



FIRE AND RESCUE

COMMUNITY RISK ASSESSMENT: STANDARDS OF COVER 2020-2025

Document for Accreditation with the Commission on Fire Accreditation International



[DNV.org/FireAccreditation](https://www.dnv.org/FireAccreditation)

FIRE SERVICE ACCREDITATION - INTRODUCTION

In 2018 the District of North Vancouver Fire & Rescue Services (DNVFRS) began a process to become an accredited fire service through the Center for Public Safety Excellence (CPSE). The CPSE is a not-for-profit international technical organization that oversees three (3) quality improvement programs: accreditation, credentialing, and education for fire and emergency services. The Commission on Fire Service Accreditation International (CFAI) oversees the accreditation program for CPSE.

The drive supporting the DNVFRS goal for accreditation; to build on proactive processes already in place and to ensure a foundation of sustainable department-wide continuous improvement. The DNVFRS timeline for first accreditation is the CFAI public hearing in the spring 2022 and aligns with the transition of the CPSE to the 10th Edition manual entitled “Quality Improvement for the Fire and Emergency Services”.

Accreditation is a credible reality-based process whereby a model and methodology is established to measure outputs and outcomes, and compare services against best practices. This is achieved through process review and analytics. Supporting this initial body of work towards accreditation also includes developing a system of annual compliance review and reporting, which aligns with the DNVFRS Annual Reporting process in place since 2018. Goals and performance are articulated in three companion documents that outline the commitment to a process of continuous review and improvement:

- Community Risk Assessment /Standards of Cover 2020-2025 (CRA/SOC)
- Fire & Emergency Service Self-Assessment Manual 2021-2026 (FESSAM)
- Strategic Plan 2020-2025

This document is the CRA/SOC. It includes an overview of the municipality of the District of North Vancouver (DNV) and its fire service. A risk assessment is discussed for all areas of service that are provided by DNVFRS by geographic response area. Fire and non-fire hazards and risks are included as well as pertinent facts that increase or decrease risks. The analysis includes critical tasking based on determined service level objectives, and reflects distribution (first arriving apparatus) and concentration (effective response force) measures. Calls for service focus on a municipal perspective, but also include the impact on the DNV and the DNVFRS of regional service provision with its shared service partners: the City of North Vancouver and the District of West Vancouver. Performance analytics are displayed as baseline (current performance) and benchmarks (target performance) to industry standard of 90th percentile response times.

The DNVFRS is committed to attaining and maintaining CFAI accreditation. The path to achieving this goal provides the opportunities to:

- Emphasize DNVFRS dedication to excellence
- Establish a culture of continuous improvement
- Receive independent validation of all service areas
- Provide tangible data for elected officials and stakeholders



The collaboration and transformation being facilitated as a result of accreditation will influence the DNVFRS, its internal and external stakeholders, and the community of the DNV into the foreseeable future. Through accreditation, DNVFRS will create a foundation for data analytics and metrics to support decision-making, and promote steady growth in service provision into the future. The journey to accreditation demonstrates the DNVFRS commitment to research, review, validation, verification and evidence-based decision making. This also highlights the momentum towards establishing a culture of self-improvement, providing the community with an innovative, progressive fire department that meets and even exceeds expectations.



ACKNOWLEDGEMENTS

Success building the accreditation process and the three companion documents recognizes the active participation of DNVFRS personnel, union executive, the Self-Assessment Team, and the entire Command Staff. DNV Staff from throughout the municipality supported DNVFRS with the content, as well, inter-agency partners and stakeholders.

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COUNCIL RESOLUTION

This Community Risk Assessment/Standards of Cover 2020-2025 was approved by Council resolution on February 22, 2021 as follows:

THAT Council approve the document entitled “Community Risk Assessment/Standards of Cover 2020-2025 - Executive Version”.

CARRIED



PUBLISHING INFORMATION

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REVIEWS AND UPDATES

The Community Risk Assessment/Standards of Cover 2020-2025 will be reviewed on a minimum of an annual basis as outlined in the annual compliance review process. The CRA/SOC will undergo a major review and revision in the 5th year to align with the reaccreditation time frame. Reviews and revisions will be recorded as follows:

January 22, 2021	Haida Fortier	Executive Version Accepted by DNV CAO
February 5 , 2021	Haida Fortier	Executive Version Accepted by DNV GMs
February 9, 2021	Haida Fortier	CRA/SOC Accepted by DNVFRS Command Staff
February 22, 2021	Haida Fortier	Executive Version Approved by DNV Council
April 7, 2021	Haida Fortier	Table Heading Correction Page 167



MESSAGE FROM THE FIRE CHIEF

On behalf of the women and men of the District of North Vancouver Fire & Rescue Services (DNVFRS), it is my honour to present the Community Risk Assessment: Standards of Cover 2020-2025 (CRA/SOC).

The DNVFRS is an “all-hazards” Fire Service providing emergency medical response, fire suppression, technical rescue, fire inspections, public education, fire investigation, and community training and education. We strive to provide the highest quality services to protect the lives, property, and environment of our North Vancouver community. Currently the DNVFRS is working towards accreditation through the Commission on Fire Accreditation International/Center for Public Safety Excellence within which this CRA/SOC is a key step.

