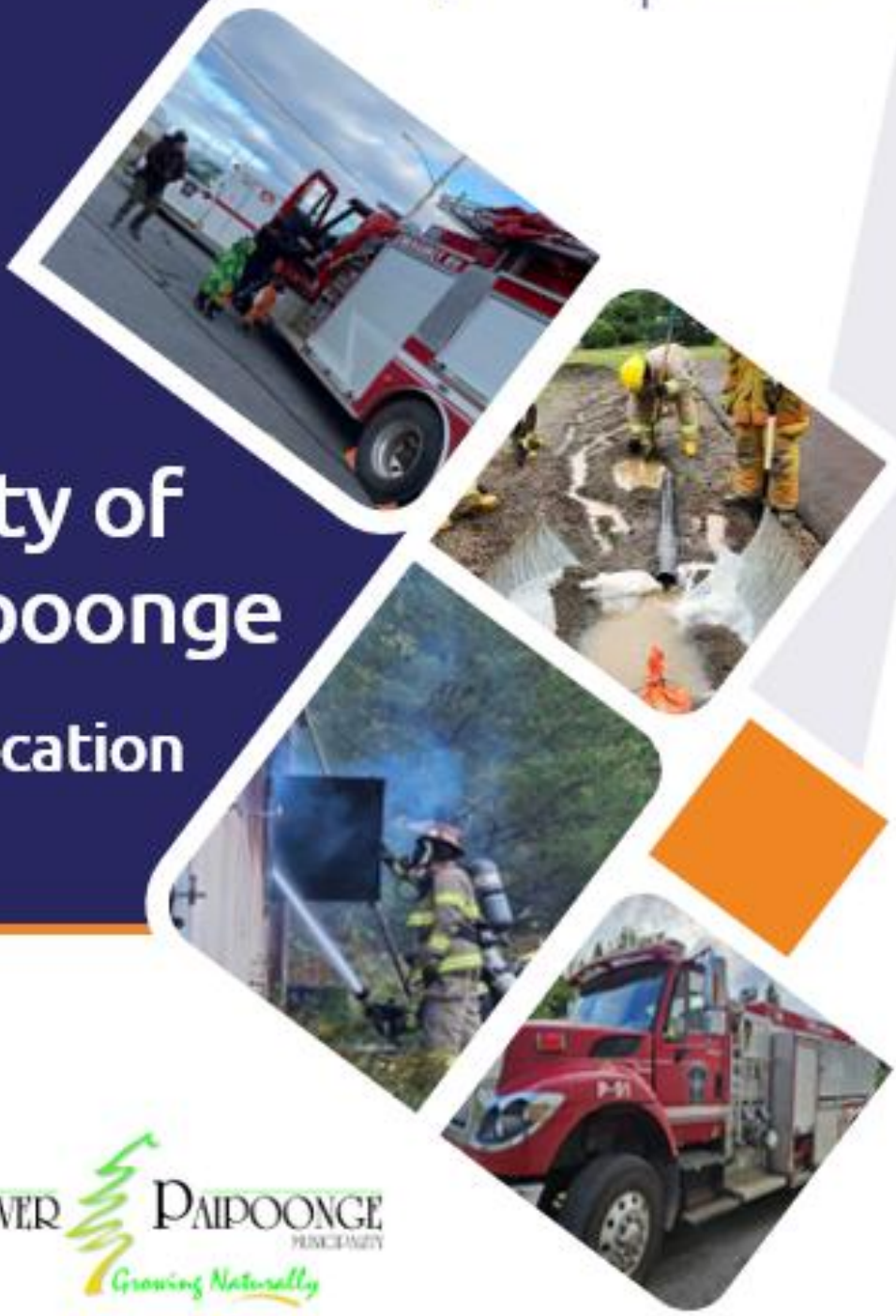
2025

Emergency Management Group



Municipality of Oliver Paipoonge

Fire Station Location Review

Oliver Paipoonge Municipality
Growing Naturally

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Executive Summary

Emergency Management Group

EXECUTIVE SUMMARY

In response to the Municipality of Oliver Paipoonge Corporate Report No. 2024.144, the Emergency Management Group (EMG) was tasked with assisting the administration in conducting a fire station feasibility study. This report builds upon a recommendation from the 2023 Oliver Paipoonge Master Fire Plan (MFP). Specifically, EMG's Recommendation 31 advised the Fire Chief, CAO, and Council to review and evaluate the various fire station options presented. After assessing the three station realignment options from the 2023 MFP, in alignment with the criteria outlined in the Project Overview, and also considering the option of maintaining the current fire station locations and fleet configuration, EMG has determined that the best course of action for the Municipality of Oliver Paipoonge is to proceed with the phased realignment recommendation outlined in this report.

Project Overview

This report follows up on Recommendation 31 from the 2023 Oliver Paipoonge Master Fire Plan (MFP), which suggested that the Fire Chief, CAO, and Council review and assess the various fire station options. The goal was for the Council to select a preferred option regarding the number and location of fire stations.

Following Council's decision on the preferred station options, further decisions will need to be made regarding fire apparatus and equipment. Specifically, the Council will determine which assets to retain, and which will be decommissioned or disposed of, ensuring that the fire department's resources align with the new operational structure and locations. This approach will optimize service delivery while considering both budgetary and logistical constraints.

To identify opportunities for enhancing service to the community while maintaining fiscal responsibility, EMG has evaluated potential station location options for the Municipality. It is important to note that all six fire stations are currently situated within a specific community, a configuration established before the amalgamation of Oliver and Paipoonge. This report considered the three proposed station location options, the status quo, and offers a phased realignment recommendation based on Option #2 from the 2023 Master Fire Plan. This report, and the resulting recommendation was conducted based on the following criteria:

- Fire station locations and demand for service
- Fire station condition assessment and functionality
- Fire station capital cost projections, operating costs, and assessed value
- Benefits of apparatus realignment and fleet reduction
- Municipal development and associated risk

- New fire station requirements
- Stakeholder consultation

To conduct a proper staffing, response, and station location analysis for any fire service, a benchmark or standard to which the existing response model is measured against must be identified. Additionally, for the Fire Chief to make informed decisions regarding the overall positioning and deployment of resources, consideration must be given to the following points:

- Has Council provided direction to the Fire Chief (based on the Chief's informed recommendations) on the expected response times that are to be achieved by the fire department?
- Is the fire department experiencing challenges with getting the required number of firefighters to consistently respond from assigned station locations thus ensuring an appropriate level of response based on the deployment model?
- What impacts will future growth including residential, commercial and industrial have on changes in the location of fire stations, staffing levels, and the deployment of firefighters?

The National Fire Protection Association (NFPA) 1720 Standard identifies the number of personnel for the deployment of volunteer firefighters:

- Section 4.3.1: "the Fire Department shall identify minimum staffing requirements to ensure that the number of members that area available to operate are able to meet the needs of the department.
- Urban areas with a population greater than 1,000 per mi2 or 2.6 km2, there should be a minimum response of 15 staff within 9 minutes, 90 % of the time.
- Suburban areas with a population of 500 – 1,000 per mi2 or 2.6 km2, there should be a minimum response of 10 staff within 10 minutes, 80% of the time.
- Rural areas with a population of less than 500 per mi2 or 2.6 km2, there should be a minimum response of 6 staff within 14 minutes, 80% of the time.
- Remote areas with a travel distance of greater than or equal to 8 mi or 12.87 km, there should be a minimum response of 4 staff directly dependent on travel distance, 90 % of the time."

With a current population of approximately 6,035 (2021) spread across about 350.91 km² (135.49 mi²), Oliver Paipoonge Fire and Emergency Services' (OPFES) community qualifies as rural, with roughly 44 residents per 2.6 km². This requires having six firefighters on scene within 14 minutes, 80% of the time. Therefore, the goal is to have six firefighters arrive within the 14-

minute response time or as quickly as possible. The 14-minute window allows for a 4-minute assembly time for volunteer firefighters, which is the typical time it takes for them to reach the station and then respond in an emergency vehicle. Although firefighters may respond directly to the scene in their personal vehicles, actual firefighting operations (such as extinguishing the fire) cannot begin until the fire trucks arrive. The 4-minute response time to the station is factored into the overall response time average.

Tracking this key response time is essential for assisting the OPFES in determining whether it is consistently meeting or approaching the NFPA recommendations. Regularly reporting these response times to Council is important, as it will provide them with a clear understanding of the fire service's capabilities and performance.

In developing the following station location options, EMG focused on maximizing the use of the existing fire station locations, rather than recommending the construction of multiple new stations. However, two of the options presented included the consolidation of two existing stations into a new facility, as well as the relocation of the Rosslyn fire station.

All of the options carefully consider the geographic distribution and frequency of call locations to ensure that service coverage is optimized. This approach aims to balance operational efficiency with the strategic use of existing infrastructure, minimizing the need for significant new capital investment while still addressing any gaps in response times or coverage areas.

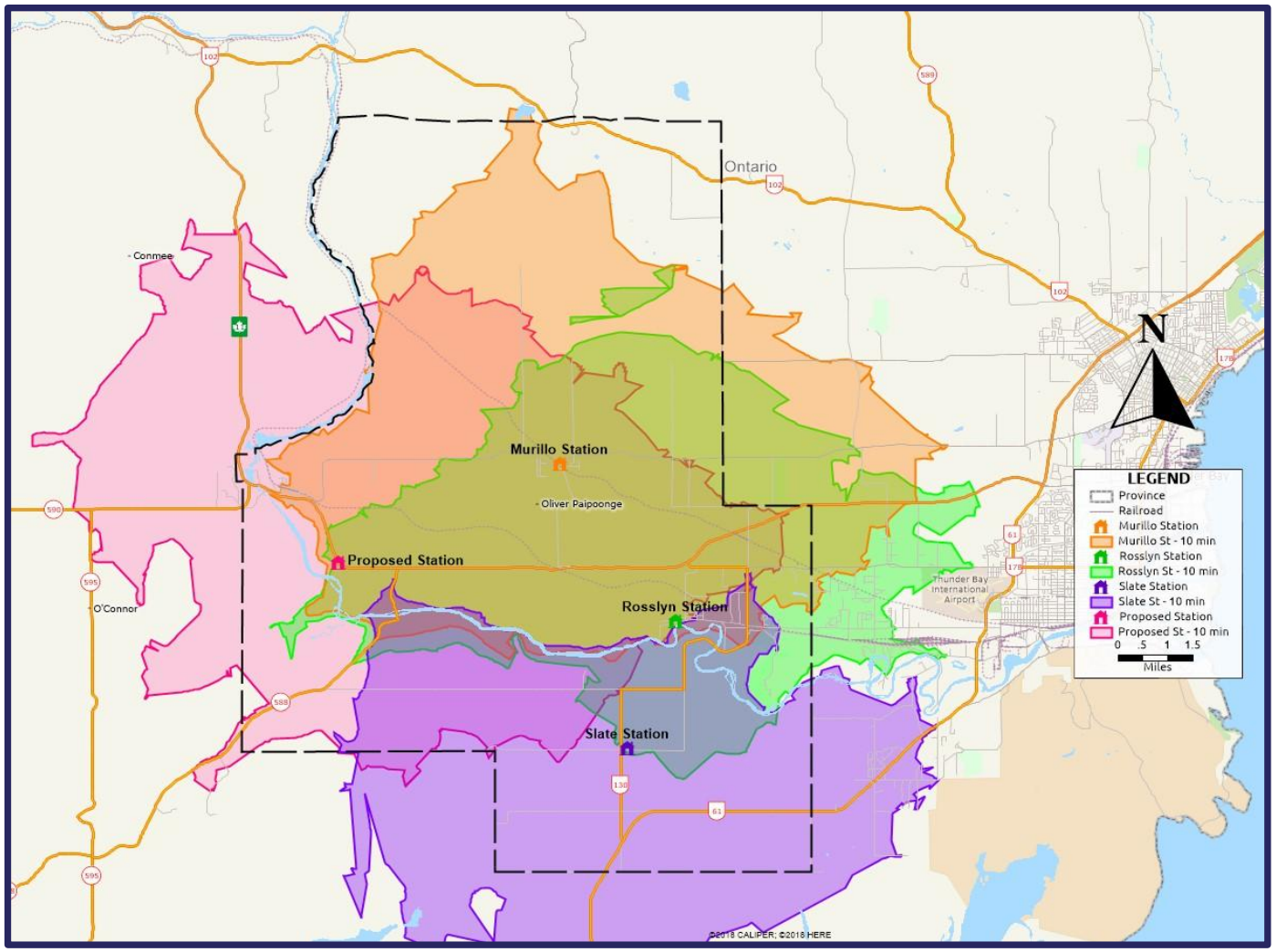
Station Location Options and Status Quo Analysis (2023 MFP)

Option #1

The four-station option outlined in the 2023 MFP (Figure #1) includes stations at Murillo, Rosslyn, Slate, and a new facility at Kakabeka/Stanley. This configuration provides strong coverage across the Municipality, especially in areas with the highest volume of emergency calls. For the majority of the Municipality, response times remain well within the target 10-minute travel time.

However, there is one exception: the area previously served by the Intola station, which now partially falls outside the 10-minute travel time response goal. GIS modeling indicates that response time in this area would be approximately one minute longer than the desired 10-minute travel time. While this represents a slight deviation, the station and apparatus response data provided to EMG does not definitively show that the closure of Intola Station would lead to a general increase in response times. In fact, operational improvements such as the reassignment of firefighters, optimized deployment, and route adjustments could potentially enhance both operational efficiency and response times.

FIGURE #1: STATION LOCATION OPTION #1



While Option #1 offers extensive coverage, it does not fully capitalize on the opportunity for additional office and general space requirements by opting to add to the existing Municipal Office. Furthermore, and as detailed in Fire Station Condition Assessments and Functionality section of this report, maintaining operations at the current Rosslyn station will necessitate an investment of around $300,000 to address functional needs and ensure firefighter health and safety.

