chief Human Resources Legal Project Manager Joint Governance Committee |
| 7.2 | Finalize and execute the transfer of all fleet and facility resources from GFRS to ECSS. **Outcome:** All fleet resources, facilities, and land are the sole ownership of the joint organization. | 30 | Fire Chief Project Manager Facilities Manager Fleet Manager |
| 7.3 | Identify and modify all applicable external service contracts and agreements as required to reflect the transition to the joint organizations operational service delivery. **Outcome:** All contracts and agreements have been modified and re-executed by the date of transition. | 60 | Fire Chief |
| 7.4 | By-law modification **Outcome:** All by-laws have been modified by the date of transition. | 40 | Fire Chief Legal Project Manager |
| 8 | Technology Tasks | Estimated Hours | Responsibility |
| 8.1 | Assign a dedicated technology resource to plan/analyze and implement technology needs. Conduct a walk-through of each station to review existing network, computer, and telecom equipment and systems. **Outcome:** A full and accurate inventory of existing IT systems has been developed. | 30 | Fire Chief Transition Rep Facilities Manager Fleet Manager Technology Services |
| 8.2 | Work with GFRS and ECSS Technology Department personnel to identify computer hardware, software, and other system components that need to be installed in joint organization facilities and apparatus. **Outcome:** A full and accurate inventory of existing system components has been developed. | 80 | Fire Chief Transition Rep Technology Services |
| 8.3 | Confirm the type and make of the telephone system used in the fire stations, what phone equipment is in place, and who owns the equipment. **Outcome:** A full and accurate inventory of telecommunications equipment and its ownership has been developed. | 30 | Fire Chief Transition Rep Technology Services |
| 8.4 | Evaluate existing network connectivity and performance. Identify the ideal pathway and configuration options to transition to a joint organizational network systems. **Outcome:** The best solution for network configuration that provides high performance has been identified. | 40 | Fire Chief Transition Rep Technology Services |

| 8.5 | Complete a technology assessment and plan to determine and quantify hardware and software requirements to fully support the joint organization's operations:<br>a. Office use systems<br>b. Communications equipment (cell, radios, tablets)<br>c. Mobile systems (MCT, mobile laptops for operations, etc.)<br>**Outcome:** Technology needs have been thoroughly assessed and a plan for implementation developed. | 80 | Fire Chief<br>Facilities Manager<br>Fleet Manager<br>Technology Services |
|------|---|---|---|
| 8.6 | Determine if current technology staffing levels can manage the anticipated new workload associated with the joint organization. Identify and quantify staff and other resources that will be needed.<br>**Outcome:** Technology Services workload is quantified and resources required to support that workload have been identified. | 20 | Fire Chief<br>Technology Services |
| 8.7 | Acquire and implement a staff scheduling software system.<br>**Outcome:** A staff scheduling software system has been acquired and installed prior to the date of transition that communicates with the accounting and payroll system. | 20 | Fire Chief<br>Technology Services<br>Human Resources |
| 8.8 | Based on the inventories and needs assessment, purchase and install new technology equipment, etc., as needed.<br>**Outcome:** Technology systems and equipment have been acquired and installed as of the date of transition. | 40 | Fire Chief<br>Technology Services |
| 8.9 | Evaluate available fire records management systems (RMS). Acquire, implement, and install suitable software. Develop policies and procedures for system use.<br>**Outcome:** A fire records management system has been acquired and installed prior to the date of transition. | 100 | Fire Chief<br>Technology Services |
| 8.10 | Meet with geographic information systems (GIS) staff to determine the capacity of GIS use in the joint organization for administrative and field use. Determine levels of GIS use in the joint organization, acquire and implement needed hardware and software equipment.<br>**Outcome:** Geographic information systems software has been explored, acquired, and installed prior to the date of transition. | 60 | Fire Chief<br>Technology Services |
| 8.11 | Develop a website for the joint organization.<br>**Outcome:** The website is developed and is a useful source of information. | 60 | Fire Chief<br>Technology Services |
| 8.12 | Develop curriculum and deliver training to the joint organization's employees on the use of computer systems and other technology.<br>**Outcome:** All the joint organization's employees have received training on the technology systems they will use during the course of their employment. | 120 | Fire Chief<br>Technology Services |

| 9 | External Relationship Tasks | Estimated Hours | Responsibility |
|---|---|---|---|
| 9.1 | Identify regional efforts in which the joint organization should be a participant. Determine the joint organization's appropriate participation level and the resources needed.<br>**Outcome:** The regional initiatives GFRS and ECSS will participate in have been identified, and resources are assigned. | 20 | Fire Chief |
| 9.2 | Evaluate opportunities for sharing services between the joint organization and other regional departments for services.<br>**Outcome:** Service-sharing opportunities are identified and evaluated. | 70 | Fire Chief |
| 9.3 | Determine EMS incidents by priority level that are appropriate for a joint organization response. Continue to focus on the use of tiered dispatch procedures.<br>**Outcome:** Point of dispatch and response protocols have been developed that provide the most effective level of service to the community. | 90 | Fire Chief<br>Tiered Response Committee |
| 9.4 | Work with EMS and base hospital to develop internal Continuous Quality Improvement program to measure the joint organization's EMS effectiveness and quality.<br>**Outcome:** The way the joint organization will conduct CQI programs has been identified and implemented by the date of transition. | 20 | Fire Chief<br>Tiered Response Committee |

## Appendix 5 - Graphics

Community Risk Reduction Opportunities and Influences
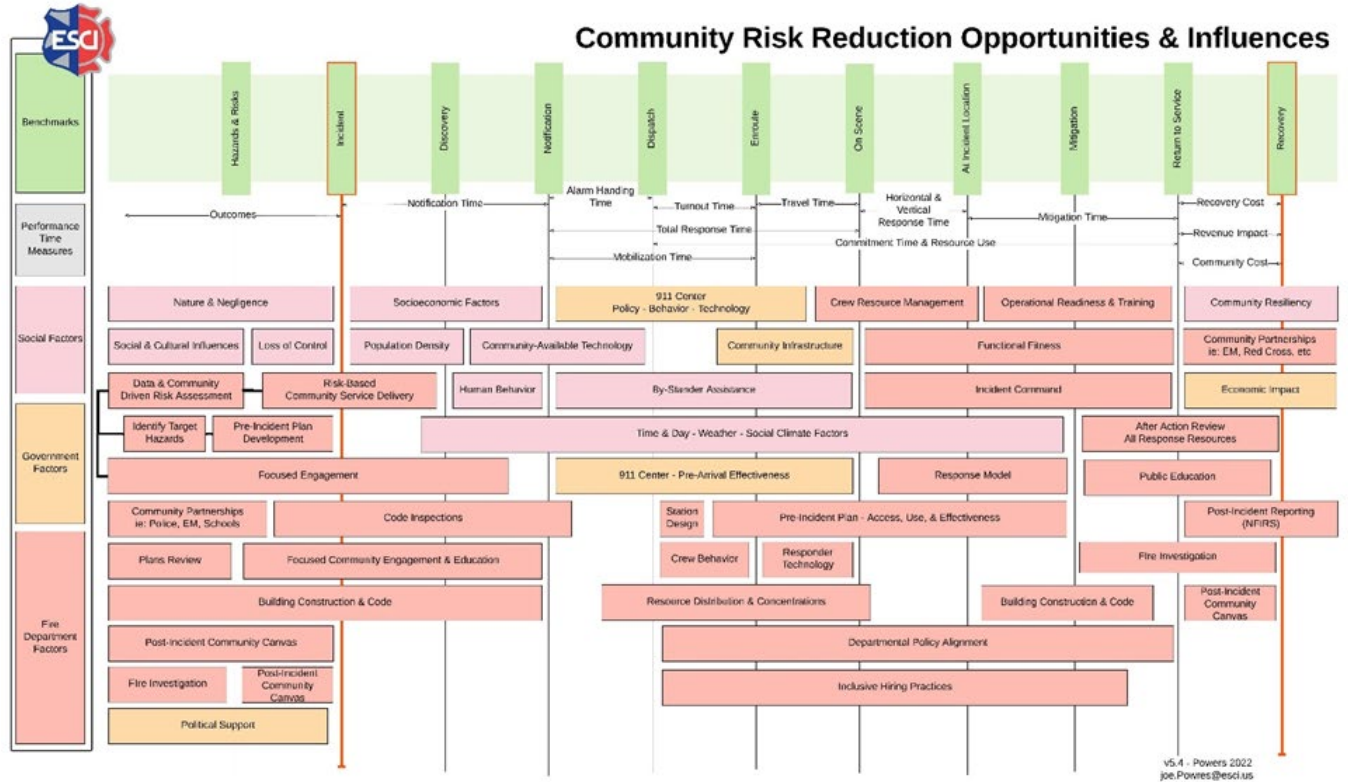


## Appendix 6 - Canadian Association of Fire Chiefs White Paper

## Appendix 7 - International Association of Fire Chiefs White Paper

# Redefining Fire: The Evolving Role of Fire Departments in Canada

Prepared for the CAFC by the Redefining Fire Committee and District Chief Don Enns

February 2020 original publication
September 2020 second edition

## From the CAFC President and the Redefining Fire Committee Chair

It is our pleasure to present a CAFC report entitled *"Redefining Fire: The Evolving Role of Fire Departments in Canada"*. This report puts in words, many of our experiences in a rapidly changing and evolving sector. Our goal is simply to do what we do best: avert, plan for, and if necessary, respond to the changing pressures of the future.

We have much to be proud of, however we also have much to consider as we look ahead. Our goal in presenting this report is to help administrators, policy makers, and members of the public who are less versed in what we do, take stock of the current status of the sector and what is needed.

By drawing on case studies and advice from members across all provinces and territories, and across all types of departments, we have tried to put evidence behind the anecdote.

We hope you will find this report interesting. Our thanks to the members of the Redefining Fire Committee, to Winnipeg District Chief Don Enns who held the pen, and to our reviewers for their helpful comments on this paper. If you have any questions, please do not hesitate to contact CAFC's Executive Director, Dr. Tina Saryeddine, at tsaryeddine@cafc.ca.

Thank you for your support of our sector. We look forward to discussing these issues further together.

CAFC President
**John McKearney**

Redefining Fire Chair
**Michael Boyle**

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# Redefining Fire: The Evolving Role of Fire Departments in Canada

## Executive Summary

While the name fire department, suggests the obvious role of dealing with fires, today's fire departments have become all hazard respondents - ranging from climate disasters to active shooter incidents, from train derailments to hazardous material response, from high angle technical rescue to water and ice rescue, and from opioid, addiction, and social issues to emergency medical response and heavy urban search and rescue. It would also talk about social innovation, caring for vulnerable positions, changing value systems, data analytics, and increasingly complex construction and building product materials.

While we hope all communities are secure in the knowledge that fire departments will do more than put out the flames, the operating assumptions and business models that accompany this knowledge have not kept up in all communities. Canada operates a major public safety service on the auspices of 126,650 volunteers or paid on call staff. This accounts for about 83% of fire departments and firefighters. These individuals train continuously and are ready to put themselves into danger in the service of safety for their communities. The value systems and generational influences that have motivated their participation in the fire service may not be those of tomorrow.  Now is the time to consider the future.

Without due consideration to the changing nature of firefighting, we risk insufficient community risk assessment, insufficient resources, and tragically, insufficiently trained and equipped individuals to respond when disaster strikes. Training and equipment are the vehicle to what Canadian Association of Fire Chiefs Past President Ken Block terms "intentional calmness" in the capacity to respond safely and efficiently to disaster, mitigate mental health injury, and reduce the incidence of presumptive illnesses. These concerns discourage individuals from entering the fire service and could compound future issues. By contrast, well trained, prepared, and resourced fire departments bring reward at the personal, professional, social, technical and economic level.

The issue becomes more pronounced when we compound with emergency, the economic and environmental impacts of innovation and disaster. The conversation is not about the cost of the fire department but the cost of inaction when we consider the lives, jobs, productivity, and revenues lost, and the consequences of for example carbon emissions.