Conducting a CRA/SOC is a planning process of gathering data, analyzing it, prioritizing risks, and balancing our emergency response with our prevention/mitigation efforts. Developing strategies to deal with the risks means different things depending on whether you are focusing on emergency response or on prevention. That means being prepared to deal with any real or potential risk identified for the community. But focusing prevention efforts often means prioritizing the risks and problems that will receive special attention. This is where the Community Risk Assessment transitions into Community Risk Reduction (CRR). A true CRR effort involves an integrated approach where we more thoughtfully combine our emergency response and prevention efforts. The purpose for completing this document is to assist the DNVFRS in ensuring a safe and effective response force for emergency medical services, fire suppression, and specialty response situations, while viewing our efforts through a wider lens that involves prevention, preparedness, response, and recovery. Our ability to support community resiliency will be enhanced through this process.

In closing I want to thank all those who have contributed to this process. This involved significant collaboration internally and with external stakeholders and required that a number of key areas be researched, studied, and evaluated. These efforts set the stage as we look to the future and strive towards continuous improvement in the services we deliver today and into tomorrow.



Brian Hutchinson, MA, CEM[®], ECFO
Fire Chief



DNVFRS MISSION, VISION AND VALUES

In 2018, the DNVFRS engaged with personnel over a ten (10) month period aimed at developing a shared mission, vision and values. These initial steps then resulted in a further eleven (11) month process commencing in 2019 to build a five-year strategic plan. This inclusive strategic planning process entailed focus groups, feedback forums and workshops, and notably included a dedicated strategic planning working group of nine (9) personnel from across the organization that championed the initiative.

Highlights of the DNVFRS Strategic Plan 2020-2025:

The District of North Vancouver Fire & Rescue Services (DNVFRS) is committed and focused on what it does—it's *Mission*. DNVFRS has defined and declared a *Vision* of who it is and where it is going. DNVFRS *Values* are reflected in its culture and are integral to performance and public service duties.

What We Believe

Our Mission

We proudly serve our community by providing exceptional fire suppression, medical aid, technical rescue, fire prevention and public education services.

Our Vision

To be an inclusive and progressive leader that consistently provides our community with excellent service.

Our Values

- Community – Treat people with kindness and respect
- Integrity – Do the right thing
- Wellbeing – Foster physical, mental, and emotional wellbeing
- Innovative – Drive change for the good

Four broad strategic priorities were identified: deliver exceptional emergency services; promote a shared culture of inclusion and engagement; foster resilient communities; and promote external and internal partnerships. DNVFRS has created strategic objectives for each of these priorities and assigned target dates for supporting actions. The Strategic Plan 2020-2025 was reviewed by DNV staff, was accepted by Council, and can be found on [DNV.org/FireStrategicPlan](https://www.dnv.org/FireStrategicPlan).



TABLE OF CONTENTS

FIRE SERVICE ACCREDITATION - INTRODUCTION	i
ACKNOWLEDGEMENTS	iii
DNVFRS Command Staff	iii
DNVFRS Accreditation Self-Assessment Team	iii
Fire Service Accreditation Contributing Team	iii
COUNCIL RESOLUTION	v
PUBLISHING INFORMATION	vi
REVIEWS AND UPDATES	vii
MESSAGE FROM THE FIRE CHIEF	viii
DNVFRS MISSION, VISION AND VALUES	ix
TABLE OF CONTENTS	1
EXECUTIVE SUMMARY	8
Three Companion Documents of Fire Service Accreditation	8
Direction for the Future	9
SECTION 1 COMMUNITY RISK ASSESSMENT	10
Community Characteristics – The Corporation of the District of North Vancouver	10
Layout of Municipality	11
Population and Demographics	11
Indigenous Peoples	13
Critical Infrastructure	15



Water Supply	16
Topography	18
Transportation.....	20
Roads and Traffic.....	20
Rail and Marine	21
Financial Management	21
Development and Development Constraints	22
Governance and Lines of Authority.....	23
Fire & Rescue Services Overview - DNVFRS	26
District of North Vancouver Fire Fighters Union, Local 1183	28
IAFF Local 1183 Charitable Society (Charitable).....	28
DNVFRS Strategic Priorities & Implementation Plan	28
Insurance Rating – Fire Underwriters’ Survey (FUS)	29
Interoperability.....	31
Automatic Aid/Pre-Determined Aid	33
Mutual Aid.....	33
E-Comm 9-1-1 Primary Safety Answering Point (PSAP)	33
Surrey Fire Communications Division Secondary Safety Answering Point (SSAP)	34
BC Emergency Health Service Secondary Safety Answering Point (SSAP)	34
North Shore Emergency Management (NSEM).....	35
Hazard, Risk, Vulnerability Analysis.....	36



Major Emergency Operations Plan.....	39
Community Risk Reduction Programs	39
Public Education & Outreach	40
Stakeholder Engagement	41
Equity, Diversity and Inclusion	41
Recruiting and Outreach	43
Fire Training Centre - Training and Professional Development	45
Maplewood Fire Rescue Centre	46
Health and Wellness.....	47
Fire Inspections	48
Fire Investigations	49
Community Loss and Save Information.....	50
Community Loss and Save Table	51
Pre-Incident Fire Planning	51
Engineered Environment.....	51
Risk Methodology by Response Category	52
Risk Methodology by Fire Station Response Area.....	59
Fire Station #1 – Lynn Valley	60
Fire Station #2 – Lynnmour	64
Fire Station #3 - Montroyal	69
Fire Station #4 – Seymour/Deep Cove	73