Option #2

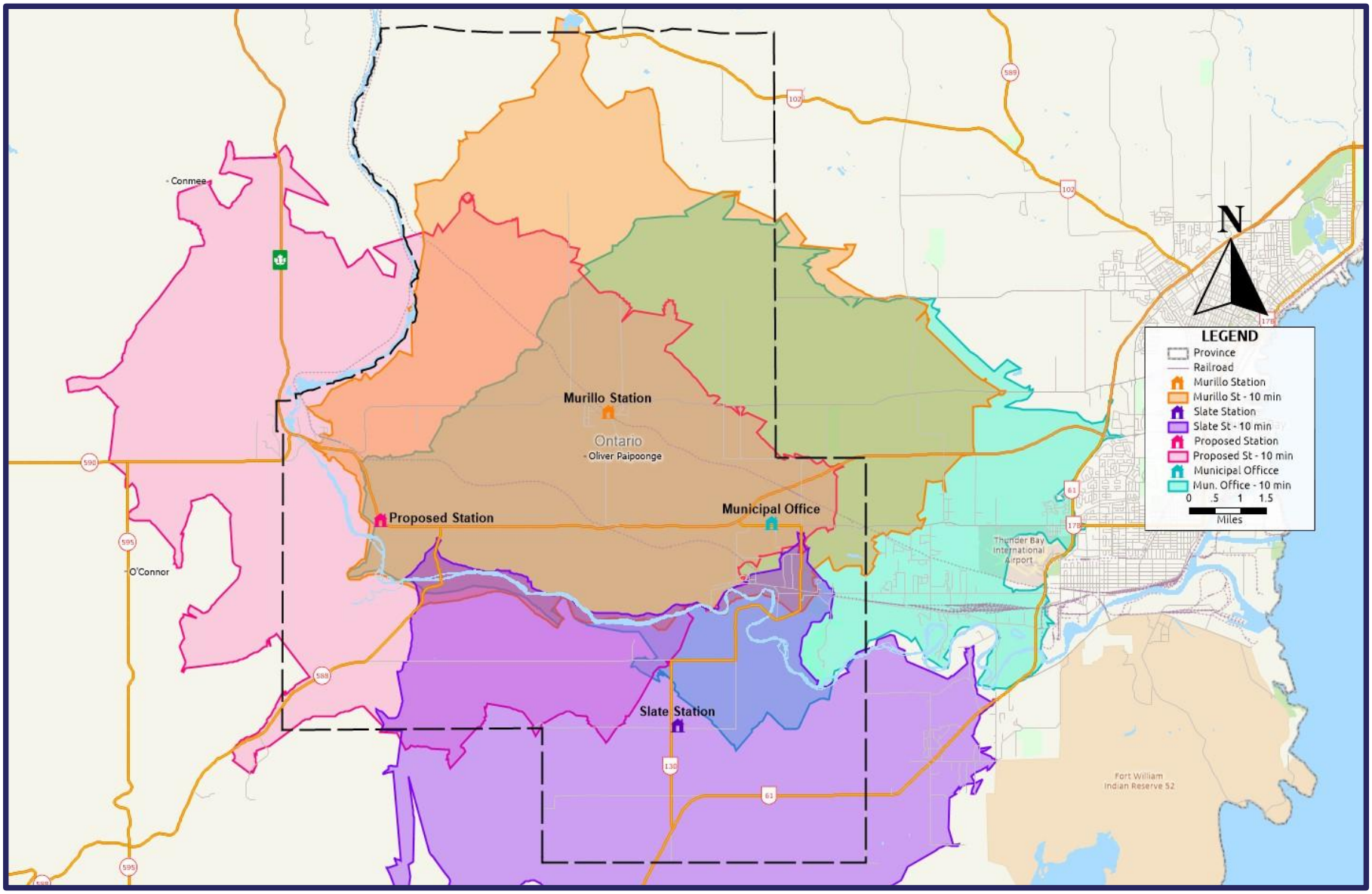
The second four-station model suggested by EMG in the 2023 MFP (as shown in Figure #2) involves several key changes: the closure of the Intola station, the consolidation of the Stanley and Kakabeka stations into a single facility, the closure of the current Rosslyn station, and the construction of a new Rosslyn station at the Municipal offices.

This reconfiguration allows for continued high-level coverage throughout the Municipality, addressing both population density and call volumes. Notably, the Rosslyn area, which accounts for a significant portion of both calls and the population within Oliver Paipoonge, is strategically served by relocating the new Rosslyn station to the Municipal office area. This location still provides ample coverage for the surrounding area, as indicated in the map. The proximity to key road networks and central locations helps ensure timely response times despite the station's relocation.

Similar to Option #1, GIS mapping indicates that the Intola Station response area would fall outside the 10-minute travel time response coverage. However, as noted in the Option #1 summary, it cannot be definitively concluded that the closure of Intola Station would result in a general increase in response times. In fact, operational improvements such as firefighter reassignment, optimized deployment, and route adjustments could potentially improve both operational efficiency and response times.

This preferred option ensures strong service coverage across the Municipality while reducing the number of stations and optimizing their placement for better operational efficiency and resource allocation. It also provides an opportunity for the Municipality to include additional office space during the design phase, should the need arise. Additionally, the construction of a new Rosslyn Station at the Municipal offices will allow for adequate storage of an Aerial Apparatus, should one be purchased in the future. Currently, none of the current fire stations are able to accommodate an Areial Apparatus. This option supports the realignment of firefighters to the stations most frequently attended for response, enhancing coordinated on scene staffing levels and improving firefighter safety. Furthermore, this option allows for the reallocation of a substantial portion of anticipated capital improvement funds toward the construction of the office addition.

FIGURE #2: STATION LOCATION OPTION #2



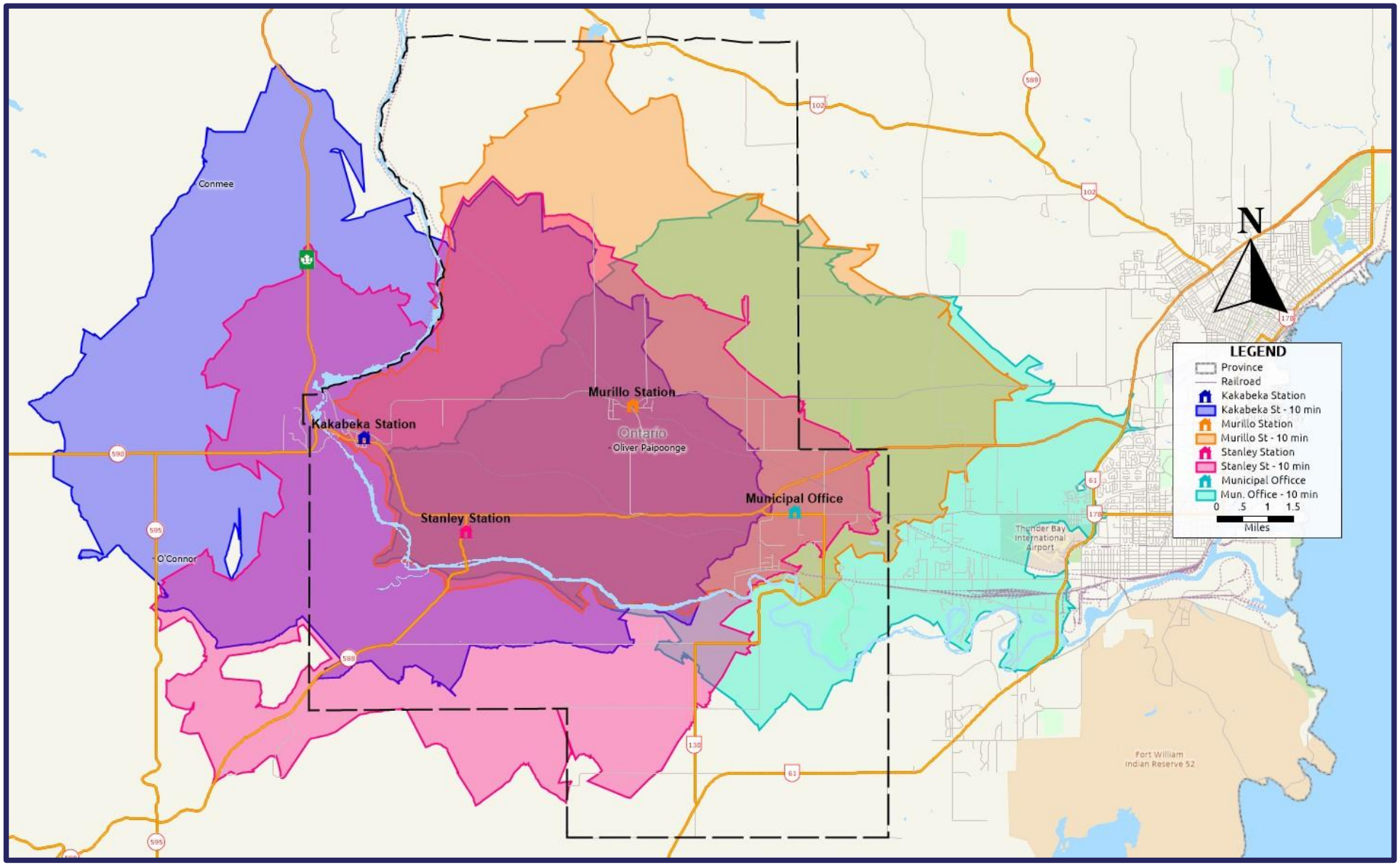
Option #3

In this final option (as shown in Figure #3), the Kakabeka and Stanley stations remain in their current locations, while the Intola and Slate stations are closed. The Rosslyn station is relocated to the Municipal offices.

This configuration still provides a high level of coverage throughout most of the Municipality, ensuring that key areas are adequately served. The closure of the Intola and Slate stations is offset by the strategic relocation of the Rosslyn station, which helps maintain response times across the region. By consolidating some of the stations and optimizing their locations, this option aims to balance efficient coverage with operational cost savings.

As shown in Figure #3, closing Slate Station creates a coverage gap in the southern part of the Municipality and removes a strategically positioned fire station on the south side of the Kaministiqua River. A GIS generated coverage gap in the Intola Station response area, as previously mentioned in Options #1 and #2 would also occur. Additionally, this option eliminates the long-term potential to strategically enhance Municipal fire stations. Furthermore, as outlined in Fire Station Condition Assessments and Functionality section of this report, approximately $520,000 would be required to address functional needs and ensure firefighter health and safety. However, implementing Option #2 allows for the reallocation of a significant portion of these anticipated capital improvement funds toward the construction of the office addition.

FIGURE #3: STATION LOCATION OPTION #3



Status Quo Option

Municipal Council is responsible for determining the necessary fire protection services based on the Municipality's needs and circumstances. In this regard, Council has the option to adopt the phased station relocation recommendation presented in this report, direct the Fire Chief to explore alternative options, suggest modifications to the proposed options, or maintain the current fire station locations.

Maintaining the status quo will result in the OPFES continuing to operate from the existing fire stations, despite their identified deficiencies, until critical functional and firefighter safety issues are addressed—requiring substantial capital expenditures. Even with capital improvements, many of the current fire stations will still need significant modifications to resolve issues such as the proximity of firefighter gear to vehicle exhaust, the lack of floor drains with oil separation systems, inadequate storage capacity, limited emergency power, and improper separation between apparatus bays and living/training areas, among others.

The status quo approach will also miss the opportunity to leverage plans for expanding the Municipal Office to accommodate additional office and general space, as well as the potential for reallocating a significant portion of anticipated capital improvement funds towards the construction of this addition. In the long term, any cost savings from fleet reduction and rationalization will not be realized under the status quo option.

Most importantly, the status quo will forgo the chance to consolidate staff and resources in higher-risk areas of the Municipality, where growth is projected.

Fire Underwriters Survey (FUS)

Fire Underwriters Survey (FUS) is a national organization that represents mor than 90 percent of the private sector and casualty insurers in Canada. FUS provides data to program subscribers regarding public fire protection for fire insurance statistical and underwriting evaluation.

The Public Fire Protection Classification (PFPC) is a numerical grading system scaled from 1 to 10 that is used by Commercial Insurers. Class 1 represents the highest grading possible, and Class 10 represents an unrecognized level of fire protection. The PFPC grading system evaluates the ability of a community's fire protection programs to prevent and control major fires that may occur in multi-family residential, commercial, industrial, institutional buildings, and course of construction developments.

FUS also uses a second grading system called the Dwelling Protection Grade (DPG), which assesses the fire protection available for smaller buildings, such as single-family dwellings. The DPG is a numerical grading scale ranging from 1 to 5, with 1 being the highest possible grade and 5 indicating little to no fire protection is available.

According to a report from FUS dated May 15, 2024, Tables #1 and #2 outline the PFPC and the DPG, both of which are currently at or very near the unrecognized or minimal fire protection classification. An assessment of the report reveals that the key factors limiting higher gradings include the number of firefighters at each station (with a minimum of 15 required) and the failure to follow the recommended FUS replacement schedule for front-line apparatus. This issue is addressed further in the "Benefits of Apparatus Realignment and Fleet Reduction" section of this report.

TABLE #1: PUBLIC FIRE PROTECTION CLASSIFICATION (PFPC) FOR THE MUNICIPALITY OF OLIVER PAIPOONGE

Station	2024 PFPC Grading
Intola Station	10
Murillo Station	10
Kakabeka Station	9
Stanley Station	9
Rosslyn Station	9
Slate Station	10

TABLE #2: DWELLING PROTECTION GRADE (DPG) FOR THE MUNICIPALITY OF OLIVER PAIPOONGE

Station	2024 DPG Grading
Intola Station	5
Murillo Station	4
Kakabeka Station	5
Stanley Station	4
Rosslyn Station	4
Slate Station	5

If implemented, the Phased-in Station Realignment recommendation offers an opportunity to consolidate firefighters, bringing the number closer to the minimum recommended 15 per station. This approach also supports the more timely replacement of front-line apparatus while simultaneously reducing the overall size of the OPFES fleet.

Recommended Phased in Station Realignment

Based on Option #2, EMG is recommending a phased realignment of fire stations and their corresponding apparatus for the Municipality of Oliver Paipoonge. The reasoning behind this proposal is comprehensively detailed in the report.

Phase 1 - Immediate (0 – 1 Year)

After completing the public notification and education process, the Intola Station will be closed. The Fire Chief will then reassign the staff previously assigned to the Intola Station to other fire stations, as deemed appropriate. As determined by the Fire Chief, either relocate surplus apparatus, retain it in reserve capacity, or liquidate. Should it be determined that apparatus is to be liquidated, the generated revenue is to be allocated to the cost of Phase 2 building design and construction.

As determined by Council, the Intola Station building and property can be repurposed for Municipal use or liquidated with the generated revenue to be allocated to the cost of Phase 2 building design and construction.

Phase 2 – Short Term (1 – 3 Years)

Following the completion of a public notification and education process, begin the design and construction of a new fire station and headquarters at the Oliver Paipoonge Municipal Office site, located at 3250 Highway 130, Rosslyn, Ontario. The new facility should be built as an addition, providing OPFES Administration staff with access to the existing Municipal offices. During the design phase, ensure that additional space requirements are addressed, including provisions for an archive area as an example, and office space for staff, as identified.

Upon completion of construction, the existing Rosslyn Station will be closed. As per Council's decision, the Rosslyn Station may either be repurposed for Municipal use or sold, with the proceeds allocated to fund Phase 3 of the recommended fire station realignment.

As directed by the Fire Chief, surplus apparatus should either be relocated, retained in reserve capacity, or liquidated. If apparatus is liquidated, the proceeds from the sale will be allocated to the cost of Phase 3 of the fire station realignment plan.

Phase 3 – Mid to Long Term (4 – 10 Years)

This phase of the recommendation is to consolidate the current Kakabeka and Stanley Stations into a single facility located near the Ritche Pit. This consolidation will maintain adequate coverage for the Kakabeka demand area while also ensuring sufficient coverage for the southwest region of the Municipality.

Phase 3 is strategically timed to allow the Fire Chief and Council to evaluate the impact of the changes implemented in Phases 1 and 2. As the OPFES Regional Training Centre (RTC) continues to develop,

this phase provides an opportunity to thoroughly assess the RTC's needs and integrate them into the design of the consolidated station. Currently based at the Kakabeka Station, the RTC plays a crucial role not only in OPFES operations but also in supporting regional fire services. It is essential to address the RTC's requirements either in this phase or, if necessary, during Phase 2 of the project.

Fire Station Locations and Demand for Service

EMG Emergency Management Group

FIRE STATION LOCATIONS AND DEMAND FOR SERVICE

The placement of fire stations should be strategically planned to ensure the most efficient and effective response to the community's needs. While timed response zones are often used as a guideline, they do not always account for the complexity of the community's specific risks and challenges. Key factors such as local hazards, projected community growth, and the proximity of volunteer personnel to stations are essential in determining the optimal locations. Additionally, the geographical layout of the area, including natural barriers like rivers, may require stations to be located closer together to ensure timely and effective service delivery.

Public Fire Safety Guideline PFSG 04-08-13 (Appendix "A") on Fire Station Locations emphasizes that fire stations should be strategically located to ensure the most effective and safe emergency responses. While distance and travel time are important factors, they should not be the sole considerations. If a municipal Council establishes a specific response time expectation, it allows for a more realistic and tailored approach to determining fire station locations. This approach enables the development of service levels and criteria that reflect the community's unique needs, ensuring both operational efficiency and public safety.