Recruitment, resources, training, and community risk assessment are four requirements in the modern fire service.  This report will help to contextualize this. It will tell the story of how fire departments used education, prevention and training to reduce the incidence of fire, while being prepared to manage and respond to other emergencies when needed using similar skills sets.

We hope this report will shed a light on the fire service of the future so that Canada is better prepared.

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## 1. Introduction

The purpose of this report is to describe the evolving role of Canada's fire departments from organizations historically built for fire suppression to ones relied upon for all hazard type responses in their communities.

When most people discover a grease fire in their kitchen or find their vehicle engulfed in flames, most automatically dial 911 and ask for the fire department. However, who do they call when they see children playing in the vicinity of a fast-moving river or when the residential carbon monoxide detector sounds an alarm, or when a dam bursts, or when a rail car derails, or when dangerous goods are spilled?

Most people are secure in their knowledge that they can call their local fire department twenty-four hours a day, seven days a week and the fire department will respond to the extent possible to any or all hazards as reported.

However, while the term fire department is universally known, it is not fully indicative of the many services they provide on a daily basis. This is not surprising given the history. When the majority of fire departments were formed, they were established to fight fires that threatened homes, businesses, and communities. For many years, most operated with the sole mission of fighting fire through fire suppression strategies, fire education and fire prevention.

Through many years of effective public education and community fire prevention, fire suppression activities began to decrease. At the same time, due to a renaissance in building construction, new materials, transportation modalities, climate change, and changing social conditions and societal norms, the need for all hazard response capacity increased. Fire departments of the past came to the realization that the valuable resources contained within their respective departments were needed in new contexts and situations. The question is whether the operating and resourcing structures of these organizations have kept up with their evolutions.

> *"We need to adapt to the ever changing dynamics and pressure put on our fire fighters."*
>
> **Chief Cameron Abrey, Fire Chief, Dauphin Fire Department**

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## 1.1 What's In a Name…

There is a subtle disconnect between the all hazard work of fire departments and the operational supports dedicated to these organizations. This may be in part because of the prominence of the word fire in their respective departmental names. Over the last two decades several fire departments have been renamed to better reflect the expanded range of services they are called upon to deliver. Examples include *Vancouver Fire & Rescue Service, or Edmonton Fire Rescue, or Regina Fire & Protective Services, or Brandon Fire & Emergency Services, or Winnipeg Fire Paramedic Service, or Toronto Fire Services, or Halifax Regional Fire & Emergency*.

The change in operational realities of fire departments over the last few decades, have called for an expansion of the beloved but worn title of fire department to a service name that perhaps so much better identifies the multitude of services these respective departments now provide. In the coming decade we expect these departments to continue to evolve to better represent the "all hazards" type of response that they currently provide. As they do so, it's important that citizens and all levels of government understand that this shift is occurring and that the resources and policies required will need to keep pace with demand.

*"The Canadian Fire Service is and should be one of the highest respected professions. With this the service of both management and union must be very respectful of adapting to the needs of our communities. I assume others are in a similar state of balancing budgets and community needs. The time is now to take a large step and evolve to be the next level All Hazard Service."*

**Chief Morgan Hackl, Fire Chief, Saskatoon Fire Department**

## 1.2 The Evolution of the Canadian Fire Service Paradigm

As many jurisdictions began facing increased demand for a wide range of services, fire departments and the individuals within them demonstrated capacity towards meeting them. The nature of firefighting requires constant training. As demands shifted, the willingness to train continued.

At the same time, the mission of suppressing and preventing fires in the community also improved through effective firefighting operations, enhanced fire education and dedicated fire prevention practices, while other demands increased. The same skills proved necessary and viable in all hazard circumstances.

The same communities were increasingly making less traditional demands, such as emergency medical intervention and advanced specialty rescue services. Fire departments responded with the pragmatic response of training to meet them. As competencies evolved, the expectations became

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ensconced in the structure. Municipal governments also recognized the need for an agency capable of providing a multitude of differing services and the fire service, already positioned to protect their community's citizenry, enthusiastically accepted the challenge.

> "Generally speaking, our culture binds us to an outdated model of fire protection that is no longer sustainable or defensible. We need to focus on gathering data, sharing information, adopting best practices and matching our resources to identified risks if we want to effectively and efficiently serve our customers in the future."
>
> **Chief Bill Ireland, Fire Chief / Chief Executive Officer, Kennebecasis Valley Fire Department Inc.**

While all departments maintained the expertise to fight fire through suppression, education, and prevention, the fire suppression effort itself has also seen substantial improvements through enhanced fire mitigation training based upon scientific research supplemented by superior fire apparatus, firefighting tools, personal protective equipment augmented by federal and provincial legislation focused entirely upon firefighter and public safety. Virtually every Canadian fire service provider improved upon their capability to fight fire as technology improved.

Three other areas of service expertise need consideration: Emergency Medical Service (EMS) response, the offering of specialty rescue and emergency mitigation services, and overall management of the community emergency management response. The mission of most Canadian fire service providers evolved to include a much greater response program dedicated to protecting their citizens not only from fire, but from a multitude of emergency situations that could easily have a huge impact upon their personal lives, and perhaps an even bigger impact upon the communities in which they reside.

## 1.3 Present State of the Canadian Fire Service

In February 2018, the National Fire Protection Agency (NFPA) issued a report entitled the "Canadian Fire Department Profile" which indicated that in the years 2014 to 2016 Canada had approximately 152,650 firefighters of which 17% or 26,000 were classified as Career Firefighters while 83% or 126,650 were classified as Volunteer Firefighters and/or Paid On Call Firefighters (POC).

During the same time period, Canada had approximately 3,672 fire departments providing fire protection of which 66 departments were composed entirely of Career Firefighters, while 44 departments were composed mostly of Career Firefighters, and 501 departments were classified as comprised of mostly Volunteer Firefighters, while the balance of 3,061 departments were composed entirely of volunteer firefighters and/or paid on call firefighters.

About 1.8% of Canadian fire service providers are All Career Firefighter departments which protect 40.9% of the population of approximately 37,250,000 Canadians, whereas 83.4% of departments are

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classified as being All Volunteer Firefighter departments which subsequently protect 17.7% of the Canadian population.

Of the 3,672 Canadian fire departments, 682 departments protect a population of 5,000 or more residents, while 412 departments protect a population of 10,000 or more, while 179 departments protect a population of 25,000 or more, while 104 departments protect a population of 50,000 or more, while 61 departments protect a population of 100,000 or more, while 22 departments protect a population of 250,000 or more, and while 10 Canadian fire departments protect a population of 500,000 or more residents.

The vast majority of Canadian fire departments are municipal fire response services. However, 28 of the largest Canadian airports have separate aviation fire service providers or have agreements in place by which Aircraft Rescue Firefighting (ARFF) is contracted or augmented by a local municipal fire department. Each Canadian provincial and territorial government manage their respective wildlands fire response with overall coordination through the Canadian Interagency Forest Fire Centre, and the Canadian Government generally through the Canadian Forces employs firefighters that engage in aircraft rescue, structural, wild land and shipboard firefighting.

Finally, there exists many industrial fire departments in Canada protecting the employees and assets of many of Canada's larger private enterprise corporations.

## 1.4 Canadian Fire Service EMS Response

A significant number of Canadian fire service providers presently offer various levels of EMS response as part of the many services they provide. Many departments offer Basic Life Support (BLS) response while other departments offer a paramedical response ultimately providing Advanced Life Support (ALS). Many departments work alongside their local EMS provider to ensure prompt response times are achieved when answering requests from those these fire departments strive to protect.

The Winnipeg Fire Paramedic Service (WFPS) operates upon the largest Canadian fire-based EMS delivery model platform with about half of WFPS firefighters licensed as Primary Care Paramedics (PCP). The Red Deer Emergency Services (RDES) is classified as a dual service department that provides fire, rescue and emergency medical services to the residents of Red Deer, but provides the local ambulance response staffed by firefighters. For many Canadian fire service providers, the EMS response accounts for the majority of the department's annual call volume.

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In terms of a more recent detrimental phenomenon to impact upon the fire service is the emergence of the opioid crisis to strike the Canadian fire service as highlighted in a report originating from the Public Health Agency of Canada. The opioid crisis has had a huge negative influence upon virtually every region in Canada and especially in British Columbia, Alberta, the Yukon and the Northwest Territories. Canada recorded 2,861 opioid related deaths in the year 2016, and this death rate is steadily increasing and with 16 opioid related hospitalizations each day. Consequently, the adverse effect upon the Canadian fire service performing as EMS providers has been extremely noticeable. Across Canada, most of the opioid related deaths involved males at a rate of 74% with 28% of opioid related deaths occurring amongst males aged 30 to 39 years of age.

During 2016 EMS providers in British Columbia attended 190 illicit drug overdoses per 100,000 residents resulting in one illicit drug overdose death for approximately each ten overdose events. In Alberta EMS providers responded to 1,600 opioid related events in 2016, resulting almost three opioid related overdose events for each apparent opioid related death, and 80% of these events occurred in the non-central urban cores of Calgary and Edmonton. In Manitoba, EMS response for opioid related events between 2015 and 2016 increased by 70%. The majority of these cases involved males between the ages of 20 to 29 years.

In 2018, Vancouver Fire & Rescue Services (VF&RS) Fire Chief Darrell Reid released a comprehensive report entitled City of Vancouver's Response to the Opioid Crisis detailing many of the operational, logistical, and economic ramifications to the EMS providers based in Vancouver. The report, which focused upon a $ 3.5 million civic investment for first responders and for the community in response to the crisis, indicated that the VF&RS administered Naloxone 141 times in 2016 and 215 times in the year 2017. One fire station responded to 1,500 calls in just one month ultimately a major impact on the Vancouver's fire service resources.

Public Health Ontario developed an Interactive Opioid Tool to track the effects of the opioid crisis in Ontario. Data from this interactive tool indicates a steady increase in opioid related deaths in Ontario for more than a decade and since the year 2003, the number of opioid related deaths has increased 246% with more than 1,250 Ontarians in the year 2017 having died from opioid related causes. The effects upon Ontario, and subsequently upon all EMS providers is enormous and represents one of the most pressing issues the Canadian fire service-based EMS providers face at the present time.

*"Both Fire Departments and EMS units provide a vital service to people in their time of need. Imagine what the benefits could be if these two entities combined their efforts and reduced redundancy. Their common goals now aligned all in the name of improving patient care, and overall departmental efficiencies for the better."*

**Chief Dustin Curry, Director of Protective Services,
District of Tumbler Ridge**

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## 1.5 Specialty Rescue Services

The past three decades has also brought a change in the type of service most Canadian fire departments provide. Many Canadian fire service entities now include Hazardous Materials (HazMat) response, Water and Ice Rescue, Vehicle Extrication, High Angle Rescue, Trench Rescue, and Urban Search and Rescue (USAR), plus a multitude of other specialty rescue service occasionally specific to the demographical or geographical characteristics of the region in which the department operates. That said generally most fire departments engage in one of more of the following specialized rescue disciplines such as:

**HazMat Response** – Hazardous Materials / Dangerous Goods

**Vehicle Extrication** – Rescue of motor vehicle collision occupants

**Wildlands Firefighting** – Forestry, bush, scrub, and grasslands fires

**ARFF** – Aircraft Rescue and Fire Fighting

**Marine Firefighting** – Shipboard fire and rescue on water

**Industrial Firefighting** – Fires on commercial properties

**Water & Ice Rescue** – Persons and animals trapped on water and ice

**Fast Water Rescue** – Flood waters and river rescue operations

**High Angle Rescue** – Rescue operations above ground level

**Trench Rescue** – Rescue operations below ground level

**Technical Rescue** – Specialty rescue operations for unique situations

**USAR** – Urban Search and Rescue

**HUSAR** – Heavy Urban Search and Rescue

Each of these rescue disciplines represent a distinctive rescue technology requiring generally a large commitment of financial resources, training, and discipline governance based upon promoting firefighter and public safety.