Fire Station #5 - Norgate 78

SECTION 2 STANDARDS OF COVER 82

 Current Delivery System..... 82

 Staffing Levels and Patterns 84

 Fire Apparatus 85

 Non-Emergency Services Fleet 88

 Remotely Piloted Aircraft System (RPAS) 90

 Maintenance 91

 Baseline Actual Responses for All Incidents (3 Years: 2017, 2018, 2019) 91

 Fire Stations – All Incident Types 90th Percentile Baseline Actuals 92

 Top Four (4) Reportable Incident Types (2017 - 2019)..... 94

 Critical Tasking..... 95

 Hazardous Materials (HazMat) Response 98

 Performance Monitoring Methodology 98

ALL STATIONS BASELINE/BENCHMARK PERFORMANCE 100

 Fire Suppression Performance Statements 102

 Emergency Medical Services (MESA) Performance Statement..... 105

 Rescue MVA (Moderate Risk) Performance Statement 108

 Technical Rescue (High Risk) Performance Statement..... 111

FIRE STATION #1 – LYNN VALLEY BASELINE/BENCHMARK PERFORMANCE 114

 Fire Suppression Performance Statement Excerpt 116



Emergency Medical Services (MESA) Performance Statement Excerpt..... 118

Rescue MVA (Moderate Risk) Performance Statement Excerpt 120

Technical Rescue (High Risk) Performance Statement Excerpt..... 122

FIRE STATION #2 – LYNNMOUR BASELINE/BENCHMARK PERFORMANCE 124

 Fire Suppression Performance Statement Excerpt 126

 Emergency Medical Services (MESA) Performance Statement Excerpt..... 128

 Rescue MVA (Moderate Risk) Performance Statement Excerpt 130

 Technical Rescue (High Risk) Performance Statement Excerpt..... 132

FIRE STATION #3 – MONTROYAL BASELINE/BENCHMARK PERFORMANCE 134

 Fire Suppression Performance Statement Excerpt 136

 Emergency Medical Services (MESA) Performance Statement Excerpt..... 138

 Rescue MVA (Moderate Risk) Performance Statement Excerpt 140

 Technical Rescue (High Risk) Performance Statement Excerpt..... 142

FIRE STATION #4 – SEYMOUR/DEEP COVE BASELINE/BENCHMARK PERFORMANCE 144

 Fire Suppression Performance Statement Excerpt 146

 Emergency Medical Services (MESA) Performance Statement Excerpt..... 148

 Rescue MVA (Moderate Risk) Performance Statement Excerpt 150

 Technical Rescue (High Risk) Performance Statement Excerpt..... 152

FIRE STATION #5 – NORGATE BASELINE/BENCHMARK PERFORMANCE..... 154

 Fire Suppression Performance Statement Excerpt 156

 Emergency Medical Services (MESA) Performance Statement Excerpt..... 158



Rescue MVA (Moderate Risk) Performance Statement Excerpt	160
Technical Rescue (High Risk) Performance Statement Excerpt.....	162
THREE-YEAR RESPONSE DATA ANALYTICS SUMMARY.....	164
Why does time matter?.....	164
Fire Suppression	166
Emergency Medical Services (MESA)	167
Rescue Motor Vehicle Accident (MVA) (Moderate Risk)	168
Technical Rescue (High Risk)	169
Time of Day	170
Day of Week	170
Month of Year	171
Cooperative Fire/Rescue Service – DNV Response	171
Response to City of North Vancouver (CNV)	172
Response to District of West Vancouver (DWV)	173
PERFORMANCE IMPROVEMENT – GOALS, OBJECTIVES AND ACTIONS.....	174
CONCLUSION.....	180
APPENDICES	181
Appendix 1A – Strategic Planning Gap Analysis	181
Appendix 1B – Strategic Planning Gap Analysis	182
Appendix 1C – Strategic Planning Gap Analysis	183
Appendix 1D – Strategic Planning Gap Analysis	184



Appendix 2 – Water Tank/Reservoirs in DNV	185
Appendix 3 – Community Wildfire Protection Program Update (Executive Summary)	188
Appendix 4A – All Fire Stations BC Building Code Occupancy Analysis	200
Appendix 4B - Fire Station #1 BC Building Code Occupancy Analysis	201
Appendix 4C - Fire Station #2 BC Building Code Occupancy Analysis	202
Appendix 4D - Fire Station #3 BC Building Code Occupancy Analysis	203
Appendix 4E - Fire Station #4 BC Building Code Occupancy Analysis.....	204
Appendix 4F - Fire Station #5 BC Building Code Occupancy Analysis.....	205
Appendix 5A – Lower Seymour Conservation Reserve (LSCR)	206
Appendix 5B – Lower Seymour Conservation Reserve (LSCR)	207
Appendix 6 – Recommendations Matrix 2020	208
Appendix 7 – Fire Underwriters Survey 2016 Recommendations.....	211
Appendix 8 – CRA/SOC Performance Indicator Matrix	212
Appendix 9 – Working Relationship Agreement	227



EXECUTIVE SUMMARY

Why become an accredited agency? Creating a process of accreditation affords an organization the opportunity to take a deep dive into *who* they provide services to, *what* services they provide, *where* they are being provided, *when* they are being provided, and *why* they are being provided. It provides the opportunity to evaluate, monitor and plan for continuous improvement. It is an opportunity to verify and validate efficiency and effectiveness to industry best practices. Through this process DNVFRS will create a foundation for data analytics and evidence-based metrics to support decision-making, affecting service provision into the future.