As previously mentioned, all six stations are situated within a specific community, a configuration established prior to the amalgamation of Oliver and Paigoonge. The assessment conducted reveals that the current placement of the stations leads to significant overlap in response zones, which may impact the overall efficiency of the fire service. For instance, the Kakabeka and Stanley stations have very similar drive-time polygons, indicating potential redundancy in coverage. The Intola station, situated at the outer northeast edge of the Municipality, provides limited coverage within the Municipal boundary, with much of its service area extending beyond the Municipality’s borders. This analysis underscores the need for a strategic reassessment of station locations and response zones. By consolidating stations and repositioning them to better align with demand and coverage gaps, the department can enhance operational efficiency and allocate resources more effectively to areas with the greatest need. The recommendations in this report suggest a phased approach to address these issues, ensuring that response times, service coverage, and overall fire service effectiveness are maintained or improved

FIGURE #4: PRESENT FIRE STATIONS (10-MINUTE ZONES)

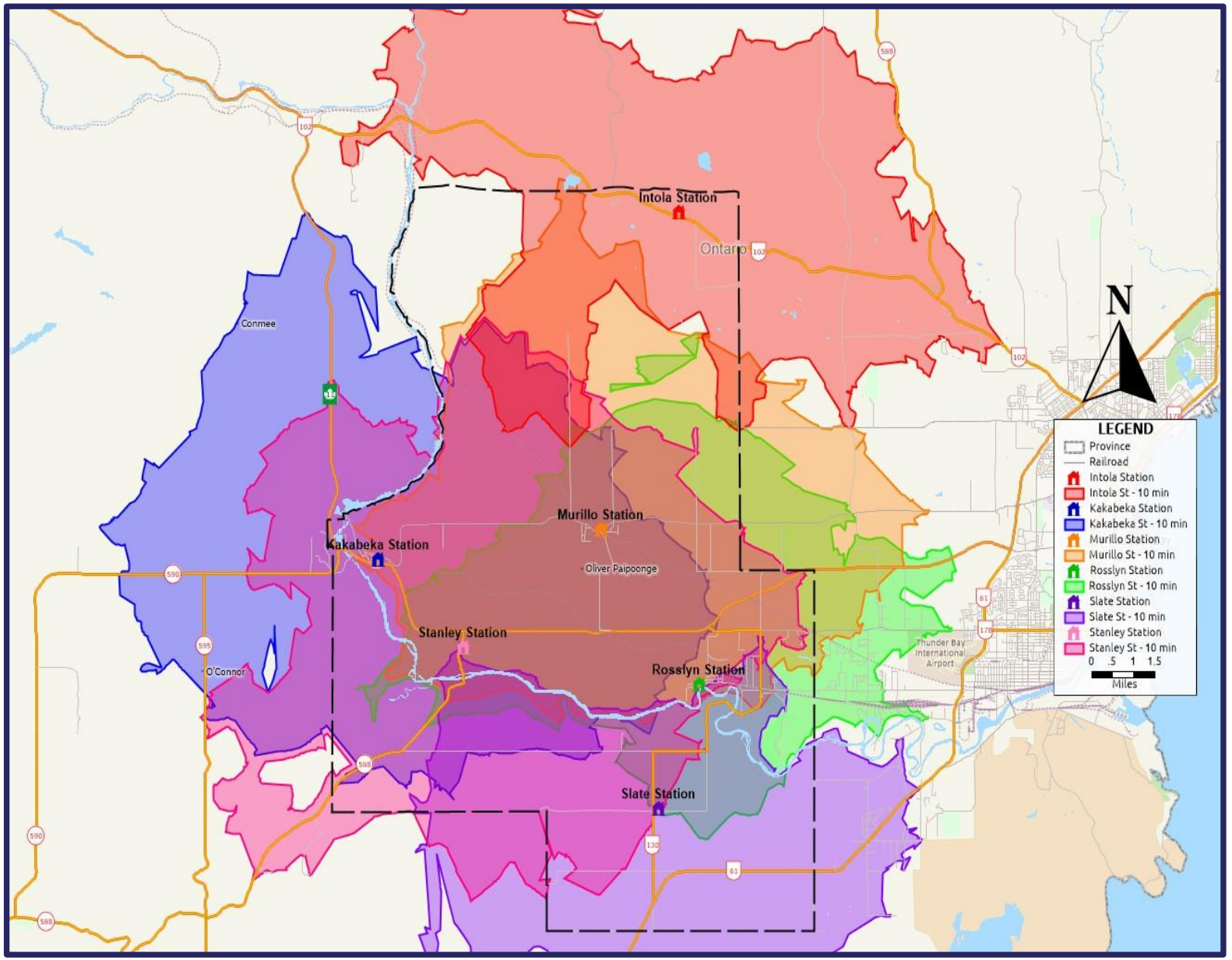


FIGURE #5: PRESENT FIRE STATIONS (2019 - 2022 CALL LOCATIONS

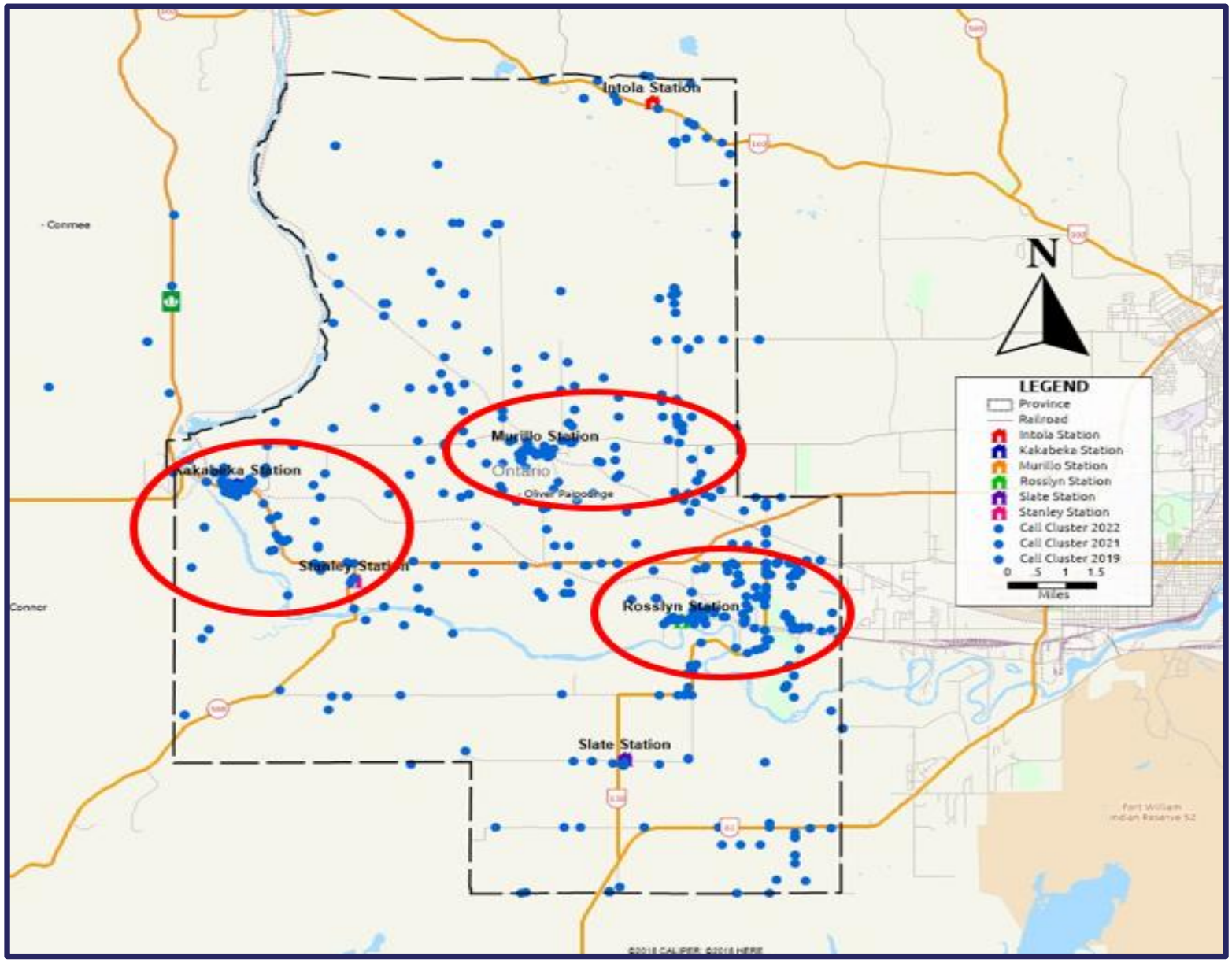


FIGURE #6: 2023 CALL LOCATIONS WITH PROPOSED DEVELOPMENT

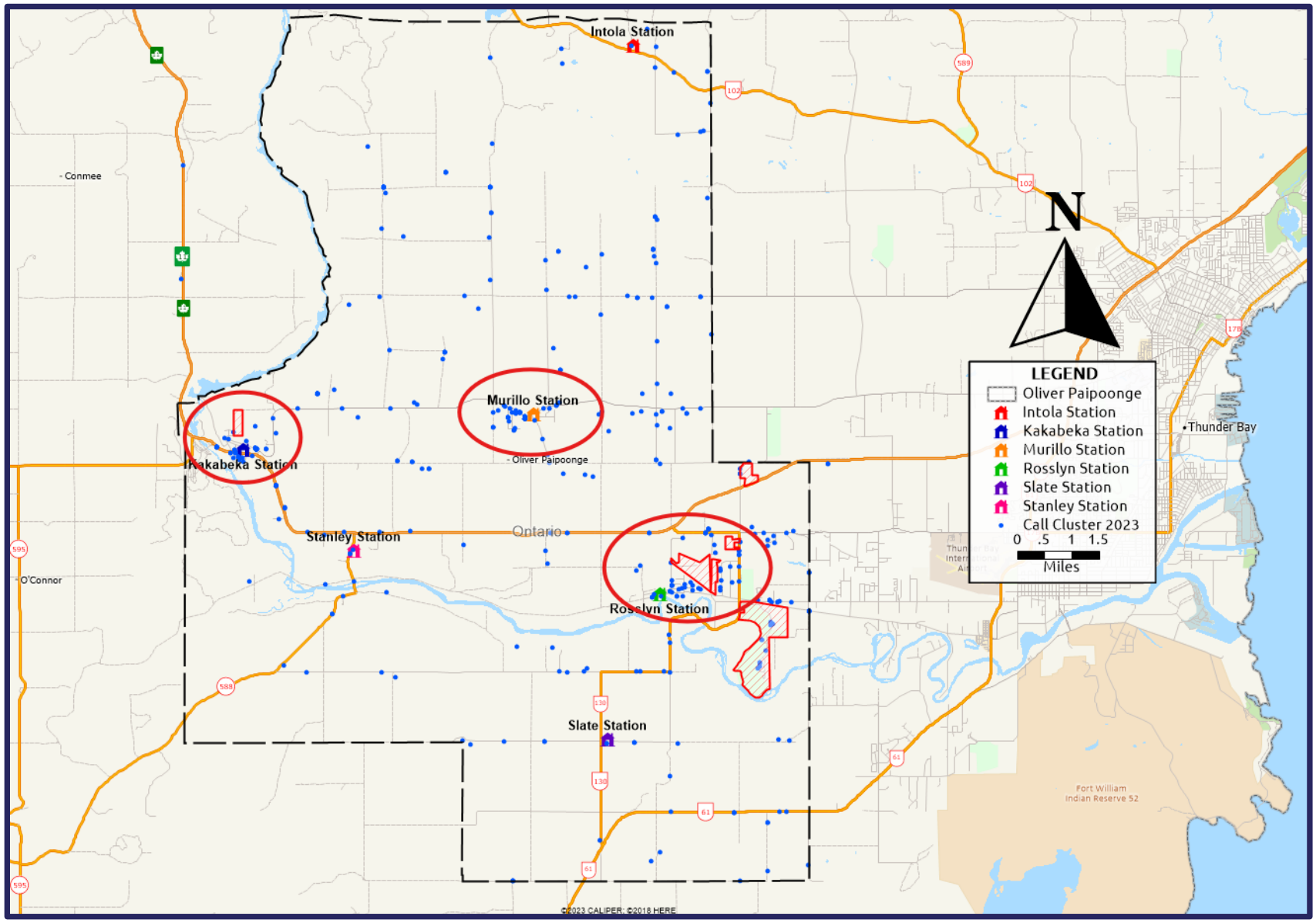


FIGURE #7: 2024 CALL LOCATIONS WITH PROPOSED DEVELOPMENT

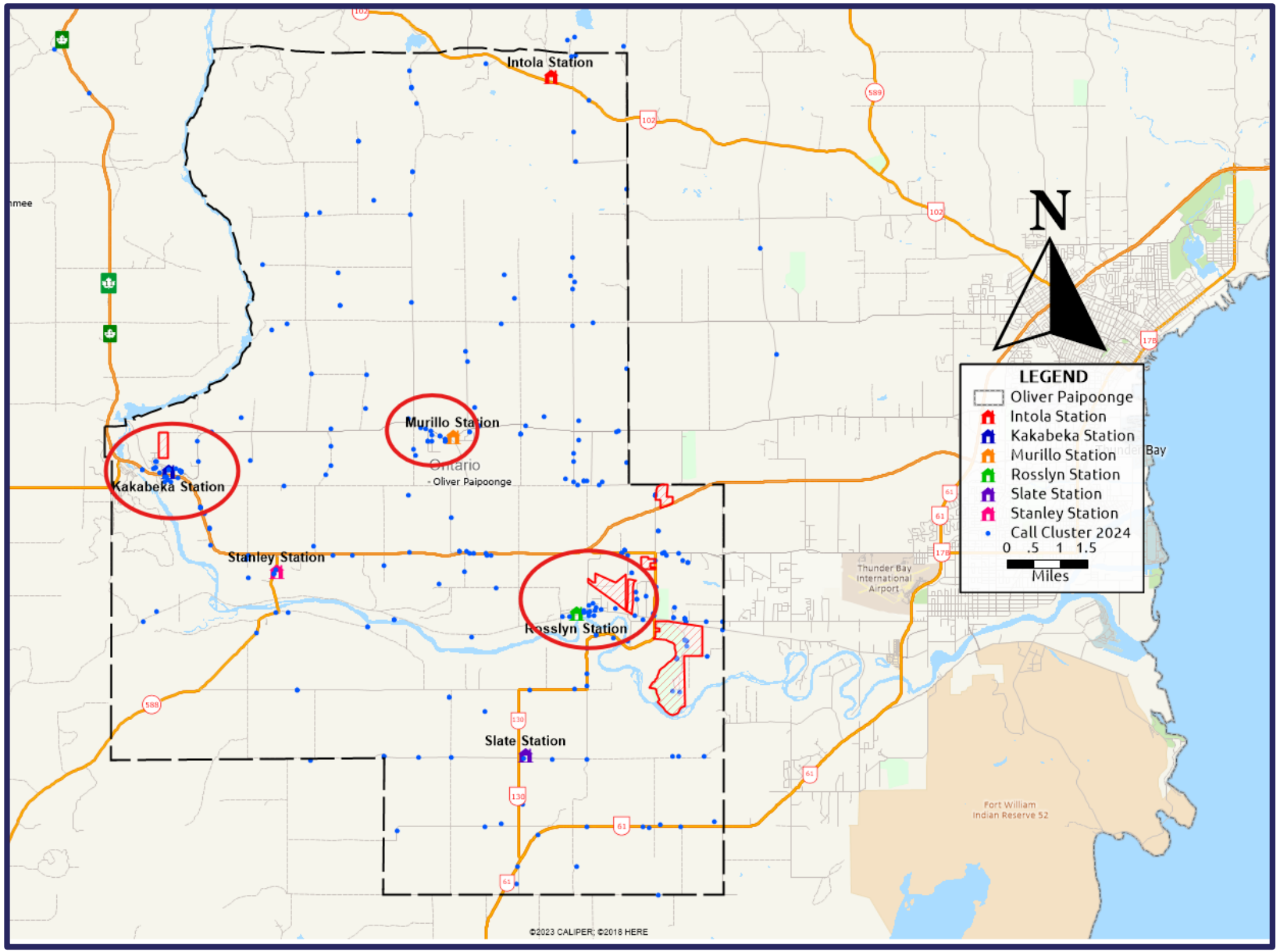


FIGURE #7: INTOLA STATION - 10-MINUTE DRIVE TIME

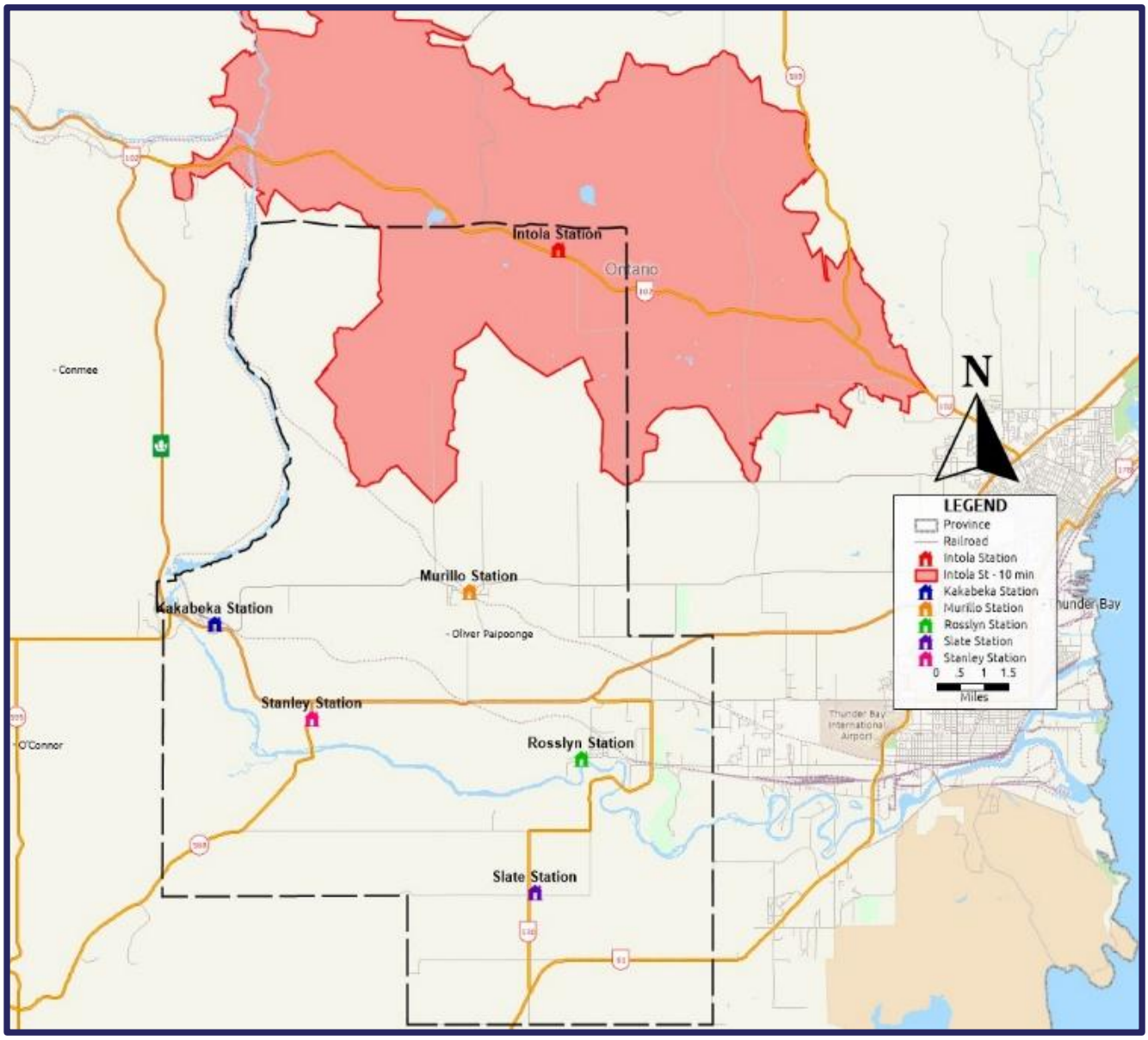


FIGURE #8: MURILLO STATION - 10-MINUTE DRIVE TIME

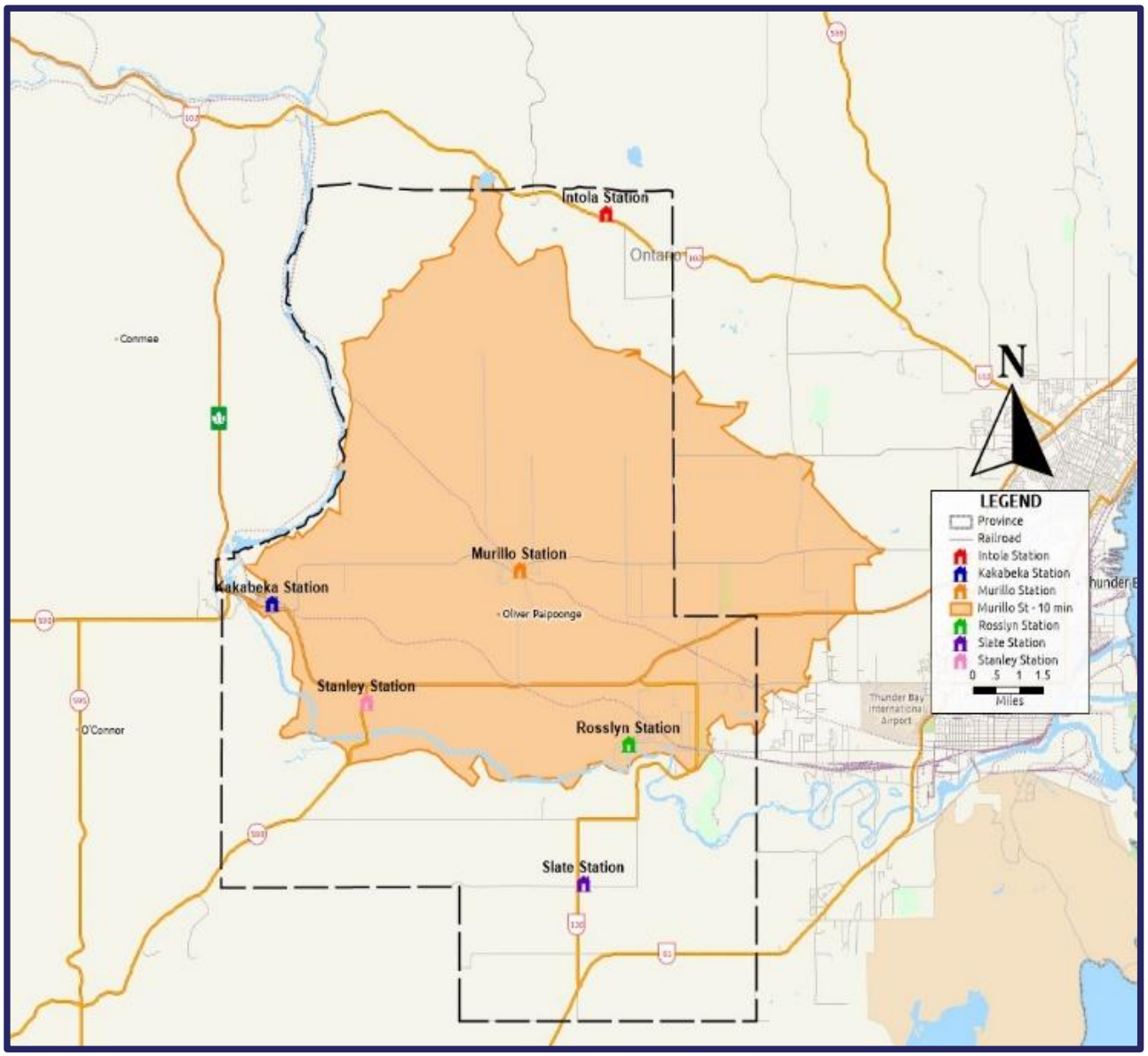


FIGURE #9: KAKABAKA STATION - 10-MINUTE DRIVE TIME

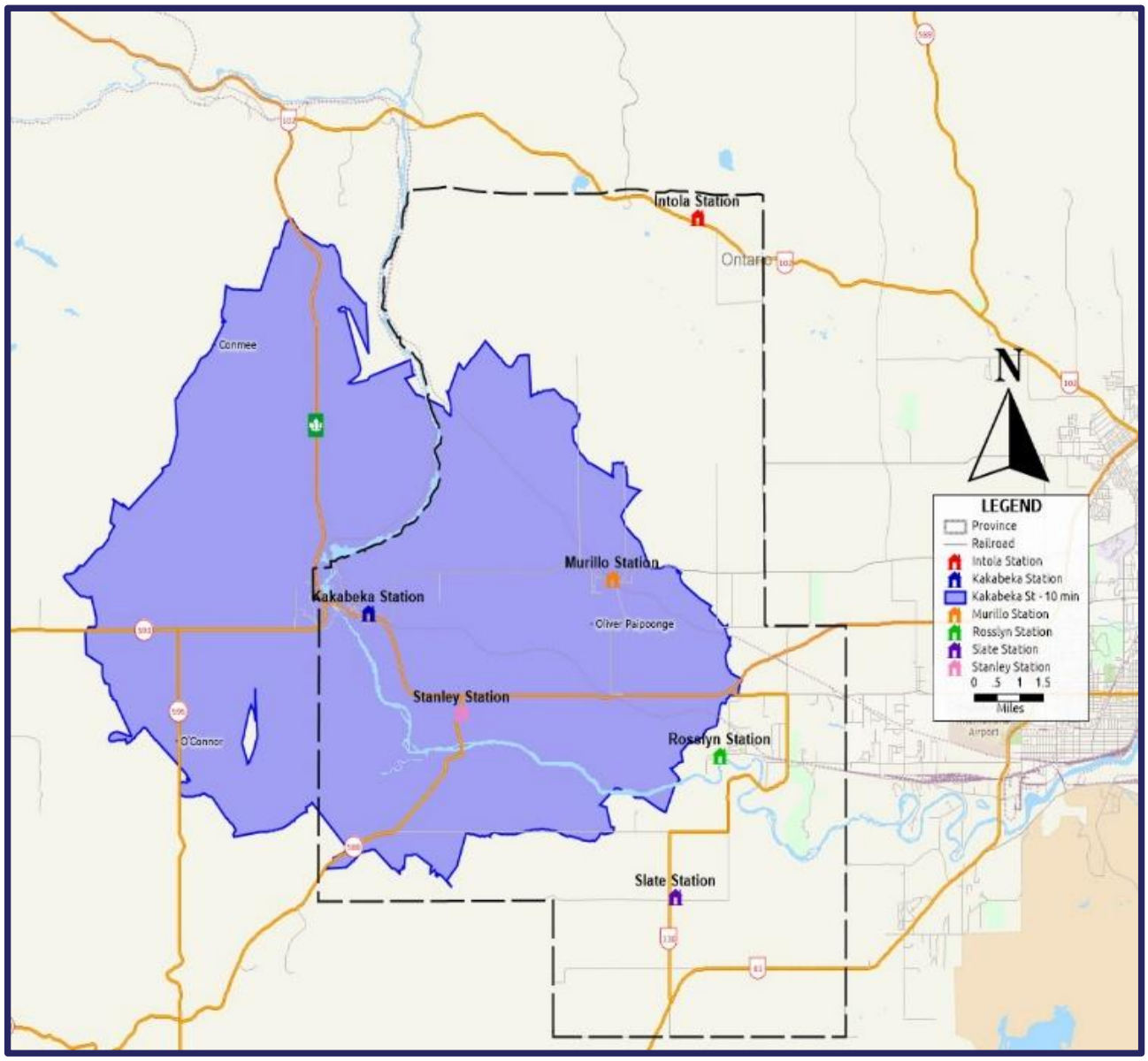


FIGURE #10: STANLEY STATION - 10-MINUTE DRIVE TIME

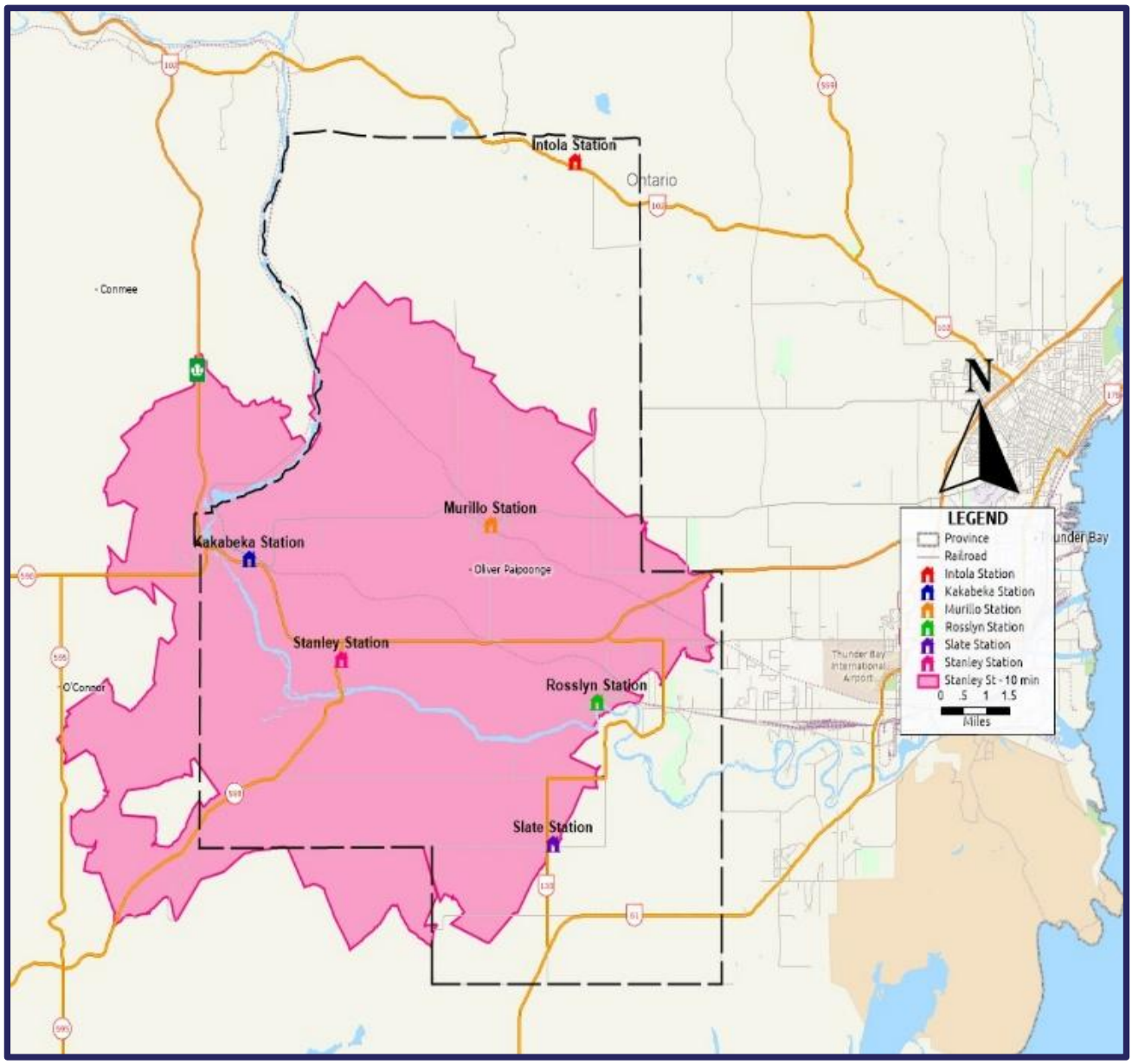


FIGURE #11: ROSSLYN STATION - 10-MINUTE DRIVE TIME

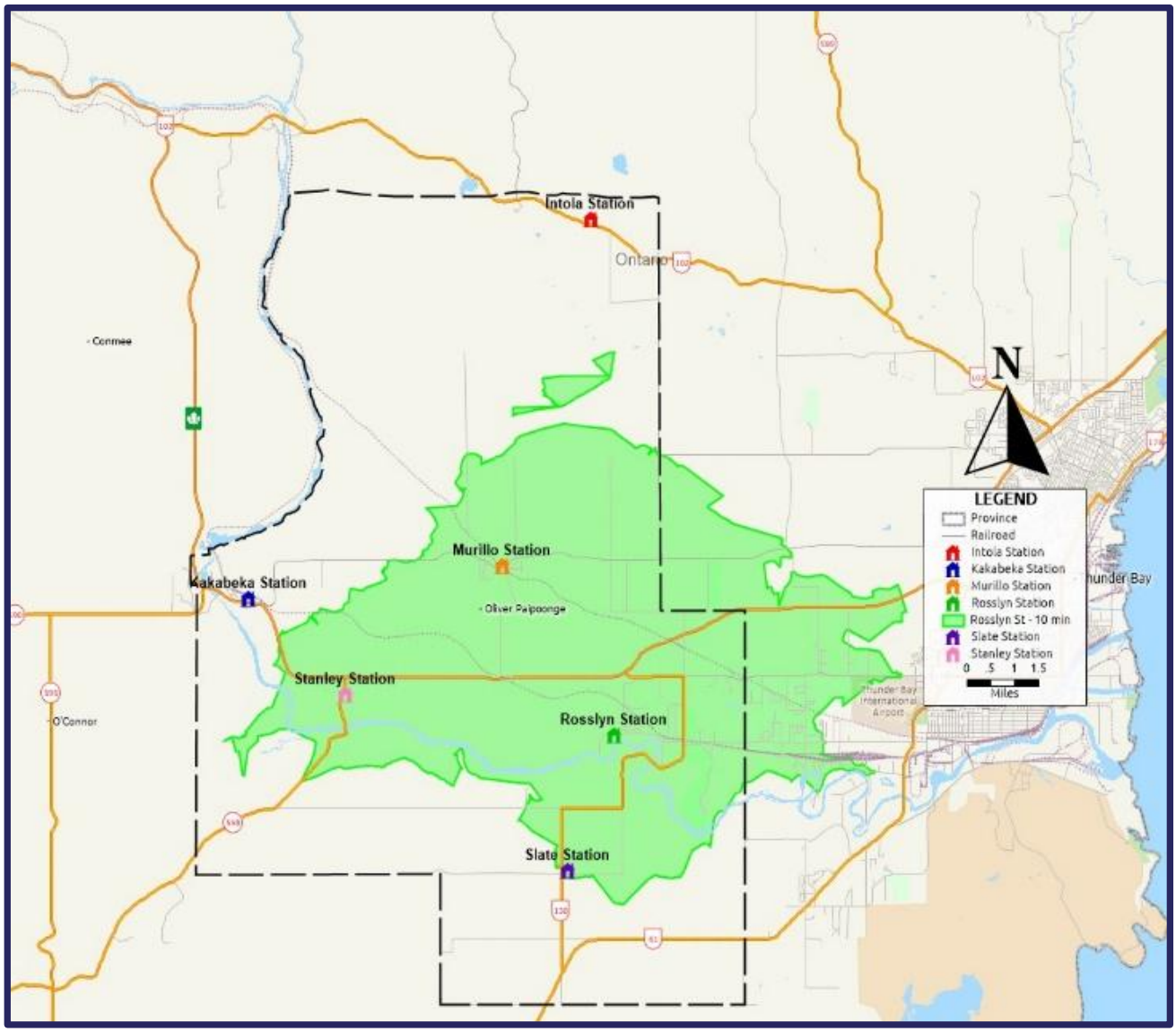
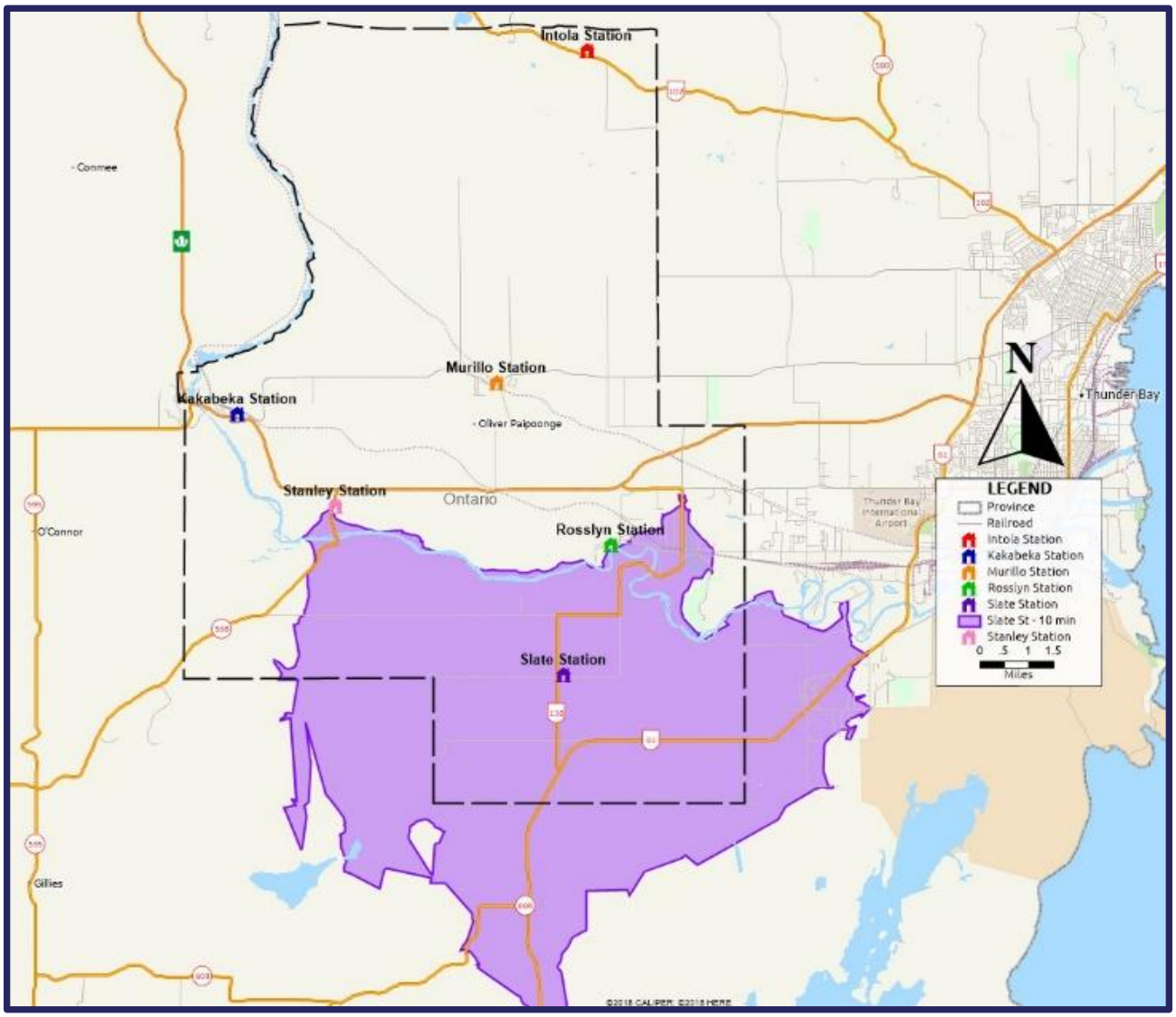


FIGURE #12: SLATE STATION - 10-MINUTE DRIVE TIME



Incident Response by Station

In line with the call cluster data from the 2023 Master Fire Plan Report, as shown in Figure #5, the 2023 incident response data for OPFES by station reveals that the highest volume of calls for service came from the Murillo, Rosslyn, and Kakabeka demand zones, with 214, 157, and 84 calls respectively. A more detailed breakdown of incidents by station is provided in Table #3. In comparison, the Slate, Intola, and Stanley stations responded to 29, 16, and 11 calls, respectively, during the same period.