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**Canada's Heavy Urban Search and Rescue Teams:**

Canada has 6 Heavy Urban Search and Rescue teams. In Montreal, Toronto, Vancouver, and Halifax, these teams are head-quartered in the fire department. The teams are multi-disciplinary. They have very high skill sets and capacity to set up and operate a stand-alone village in the event of a disaster. Police, fire, paramedic engineering, medicine, nursing and other professions form part of the team.

## 1.6 Community Emergency Preparedness and Management

Based upon the availability of the invaluable skillsets readily contained by most fire service providers, many Canadian fire departments now manage, or substantially contribute to their respective community's emergency preparedness program. Reflecting upon that relationship, many Canadian fire departments routinely respond to emergencies associated with:

| | | |
|---|---|---|
| Tornadoes | Ice Storms | Electrical Outages |
| Hurricanes | Lightning Strikes | Forest Fires |
| Earthquakes | Dam Breaches | Gas Leaks |
| Tsunami | Active Shooter Response | Chemical Spills |
| Floods | | Airplane Crashes |
| Snow Storms | Terrorist Acts | Train Derailments |
| | Civil Unrest | |

In many Canadian jurisdictions, the municipal fire department plays a prominent role every time a community plans for an emergency response, and every time a community opens their Emergency Operations Centre to mitigate a situation endangering the residents of their community.

"
*"We are maxed out with what we can do."*

**Chief Bo Moore, Deputy Fire Chief, Leduc Fire**

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## 2. So, What Does the Data Tell Us?

The Canadian Association of Fire Chiefs (CAFC) used eighteen fire departments as case studies for this report. The cases were selected to include large metropolitan departments, medium sized urban departments, smaller urban departments, and rural departments and career, paid on call, and volunteer departments. The departments were located in Montreal, Ottawa, Tumbler Ridge, Morden, Saskatoon, Simonds, Leduc, Winnipeg, Toronto, Kennebecasis Valley, Kelowna, Flin Flon, Calgary, Renfrew, Regina Beach, Dauphin, Fredericton, and County Forty Mile.

The data for the cases was collected by survey and through interviews. Individual departmental operating and capital budgets and annual service response totals over the last five-year period were examined. Additionally, departments provided responses to important issues such as current and future fire service challenges, significant and anticipated departmental changes, and current pressure points having a major impact on departmental operations. Also, eight department representatives from Montreal, Ottawa, Tumbler Ridge, Morden, Saskatoon, Simonds, Leduc, and Winnipeg participated in a more intensive interview to specifically discuss pertinent Canadian fire service issues.

*"We are being pushed more and more into a data world, and I think that is a good thing."*

**Chief Kim Ayotte, Fire Chief, Ottawa Fire Service**

## 2.1 The Economic Ramifications of Operating a Fire Department

The data collected from all four groupings, that being rural, small urban, urban, and metropolitan, examined the annual per capita costs of operation for each department in terms of the operating budgets and capital budgets for the time frame of the five-year period of the years 2014 to 2018. The results are shown in Table 1.

| Table 1: Fire Service Providers Average Costs of Operation | | | | |
|---|---|---|---|---|
| **Item** | **Rural** | **Small Urban** | **Urban** | **Metropolitan** |
| Per Capita Operating Budget Cost | $ 94.10 | $ 211.58 | $ 155.65 | $ 166.32 |
| Percentage of Operating Budget | 3.57% | 10.54% | 11.71% | 5.03% |
| Per Capita Capital Budget Cost | $ 38.03 | $ 9.54 | $ 12.61 | $ 11.01 |

When examining the data derived from Canada's fire service providers, the function of population is a major consideration. Smaller departments generally have considerably lower wage costs because these departments generally consist of a volunteer and/or paid-on-call (POC) fire fighter composition,

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while larger departments generally consist of career firefighters with the associated substantial wage and benefit costs. However, for jurisdictions with larger populations, these substantial wage and benefit costs are easily absorbed on a per capita basis. The end result is that the average per capita annual operating budget cost is $ 156.91 for each Canadian citizen. Fire department operating budgets usually derive funding from their respective municipality's annual operating budget, and the average percentage for the fire service operating costs is 7.71% of the average Canadian municipal annual operating budget. In terms of capital budget, CAFC data found smaller jurisdictions face larger per capita annual capital budget costs simply because again these smaller communities do not have the depth of population to share capital budget expenditures that are dependent upon the locality's population. Consequently, while the average per capita capital budget cost is $ 17.80, it is the rural grouping which dramatically drove up that average figure as the other three groupings had significantly lower average per capita annual capital budget costs.

## 2.2 The Three Types of Dominant Services Provided

Examination of the data emanating from within the CAFC data collection group determined that Canadian fire service providers respond mainly to three distinct call classifications, those being to Fires, to EMS calls, and to Other calls which includes specialty rescue, HazMat, false alarms, and miscellaneous incident responses.   The breakdown in service demand is as displayed by the data in Table 2:

| Table 2: 2018 Annual Call Volume Responses Percentage Breakdown | | | |
|---|---|---|---|
| Group | Fire | EMS | Other |
| Rural | 22.96% | 31.68% | 45.36% |
| Small Urban | 16.62% | 61.21% | 22.17% |
| Urban | 16.44% | 52.51% | 31.05% |
| Metropolitan | 14.43% | 46.91% | 38.66% |

While the percentage for Canadian fire service providers' response to active fire events constitutes the original historical response criteria, a five-year average of 17.61% of all calls can be attributed to this type of response. Conversely, Canadian fire service providers responded to EMS calls for an average

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of 48.08% of the total calls generated. And in terms in the annual increase for service based upon call volumes, on average and based upon data collected by the CAFC, Canadian fire service providers saw an increase of 4.31% in their total call volumes from the year 2017 to the year 2018, an upward five-year trend that continues from the year 2014.

## 2.3 The Recruitment and Retention Challenge

Based upon interviews conducted by the CAFC with member fire service providers, the single most constantly recognized challenge that most, if not all, Canadian fire departments face moving forward is staff recruitment and retention. This is especially pertinent in an industry where 83.36% of fire departments are completely volunteer. However, the problem also exists in career departments for other reasons.

To operate an effective fire service provider, communities must develop a department composed of well trained and appropriately certified firefighters. As the service demand paradigm changes and as the educational and practical workload steadily increases, the need to train and certify staff in effective firefighting practices and in the maintenance of EMS designations requires a considerable



time and effort commitment by not only cross trained firefighter EMS practitioners, but by all firefighters. Simultaneously for fire services to provide the specialty rescue services for example such as hazardous materials response, auto extrication, water and ice rescue, fire fighters must attain rescue technician status to ensure they can effectively provide the expertise necessary to engage in various rescue operations in a safe manner not only for those being rescued, but also for the benefit of the rescue team. The time commitment required today of Volunteer and POC firefighters cannot be over emphasized.

Interviews conducted by the CAFC also found that departments that initiate a strong and viable program to attract and retain volunteers and/or POC firefighters through various incentive strategies have been successful to developing pools of a dedicated and ultimately content firefighter pool.

The issue of firefighters attaining the training and certification to enhance their capabilities only to leave the department shortly thereafter to move to a different department is also an issue presently

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facing many Canadian fire departments. There are many fire colleges in Canada offering programming by which firefighter candidates can acquire the skillsets required to apply for many of Canada's career fire departments. Consequently, many Volunteer and/or POC fire departments as well as smaller and medium Career or Composite departments also offer the training required to attain the necessary certifications. Unfortunately, on many occasions once a firefighter has acquired these certifications, these firefighters apply to larger fire departments travelling on differing career path. The problem then becomes a continuous cycle whereby smaller departments become a resource for larger fire department staffing requirements incurring considerable cost and unfair financial loss to these smaller communities.

## 2.4 Physical and Mental Health

While insistence upon more rigid firefighter training requirements by the appropriate authorities of most provincial jurisdictions has ultimately created a better trained firefighter skilled in effective fire mitigation strategy while simultaneously operating more safely in an incredibly dangerous environment, the topic of firefighter wellbeing has certainly taken to the forefront as one of the most important issues the Canadian fire service presently faces. This focus upon firefighter wellbeing has taken two distinctly different routes in the attainment of the ultimate goal of ensuring the vibrant and healthy wellbeing of Canada's firefighters.

"*Not any one department can afford to do it all. Sharing in cooperation of abilities and equipment will benefit who we serve and not be self-serving.*"

**Chief Brian Hunter, Fire Chief, Simonds Fire - Rescue**

With the growing recognition of occupational cancer awareness, most Canadian fire service providers have adopted fire hygiene protocols to protect firefighters from prolonged exposure to the carcinogenic materials found on the fire ground scene. Many departments have adopted or are in the process of adopting safer working practices to protect their firefighters through innovative industrial hygiene practices to minimize exposure. The Canadian fire service leads the world in the protection of all firefighters through fire related cancer research and most importantly in the creation and implementation of cancer presumption legislation to protect all Canadian firefighters. The expertise demonstrated by prominent leaders of the Canadian fire service in conjunction with the International Association of Fire Fighters in the education of government officials throughout the world on cancer awareness and protection is unparalleled with Canada exhibiting leadership as one of the first and only country to have presumptive legislation in all provincial and territorial jurisdictions.

A more recent phenomenon centres upon the high rates of post-traumatic stress disorder (PTSD) found within membership ranks of the fire service and the ramifications of the subsequent treatment strategies presently being developed to combat this issue. Without a doubt, firefighters similar to

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police officers and members of the Canadian military, are constantly exposed to horrific events that eventually build and affect the wellbeing of the individual firefighter. Many fire departments are committing considerable resources to recognizing and then combatting this issue which has a major impact upon the fire service. Hence the reason for including this very real major issue in this report to promote further awareness.

*"When referring to financial demands, we are just chasing our tails."*

**Chief John Lane, Fire & Paramedic Chief, Winnipeg Fire Paramedic Service**

## 2.5 Operating Budgets

Without a doubt, the most prominent pressure point as indicated by 87% of all Canadian fire service providers interviewed by the CAFC centers upon the harsh realities surrounding their respective Fire Department Annual Operating Budget.  The recent economic downturn predominantly in the resource sector has had a gigantic impact upon the economy of many Canadian provinces and especially that of the province of Alberta and in the Canadian Maritimes. Maintaining budgets to a relatively constant annual inflationary rate of approximately 2.00% has serious economic ramifications if the price of Canada's natural resources is under attack. The severity of this issue is compounded by the fact that service demand for all Canadian fire service providers submitting data to the CAFC found a trending five year cumulative increase of 16.88% in the annual demand for service. Past practices to counter lower than realistically required budgetary increases has resulted in a situation whereby fire service assets such as apparatus and rescue equipment has not been effectively and efficiently replaced to meet the steadily increasing demand for service. Consequently, an era of tax austerity has had a cumulative effect that many fire service providers cannot easily recover from especially as departments are expected to "do more for less". To succeed in an era where service demand is constantly evolving and subsequently continuously growing especially in the essential delivery of such services of EMS to an aging population, budgets must keep pace with demand or eventually the system could fail. Hence the reason why so many leaders in Canada's fire service have found shrinking Operating Budgets in relation to service demand to be their primary Pressure Point.

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## 3. The Consequences of Inaction

The working environment firefighters face on a daily basis has dramatically changed over the last few years with a heavy infusion of firearms coupled with the emergence of more powerful drugs such as methamphetamine. This generation of Canadian firefighters are routinely being exposed to hazards once never imagined, and fire service providers have had to react. Consequently, it is not unusual to see firefighters responding to emergency incidents wearing body armour, another predicament of a changing world.

### 3.1 Small Risk or Catastrophic Impact?

Communities often hope and expect that disasters and emergencies won't occur with any frequency. This can lead to confounding small risk with catastrophic impact. If we do not plan and resource response capacity, the consequence can be disastrous from a human, financial, social, emotional, and moral perspective. It can shut down a community. As such, perhaps rather than planning on the size of risk, we need to plan on the size of impact. To this end, several best practices in community risk assessment are available. This requires municipalities to listen and hear what their local experts are recommending. The National Fire Protection Agency has an important guideline for community risk assessment. We encourage anyone responsible for public safety to become familiar with it.