Three Companion Documents of Fire Service Accreditation

DNVFRS goals and performance are articulated in three companion documents of accreditation:

- Community Risk Assessment /Standards of Cover 2020-2025 (CRA/SOC)
- Fire & Emergency Service Self-Assessment Manual 2021-2026 (FESSAM)
- Strategic Plan 2020-2025

The *Community Risk Assessment* represented in Section I of this CRA/SOC reflects the makeup of the community—its demographics and design. It is an analysis of the risks that have been identified for the community both from natural and human caused disasters. The assessment of community specific risk includes physical factors such as boundaries, development, population growth, critical infrastructure, topography, and transportation networks. This is identified by geographic planning zones (Fire Station response areas), and is the component of the accreditation model that reflects risk specific to the community.

The *Standards of Cover* represented in Section II of the CRA/SOC reflects the policies and procedures that have been put in place to establish response within the jurisdiction. This is a mandatory component of accreditation. It is an analysis of how the agency matches its resources to the community need; to its risks and the expectation that the community has for service. This may be accomplished by varying levels of service, but must be accomplished through and with the support of District Council. The Standards of Cover includes a report of response times for the top three moderate risk responses within the municipality of the District of North Vancouver (DNV). Response is detailed by first due apparatus (distribution), and the effective response force (ERF) of the complete first alarm, identified as concentration. As an agency going through accreditation for the first time, DNVFRS will be reporting on a total of four identified response types as represented in the performance tables: fire suppression (moderate), emergency medical services (MESA), and two categories of rescues. The rescue responses are broken down into moderate risk, and high risk (technical rescue). This reporting will delineate the critical tasking to effectively mitigate these response types and 90th percentile baselines (actual performance) and benchmarks (target performance).

The *Fire & Emergency Service Self-Assessment Manual* is a standardized template of performance indicators used by organizations going through the CFAI process to complete a self-assessment of services that it provides to the community. These are divided into the following 11 categories:

- Category I – Governance and Administration
- Category II – Assessment and Planning
- Category III – Goals and Objectives
- Category IV – Financial Resources



- Category V – Community Risk Reduction Programs
- Category VI – Physical Resources
- Category VII – Human Resources
- Category VIII – Training and Competency
- Category IX – Essential Resources
- Category X – External Systems Relationships
- Category XI – Health and Safety

These 11 categories contain 252 performance indicators in total, which represent specific services provided to the community. Each performance indicator includes a description of the level of service that the fire service provides, if the performance is meeting the identified needs, and what plans are in place to measure change or progress towards goals. References of industry best practices for each performance indicator are also included.

The *Strategic Plan 2020-2025* was completed in July 2020. It was created in collaboration with a broad section of DNVFRS personnel. The outcome of this inclusive process is a community-focused plan that is measurable and results-oriented. As stated by Fire Chief Brian Hutchinson “this plan is our roadmap to guide us in our journey to implementing proactive change with a focus on the most important challenges and opportunities before us. The resulting outcomes will directly benefit our community and sustain our tradition of excellence”. Specific objectives have resulted from the strategic priorities and will be measured and reported on annually as part of the strategic implementation plan.

Direction for the Future

Supporting this initial accreditation work includes an annual expectation for compliance review and reporting of each category program area. A full accreditation resubmission is required every five years. The data analysis performed through the creation of this CRA/SOC and its companion documents reflects a fire service that is advancing toward its goals. The roadmap that has been laid out in the Strategic Plan 2020-2025 is well supported by the process that is being established through accreditation and the performance measures of systems that are already in place. Goals, objectives and actions that have resulted from this CRA/SOC, together with the Strategic Plan Priorities, and the recommendations that will results from the CFAI Accreditation process form the direction for the future. The measures that are being put in place today, solidify the establishment of a culture of continuous improvement and align DNVFRS output and outcomes with the community needs.