The 2024 incident response data, also detailed in Table #1 indicates the same trend and with the highest demand areas being in the Murillo, Rosslyn, and Kakabeka demand zones. While all emergency incidents are significant, the response data reveals that areas with higher population density, as well as those with more industrial, manufacturing, and commercial occupancies, present a higher risk. This insight underscores the need for more focused consideration of these higher-risk areas when planning fire station locations and allocating resources. The 2023 Incident response call cluster data is shown in Figure #5.

A further analysis of the 2023 incidents within the Intola Station demand zone reveals that out of 23 calls, an apparatus from Intola Station responded on six occasions, with an apparatus arriving at the scene on two of those instances. On seven occasions, firefighters from Intola Station or other stations arrived at the scene in their personal vehicles. For the majority of incidents in the Intola Station demand zone, apparatus from the Murillo, Kakabeka, and Rosslyn Stations responded and were the first to arrive on the scene.

TABLE #3: 2023 AND 2024 INCIDENT RESPONSE BY STATION

Station	2023 Incidents	2024 Incidents
Intola Station	16	18
Murillo Station	214*	132
Kakabeka Station	84	62
Stanley Station	11	30
Rosslyn Station	157	109
Slate Station	29	26

***Note:** Due to identified anomalies, the 2014 response data for Murillo Station is inflated on the high side.*

Incident Response by Apparatus

A further analysis of response data by apparatus for the years 2023 and 2024, as shown in Table #5, confirms the same trend, with apparatus from the Murillo, Rosslyn, and Kakabeka stations responding to the majority of incidents. While it is essential for the OPFES to maintain a modern and well-equipped fleet capable of supporting Council-mandated response objectives and conducting tanker shuttle operations, the analysis indicates that efficiencies could be realized through the consolidation of fire stations and a reduction in the overall number of fire apparatus. This approach would streamline resources, improve operational effectiveness, and potentially reduce redundant coverage in lower-demand areas, while still ensuring the department meets its response and service delivery goals.

As with other jurisdictions, the data in Table #4 accounts for the occasional redeployment of apparatus from their home stations to temporarily replace units that are undergoing maintenance and/or repair.