### 3.2 Canada's First Line Response to the Consequences of Innovation

As Canada invests in social, technological, chemical, and construction innovations, it's essential to keep in mind that firefighters or all hazard responders, will be the first to experience the consequences of these innovations if and when they fail. The Canadian Association of Fire Chiefs is asking the federal government to ensure that there are adequate and sufficient training considerations in Canada's innovation agenda. This can apply to anything from agriculture to construction, and rail safety to hazardous materials.

### 3.3 Fire Departments During the Pandemic

During the current COVID-19 pandemic, as during the previous SARS, H1N1 and MERS pandemics, it remains particularly important to understand that firefighters are part of a tiered medical response. They need the same personal protective equipment and vaccine considerations as healthcare workers. The risk of this blind spot is important to note because healthcare planning and negotiation with the federal government is done provincially, where the majority of provincial healthcare workers are accounted for. Firefighters are most often under municipal jurisdiction.

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## 3.4 Protecting Local Economies

Several studies have been completed in major cities such as Montreal, Phoenix, Sherbrooke, Levis, and Edmonton tracing the number of jobs and financial loss preserved by rapid fire service response to commercial business fires. For example, in Phoenix, the fire department's response to 42 commercial fires saved the potential loss of 6,951 jobs, $650M in revenues, and $30M in potentially lost state taxes. In Levis, the fire departments' response to 11 commercial fires, saved 695 jobs and $63.5M in economic impact. In Sherbrooke, 11 fire responses saved 1,917 jobs and $368M in revenues. These studies are available. Each has strengths and weakness in the methodology. However, the message is the same. While commercial fires will account for only a small percentage of a fire department's response, the economic impact is easily quantifiable and far greater than the cost of the fire service itself.

## 3.5 Managing the Carbon Footprint of Communities

The National Fire Protection Association, a major source of international best fire service industry practices, has developed a tool called ENCANA which can be used to assess the carbon footprint of various types of fires. Edmonton tested the usage of this tool and was able to demonstrate that in response to 10 fire events, there was a savings of 66,514 tonnes of carbon dioxide ($CO_2$) which is approximately 63.2% of the total risk of greenhouse gases emissions due to no intervention. In the case of these 10 events that were evaluated during this project, it was found that the economic value of the associated environmental damage, specifically $CO_2$ equivalent had a potential of $3,151,725 at risk of which Edmonton was able to theoretically save $1,989,123 when considering a $30 per tonne price for $CO_2$.

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## 4. What Can Be Done Municipally, Provincially and Federally?

We believe that all levels of government must recognize that fire departments are more than just about the flames and consider appropriate risk assessment. They are all hazard respondents, including as part of a tiered medical response under normal and pandemic conditions. Many fire departments contain the region's emergency management response capacity. Since they are local, they are often on scene before industrial, federal, military or provincial resources. They are national resources.

The CAFC continues to recommend that the federal government consider a structure like the US Federal Emergency Management Administration and its US Fire Administration that can systems approach to fire sector planning in Canada. This might include everything from data, to training to recruiting, keeping up with innovation, to priority vaccine administration.

## 5. Conclusion

Ironically, the fire service has been fondly teased with the overused expression *"150 years of tradition unimpeded by progress"*. This couldn't be further from the reality of a sector that is called upon to respond to the issues of the day. When the call for diversity, water and ice rescue, incident command, EMS provision, HazMat response, community emergency preparedness, technical rescue, and innovation are added to the more traditional mixture of community fire education, effective fire prevention, risk assessment, and operational firefighting capacity, the Canadian fire service Likewise, when faced with budgetary pressure, recruitment and retention matters, economic conditions, firefighter wellbeing considerations and the paradigm of global warming, the Canadian fire service leadership must prove to be nimble, adaptive, and quickly responsive. By aligning mandates, resources and looking further into the future.

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# 21stCENTURY
# Fire and Emergency Services



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# Acknowledgments

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# Introduction

**The changing role of local government and its impact on the 21st Century Fire and Emergency Services**

As the role of the federal government shifts away from responding to everyday needs, local governments have also begun addressing such issues as climate change, affordable housing, homelessness, immigration, the opioid epidemic, and behavioral health. This reality has led local fire and emergency services to become the health and safety net for communities. The DNA of fire departments is to respond to EVERYTHING and help EVERYTIME. While fires may be diminishing due to better engineering, codes, and enforcement along with an increased focus on community risk reduction activities, calls for service are up for every department. These calls are for help, and the calls received today are much boarder in scope. The services required often fall outside the traditional scope of fire and emergency services. Yet these departments are uniquely positioned to respond to such calls. This paper outlines several critical issues that are impacting local governments today and others that will have an effect over the course of the next three decades. Additionally, it outlines initiatives that local government and the local response agency will need to consider to remain viable in the future. The objective is to remain relevant for our jurisdictions, have the greatest impact in a rapidly changing environment, be sustainable, and address the needs of the whole community — its residents, businesses, governing body, and the personnel who will be tasked with carrying out the mission.

## The speed of change

Regardless of how long you have been a part of a community – whether serving in local government, living there, or owning a business there – if you reflect on the changes you have witnessed, you will agree that the speed of life has transformed dramatically. A reflective look shows just how much the fire and emergency services have evolved in just the last two decades. From the equipment in use, new applications in technology, changes in the workforce, use of social media, the speed of information, and the shift and

> *"The whole 20th century, because we've been speeding up to this point, is equivalent to 20 years of progress at today's rate of progress, and we'll make another 20 years of progress at today's rate of progress equal to the whole 20th century in the next 14 years, and then we'll do it again in seven years. And because of the explosive power of exponential growth, the 21st century will be equivalent to 20,000 years of progress at today's rate of progress, which is a thousand times greater than the 20th century, which was no slouch to change."*
>
> Ray Kurzweil, American Author, Inventor, and Futurist

increase in the calls responded to -- all have made for a dramatic difference as we transformed into the 21st century fire and emergency services.

The political dynamic at all levels of government in the past, while still challenging, was less polarized and much more collegial than exists today. This shift has resulted in organizations needing to position their efforts at times as much to address political dynamics as to do what is best for the community.

In the 21st century fire and emergency services are destined to experience much more change than the last several generations. Along with this rapid change, there are several critical global issues that will have long-term impact not only on the fire and emergency services but on local government as well. Thus, the purpose of this white paper is to not only spur dialog around these critical issues, but also to motivate local government to prepare and position their organizations for these anticipated changes. If organizations hope to maintain their effectiveness and remain sustainable in the future, they must act today to address these issues and develop the organizational bandwidth needed to resolve them.

## Co-Chairs Statement

It has been our honor to co-chair the 21st Century Fire and Emergency Services White Paper on behalf of the International City/County Mangers Association and the Center for Public Safety Excellence. With more than 70 years of experience in local government between us, we bring a depth of perspective in the role and the importance of local government to every resident, visitor, and those passing through a local community. In the course of our careers, we have experienced a significant amount of change and realize the importance of this white paper to the future of the fire and emergency services.

This white paper is a culmination of several years of discussion between our two organizations and more than two years of work that included seven focus groups at national and regional conferences and two online surveys. Combined these efforts provided more than 1,200 responses from labor, fire department leadership, and city/county managers. That information was coalesced by a group of subject matter experts (SME)

comprised of city managers, fire chiefs, and associated industry professionals to provide the structure for this white paper.

It is our hope that this white paper stirs debate, creates dialogue, and promotes the critical conversations needed about the changes facing our next generation of leaders -- not only in the fire and emergency services but also in the entirety of local government. While local government leaders have always faced change, it has never been greater, more rapid, or occuring within an more unforgiving political environment.

This white paper outlines eight emerging issues that will have either positive or negative impacts on local government and the fire and emergency services, depending on how they are handled now and in the future. Two critical themes have emerged that must be addressed today to provide a healthy and sustainable environment for the future.

- First, the past strategies of deferring conclusive action on critical issues with short-term solutions and leaving them for the next set of leadership is not a sustainable strategy for the future. To continue to do so will worsen the eventual correction(s) that will have to be made.

- Second, we must begin recruiting talent with the mindset, skill sets, and resolve to help build a core organizational culture that can adapt and respond to rapid changes and that are not vested in a 20th century fire service paradigm or antiquated local government bureaucracy.

While there are challenges, the next 30 years hold great potential to refine and improve how services are provided at the local level. It is our hope that this white paper will help achieve that result.

**Representing the Center for Public Safety Excellence**

Chief Randy R. Bruegman (Retired), CFO, FIFIReE


**Representing the International City/County Management Association**

City Manager Pat Martel (Retired), ICMA-CM
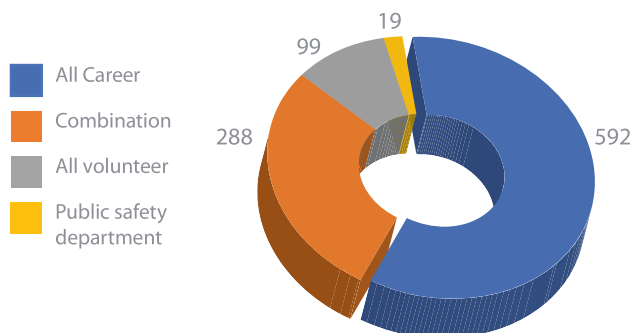
# White Paper Development Process

The SME group did not work in a vacuum in developing the white paper. From the onset, the importance of engaging numerous and diverse voices was repeatedly expressed. Seven in-person feedback sessions were held between January and May 2019. Coupled with the two web surveys, this generated feedback from more 1,200 fire and emergency services professionals and local government management professionals.
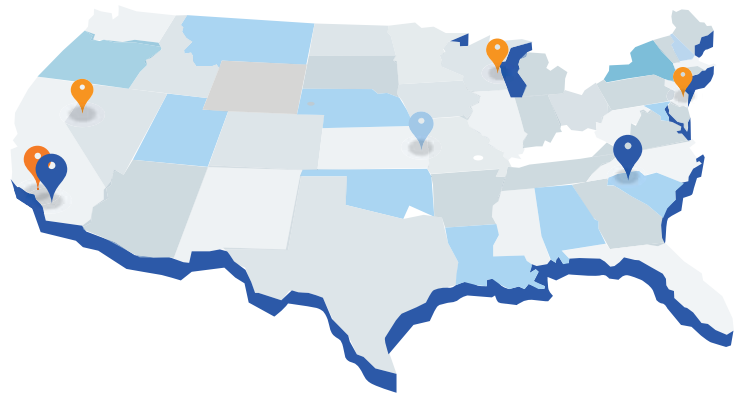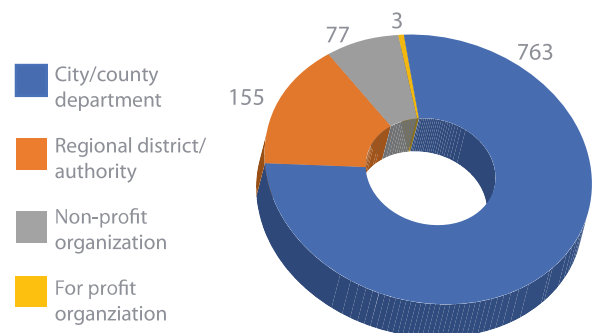
- January 2019 – International Association of Fire Fighters Affiliates Leadership Training Symposium, Los Angeles, CA

- February 2019 – ICMA Southeast Regional Conference, Greenville, SC

- March 2019 – CPSE Excellence Conference, Garden Grove, CA

- March 2019 – ICMA West Coast Regional Conference, Reno, NV

- March 2019 – ICMA Mountain Plains Regional Conference, Omaha, NE

- April 2019 - ICMA Northeast Regional Conference, New Brunswick, NJ

- May 2019 – ICMA Midwest Regional Conference, Evanston, IL

In the web surveys administered by both CPSE and ICMA, identical patterns for fire and emergency services organization and staffing models emerged.