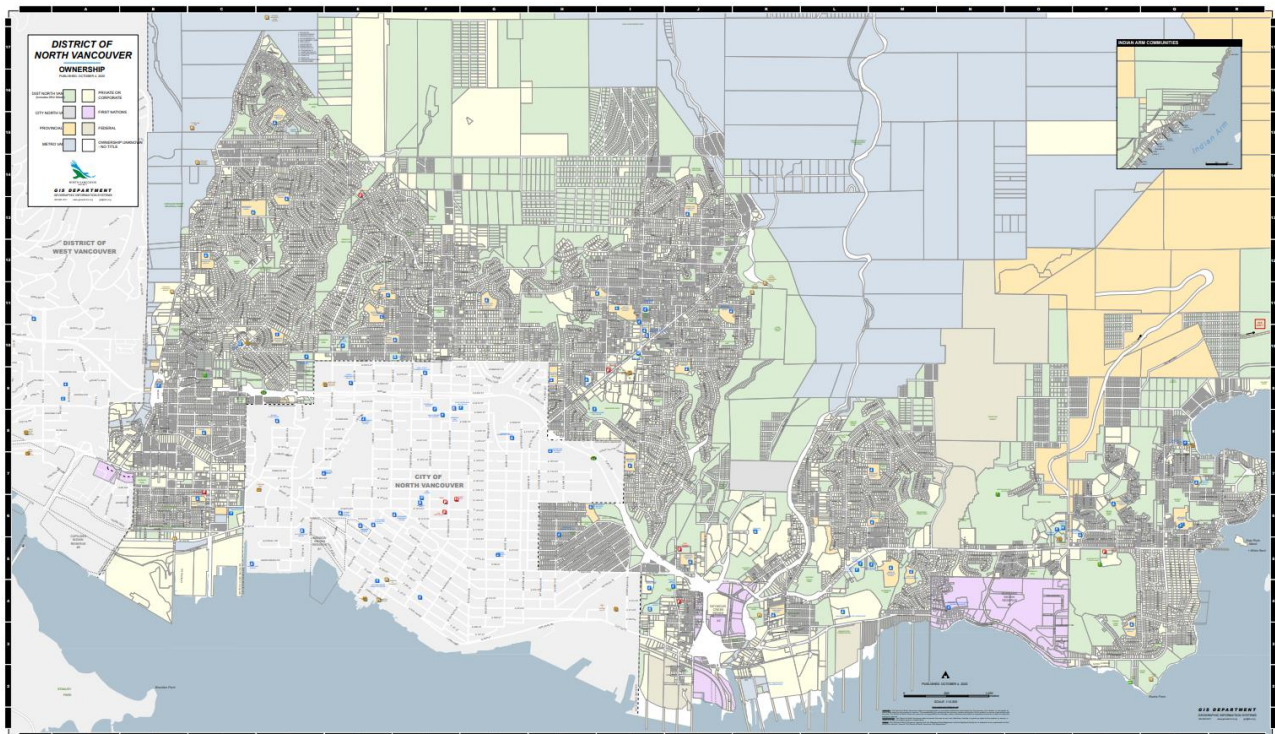


SECTION 1 COMMUNITY RISK ASSESSMENT

Community Characteristics – The Corporation of the District of North Vancouver

Located on the North Shore within Metro Vancouver, the District of North Vancouver (DNV) was incorporated in 1891 and is a separate municipality from the City of North Vancouver, of which the DNV borders on three sides. It is also separate from the District of West Vancouver which lies to the west adjacent to the Capilano River. The three municipalities are often referred to collectively as the North Shore.

The DNV is located in Canada, in the Pacific Northwest. It is an urban municipality with occupancy uses located in town centres, in adjacent neighbourhoods, along greenways and forests, and up the Burrard Inlet to Indian Arm. Most development is contained within the regionally defined Metro Vancouver “urban containment boundary”. However, there are a number of clusters of development located along the Indian Arm waterway, including boat access only seasonal and full-time dwellings.