TABLE #4: 2023 AND 2024 INCIDENT RESPONSE BY APPARATUS

		# Of Incident Responses	
Station	Apparatus	2023	2024
Intola Station	Pumper 31	7	5
	Rescue 33	5	8
Murillo Station	Pumper 21	37	40
	Tanker 12	12	9
	Rescue 23	104	95
Kakabeka Station	Pumper 11	36	30
	Rescue 13	73	54
	Mule Side X Side	NDA*	NDA*
Stanley Station	Pumper 91	13	34
	Rescue 95	18	6
	Rescue 14 - Command		1
Rosslyn Station	Pumper 93	62	31
	Rescue 96 - Heavy Rescue	40	30
	Rescue 39	44	9
	Tanker 98	12	14

		# Of Incident Responses	
Station	Apparatus	2023	2024
Slate Station	Pumper 99	36	21
	Tanker 94	8	10
	Pumper 97 - Wildfire 4X4	5	4
	Rescue 90	10	2
	Personal Vehicle (PVOL)	202	128

Dispatch Time, Chute Time, Travel Time, and Response Time

The overall response time of a fire department is a function of several factors including, but not limited to:

- Call handling time, or the time it takes for the dispatch communicators to assess a call and notify the fire department.
- The time it takes volunteer firefighters to attend the station and done personal protective equipment prior to departure. Assembly time also considers time after arrival on the scene while preparing to work on the fire.
- The time it takes to move between the station and the location of the incident, or travel time. Or alternatively, the time it takes volunteer firefighters to respond to the scene in personal vehicles. There are several factors that will influence travel time, such as distance, weather, road conditions and closures, traffic, level rail crossings, and lack of direct routes due to water courses.

The OPFES is dispatched to emergency incidents by the Central Ambulance Communications Centre (CACC), which operates under the oversight of the Ontario Ministry of Health. As previously mentioned, dispatch time is a factor in the overall response time of OPFES. However, the time it takes for incidents to be dispatched is outside the fire department's control. Therefore, for the purpose of this analysis, the following average dispatch times must be considered as a factor in the overall response time of OPFES.

- 2024 Average Dispatch Time – 2 minutes 52 seconds
- 2023 Average Dispatch Time – 2 minutes 26 seconds
- 2022 Average Dispatch Time – 2 minutes 05 seconds

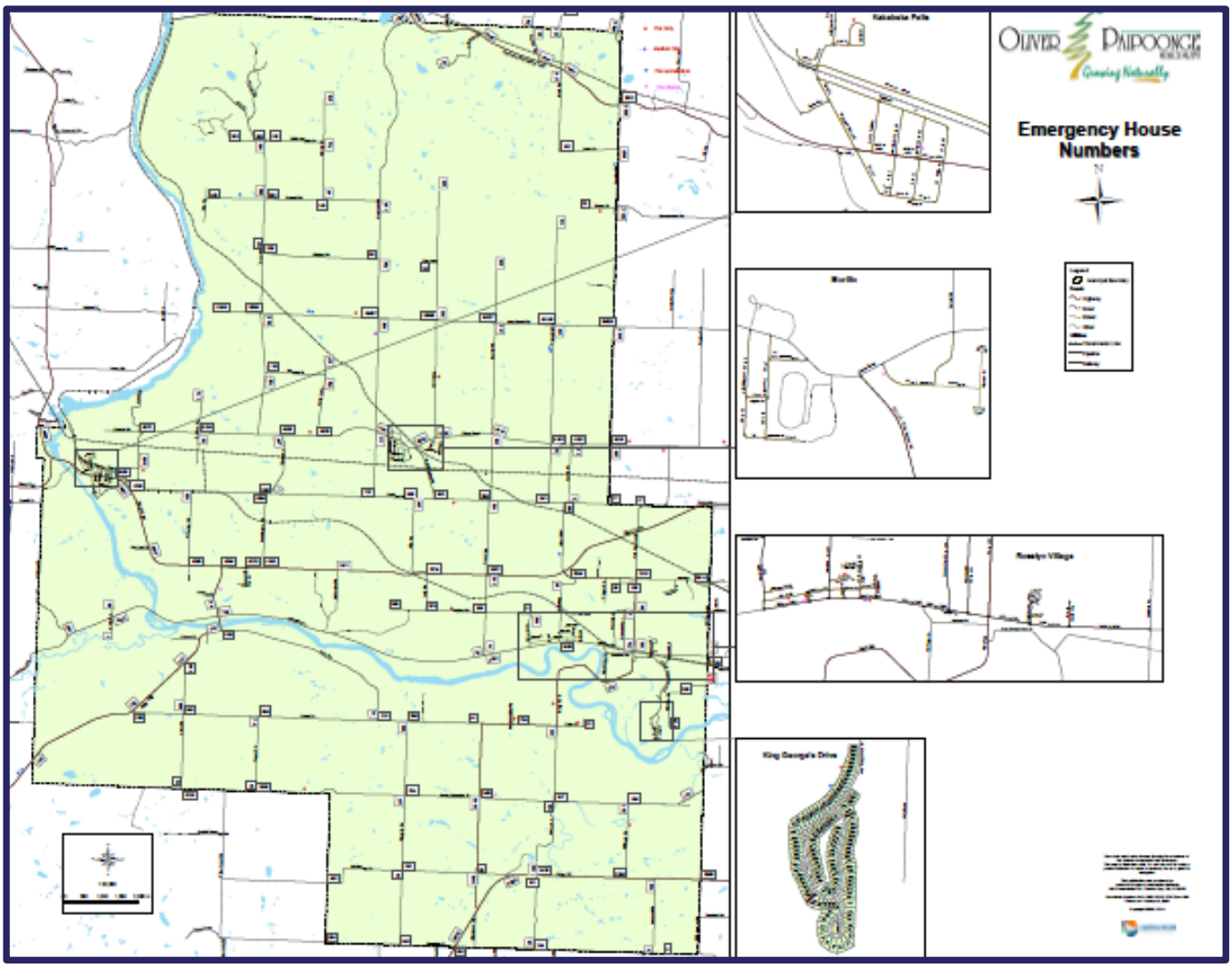
Chute time, or assembly time, refers to the duration it takes for firefighters to arrive at the station, put on their personal protective equipment (PPE), and prepare to depart. This time is

influenced by factors such as the distance firefighters must travel to reach the station after being notified of an incident.