**Staffing model** | *all respondents*

- All Career
- Combination
- All volunteer
- Public safety department

19
99
288
592

**Organization model** | *all respondents*

- City/county department
- Regional district/ authority
- Non-profit organization
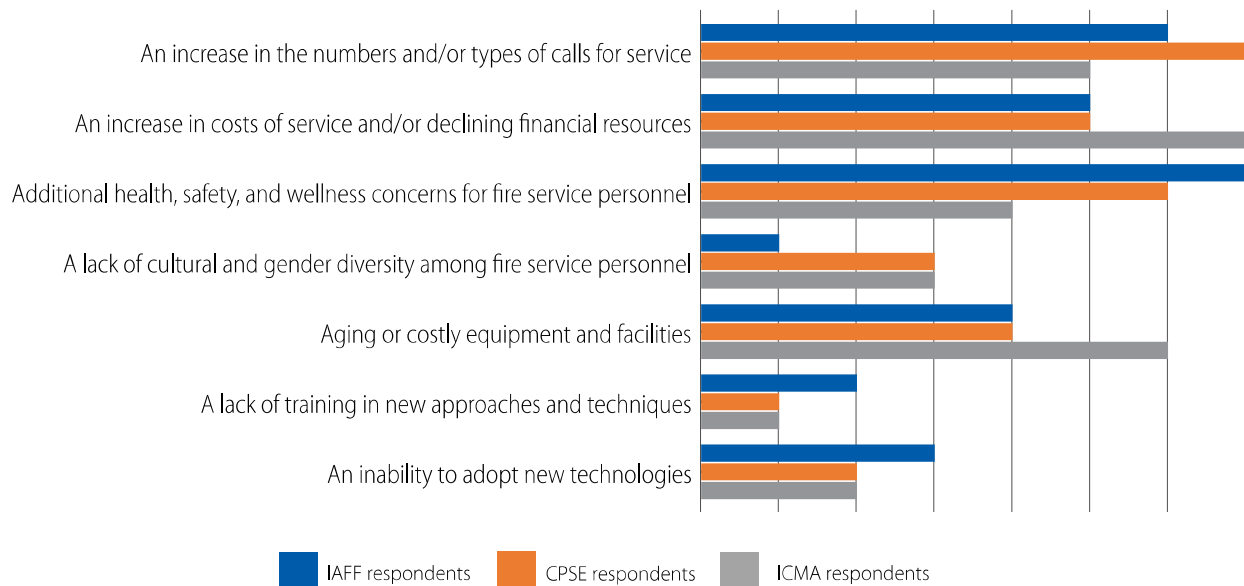- For profit organziation

77
3
155
763

# Expected future challenges for the fire and emergency services

Attendees at the IAFF feedback session were asked the same question as CPSE and ICMA survey respondents: Thinking about the fire and emergency services in your community, what are some of the major challenges that you expect your department to face in the future? While the exact order of the provided challenges differed among the groups, three expected future challenges rose to the top for ICMA groups – an increase in the number and/or type of calls for service, an increase in costs of service and/or declining financial resources, additional health, safety, and wellness concerns for fire and emergency services personnel.

The SME group saw an interesting connection between the highest rated future challenge of all three groups. CPSE respondents noted increased demand for services as the top future challenge, while ICMA respondents were most concerned with how to continue to supply fire and emergency services in an era of increased costs and declining financial resources. The IAFF respondents indicated that health, safety, and wellness of fire and emergency services personnel would be most impacted in the future.

## Comparison of expected future challenges



Legend:
- IAFF respondents
- CPSE respondents
- ICMA respondents

Categories:
- An increase in the numbers and/or types of calls for service
- An increase in costs of service and/or declining financial resources
- Additional health, safety, and wellness concerns for fire service personnel
- A lack of cultural and gender diversity among fire service personnel
- Aging or costly equipment and facilities
- A lack of training in new approaches and techniques
- An inability to adopt new technologies

# How can the fire and emergency services innovate and be sustainable?

The three most important ways to facilitate a culture of innovation in the fire and emergency services were the same for both CPSE and ICMA respondents. During the IAFF feedback session, attendees were asked what changes in skills would be necessary for the fire and emergency services in the future. An overall increase in training emerged as a major theme during the in-person feedback session. Specific examples of training varied from enhanced medical training focused on new drugs and techniques, to increased decontamination training, and training with and on new technologies (e.g. virtual reality-based scenarios, unmanned aerial vehicles, and electric/hybrid vehicles). A frequent response for necessary future skills were leadership skills -- ranging from public speaking, program development, strategic thinking, and research.

**Three most important ways to facilitate a culture of innovation in the fire and emergency services**

| Encouraging greater use of data to assess and use of analytics to solve complex community problems | Ensuring that the services are up to date on the latest professional education, training, and credentialing | Creating a spirit of partnership between the fire and emergency services and local government management |
| --- | --- | --- |

Given the unique perspectives of IAFF, CPSE, and ICMA respondents, the SME group was not surprised to learn that, when asked to select the three most important changes the fire and emergency services must implement to remain viable in the future, responses from the three groups began to diverge. While the environments they work in are identical, the changes impacting them are similar, and they agree on the ability of the fire and emergency services to innovate, their specific solutions were very different.

**Most important changes to be implemented**

| | IAFF | CPSE | ICMA |
| --- | --- | --- | --- |
| 1 | Increasing awareness and resources dedicated to personnel health and wellness | Identifying and implementing community risk reduction efforts | Researching and implementing alternative service delivery options |
| 2 | Increasing professional development opportunities for personnel | Increasing usage of data and data analytics | Identifying new partnership opportunities with neighboring jurisdictions and private and/or nonprofit organizations |
| 3 | Researching and implementing time and life-saving technologies | Fostering a culture of innovation in the department and among personnel | Fostering a culture of innovation in the department and among personnel |

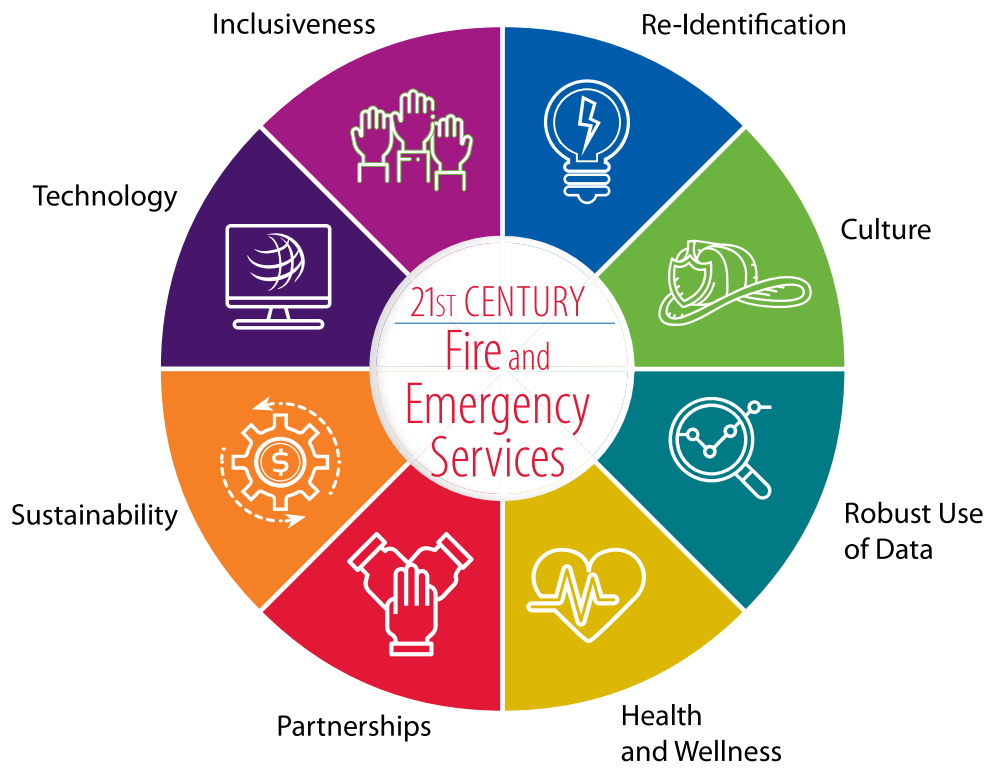## Forces Impacting the 21st Century Fire and Emergency Services

When we began the process of creating a vision for the fire and emergency services in 2050, the SME group began to brainstorm the specific factors having significant impacts today and how they could change the profession's appearance in 30 years. Over the last decade, local governments have witnessed an emerging set of issues including changing political dynamics within the community we serve, new expectations from the electorate, a demand for greater transparency, and a continual shifting of services from the federal and state level to local government. These dynamics have realigned the services we provide. The following graphic illustrates the initial brainstorm of factors that are impacting the 21st century fire and emergency services today and will continue to do so into the foreseeable future. While each will individually impact the fire and emergency services of the future, collectively these create the most change this profession has ever seen.

As the SME group investigated each area of influence, eight overarching themes emerged. These are areas of such importance that each individually, or collectively, will create significant stresses and shocks within the existing fire and emergency services. The SMEs reviewed the survey and in-person sessions feedback and determined that the feedback could be categorized into eight critical issues for the fire and emergency services in the next 30 years. These critical issues demand attention if the fire and emergency services is to thrive in the future:

1. Re-identification of the fire and emergency services

2. Culture of the profession

3. The robust use of data

4. Health and wellness threats

5. Opportunities for partnerships

6. Sustainability challenges

7. Technology advancements and adoption

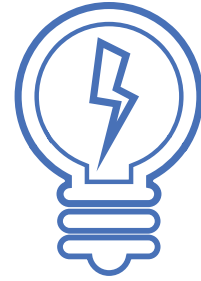8. Inclusiveness of the fire and emergency services
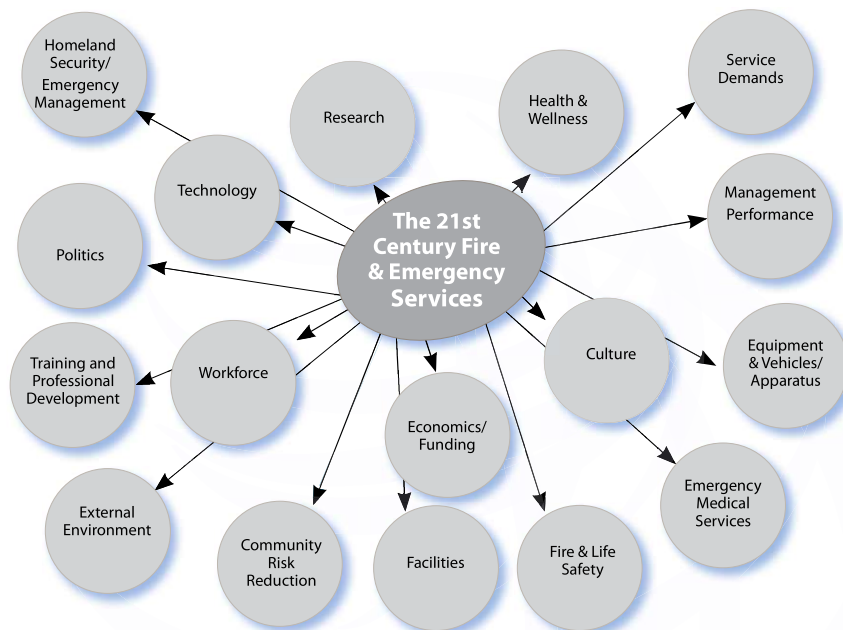


**Initial brainstorm of factors**

Forces impacting the 21st Century Fire and Emergency Services

# CRITICAL ISSUE A:
# RE-IDENTIFICATION

Re-identification is the action of establishing a new identity for the fire and emergency services. Today, most agencies that respond to medical emergencies, fires, rescues, and many other types of calls still carry the legacy name "fire department." The fact is that for most agencies, fire response is less than 5 percent of the call types to which they respond. As the fire and emergency services begin to expand their services into mobile integrated health care, and many other related service deliveries, the legacy name fire department may no longer be relevant. While reidentification is not uncommon in the corporate world, this will be an emotional issue for this profession. Even so, creating a new identity is essential for the service to remain relevant and sustainable.