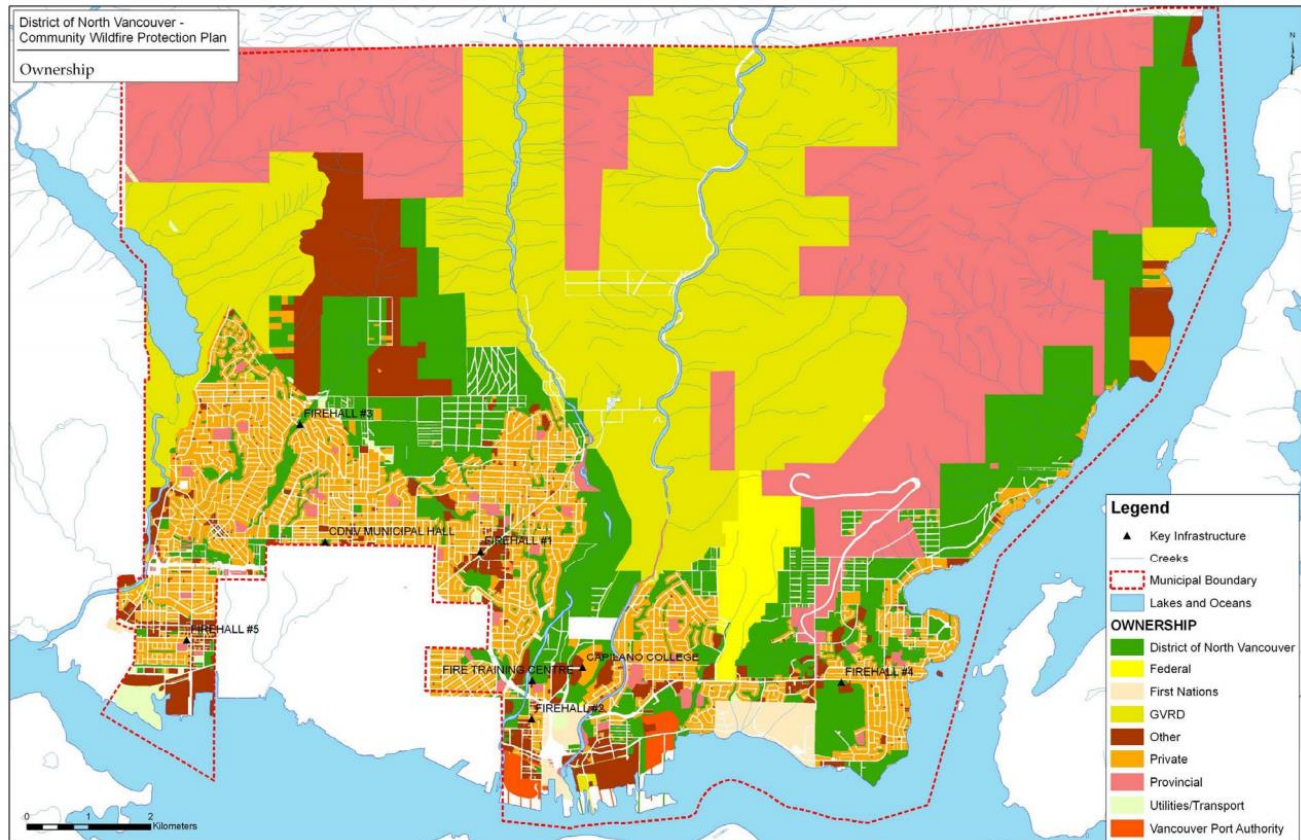


The District of North Vancouver (DNV) is bordered on the North by forest, provincial parks, and two recreational ski mountains—Grouse Mountain and Mount Seymour, further to the north by the Coast Mountains, the east by Indian Arm, south by the City of North Vancouver and the Burrard Inlet, and west by the Capilano River and adjacent West Vancouver. Land ownership adjacent to the DNV includes Metro Vancouver lands, provincial lands, federal lands, and the Lower Seymour Conservation Reserve. It spans from sea level to 1,449 metres above sea level (4,754 feet). Industrial lands are located along the shores of Burrard Inlet, with road, water and rail access. The Trans-Canada Highway intersects North Vancouver, and is a major travel route across the North Shore for freight transportation, tourism, and commuters.



Layout of Municipality

As reported in 2016 Canadian Census, the District of North Vancouver spans an area of 160.76 km² (62.07 square miles). As reflected in the below map, there are federal lands, provincial lands, first nations lands, Metro Vancouver Regional District (Greater Vancouver Regional District), the City of North Vancouver, The District of West Vancouver, and Vancouver Port Authority Lands encompassed within or adjacent to the jurisdiction. With such a large number of adjacent agencies, and a relatively cut-off geographic location, inter-agency and stakeholder relationships is a priority for the DNV.



Residents and visitors to DNV forest, cliffs, and waterways benefit from the outdoor recreation destination. This popular pastime results in specialized training and response needs for technical rescue responses such for swift water and high angle rescue for cliff jumpers in canyons, as well, injured hikers and mountain bike rescues in the mountains and forested trails. To support this unique need, interagency partnerships have been developed such as with North Shore Rescue, Talon Helicopters, Metro Vancouver, Royal Canadian Marine Search and Rescue (RCMSAR), and BC Emergency Health Services (BCEHS).

Population and Demographics

Statistics Canada is the federal government agency that is responsible for undertaking a census of the population of Canada. This service is performed every five (5) years. While the 2016 Canadian Census Profile reports a population of 85,395 in the District of North Vancouver, Metro Vancouver projects a population of 105,000 by 2030 from a baseline that includes the census undercount (Official Community Plan, 2011). Metro



Vancouver population projection methodology takes into account housing needs and the changing pace of housing development. The next Canadian Census will be performed in 2021.

The DNV is actively planning urban growth by creating a “network of more sustainable town and village centres that promote healthier living and social interaction, support effective transit, walking, and cycling, and protect the surrounding green space” <https://www.dnv.org/property-development/urban-planning>. 75-90% of residential growth will be directed to four designated town centres in a network of town centres. These town centres are “informed by strategic directions as identified in the Official Community Plan” which guides planning and decision-making related to future growth of the DNV <https://www.dnv.org/property-and-development/our-official-community-plan-ocp>. DNV plans include 10,000 net new residential units, corresponding to population growth of about 20,000 people. 2,000 of those will be in Lower Capilano/Marine Drive Town Centre, 2,500 in Lynn Valley Town Centre, 1,500 in Maplewood Town Centre, and 3,000 net new housing units in Lower Lynn Town Centre. The “nodes/town centres” concept is part of the regional growth strategy for the DNV.



The OCP is supported by corporate and financial plans such as the Centres Implementation Plans, the Transportation Plan, and the Parks and Open Spaces Plan. The OCP also included statutory requirements such as a Land Use Map that outlines what land uses go where, and identifies protected areas such as slope, creek,



and wildfire hazard areas. A targeted review of the OCP is ongoing with the examination of four key areas—transportation, economy and employment lands, housing, and climate emergency—the findings of which are represented in four (4) white papers that will be coordinated into an action plan as we “Progress Towards 2030”.

Annual pace of development reports further state that we are on target to meet 2030 housing targets outlined in the OCP. This is important, as the pace of development impacts housing, traffic, land use, and the cost and demand for services, including essential services such as fire and rescue services.

Change influences demand and supply. Demand is influenced by population, employment, interest rates, mortgage stress test, and fees and taxes such as foreign buyer’s tax, property transfer tax, and school tax. Supply is influenced by available land, market factors such as cost and speculation, physical limitations such as environmentally sensitive areas or fire limit areas and servicing costs, federal, provincial, indigenous, regional and local government regulations and policies, and development processes.

The 2011 OCP’s direction differs from its predecessor. It focuses on nodal development around town centres and multi-family residential housing, whereas the 2001 OCP was indicative of a community characterized by single family housing. Growth in housing units and population is expected to be faster than what we have seen in the past. In the five (5) years before and after adoption of the 2011 OCP, growth was significantly less in the DNV compared to other municipalities on the North Shore, the Metro Vancouver area, the province and throughout Canada. The average age of the population is 41.9 years old. The numbers reflect that 20,605 people are over the age of 60 (23.9% of the population), with 815 of those being 90+. The Census age groups reflect a decline in number of younger population under 19 years. The White Papers project an increase in jobs which correlates with OCP targets for net increases, and the supply of suitable housing for people to live/work on the North Shore.

According to the OCP Section 12, Plan Implementation, there will be a net increase of rental housing units from the 2010 baseline to 2030 target of 55% detached, and 45% attached. The baseline dwelling count is 30,500 in 2010. The anticipated capacity as noted in the OCP for 2030 should be 40,500.