Currently, OPFES allows firefighters to respond to emergencies in their personal vehicles, with many carrying their firefighting gear in their cars. However, if the gear has not been properly cleaned, this practice could pose a health risk to both the firefighters and any passengers in their vehicles. To address these concerns, many fire departments in Ontario have stopped permitting firefighters to respond in their personal vehicles, requiring all personnel to report to the station, put on their gear, and depart together as a team. Should OPFES decide to adopt a similar policy in the future, it could affect chute times, potentially improving safety and operational coordination, while also impacting response time calculations.

An analysis of OPFES firefighter residences in relation to fire station proximity did not provide a clear conclusion on whether the station realignment, as recommended by the council, would positively or negatively impact assembly time, especially considering some firefighters may be reassigned to different stations. Figure #13 illustrates the current residence locations of OPFES firefighters at the time of writing this report.

FIGURE #13: OPFES FIREFIGHTER RESIDENCE LOCATIONS



Given the higher risk and the majority of incidents occurring in the Murillo, Rosslyn, and Kakabeka demand zones, it stands to reason that supporting apparatus responding from the Slate, Intola, and Stanley stations will experience longer response times. To improve operational efficiency, it makes sense to concentrate assets, including apparatus and firefighters, in the higher-risk areas while ensuring that coverage for lower-risk areas remains adequate. This approach would enhance response times where they are most needed, optimizing resource allocation without compromising service delivery to less critical areas.

The 2023 and 2024 average chute, travel, and response times for OPFES are detailed in Table #5 and Table #6 respectively.

TABLE #5: 2023 AVERAGE CHUTE TIME, TRAVEL TIME, AND RESPONSE TIME BY STATION

Station	Average Chute Time	Average Travel Time	Average Response Time
Intola Station	0:09:07	0:10:11	0:16:08
Murillo Station	0:08:42	0:07:24	0:15:14
Kakabeka Station	0:07:50	0:06:54	0:14:19
Stanley Station	0:06:49	0:08:41	0:15:30
Rosslyn Station	0:07:37	0:07:54	0:15:18
Slate Station	0:08:58	0:09:21	0:18:08

TABLE #6: 2024 AVERAGE CHUTE TIME, TRAVEL TIME, AND RESPONSE TIME BY STATION

Station	Average Chute Time	Average Travel Time	Average Response Time
Intola Station	0:09:07	0:12:40	0:21:07
Murillo Station	0:08:20	0:09:32	0:16:19
Kakabeka Station	0:07:56	0:06:44	0:15:19
Stanley Station	0:06:57	0:10:54	0:15:58
Rosslyn Station	0:07:42	0:08:03	0:15:49
Slate Station	0:07:48	0:12:58	0:20:52

Fire Station Condition Assessments and Functionality

Emergency Management Group

FIRE STATION CONDITION ASSESSMENTS AND FUNCTIONALITY

This section provides a general overview of the EMGs 2023 fire station condition assessment. The evaluation takes into consideration previously identified structural and functionality concerns, as well as any issues related to compliance with the Occupational Health and Safety Act. The assessment will be benchmarked against the 2020 building condition assessments conducted by Cion/Coulter Engineers and Building Scientists, as well as the facility capital improvement projections provided by the Municipality of Oliver Paipoonge.

The purpose of this comparative analysis is to identify any changes or emerging issues since the last assessment, evaluate the ongoing suitability of the stations for operational needs, and determine if the facilities meet the required safety and regulatory standards. It will also help inform future investment in maintenance or upgrades, ensuring that the fire stations remain functional, safe, and capable of supporting the Municipality's emergency response requirements.

During the 2023 general assessment conducted by the EMG, several key concerns were identified across the fire stations in Oliver Paipoonge. Many of the stations are nearing, or already at, maximum capacity for the storage of vehicles and equipment, which creates operational and safety challenges. The specific concerns noted during the assessment include:

Lack of Diesel Exhaust Catchment Systems

None of the fire stations are equipped with diesel exhaust catchment systems, which are essential for reducing the exposure of firefighters to harmful vehicle exhaust emissions while in the station.

Proximity of Firefighter Gear to Vehicle Exhaust

Firefighter gear is stored in areas that are potentially exposed to vehicle exhaust fumes. This raises concerns about contamination of personal protective equipment (PPE), which should be stored in a separate, negatively pressurized room away from exhaust contamination.

Absence of Floor Drains with Oil Separator Systems

None of the apparatus bays have floor drains equipped with oil separator systems, which are necessary to properly manage contaminants like oil and fuel that may be present in the runoff from vehicles and equipment.

Storage Capacity Issues

All stations appear to be operating at or beyond their maximum storage capacity for vehicles and equipment, which could lead to overcrowding, reduced operational efficiency, and safety hazards.

Inadequate Storage for Equipment

There is a lack of proper, organized storage areas for equipment, which not only creates operational inefficiencies but also presents tripping and safety hazards for staff.

Limited Permanent Emergency Power

Not all stations are equipped with permanent backup emergency power systems. While the stations are wired to utilize portable generators in the event of power failure, this is not a long-term solution and could delay response times in an emergency.

Lack of Proper Separation Between Apparatus Bay and Living/Training Areas

Some stations have workstations or desks located on the apparatus floor, which could expose personnel to harmful vehicle exhaust fumes. There is a need for better physical separation between the apparatus bays and the living/training areas to ensure air quality and safety.

Inadequate Shower Facilities

Not all stations have shower facilities, which are critical for firefighter health and safety. Firefighters need access to decontamination showers to remove hazardous substances such as smoke, toxic gases, chemicals, blood, and pathogens immediately after a call, before going home. This is crucial for both health and mental well-being, as well as to comply with Occupational Health and Safety Act standards.

A detailed summary of the specific concerns associated with each individual fire station can be found in the 2023 report. These findings underscore the urgent need for significant upgrades or changes to bring the fire stations up to current safety standards, ensure compliance with health regulations, and maintain their effectiveness in serving the Municipality.

By addressing these concerns—ranging from the lack of diesel exhaust systems to inadequate storage and insufficient shower facilities—the fire stations will be better equipped to support the health and safety of the fire department personnel. More importantly, these upgrades will help improve operational efficiency and ensure that the fire stations continue to meet the demands of emergency response, safeguarding both staff and the community they serve.

In summary, making the necessary improvements will not only enhance the safety and well-being of firefighters but also optimize the overall functionality and readiness of the fire stations to effectively respond to emergencies.

Cion/Coulter Engineers and Building Scientists - Building Condition Assessments

Coin/Coulter Corp. was retained by the Corporation of the Municipality of Oliver Paipoonge to conduct a Building Condition Assessment at each of its six fire stations, and the following is an overview of the August 2020 executive summary associated with each facility assessment.

Intola Station – 14 Kuusisto Road, Murillo, Ontario

The Building Condition Assessment for Intola Station indicated that, overall, the majority of the building elements are in fair condition. However, several components required attention due to their age, wear, or impact on station functionality and safety. The key concerns identified during the assessment include:

Emergency Lighting and Exit Signs

These elements are in need of replacement or repair, as they are crucial for ensuring safe evacuation during emergencies. They are currently not meeting the required standards, which could pose a risk to both firefighters and others in the building during power outages or evacuations. Work completed.

Exterior Sealants and Weather-Stripping

The condition of the sealants and weather-stripping is a significant concern, as they are major contributors to water ingress. This can lead to further damage to the building's structural integrity, and potentially cause safety hazards such as mold growth or electrical issues. Work completed.

Overhead Door Motors

The overhead door motors are identified as a key area of concern, as they directly impact the response speed of the station. Any failure or delay in the operation of these doors can hinder timely emergency response, which is critical for firefighting operations. Work completed.

Additionally, other items requiring attention include:

Interior T6 Light Fixtures

These fixtures have exceeded their expected service life and will need to be replaced in the short term to ensure proper lighting in the station. **Work completed.**

Well Pump

The well pump is also near the end of its service life and should be replaced soon to ensure a reliable water supply for the station's needs. **Replacement deferred.**

While Intola Station is largely in fair condition, should Council choose to not close the station as recommended in this report, the key areas of concern that were identified in the 2023 MFP will need to be addressed to maintain safety standards, operational efficiency, and the station's overall functionality.

Kakabeka Station – 24 Rupert St., Kakabeka Falls, Ontario

Overall, most of the building elements at Kakabeka Station are in fair condition. However, the assessment highlighted one significant concern: water damage on the sill of the classroom window. To prevent further damage, the window has been replaced. This repair will help preserve the station's structural integrity and ensure a safe, healthy environment for personnel while the station remains in active service.

Murillo Station, 63 Rubin Drive., Murillo, Ontario

Overall, the majority of the building elements at Murillo Station are in fair condition. However, the assessment identified several components that were cause for major concern due to their impact on both the building's integrity and the station's operational effectiveness:

Masonry Siding

The condition of the masonry siding is a concern, as it could be susceptible to weathering or damage over time, potentially compromising the building's exterior and contributing to further issues like water ingress. **Work completed.**

Sealants and Weather-Stripping

These elements are identified as major contributors to water ingress, which could lead to structural damage, mold, and safety hazards if not addressed. Proper sealing and

weatherproofing are crucial to protecting the building from moisture-related issues. Work completed.

Overhead Door Motors

The overhead door motors are a key factor in the response speed of the station. Any failure or delay in the operation of these doors can hinder quick deployment of apparatus, which is critical during emergency situations. Ensuring that these motors are functioning optimally is vital for timely response times. Work completed.

Emergency Lights and Exit Signs

These items are essential for health and safety. In the event of a power outage or evacuation, properly functioning emergency lighting and exit signs are crucial for guiding personnel to safety. They should be replaced or repaired to meet the required safety standards. Work completed.

Additionally, there were items that, while not as urgent, should be considered for short-term replacement due to their age and potential for failure:

Forced Air Furnace

The furnace is nearing the end of its expected service life and should be replaced soon to maintain reliable heating and comfort for the station's personnel. Work completed.

Smoke Detectors

These life safety devices should be replaced based on their age and condition to ensure continued protection against smoke and fire hazards. Work completed.

The Municipality should be commended for taking proactive steps to address the major concerns at the Murillo Station. In the short term, these repairs and upgrades will help ensure the building continues to meet safety standards and remains a fully functional asset for the community.

Rosslyn Station – 3436 Rosslyn Road., Rosslyn, Ontario

Overall, the majority of the building elements at Rosslyn Station can be considered to be in fair condition. However, several components exhibited cause for major concern, particularly those related to health and safety and operational efficiency. These critical elements include:

Overhead Door Motors

The overhead door motors are a key factor in the response speed of the station. Any malfunction or delay in the operation of the overhead doors can impede the quick deployment of fire apparatus, which is vital for timely emergency response. Upgrading or replacing these motors is essential to ensure that the station can continue to meet emergency response time goals. Outstanding.

Fire Separation

The fire separation within the station is another area of concern. Fire separations are crucial for containing fires and preventing the spread of smoke and toxic gases throughout the building, ensuring the safety of personnel. Any issues with the integrity of these separations must be addressed to comply with fire safety regulations. Outstanding.

Emergency Lighting

As a health and safety system, emergency lighting is critical to ensure safe evacuation during power outages or emergencies. The current system may need repairs or upgrades to meet modern standards and guarantee safe conditions for station personnel during an emergency. Outstanding.

Fire Alarm System

The fire alarm system is another essential health and safety component. A fully functional alarm system is crucial for alerting personnel to a fire emergency, allowing for a prompt and organized response. Any deficiencies in the system should be corrected immediately to ensure full compliance with safety standards. Outstanding.

In addition to these major concerns, there are other items that, while not as urgent, should be considered for short-term replacement:

Suspended Unit Heater

The suspended unit heater has exceeded its expected service life and should be replaced in the near future to maintain reliable heating for the station, ensuring a comfortable and safe environment for the firefighters. Outstanding.

While Rosslyn Station is generally in fair condition, addressing the major concerns—including the overhead door motors, fire separation, emergency lighting, and fire alarm system—is essential to maintain both the safety of station personnel and the operational readiness of the

facility. Additionally, replacing the suspended unit heater in the short term will help ensure the continued comfort and functionality of the building. Prioritizing these upgrades will ensure that the station remains safe, effective, and capable of supporting emergency response operations.

Slate River Station – 552 Candy Mountain Road., Slate River, Ontario

Overall, the majority of the building elements at Slate River Station can be considered to be in fair condition. However, there are a couple of issues that require attention:

Exit Signs

The exit signs are identified as the only element exhibiting cause for major concern. As these are critical safety features for the safe evacuation of personnel during an emergency, any failure or inadequacy in their functionality could pose a serious risk. It is important to replace or repair the exit signs to ensure they meet safety standards and are fully operational in an emergency situation. Work Completed.

Weather Stripping

While not considered a critical element, the weather stripping around the building will need to be replaced in the short term. This replacement is necessary to prevent water ingress and ensure the building remains properly sealed, maintaining energy efficiency and preventing damage to the building structure. Work completed.

Stanley Station – 44 Highway 588, Stanley, Ontario

Overall, the majority of the building elements at Stanley Station can be considered to be in fair condition. However, one element exhibits cause for major concern:

Overhead Door Motors

The overhead door motors are identified as a key factor in the response speed of the station. Any failure or delay in the operation of these doors could significantly impact the ability to deploy fire apparatus quickly, which is critical for timely emergency response. Ensuring that the overhead door motors are functioning properly or replacing them if necessary is vital to maintaining the station's operational efficiency and the safety of the community. Work completed.

Although the Municipality has made significant progress in addressing the structural, functional, and life safety concerns outlined in the 2020 Coin/Coulter Corp. assessment, there remains a pre-2025 backlog of approximately $106,000 in capital work. Of particular concern is the fire separation deficiency identified at the Rosslyn Station. As noted in the 2023 MFP, many of the

stations are approaching or have already reached maximum capacity for storing vehicles and equipment, creating operational and safety challenges. Additionally, the facility deficiencies previously highlighted by EMG must be carefully considered to ensure specific stations can continue to serve effectively for emergency response purposes.