**Initiative 1:** Celebrate the heritage of the fire and emergency services while recognizing that services provided have evolved and will continue to experience significant changes over the next 30 years.

**Strategies:**

1. Explore changes to agency names to better reflect the services provided.

2. Engage storytellers and fire and emergency services experts who can provide a modern perspective of the adaptability of the fire and emergency services.

3. Recognize that the fire and emergency services are well positioned to be the hub of service delivery outside the typical emergency response system.

4. Establish focus on the community as the organizational priority.

5. Implement risk reduction, medical and injury prevention, and related social service support efforts for their community.

> *Actions*
> - Exalt and reward internal and external activities that support risk reduction and medical and injury prevention efforts.

> - Establish messaging strategies for clarifying and supporting the role of first responders in addressing risk reduction, medical and injury prevention, and social services support.
> - Set agency goals and strategies to reduce the number of 911 emergency calls, which reduces risk to the community and the first responder.

6. Provide for better service to the customer, through the deployment of personnel with the appropriate skills needed for the service(s) to be provided. For example, use advanced medical providers, social workers, mental health professionals, and other support service providers as a component of an agency's resource deployment.

## Case Study: Mesa Fire & Medical Department (MFMD)

Location: Mesa, AZ

Coverage Area: 511,000 residents over 138 square miles

No. of Employees: 561

Annual Calls for Service: 68,000

With more than 75 percent of calls for service being medical in nature, in 2012 the department re-identified itself by changing its name to Mesa Fire & Medical Department. Building from this name change, MFMD began reidentifying itself in additional ways. These include deploying smaller medical response units, partnering with crisis counselors to staff a behavioral health unit, and coordinating regular immunization clinics that provide free vaccinations to the insured. MFMD has developed a community outreach division focused on reducing non-emergency 911 calls by providing education and social services. This division conducts such varied functions as training children on CPR, safe driving, and installing grab bars in homes.

# CRITICAL ISSUE B:
# CULTURE

Culture is often defined as the learned behavior patterns of people – including what they think, say, do, value, and feel. Professional culture is the pervasive values, beliefs, and attitudes that characterize a profession and influence how it operates. The culture of the fire and emergency services is built upon a strong legacy and is steeped in tradition. These traditions are deeply engrained in the way services are provided, the image of the fire and emergency services, beliefs about how it should look, and in many cases, who should be included. The culture often drives decisions that are counter intuitive to what is best for the long-term health of the organization or the provision of better services to the customer. At its worst, the focus on tradition results in resistance to change, adaptation, and/or innovation. This creates a tremendous risk for the emergency services over the next 30 years, as we are entering a period of time which will undoubtably be an era of rapid change. Successful organizations will be able to adapt quickly, try new things, be willing to fail, and be accountable for the outcomes the organization needs to achieve.

In the private sector or local government, agility will be the new capital for organizations as we move into the next three decades. As W. Edwards Deming once stated, "It is not necessary to change. Survival is not mandatory." This is a great reminder that all organizations are vulnerable if they fail to adapt to their changing environment. As we look to the future, the rate of change will be faster than ever, and culture will play a significant part in an organization's ability to sustain through such a period of rapid change.

## Initiative 1: Enhance alignment between community, elected officials, management, labor/volunteer representatives, and overall workforce.

### Strategies:

1. Create a process that allows for goal setting, strategic planning, and periodic feedback by all stakeholders of the community and the members of the organization.

2. Encourage regular communication between all stakeholders on strategic issues, while continuing to address operational issues through the established chain of command.

3. Embrace the differences in generational understanding and approach to issues to be successful in addressing the opportunities and challenges that will face organizations in the future.

4. Foster alignment between the community, elected officials, management, labor/volunteer representatives, and the overall workforce to create a culture of inclusion, adaptability, and innovation.

5. Establish a mechanism within the agency to monitor and promote cultural awareness and sensitivity reflective of the culture of the community served.

## Initiative 2: Promote an organizational environment that is adaptable, open to change, innovative, and focused on continuous improvement.

### Strategies:

1. Select and promote leaders and managers in the organization who model the desired organizational behavior of self-assessment and continuous improvement.

2. Encourage members of the organization to be engaged in outside organizations, both professional and community based.

3. Adopt a philosophy that promotes seeking out the best industry practices of other professional organizations and establish a process by which the organization can evaluate those practices and implement those that are relevant in their own organization to improve performance.

4. Develop an organizational culture that embraces continuous improvement for the organization and its employees.

5. Recruit and hire employees who demonstrate the necessary knowledge, skill sets, and abilities to develop an effective and innovative organizational environment.

## Initiative 3: Establish organizational expectations for employee education, credentialing, and continued professional development.

### Strategies:

1. Encourage and provide incentives for personal growth through a comprehensive organizational professional development plan that includes training and education, that is incorporated into the requirements for promotion to leadership positions, and that results in the increased professionalism of the fire and emergency services.

2. Develop a professional mentoring process to assist individuals in creating and achieving their professional development plan.

3. Develop a reverse mentoring program where new employees engage with senior leadership to familiarize them with the latest technologies and thought processes of the emerging workforce and community.

4. Establish a process to continually assess the skills, knowledge, and abilities needed by the organizational workforce to meet the changing community demands for service, to meet the external challenges placing pressures on the organization, and to help address the changes and innovation that are occurring or will need to occur in the agency.

### Case Study: Charleston Fire Department (CFD)

Location: Charleston, SC

Coverage Area: 150,000 residents over 104 square miles

No. of Employees: 401

Annual Calls for Service: 24,000

Serving one of the most historic cities in the United States, CFD is steeped in a rich history and tradition. An unfortunate part of its history is the 2007 Sofa Super Store fire that resulted in the line of duty deaths (LODD) of nine CFD firefighters. Since then CFD strategies have taken two distinct paths: those that advance the modern fire department and those that reinforce what it means to be a CFD firefighter. A recent recruit class was tasked with researching every LODD in the department's history, CFD has become a leader in incident command, fire tactics, and regional partnerships through strong strategic planning and a focus on constant improvement. Such traditions as company pride and badge pinning ceremonies remain integral to CFD's culture.

# CRITICAL ISSUE C:
# ROBUST USE OF DATA

Data are individual units of information. In analytical processes, data are represented by variables. Although the terms data, information, and knowledge are often used interchangeably, each has a distinct meaning. While there have been significant improvements in data use during the last 20 years, the fire and emergency services have just scratched the surface of the full potential of using data effectively to manage daily operations and make decisions based on an agency's desired outcomes. Available data is often limited due to the poor documentation of an incident by the officer responsible for filling out the report. The exception to that is medical response, which requires substantially greater documentation due to medical and legal oversight. Therefore, establishing systems to ensure collection and management of quality data is critical if it is to be used effectively. Over the next 30 years, the amount of data available to the profession will transform the way the service operates, not only in emergencies, but in all the services provided. Smart cities, smart buildings, medical biometrics, artificial intelligence, predictive analytics, and real-time streaming insights into data are all on the horizon along with many others not yet imagined. Just think of where data use was 30 years ago and where it is today. We can only imagine what it will be like in 30 years. However, if the fire and emergency services hope to harness the true power of data, there has to be a transformation of mindset and culture to leverage data for effective decision making.

**Initiative 1:** Utilize quality data for evidence-based decision making to assess and produce the best outcomes.

**Strategies:**

1. Educate and develop accountability for company officers, field inspectors, educators, and others deployed to capture the appropriate data at the incident to provide information that can be analyzed to achieve the organization's desired outcomes.

2. Champion a federal requirement that all fire and emergency services agencies regardless of size and structure be required to complete a National Fire Incident Reporting Systems (NFIRS) report for each call and submit to the state or federal government.

3. Champion a substantial update to NFIRS to become a more relevant and technologically robust system or replace it with another system capable of integrating with new innovative data systems to provide advance analytics, and support evidence-based decision making, built upon the receipt of quality data for local agencies.

4. Leverage technology(s) to assure real-time data capture and analytics that provide insights for use by fire departments at the local level.

5. Assure a process is in place to track physical and traumatic event exposure(s) for all response personnel.

### Initiative 2: Implement advanced data analytics to make informed decisions.

**Strategies:**

1. Employ advanced analytics to assist in making predictive and prescriptive decisions that are focused on the outcomes the agency is trying to achieve.

2. Cultivate a data-driven culture that utilizes data insights to modify strategies, deployment models, and programs.

3. Ensure departmental personnel are aware of public disclosure laws, rules, and best practices in providing data to other organizations, the media, and the general public.

4. Establish best practices for data cleansing and for tracking data access to safeguard its integrity.

5. Establish clear roles and responsibilities among city data managers, private-sector data collection entities, and records management software (RMS) companies.

6. Establish a clear definition of the data ownership the agency produces.

### Initiative 3: Develop comprehensive records management systems (RMS) to collect and analyze data effectively.

**Strategies:**

1. Urge RMS vendors to design systems that bring together all data needs in the agency into an integrated platform, that can provide analytical evaluation for the data collected toward the outcomes trying to be achieved by the agency.

2. Establish data warehousing best practices for collecting data from multiple data sources, including RMS, for complete and faster data analysis.

3. Require department IT managers to use best practices and transmission law(s) relevant to cybersecurity, data collection, and storage.

### Initiative 4: Focus on developing outcome-based data for all measurable operations and functions within the organization.

**Strategies:**

1. Develop an outcome-based performance measurement system consisting of four elements:

   - The goals of the agency to support the health and welfare of the community.

   - The performance metrics relevant to the goals the agency is trying to achieve

   - The benchmark level of performance the agency is striving to achieve.

   - The consequences for the agency and the community being served if the goals are not met.

2. Use aggregated data to inform and improve system performance.

3. Champion legislative changes to allow for sharing of patient data between hospitals and responding agencies and encourage interagency cooperation to promote the evaluation of patient outcomes based upon the entirety of the response to that patient.

## Case Study:
## Edmonton Fire Rescue Service (EFRS)

Location: Edmonton, AB

Coverage Area: 972,000 residents over 303 square miles

No. of Employees: 1,300

Annual Calls for Service: 55,000

Combining incident data with non-fire databases (such as census and other demographic information) EFRS has harnessed insights to guide planning, development, and community risk reduction. EFRS conducted longitudinal analysis of river rescue operations before and after the closure of a station located along the North Saskatchewan River. Highlighting the negative impact on the outcomes of the rescues following the closure compelled the City Council to reopen the previously closed station. Cross referencing of response data with fire investigator's data has determined the locations for EFRS' smoke alarm program. EFRS robust use of data has aided other governmental entities namely the geocoding of overdose events and naloxone administration by firefighters for the provincial government showing the impact of recently opened supervised consumption services.

# CRITICAL ISSUE D:
# HEALTH AND WELLNESS

The increase in emergency responder health concerns including post-traumatic stress (PTSD/PTSI), and other health related problems is a critical issue for the profession. Daily exposures in the fire and emergency services include sleep disruption and deprivation, the continual witnessing of tragic events, and exposures to toxic environments. These exposures are all contributing factors to the increased cancer rates in firefighters and their predisposition to many health-related issues and psychiatric disorders, including suicide. To understand the interrelationship of all these factors and their impact on response personnel will require research specifically directed at fire and emergency personnel, necessitated by the fact that similar research conducted in other professions will likely be discounted and not be accepted by the 21st century fire and emergency services. While use of battle-worn gear has been a source of pride for many in the service and is embedded in the tradition and culture of the profession, it has contributed to extended exposure to toxins and many of the health-related issues experienced by fire and emergency services personnel. As such, decontamination plays a vital role in protecting fire and emergency services personnel and their long-term health. The focus for decontamination goes beyond the emergency scene and includes all the transport mechanisms (e.g., personal protective equipment (PPE), hand tools, hose, and apparatus) and facilities where exposure is intensified because of extended time frames and other exposure pathways (e.g., respiratory, dermal, and digestive). Further, there is a real concern that personnel are bringing contaminants outside of fire stations and exposing friends and family members. A prime example is the volunteer firefighter who, because of limited agency resources, takes gear home to be cleaned, cross contaminating their personal vehicles and home washing machines.