This challenge of the “housing continuum” is illustrated in the DNV investment in a diverse housing mix—multi-family, single family, and various types of supportive/care. The OCP has a goal of “encouraging and enabling a diverse mix of housing type, tenure and affordability to accommodate the lifestyles and needs of people at all stages of life, and foster a safe, socially inclusive and supportive community that enhances the health and well-being of all residents” <https://www.dnv.org/property-development/official-community-plan-white-papers#housing>.

Indigenous Peoples

The DNV provides services within Indigenous peoples’ lands in accordance with the Community Charter [SBC 2003] Chapter 26, Division 3, 13.1. Municipal services are provided to two First Nations—Squamish Nation and Tsleil Waututh Nation (TWN)—as laid out in separate municipal agreements.



Indigenous Peoples Lands in North Vancouver



The Squamish Nation agreement is an “interim agreement” dated May 22, 2002 which references an agreement dated August 4, 1982 with occupants of the Seymour Creek Indian Reserve No. 2. The agreement contends that services will be provided to the same extent as they are to residents or occupants of North Vancouver not located on Indigenous peoples lands. The renewal and revision of this agreement is the responsibility of DNV Corporate Services.

The TWN agreement January 1, 2016 through December 31, 2020 was negotiated on a government-to-government basis with an intention for renewal every five (5) years. The current plan is under review by DNV Corporate Services and the TWN. Currently, the DNV provides the same general services to the TWN peoples and land as are provided to other residents of the DNV. The current plan includes an agreement to jointly develop an operational fire services plan. This inter-agency collaboration has been discussed, but as of 2020 had not been initiated.

Provision of services in kind to Indigenous peoples living on First Nations land assumes that their built environment is developed consistent with the processes in place on municipal land. This is not the case as disparities of housing and infrastructure historically exist on First Nations land. A municipal permitting system is a mechanism that could empower collaboration between the DNV and Indigenous peoples, to increase housing and infrastructure standards for the community. Currently development on First Nations land does not require municipal building permits, therefore, does not go through a comprehensive building permit and fire department review process. While this has been identified as a gap to be addressed, current occupancy inspections upon completion of a development provide alignment with high level expectations of the fire department through demonstration of life safety systems. The disparities of housing and infrastructure could be addressed through a revised municipal services agreement, and a collaborative operational fire services plan which would form an appendix to the municipal services agreement. Opportunities also exist to



collaborate on inspection and enforcement programs, and further alignment of fire safety on First Nations lands. Discussions to this end have been taking place. DNVFRS will continue to promote reconciliation and meaningful relationships with Indigenous peoples in order to support vibrant, resilient and sustainable communities for all.

Critical Infrastructure

Critical infrastructure includes DNV built infrastructure as well as services supplied through inter-agency partners that are integral to the function of the community. The community of the DNV has critical needs that include built infrastructure and services, some of which are shared regionally such as BC Emergency Health Services (BCEHS). Regionally, the North Shore (NS) has one (1) hospital which is physically located in the City of North Vancouver. The DNV and CNV share a Royal Canadian Mounted Police (RCMP) detachment located at 147 E. 14th Street, across the street from the regional hospital. All three municipalities share a regional Emergency Operations Centre located in the RCMP detachment. Both of the North Vancouver municipalities share School District No.44.

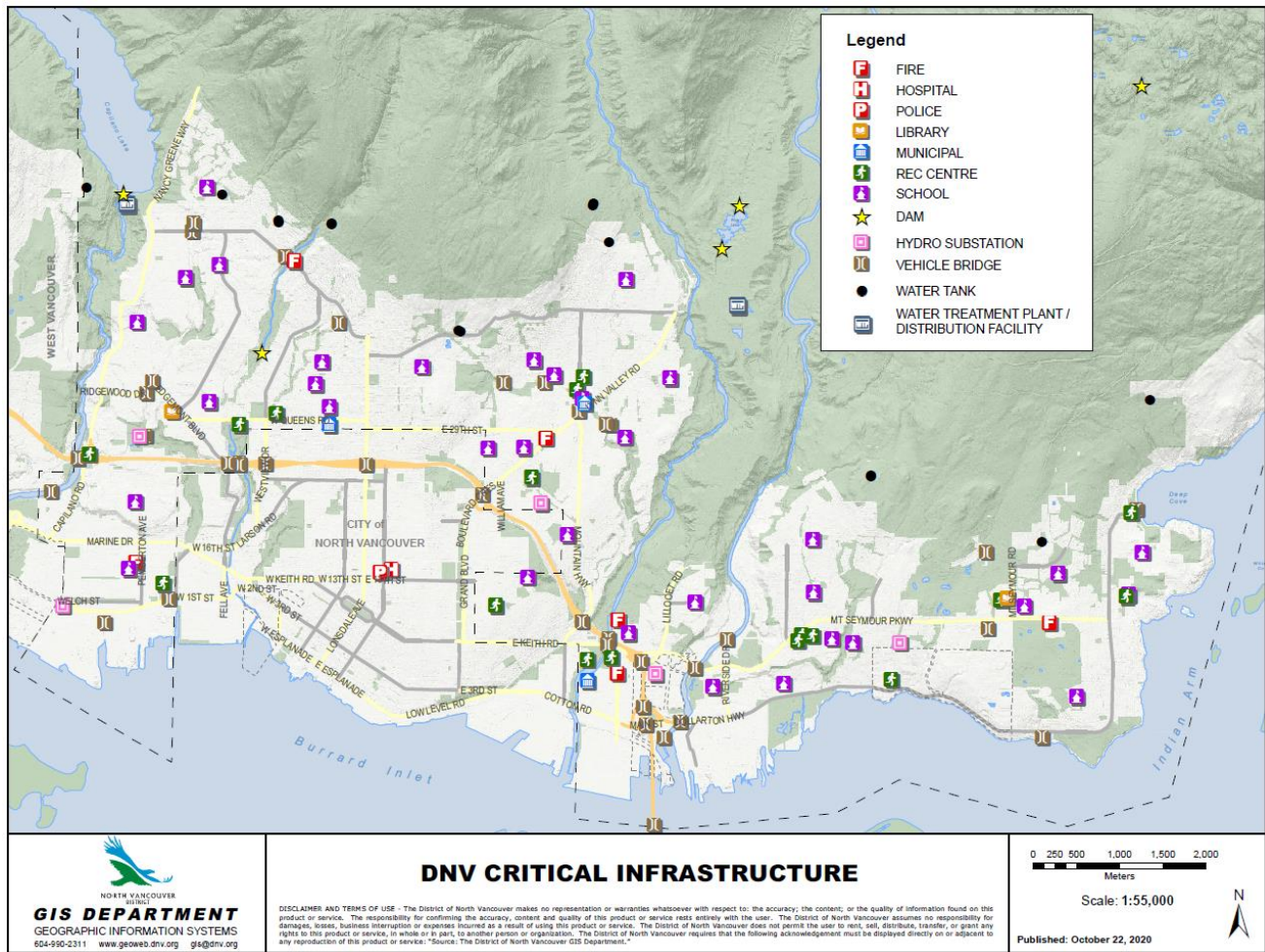
Each of the three (3) NS municipalities has its own municipal hall, operations centre, and its own municipal Fire Stations. This includes individual governance structure and staff.