EMG Emergency Management Group

Fire Station Capital Cost Projections, Operating Costs, and Assessed Value

FIRE STATION CAPITAL COST PROJECTIONS, OPERATING COSTS, AND ASSESSED VALUE

Fire Station Capital Cost Projections

The following is a summary of the 2025 to 2029 capital cost projections for each station developed by Cion/Coulter and the Municipality of Oliver Paipoonge:

TABLE #7: CAPITAL COST PROJECTIONS DEVELOPED BY CION/COULTER

Station	2025	2026	2027	2028	2029	Total
Intola	$4,500	$500	$0	$0	$35,500	**$40,500**
Kakabeka	$5,200	$0	$0	$0	$0	**$5,200**
Murillo	$52,000	$0	$5,000	$5,000	$0	**$62,000**
Rosslyn	$18,350	$0	$0	$13,500	$12,000	**$43,850**
Slate	$37,000	$0	$0	$0	$0	**$37,000**
Stanley	$40,000	$0	$0	$4,000	$0	**$44,000**
Total	$157,050	$500	$5,000	$22,500	$47,500	$232,550

TABLE #8: CAPITAL COST PROJECTIONS DEVELOPED BY OLIVER PAIPOONGE

Station	2029	2030	2031	2032	2033	Total
Intola	$42,426	$42,665	$0	$0	$16,817	**$101,908**
Kakabeka	$0	$272,445	$0	$0	$0	**$272,445**
Murillo	$0	$98,739	$0	$11,414	$0	**$110,153**
Rosslyn	$14,341	$233,681	$14,672	$0	$6,468	**$269,162**
Slate	$0	$15,115	$0	$0	$0	**$15,115**
Stanley	$0	$179,253	$6,216	$12,682	$0	**$198,151**
Total	$56,767	$841,898	$20,888	$24,096	$23,285	$966,934

Based on the financial information provided to EMG regarding short- to long-term capital improvements, substantial funds have been earmarked for fire station upgrades between 2025 and 2033. While it is essential to address health and safety-related improvements at operational fire stations in a timely manner, evaluating improvements at fire stations recommended for

closure may lead to significant cost savings. These savings could then be reallocated to support the construction of Phase 2 and Phase 3.

Fire Station Operating Costs

The closure and/or amalgamation of existing fire stations will lead to operational cost efficiencies. The Municipality will achieve savings not only through a reduction in the number of operational fire stations, but also by constructing more efficient buildings compared to the current ones. Table #9 provides a consolidated summary of the 2023 operating expenses for building repairs and maintenance, electricity, heating, and telephone services for each fire station.

TABLE #9: 2023 CONSOLODATED FIRE STATION OPERATING COSTS

Station	YTD end of 2023
Intola	$4,294
Kakabeka	$9,703
Murillo	$7,123
Rosslyn	$8,482
Slate	$7,815
Stanley	$4,602

2024 Fire Station Market Value Assessment

As part of the research for this report, EMG obtained 2024 Property Value Assessments for each fire station from the Municipality of Oliver Paipoonge. It should be noted that an assessed value, which is a valuation set by the local government, often a percentage of the market value, and is used for tax purposes, differs from market value, which is the potential selling price of the property based on current trends, comparable recent sales, and the property's condition. Table #10 details the assessed values for each fire station.

TABLE #10: 2024 FIRE STATION ASSESSED VALUE

Station	2024 Assessed Value
Intola	$194,000
Kakabeka	$475,000
Murillo	$375,00
Rosslyn	$192,000
Slate	$101,000
Stanley*	$2,112,000

**Note:* *The assessment provided for the property located at 44 Highway 588, Stanley, Ontario, which is the location of the Stanley Station, also includes the NorWest Hockey Arena.*

If the Council proceeds with the phased fire station relocation recommendation and opts to sell the Intola and Rosslyn Station buildings and properties, significant revenue could be generated, depending on the market value at the time of sale. This revenue could be used to offset the costs of Phase 2 and/or Phase 3 of the project. Regarding the potential sale of Stanley Station as a separate entity from the arena, a severance may be required, although this possibility was not further explored during the research for this report. Should the Municipality choose to sell Stanley Station, additional revenue would be generated to help offset the costs of Phase 3 of the project.

It is important to note that the market value of the fire station buildings and properties provides a general estimate of the potential revenue that could be generated if Council decides to sell one or more of the stations. However, the replacement cost for a post-disaster, two-bay fire station, similar to the current structures, would range from $1,500,000 to $2,500,000. In contrast, the cost for a three-bay fire station would range from $2,500,000 to $3,500,000.

Benefits of Apparatus Realignment and Fleet Reduction

EMG Emergency Management Group

BENEFITS OF APPARATUS REALIGNMENT AND FLEET REDUCTION

The reliability of fire apparatus is essential to the effective operation of a fire service. Postponing vehicle replacement over an extended period is not recommended, as it leads to higher maintenance costs and could potentially impact insurance premiums, depending on the emergency service's Fire Underwriters Survey (FUS) rating.

The OPFES is adequately equipped with pumper trucks, tankers, and support vehicles essential for primary response within the Municipality. However, many of these vehicles are nearing or have exceeded the 20-year replacement cycle recommended by both the National Fire Protection Association (NFPA) and the Fire Underwriters Survey (FUS) for both front-line and reserve apparatus.

As noted earlier in the Municipality of Oliver Paipoonge Master Fire Plan (MFP), the OPFES currently does not follow the Fire Underwriters Survey (FUS) recommended replacement schedule for fire apparatus. However, the proposed realignment of fire stations offers an opportunity to better align with this schedule, while also achieving long-term cost savings related to the replacement of fire service apparatus.

The following items should be considered regarding vehicle replacement:

- When an apparatus reaches 15 years of age, the budgeting process for its replacement should be initiated to ensure that the new vehicle is built, delivered, and put into service in accordance with the FUS vehicle replacement recommendations for OPFES.
- The process of developing specifications, initiating the bidding process, completing bid evaluations, and issuing the purchase order can take up to one year.
- A minimum of two years is required for an apparatus to have its specifications developed, tendered, ordered, built, and delivered.
- Fleet apparatus replacement that adheres to the FUS apparatus replacement schedule should be reflected in the Oliver Paipoonge Asset Management Plan and Long-Range Capital Budget Forecast.

The FUS recommended replacement schedule is as follows:

FIGURE #9: 2024 FUS APPARATUS REPLACEMENT SCHEDULE

Apparatus Age	Major Cities [3]	Medium Sized Cities [4] or Communities Where Risk is Significant	Small Communities [5] and Rural Centres
0 – 15 Years	First Line Duty	**First Line Duty**	First Line Duty
16 – 20 Years	Reserve	**2nd Line Duty**	First Line Duty
20 – 25 Years [1]	No Credit in Grading	**No Credit in Grading Or *Reserve*[2]**	No Credit in Grading Or 2nd Line Duty [2]
26 – 29 Years [1]	No Credit in Grading	**No Credit in Grading Or *Reserve*[2]**	No Credit in Grading Or *Reserve*[2]
30 Years +	No Credit in Grading	**No Credit in Grading**	No Credit in Grading

[1] All listed fire apparatus 20 years of age and older are required to be service tested by a recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071).

[2] Exceptions to age status may be considered in small to medium sized communities and rural centre conditionally, when apparatus condition is acceptable, and apparatus successfully passes required testing.

[3] Major cities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND
- a total population of 100,000 or greater.

[4] Medium Communities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND
- a total population of 1,000 or greater.

[5] Small Communities are defined as an incorporated or unincorporated community that has:

- no populated areas with densities that exceed 200 people per square kilometre; AND
- does not have a total population in excess of 1,000.

OPFES currently operates six pumpers in its fleet, one of which is classified as a pumper / tanker, and four of which have surpassed the fifteen-year FUS replacement recommendation. Thanks to the efforts of the Fire Chief and Council, the procurement process for two of these four apparatus has already begun, with an expected delivery in 2025. However, due to the age of the existing apparatus and the failure to adhere to the FUS-recommended replacement schedule, the pumpers being replaced will have already exceeded the timeline for second-line duty as reliable reserve apparatus.

OPFES heavily depends on tanker shuttle operations for fire suppression, making it crucial that the tanker apparatus in the fleet remain reliable. An assessment of the OPFES tanker inventory reveals four in-service tankers, including the pumper/tanker. Of these, only one tanker, for which a replacement has been procured with an expected delivery in 2025, has already surpassed the FUS-recommended replacement schedule. The remaining three tankers, including the pumper/tanker, are all nearing the end of their respective First Line Duty lifespan.

OPFES also maintains a fleet of medical and wildfire apparatus, including surplus ambulances and four-wheel-drive trucks. Many of these vehicles are aging and will need to be evaluated for replacement in the near future.

Since the Municipality of Oliver Paipoonge currently does not adhere to the FUS apparatus replacement schedule, EMG's fleet assessment indicates that the OPFES fleet is vulnerable to downtime due to maintenance issues. Additionally, the department lacks adequate reserve apparatus, particularly a reserve pumper or tanker. As a result, no immediate savings are expected from implementing the station relocation recommendations. However, Phase 1 will provide the Fire Chief with the opportunity to bring the service closer to the FUS replacement criteria while ensuring the availability of a reliable reserve pumper. In the long run, Phase 3 will result in ongoing cost savings as the fleet is reduced through the transition from a six-station to a four-station model. Considering the current cost of a pumper (ranging from $800,000 to $1,300,000) and a tanker ($500,000 to $850,000), significant savings are projected in the future.

Elevated Device

In the 2023 MFP report, EMG recognized that the OPFES would benefit from adding an elevated device (such as an aerial or tele-squirt) to its fleet. However, at the time of the report, the recommendation to purchase one was deferred due to other pressing issues, particularly those related to fire station locations and staffing. Once these issues are addressed, EMG suggested that the OPFES consider purchasing an elevated device. Should Council adopt the phased fire station relocation recommendation outlined in this report, it would create an opportunity for the OPFES to begin planning for the acquisition of such a device. This would position the OPFES to better meet the needs of the community while aligning with FUS recommendations for elevated devices.

As detailed in the 2023 MFP, the Municipality does have some large homes and other structures that exceed the reach of the average (fire department) ground ladder of 7m (approximately 24 ft). The approved and proposed development of large-scale commercial, industrial and residential occupancies will compound the need for an elevated aerial device.

As previously mentioned, none of the existing OPFES fire stations can accommodate the storage of an elevated device. The construction of a new fire station at the Municipal Office will provide the necessary space for storing an elevated device, should one be purchased in the future.

Municipal Development and Associated Risk

Emergency Management Group

MUNICIPAL DEVELOPMENT AND ASSOCIATED RISK

The Municipality of Oliver Paipoonge, while maintaining its agricultural heritage, is steadily transforming into a dynamic hub for sectors such as tourism, construction, forestry, manufacturing, transportation, warehousing, and mining. With a significant number of approved or pending developments, the Municipality also has designated areas earmarked for growth over the next 10 to 20 years. These developments are outlined in Figures #10 and #11, which also highlights the locations of existing fire stations. It is important to note that approximately 90% of industrial occupancies and 70% of residential occupancies are currently located within the Rosslyn Station demand zone.

The approved or pending developments are as follows:

- Brandt Development – Large-scale commercial business.
- Whitewater Phase II – 31 residential lots.
- Cooper Road South – 12 light industrial lots.
- Cooper Road South – 17 light industrial lots.
- Haveman Subdivision – 6 residential lots.
- Seniors Development – Up to 66 residential units.

This development, combined with an already significant commercial, industrial, manufacturing, and residential base, primarily located in the Rosslyn Village area will enhance an already existing risk. Existing properties of note include, but are not limited to the following:

- GFL Environmental (Liquid Waste), 26 Haniak R
- GFL Environmental (Solid Waste), 3000 Highway 61
- GFL Storage Facility, Hwy 11/17
- Sarjent Propane Bulk Plant, 3014 Arthur St
- Recycle West, 43 Twin City Crossroad
- Smart Modular Canada Inc. 24 Haniak Rd
- Multiple Heavy Truck Shops
- Odena Foods, 4751 Hwy 11/17

FIGURE #14: OLIVER PAIPOONGE PROPOSED DEVELOPMENT

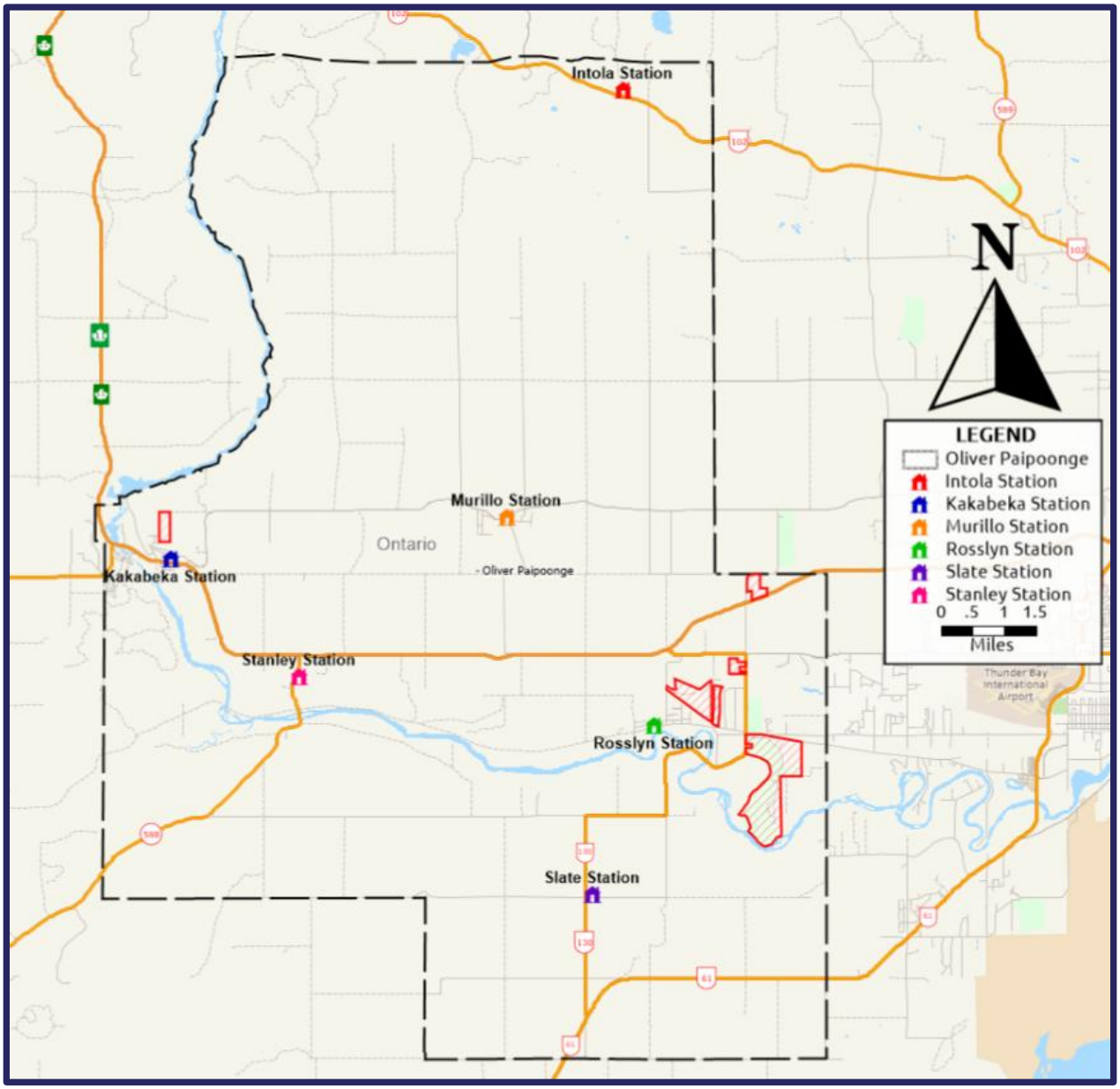
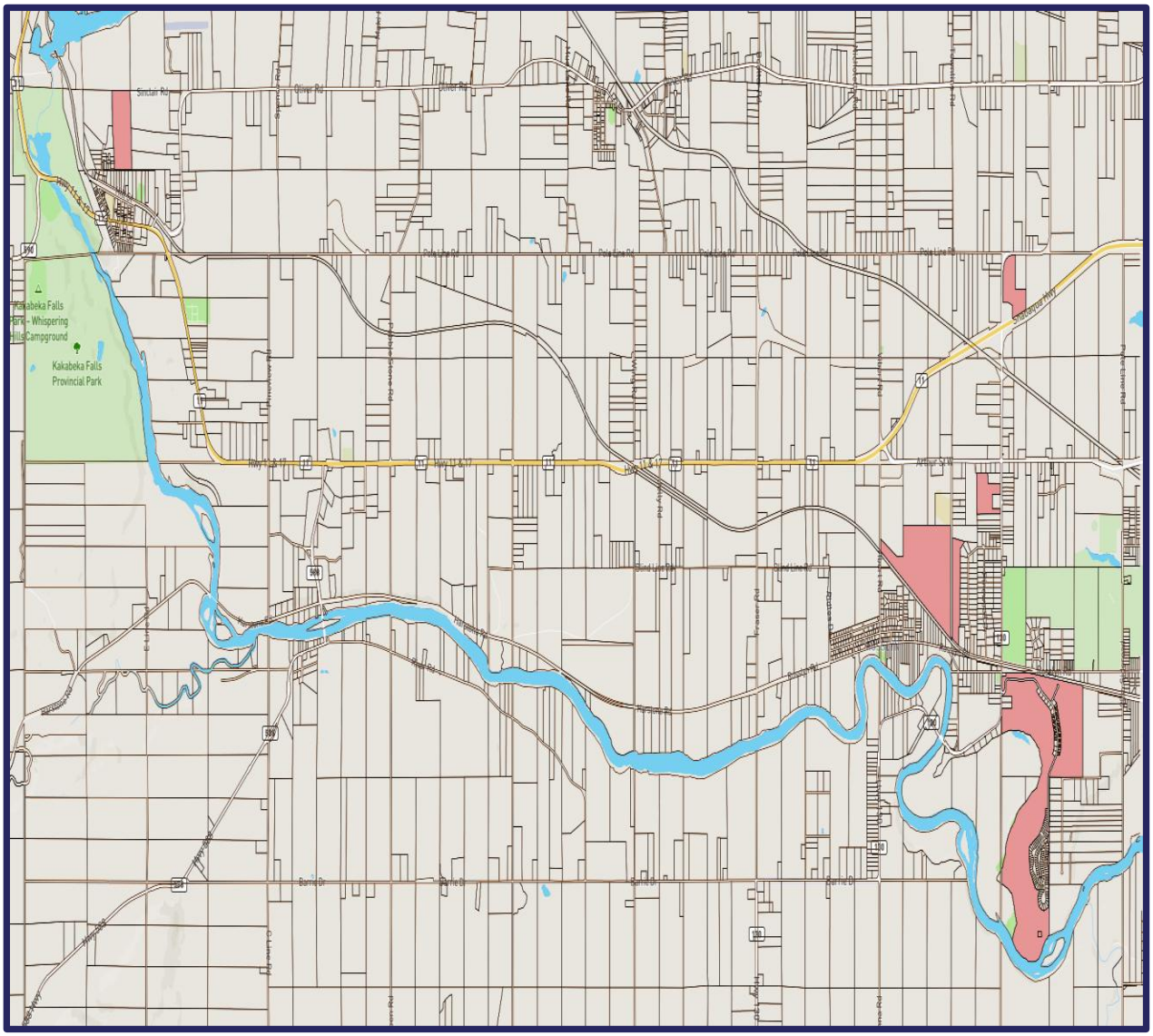