**Initiative 1:** Champion research on the health impacts specific to the fire and emergency services to evaluate the health risk of consecutive hours worked, sleep disruption, and the impacts on employee health.

**Strategies:**

1. Conduct research on the impacts of current work cycles on the health of the workforce and the impacts of sleep deprivation and sleep hygiene on the long-term health of the individual and their cognitive abilities while on duty.

2. Utilize the results of that research to make any needed operating policy changes, incorporate research results into appropriate standards, and pursue potential legislative changes to protect the health of the workforce.

**Initiative 2:** Proactively address the increased mental health challenge(s) facing the fire and emergency services.

**Strategies:**

1. Engage outside professional assistance to allow employees a confidential process to seek assistance for themselves or family members who may be struggling with mental health concerns.

2. Embrace an organizational atmosphere that removes the stigma and barriers for those seeking mental health assistance while safeguarding employee confidentiality.

3. Develop organizational processes that protect the confidentiality of what an employee is being treated for, while alerting the agency to any recommended restrictions to the employee's essential job functions and assignments. .

4. Develop a comprehensive plan to address the need for employee assistance in those situations that warrant immediate intervention.

5. Develop on-going mental health assessments for emergency responders to promote early recognition of developing mental health issues aligned with a mental health assistance process if issues are detected.

6. Develop pre-employment hiring processes that provide for professional mental health pre-screening of candidates to avoid exposure for those that are highly susceptible to post-traumatic stress.

**Initiative 3:** Adopt and support fitness and wellness best practices throughout the whole organization and incorporate this philosophy in every aspect of operations.

**Strategies:**

1. Institutionalize employee wellness and fitness into the culture, practices, operational procedures, and training practices of the organization.

2. Provide structured support to maintain a healthy workforce.

3. Evaluate the level of fitness of each employee, and for those found to be unfit, assist employees in attaining a proper fitness level. If unsuccessful, address the issue with the employee.

**Initiative 4:** Ensure ongoing physical fitness and wellness requirements are standardized, adopted, and used within every department.

**Strategies:**

1. Adopt physical performance and annual fitness testing requirements for fire and emergency services employees to ensure the responder can safely do the job without injury or risk to their health.

2. Once these policies are developed, engage the workforce to adopt and implement strategies that will be employed by the agency.

**Initiative 5:** Continue research toward the development of comprehensive decontamination procedures for the fire and emergency services.

**Strategies:**

1. Address the traditional culture of the profession that promotes the wearing of soiled gear and transform it to one that sees it as contamination.

2. Conduct continued research to develop a comprehensive approach to reducing exposures, the best method(s) for decontamination, and periodic testing to help ensure a safer environment for the workforce.

3. Use research to develop best practices, comprehensive standards, and potentially, new legislation to protect the workforce.

**Initiative 6:** Urge personal protective equipment (PPE) manufacturers to develop new PPE and bio-metric sensors to ensure effectiveness, reduce equipment weight, and provide for the enhanced ability to monitor the physiologic health and stress markers for personnel during response to an incident.

**Strategies:**

1. Urge the PPE manufactures to develop a more effective ensemble that offers the protection needed and reduces the weight.

2. Champion the research and development of technologies to monitor the physiological health indicators of personnel during incident response and to determine when those indicators indicate personnel are at risk.

3. Urge PPE manufactures to design a more comprehensive ensemble for wildland firefighting that provides for better protection of personnel.

4. Provide recognition awards to manufacturers and vendors that make meaningful improvements to PPE.

5. Challenge the existing practice of allowing the PPE manufacturing industry to vote on standards that affect their business while recognizing their input is critical to the design of the PPE.

## Case Study: Broward Sheriff Fire Rescue and Emergency Services Department (Broward)

Location: Fort Lauderdale, FL

Coverage Area: 1.95 million residents over 1,323 square miles

No. of Employees: 775

Annual Calls for Service: 50,000

Broward formalized its health and wellness initiatives under a division chief of health and safety. A departmental joint occupational safety and health committee meets bi-monthly to discuss safety issues and concerns. Broward conducts mandatory biannual Life Scan physicals for all personnel. Numerous exposure reduction steps, such as use of particulate filtration/blocking structural firefighting protective hoods and synthetic radio straps, issuance of post exposure reduction decontamination kits, and deployment of "healthy cab" initiatives, have been implemented by Broward. All front-line personnel have been issued ballistic protection. Working with the local University of Miami Sylvester Cancer Center, Broward has participated in a research project for the education and reduction of cancer exposures.

# CRITICAL ISSUE E:
# PARTNERSHIPS

A partnership is often thought to be a form of business, where two or more people come together to share ownership, responsibility, and profits from a given business venture. In every community across our nation, a partnership exists between the fire and emergency services and the general public that is built upon a shared commitment to the health and safety of its residents. The fire and emergency services are in an enviable position in communities, as they are well positioned to be the hub of service provision for many supporting services already found within their community, and that align with organization's core mission. The importance of this has been clearly proven during homeland security threats, through the interagency cooperation, intelligence sharing, and joint response to those events by law enforcement and the fire and emergency services. There are significant opportunities to create partnerships with allied health care, mental and behavioral health providers, and various social service agencies to leverage the talents of each agency with a focus on improving service to the community. Too often agencies respond multiple times to the same individual who calls 911 as their only known access for assistance, when the need is truly not an emergency, but could be met by another service provider in the community. Over the next 30 years, the fire and emergency services will need to partner with related service providers to create a local response network that can provide a host of services under the umbrella of a multifaceted organization, if it hopes to meet the needs of the community served.
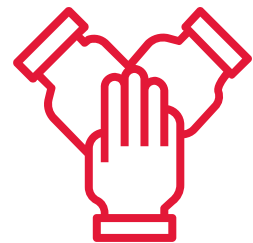
**Initiative 1:** Acknowledge the need to work with a wide range of partners to serve the community and develop local strategies to create new approaches to providing services more effectively.

**Strategies:**

1. Inventory and leverage the allied services (law enforcement, health, social services, non-governmental organizations) in the community to provide more effective and efficient services.

2. Partner with insurers and health providers to innovate existing response strategies, improve patient outcomes, and reduce system costs.

## Initiative 2:  Promote a symbiotic relationship with other internal departments and outside agencies that are routinely allied responders to an incident.

### Strategies:

1. Routinely meet, train, develop standardized operational response plans, and share real-time intelligence of what is happening in communities with allied responders to increase response capability and coordination during a homeland security event.

2. Develop goals and outcomes with a wide array of agency stakeholders, both internally and externally, to meet the objective of providing for a safe and healthy community.

3. Promote regular communication between all stakeholders on strategic issues, while continuing to handle operational issues through the established chain of command.

4. Develop opportunities for stakeholders to appreciate the roles and responsibilities of all other stakeholders toward better alignment of service delivery.

## Initiative 3: Continue to expand community emergency response capabilities.

### Strategies:

1. Promote individual and neighborhood self-sufficiency though existing programs (e.g. community emergency response teams, the radio amateur civil emergency service, volunteers in patrol, and senior Medicare patrol volunteers) to create greater resiliency in the community.

2. Focus on creating personal accountability in preparation for community-wide emergencies.

3. Identify and support community functions that are critical for recovering from and adapting to community-wide disasters.

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### Case Study: Rockford Fire Department (RFD)

Location: Rockford, IL

Coverage area: 147,000 residents over 65 square miles

No. of Employees: 318

Annual Calls for Service: 29,000

Identifying the increase in EMS calls and understanding that collaboration would benefit the department and community, RFD partnered with Swedish American Health System to develop a mobile integrated health (MIH) program. Twelve patients with chronic illnesses were selected for the 2015 pilot. As a result, ER visits were reduced by 54 percent, hospital admissions by 28 percent, and ambulance transports by 38 percent for this group. Enrollment in the program has grown with visits, admissions, readmissions, and transports continuing to be reduced. The MIH program scope expanded through a partnership with Winnebago County Health Department to train community members to recognize opioid overdoses and treat with them naloxone kits. In a one-year period, 1,500 people were trained, and more than 1,200 naloxone kits were distributed.

# CRITICAL ISSUE F:
# SUSTAINABILITY

Sustainability is often defined as meeting the needs of the present without compromising the ability of future generations to meet their needs. The concept of sustainability has three pillars: economic, environmental, and social. If we look through the lens of local government today, there are reasons to be concerned that local government may not be sustainable in the future. Many agencies across the United States are struggling with the cost to provide services at the levels needed to meet a growing population, an aging population, and a population with changing service demands. Those cost pressures are exacerbated by unfunded pension costs along with and the cost to maintain and replace aging infrastructure and response vehicles. Shifting responsibilities from federal and state governments to the local level have forced many local governments to provide new services. These factors have placed tremendous strain on local government to balance ever growing service demands with funding available within their jurisdiction. This will be an on-going issue and will necessitate doing business differently in the future, not only in the fire and emergency services but throughout all services provided by local government as well.

The volunteer fire service has struggled in the last decade in many parts of the United States to recruit and retain enough volunteers to provide adequate services. With the mission of providing services to more than 70 percent of U.S. jurisdictions, volunteer recruitment and retention is becoming a national problem.

Today business, government, and society are learning from the science of change that they must recreate themselves even when they would like to believe the old way of business will go on forever. As Peter Drucker put it, "the best way to predict the future is to create it." The future of the fire and emergency services will rest upon those who are in it. If the fire and emergency services hope to sustain itself in the future, it must be willing to redesign itself and address the issues that are having a negative impact on the service today. Failure to address these issues will lead to what author Max Bazerman calls "predictable surprises." Predictable surprises are those events or outcomes that catch us by surprise, yet both were predictable and preventable. If this occurs, the fire and emergency services will be placed at risk to continue to be the community's safety net. Ultimately, local government will be faced with making difficult choices about how to provide the services needed and the level of services to be provided. That is why the issue of sustainability is so important and must be addressed now, rather than being left to the next generation of leaders to resolve.
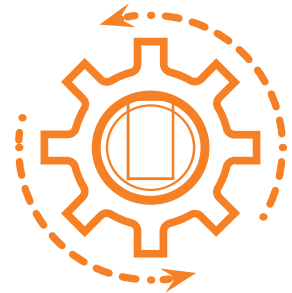
## Initiative 1: Address aging fire and emergency services vehicles and building structures.

### Strategies:

1. Establish a comprehensive building renewal and replacement plan and provide the needed funding to address the short- and long-term community needs.

2. Urge the architectural profession and equipment manufacturing industry to anticipate and plan for the future designs needed by the fire and emergency services to address changes in response and deployment methods, building constructions, building densities, road infrastructure, and SMART cities and SMART building design.

## Initiative 2: Reconsider and revamp current deployment methods.

### Strategies:

1. Ensure response protocols and opportunities for consolidation are explored to ensure effectiveness of service delivery is balanced with cost efficiency.

2. Adopt staffing models based on statistically known call demand factors, such as time of day, special events, and seasonal changes while maintaining an adequate baseline deployment required to meet the health and safety needs of the community and employees.

3. Evaluate consolidation of seldom used specialty and single-purpose pieces of equipment to maintain effective cost management and capacity of those services for the threat environment that exists within the jurisdiction.

4. Develop a better understanding of community needs and their changing demands for services so as to modify the service delivery model(s) to meet them.

## Initiative 3: Develop sustainable pension model.

### Strategy:

1. Promote collaboration between labor groups, local government, and state government to ensure existing pension financial commitments are met while ensuring adequate service levels within the communities being served.

## Initiative 4: Adopt and implement a community risk reduction strategy

### Strategies:

1. Embrace a comprehensive strategy to minimize incidents and, if an incident does occur, to minimize the impact on the people, the community, and the emergency responder.

2. Adopt the concepts outlined in "Vision 20/20 – National Strategies for Fire Loss Prevention," and incorporate these recommendations into the daily agency operation to minimize the impacts to the community and emergency responders.

3. Develop strategies locally and nationally that reduce risk through proper vegetation management, designing new fixed fire protection systems that can be used in wildland urban interface, and zoning changes that prohibit building in the wildland urban interface.

4. Embrace the use of fire sprinkler technology in all buildings  through the rapid adoption of codes and ordinances  at the federal, state, and local government levels to dramatically reduce the incidence of deadly and costly fires. .

5. Urge the sprinkler industry to develop a more cost-effective means to retrofit existing buildings with sprinklers or other fire suppressant technology.

6. Develop standards and a tiered code methodology that would support a phased in retrofit plan for existing buildings.

### Initiative 5: Improve resource allocation by focusing on the outcomes trying to be achieved.

**Strategy:**

1. Evaluate resource allocation using department response data.

2. Alter deployment methods to assure better outcomes and desired services levels for communities including EMS, community paramedicine, or increased prevention efforts.

### Initiative 6: Examine fixed costs associated with current delivery models and associated contracts.

**Strategy:**

1. Negotiate labor contracts with the flexibility to promote innovation in service delivery and servicing models, while still providing a fair and equitable wage, benefit, and pension package for the workforce that is economically sustainable.

### Initiative 7: Explore public/private partnership opportunities.

**Strategies:**

1. Solicit success stories and best practices of effective public/private partnerships related to capital investments and operating costs.

2. Create, maintain, and regularly update a national repository of best practices available to all agencies at no cost.

### Initiative 8: Research strategies to assist communities in sustaining their volunteer fire and emergency services or, if needed, how to transition to a new model.

**Strategy:**

1. Champion the establishment of a federal commission to develop a national plan of action to ensure volunteer fire and emergency services agencies remain viable in the future.

### Initiative 9: Dramatically revamp the fire and emergency services education and training model to provide the needed skill sets, knowledge, and abilities required for the anticipated changes in the future and to remain current with the application of emerging technologies.

**Strategy:**

1. Urge academic institutions to develop the means to speed up their course development model and to be able to quickly adapt and develop new courses that will be required to sustain the needed workforce skill sets.

2. Encourage academia to use of state-of-the-art technology to meet the educational learning styles of future generations.

## Case Study: South Metro Fire Rescue (SMFR)

Location: Centennial, CO

Coverage area: 540,000 residents over 287 square miles

No. of Employees: 716

Annual Calls for Service: 45,000

Serving 12 municipalities and unincorporated areas of three counties, SMFR has addressed the critical issue of sustainability. A 2016 merger with Parker Fire Protection District lowered the mill levy saving taxpayers $11.2 million over 3 years. An upcoming merger with Cunningham Fire Protection District will result in additional savings of $4.7 million. Consolidating dispatch centers and adopting more efficient coverage models has delivered better service to the community with SMFR rated as an ISO Class 1. Funding is now available for staffing community risk reduction efforts that in turn lead to a reduction in demand for service. Enhanced community connectivity and less susceptibility to changing politics has permitted SMFR to adopt long-term strategic initiatives furthering its sustainability.

# CRITICAL ISSUE G:
# TECHNOLOGY

Futurist Ray Kurzweil's predictions about trends in technological advance, which have been correct 86 percent of the time, are widely used by governments and large companies to prepare for the future. He has predicted that every 12 to 18 months computers will double their capabilities along with the information technologies that use them. Among his predictions are that in five years, we will experience 32 times more technological advancement, and in 10 years, a thousand times more. It is hard to imagine what that will translate to for the 21st century fire and emergency services, but it will undoubtedly change the way the local response agencies are doing business today.

**Initiative 1:** Adapt to and leverage rapidly evolving technology to improve service delivery.

**Strategies:**

1. Anticipate that artificial intelligence, smart technology, and robotics will shape future service delivery dramatically in the next 30 years and will change response methods requiring a new skill set and strategic processes for fire and emergency services agencies.

2. Leverage technology developed for other applications, professions, and purposes for use by emergency responders (e.g., robotics for the military, training simulation tools for the gaming industry, aviation flight simulation) to provide for better response and training.

3. Develop data sharing between departments/agencies that could benefit from shared applications and hardware, thus reducing the silos of data information in order to improve services.

**Initiative 2:** Develop a change mindset to help anticipate and support appropriate use of emerging technology and encourage the development of new technologies.

**Strategies:**

1. Champion the United States Fire Administration, in concert with other national organizations, to develop a fire advanced research challenge to promote application of technology developments for use in the emergency services through proof of concept and competitive challenges, similar to the Defense Advanced Research Projects Agency (DARPA) challenge utilized by the Department of Defense.

2. Coordinate national organizations to recognize and celebrate successful applications of emerging technology and help to spur future innovation at a more rapid pace for the fire and emergency services.

## Case Study: City of Lenexa Fire Department (LFD)

Location: Lenexa, KS

Coverage Area: 50,000 residents over 34 square miles

No. of Employees: 96

Annual Calls for Service: 6,300

On the cutting edge of technology adoption, LFD received a FAA Certificate of Waiver or Authorization (COA) for Unmanned Aircraft Systems (UAS) in 2014. The COA permits LFD to use several UAS for aerial viewing and videography of both apparatus and personnel. LFD has utilized UAS for such varied activities as wildland hot-spot recognition, fire investigation, incident mission, and recruit training review. LFD requires interconnected smoke detectors in all new home-based day cares and permits Bluetooth detectors in older properties. Both configurations result in faster alerting of LFD to fire incidents in these high-risk properties. To protect its personnel, LFD has experimented with a waterproof arm band transmitter for its recruits monitoring their biometrics and pushing notifications during adverse situations.

# CRITICAL ISSUE H:
# INCLUSIVENESS

Communities served have continued to become more diverse in their culture, languages spoken, and norms. The workforce of many fire and emergency services agencies no longer reflect the people they serve. A workforce demographic that mirrors the community make-up helps to build trust with the community and promotes a better understanding by the agency. While firefighting is now a relatively small part of what agencies do, it is the most technically and physically demanding. Many fire departments are working with underrepresented groups to prepare them for the rigorous testing processes of joining the fire and emergency services. If the fire and emergency services hope to attract the right workforce to deliver the services conducted, then changes in culture and current perceptions are necessary to achieve more representative service.
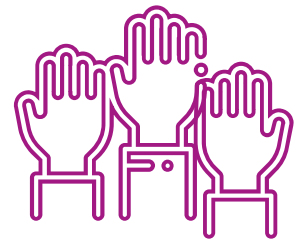
**Initiative 1:** Make it an organizational priority to recruit, select, and promote members who reflect the demographic makeup of the community they serve.

**Strategies:**

1. Remove economic barriers to candidates desiring to participate in the fire and emergency services.

2. Remove social barriers to candidates desiring to participate in the fire and emergency services.

3. Remove non-validated physical ability barriers for candidates desiring to participate in the fire and emergency services.

4. Create pathways to attract, prepare, and hire underrepresented personnel into the fire and emergency services.

5. Establish an agency goal for the optimal demographic make-up of the agency.

6. Develop a plan to achieve that optimal goal for the agency within a specified time period.

**Initiative 2:** Understand the community characteristics, culture, and diversity that exist and determine the most appropriate way to serve and interact with all community members.

**Strategies:**

1. Provide opportunities for employees to engage with various community groups.

2. Promote cultural understanding and humility within the workforce to increase the quality of interactions and the services provided to the community.

3. Engage the community in helping to develop cultural humility within the agency.

4.  Involve the community in agency decisions that affect them.

## Case Study: Hartford Fire Department (HFD)

Location: Hartford, CT

Coverage Area: 124,000 residents over 17 square miles

No. of Employees: 361

Annual Calls for Service: 30,000

A majority-minority community, Hartford's residents are 44 percent Hispanic, 35 percent African American, 15 percent White, and 3 percent Asian. Striving to be a more inclusive fire department to better serve their diverse community, HFD has adopted strategies focused on enhanced two-way communication, team building, and fostering a department identity while permitting individuality. Meetings with all affinity groups allowed the chief to discuss challenge and concerns. These groups included the Emerald Society (Irish), Latin Society of Firefighters (Latino/Hispanic), Phoenix Society (African American), St. Florian Society (Italian), and Women in Fire & Emergency Services. Wide department representation on health and safety, strategic planning, and apparatus committees along with involvement of members in the development of HFD's first professional development program led to a greater sense of inclusion. Custom-designed company logos are permitted on apparatus while intra-mural activities bring together the entire department.

# What the Future May Hold

The responder of the future and how agencies deploy available resources will likely differ significantly from today's fire and emergency services system of response. While the system will have to rely on a strong core response team to adequately respond to emergency situations, the responder of the future will likely come from a variety of disciplines, with varying education, certifications, and training to provide the array of needed services to their community.

Calling 911 may result in dispatching units to an emergency response or deploying an advanced medical provider, a social worker, a behavioral health specialist, community risk reduction officer, or other specialist who can provide the most appropriate set of skills needed by the caller. The fire and emergency services must be prepared to play a much larger role in the health and welfare of the community and anticipate that there will be a variety of specialists that make up the response team, creating a larger network of professionals that are deemed first responders.

Technologies and robust data analytics will have dramatic impacts on society, the workplace, and the fire and emergency services and will create a time of substantial organizational transformation. As smart cities develop during the next 30 years, the amount of data readily available to local government, the response agency, and the citizen will be substantial. Data will drive decisions as local governments focus to deliver better services, promote economic growth, and provide for a safe and healthy community. But to do so will require a new way of thinking for most local governments and the agencies that work with in them. The quickly advancing fields of automation and artificial intelligence will most certainly revolutionize every aspect of human life and are already making an impact on everything from military strategy to medical procedures. As robots take over increasingly complex tasks, new forms of human-machine interaction will emerge, and the structure of both industry and

society will evolve to accommodate this emerging and symbiotic relationship.

For this first time in history, we have five generations in the workforce. Two new generations are just entering: Gen Z and Gen Alpha. Gen Z is the first that is a true digital generation. This generation has been exposed to the internet, mobile systems, and social media from a very young age. They are hypercognitive, comfortable multitasking, and often have multiple devices in operation at the same time. Generation Alpha, also known as the iGeneration, are the first entirely born in the 21st century. This generation is set to be the most transformative generation yet. Alphas haven't just grown up with technology, they've been completely immersed in it since birth.

During the next 30 to 50 years, a nearly equal distribution of population bands will emerge. This will be a shift in global demographics and will undoubtably have dramatic impacts on the workplace and the workforce.

Whether it's a more diverse workforce, a more demanding community, a more complex response system, or a shift caused by societal changes, as we look to 2050, the fire and emergency services will look vastly different that it does today.

# Next Steps

If you have been working in local government during the last decade, you have experienced some of the most dramatic shifts in how it operates. Whether it's the political dynamic, the elevated threshold for transparency, the lack of civility, or the demands placed on local government to provide more services, it has been a time of real change. As we look to the future, those dynamics may continue, but other forces of change will emerge, making the leading and managing of tomorrow's governmental system very exciting, very challenging, and very fast.

The more than 1,200 people that shared their vision for the 21st Century Fire and Emergency Services all agreed that the fire and emergency services is an integral local government function. However, they felt that changes will be needed in how these vital services will be provided. The subject matter experts and the CPSE and ICMA boards indicate that a collaborative effort will be needed to address the rapid societal changes coming and should include city/county managers, elected officials, community members, fire and emergency response leadership, and the representative workforce. The changes foreseen and the rate at which change may occur will undoubtably accelerate the transformation of the fire and emergency services. Thus, it is critical that we address the issues outlined in this white paper. We must begin today to position our agencies to be able to create an organizational DNA that can adapt quickly, embrace new technologies, and be open to unforeseen changes. These will need to be critical organizational characteristics if local government

hopes to sustain the fire and emergency services so it can continue to serve as the health and safety net for our communities.

We invite local governments and institutions to begin addressing the initiatives and research efforts outlined in this white paper. It is our hope that national organizations, such as CPSE, ICMA, and others, will address the topics outlined in the critical issues and prepare their members to meet these challenges going forward.