FIGURE #15: OLIVER PAIPOONGE PROPOSED DEVELOPMENT



New Fire Station Requirements and Site Criteria

Emergency Management Group

NEW FIRE STATION REQUIREMENTS AND SITE CRITERIA

New Fire Station Requirements

Traditionally, fire stations have been standalone structures. However, municipalities are increasingly opting to integrate fire services into shared-use buildings, such as community centers, libraries, public works facilities, and other public spaces. For Oliver Paipoonge, it is recommended that the fire station be co-located with the existing municipal building which is located at 3250 Highway 130. This approach offers a cost-effective solution by utilizing either existing or newly constructed facilities while also optimizing the use of available land. As technology, community demographics, and operational needs continue to evolve, ensuring flexibility in the design, construction, and location of fire stations will provide long-term benefits to the community.

Current industry standards for designing and constructing fire stations have emphasized the importance of specific enhancements, amenities, and features necessary for a volunteer fire service. Below is a partial list of key elements to consider when building a fire station for a volunteer fire department:

- Post-disaster-engineered structure
- Emergency backup power supply
- Gender-neutral washrooms, locker rooms, showers, and dormitory (for consideration when the fire stations have staff, 24 hours a day)
- Barrier-free, Accessibility for Ontarians with Disabilities Act (AODA)-compliant
- Negative pressure bunker gear storeroom
- Vehicle exhaust extraction system
- Water runoff separation tanks in the apparatus floor
- Emergency eye wash and decontamination station
- Offices for the station officer and firefighters
- Study room
- Communications Office (radio system to receive fire calls)
- Technologies room (i.e., phone, computer, radio, etc.)
- Kitchen
- Drive-through apparatus bays

- Hose drying tower
- Lounge
- Fitness room
- Tool/repair room
- Station supply storeroom
- Clean maintenance room for cleaning/disinfecting and repairing items such as face masks, SCBA, medical equipment, etc.
- Bunker gear extraction machine and dryer
- Domestic washing machine and clothes dryer
- Training/meeting room
- Emergency shut-off to cooking equipment.
- Given that the station would be a 40–50-year investment, a new station must include amenities required for full-time staffing.
- Red/green lights are installed at the overhead doors to notify the drivers when the overhead door is fully open.
- Sensors at a low level are installed on overhead doors to prevent their closing if the sensor's beam is blocked, indicating an obstruction in the doorway.
- Smoke and CO alarms and, in some instances, fire sprinklers.

Beyond the physical location and notion of co-location, contemporary fire station design considerations should include a variety of design features. EMG recommends the following:

- Risk mitigation and occupant safety as a defining element, including the installation of automatic fire sprinkler protection
- Designs that promote occupant wellness
- Built-in training facilities to maximize site-specific developmental opportunities
- "Green" building design, perhaps to the appropriate Leadership in Energy and Environmental Design (LEEDS) standard (www.cabcg.org for more information).
- Gender and socio-inclusive design elements to reflect contemporary views on diversity, equity, and inclusion
- Performance-forward building design (to facilitate efficient response)
- A focus on community involvement and community interaction/education

- Fire service heritage preservation
- Resilience to community disaster impacts

A thoughtfully designed fire station is built to serve the community for 40 years or more. EMG recognizes that fire stations, when well-planned and strategically placed, are essential to the community's social fabric. They serve as powerful symbols of safety and security for residents. These critical infrastructure assets are visible to the public every day, instilling a sense of protection as people move through their community.

Fire Station Site Criteria

During the review of the present fire station locations and proposed future locations, many aspects were considered, such as the areas served, call volumes of the area, staffing, equipment, and occupancy risk. The following criteria were also used as a general guideline for fire station site selection:

- Reasonable access to a major street or road
- Reasonable access to a major street or road
- Appropriate sight lines (no hills, physical obstacles)
- No traffic impediments at any time of day
- Ability to have a second access to the site
- Maintained access (snow clearance, etc.)
- Assembly time for the volunteer firefighters must not be negatively impacted
- Impact on adjacent properties needs to be considered
- The size of the site must accommodate all expected activities of the fire service and allow for future expansion (Parking, training, apparatus maintenance and equipment testing, etc.).
- Proximity to Municipal services and required utilities (water, sewer hydro, telephone, gas)
- Costs
- Acquisition of land
- Site preparation
- Building (leasing/renting may also be considered)

Anticipated Cost of a New Fire Station

As previously noted, the recommended phased realignment of fire stations considers factors such as cost-effectiveness, the management of current and future municipal risks, effective response coverage, firefighter health and safety, and the long-term strategic needs of Oliver Paipoonge.

The estimated cost of constructing a new fire station or expanding the existing Municipal Building ranges from $3 million to $7 million, depending on the chosen design features.

As mentioned earlier, this cost can be partially offset in the short term through the sale of existing facilities and a reduction in operating expenses. Long-term savings will also be achieved by lowering apparatus replacement costs, as the OPFES fleet is reduced.

Stakeholder Consultation

To guide the development of the 2023 Master Fire Plan, EMG undertook a comprehensive consultation process. The detailed findings of this process are outlined in Section 2 of the 2023 Plan. Specifically, when it comes to the consolidation of existing fire stations, the consultation revealed differing opinions. Some participants advocated for reducing the number of fire stations, while others strongly supported maintaining the current structure. This divide reflects trends seen in other regions that have undergone amalgamation. Although fire stations are generally considered essential to the community, the consultation process emphasized that addressing this sensitive issue requires careful public engagement, education, and ongoing dialogue.

Conclusion

In conclusion, based on the assessment outlined in this report, EMG recommends that Council adopt the Phased Station Realignment recommendation, aligning with Option #2 from the 2023 MFP, as the best path forward for the OPFES. In line with the Municipality's standard procedures, Council will have the opportunity to review and approve each phase of the recommendation, including any related municipal expenditures, through reports from the Fire Chief and/or other senior leadership staff.

By adopting this recommendation, Council will establish a cost-effective fire service plan for at least the next ten years. This approach will enable Council to address both current and future risks related to fire protection services. Ultimately, Council will take critical steps to ensure public fire life safety, as well as the health and safety of the dedicated firefighters who serve the citizens of Oliver Paipoonge.

Emergency Management Group

Appendix A

PFSG 04-08-13

APPENDIX A – PUBLIC FIRE SAFETY GUIDELINE ON FIRE STATION LOCATION

PFSG 04-87-13

Fire Station Location

Public Fire Safety Guidelines	Subject Coding *PFSG 04-87-13*
Section *General*	Date *September 2004*
Subject *Fire Station Location*	Page

Under Review

Purpose:

To assist communities in determining the best locations for their fire stations.

Introduction

Fire stations should be situated to achieve the most effective and safe emergency responses.

Fire stations represent a substantial municipal investment and should normally be located and designed to offer many years of service. As a community grows, it may become necessary to replace existing stations or add more stations to meet increasing public demands for emergency responses.

The best sites for fire stations will vary with local needs and circumstances and the fire protection services the municipality has selected to provide. Stations staffed by volunteer fire fighters may have some different considerations than those utilizing full time fire fighters.

Response Considerations

Distance and travel time are the primary influencing factors for selecting a fire station site.

Traditionally a circle was drawn around the proposed site to identify the station coverage area. Because the circle does not accommodate the normal right-angle streets or roads, times will be more accurate if a diamond is used.

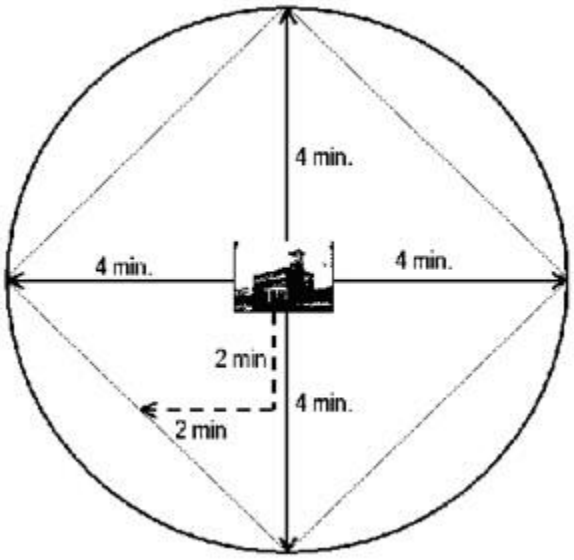
To plot the diamond, simply drive in each direction for the amount of time you have allowed for the response coverage, mark the point on a map and join the points using straight lines.

This procedure can then be repeated or modified for coverage that is beyond or less than the desired response times. This process will permit fire department managers to determine where response times are excessive, where impediments to the orderly movement of traffic exist and where specific high risks are located.

For example, the fire department reaches the downtown core in 3 minutes, the urban boundaries in 5 minutes, 75% of the rural area in 8 minutes and the remainder in 10 minutes. In the 8-to-10-minute areas specific additional fire prevention and public fire safety education programs may be warranted to help compensate for the longer response time.

The following diagram illustrates the differences between a circle and a diamond from a fire station that has used 4 minutes as the desired initial response time.

Please note that the circle will only reflect a true response of 4 minutes if the streets are straight from the fire station to the edge of the circle.



Computer Based Programs

There are several computer-based programs for identifying optimum locations for fire stations. While there are differences including data required, input and appearance, each of these programs identifies optimum fire station locations.

To determine optimum locations for fire stations using these programs, information such as the following must be entered:

- relative fire risk values for various areas, occupancies or properties
- desired response times for each identified fire risk
- information regarding the road network in the community including reasonable travel speeds, one-way streets, rail crossings, etc.
- emergency vehicles and personnel necessary to assemble fire attack teams

With the program tailored to the specific needs of a community, many fire response factors may be analyzed including:

- existing and proposed station locations based on desired response times
- best and alternate emergency response routes to specific locations
- ability of pumper, aerial, rescue and support crews to cover all parts of the community based on desired response times
- emergency response times for first, second and additional vehicles and personnel
- areas for potential automatic aid responses

A benefit of using a computer program is the ability of fire or municipal staff and council to evaluate fire station location needs (based on objective criteria).

Other Considerations

Fire stations should be located where they can serve the majority of the protection area they are assigned rather than for a specific hazard. For example, it may seem wise to place the fire station across from a nursing home. However, if the majority of responses are to the residential or commercial areas at the other side of the coverage area, the station should be situated closer to that area but still have the ability to arrive at the nursing home in the desired time.

Many volunteer stations are located in or very close to the geographic centre of the populated area of the community. This may increase response time when the volunteers have to come through the traffic to get to the station and then respond back through traffic to the

emergency. Response times could be reduced by locating stations closer to the edge of the urban centre. Fire fighter response procedures could be altered to have some of the volunteers respond to the station for equipment while others go directly to the scene.

The practicability of sharing a facility should be assessed. It may be appropriate to locate the fire station with other emergency agencies or other municipal departments.

Municipalities may wish to consider the "temporary" placement of a station in a leased or rented building to address rapid growth in a specific area. An example of this could be the placement of a station in a vacant commercial or industrial unit for a period of time. At the same time, records should be kept assessing the efficiency and effectiveness of response from this location, so that Council may make an informed decision when it comes time to decide whether the location should be made "permanent".

Desirable Fire Station Site Criteria

The following is an initial check list for the selection of any fire station site:

- It may be advisable to have stations located a short distance up a side street rather than on a main street where the heaviest traffic exists. Access to and from site must have:
- reasonable access to a major street or road
- appropriate sight lines (no hills, physical obstacles)
- no traffic impediments at any time of day
- ability to have a second access to the site
- maintained access (snow clearance, etc.)
- Assembly time for volunteers must not be negatively impacted.
- Impact on adjacent properties needs to be considered.
- Size of site must accommodate all expected activities of the fire service and allow for future expansion. (Parking, training, apparatus maintenance and equipment testing, etc.)
- Proximity to municipal services and required utilities (water, sewer hydro, telephone, gas)
- Costs.
- acquisition of land
- site preparation
- building (leasing/renting may also be a consideration)

Codes, Standards, Best Practices:

Codes, Standards, and Best Practices resources available to assist in establishing local policy on this assessment are listed below. All are available at www.ontario.ca/firemarshal. Please feel free to copy and distribute this document. We ask that the document not be altered in any way, that the Office of the Fire Marshal be credited and that the documents be used for non-commercial purposes only.

See also PFSG:

04-01-12 Selecting Fire Suppression Capability
04-03-12 Service Providers
04-06-13 Codes, Standards, Acts, Regulations, Best Practices