Provincial utility providers distribute hydro, gas, water and sewerage throughout the DNV. Natural gas is distributed by Fortis BC who also owns and maintains their network. Electricity is provided by BC Hydro and includes five (5) substations located in the DNV; high voltage lines and right-of-ways cross the municipality.

Water and sewerage service is supplied by the Greater Vancouver Water District (Metro Vancouver). Water is supplied via the Seymour-Capilano Filtration Plant from the Capilano and Seymour Reservoirs. The municipal storm system drains into local waterways, while the sanitary drains to the Lions Gate Wastewater Treatment Plant located west of the municipal boundary. A new Wastewater Treatment Plant is under construction in the municipal boundary at the foot of Pemberton Avenue, and is scheduled for completion in 2022. While Metro Vancouver owns the supply and distribution network of water into the community, the underground network of water supply and sewer pipes is owned and maintained by the DNV. Metro Vancouver is also the guardian organization for the drinking water supply; the health of the community watersheds have an effect on not only the DNV community but also the Greater Vancouver region.

Critical infrastructure sites are preplanned for Fire Department response. They are also identified in the North Shore Fire Services Major Emergency Response Plan (MEOP). The MEOP identifies “damage assessment routes” for the municipality by Fire Station area, and includes target occupancies and critical infrastructure such as bridges and overpasses, high voltage transmission lines, municipal buildings, industrial facilities, railway, recreation centres, care homes, libraries, schools and Capilano University (MEOP 2018).





Unique critical infrastructure in the DNV also includes Indigenous peoples’ lands. There are structures, artifacts, art, and history that is critical and culturally significant to our communities. This may not be traditionally viewed as built infrastructure but losses of culture and history on Indigenous lands could have significant impacts on Indigenous peoples and our communities into the future.

Water Supply

The DNV Utilities Division operates the water distribution system for the municipality. The supply comes from two reservoir sources which are provided by Metro Vancouver. The supply received from the Capilano and Seymour reservoirs is treated at the Seymour-Capilano Filtration Plant and distributed throughout the DNV by mains and pipelines consisting of 24 pressure zones, and one (1) zone supplied from the City of North Vancouver distribution system.

In 2016 Fire Underwriters’ Survey (FUS) completed an assessment of the water supply in the DNV. Review was conducted including pressure demand, supply and storage, reliability and pumping capacity. Key components of the system are monitored by a Supervisory Control and Data Acquisition (SCADA) control system. The SCADA



system allow for remote monitoring and an alarm system to alert of system conditions that affect supply and demand.

The DNV received a 100% grade on fire flow delivery via the mains. In 2012 model flows were provided for 10 locations and supported by theoretical flow data. Flow test results may be influenced by seasonal fluctuations and time of day demand.

DNV has a regular maintenance program to flow test 1,844 hydrants and confirm operational capacity. The condition and inspection of fire hydrants received a grading of 75%. This grading reflects a FUS recommendation to colour-code the system as per NFPA 291. Planning is under way to collaborate with DNV Utilities Division to move forward with a colour-coding project. A DNV Hydrant App is utilized for recording servicing and use of hydrants.

Distribution of hydrants can influence delivery of fire flow. Adequate distribution is especially important when large fire flows are required, such as at a high hazard facility. The distribution system received a grading of 98%. This was due to the amount of the community that is served by arterial mains and arterial main looping, and a low overall distribution of dead end mains and mains that are smaller than 150 mm (6 inches). Approximately 7% of the total length of mains is less than 150 mm (6 inches) (FUS 2016, Page 77).

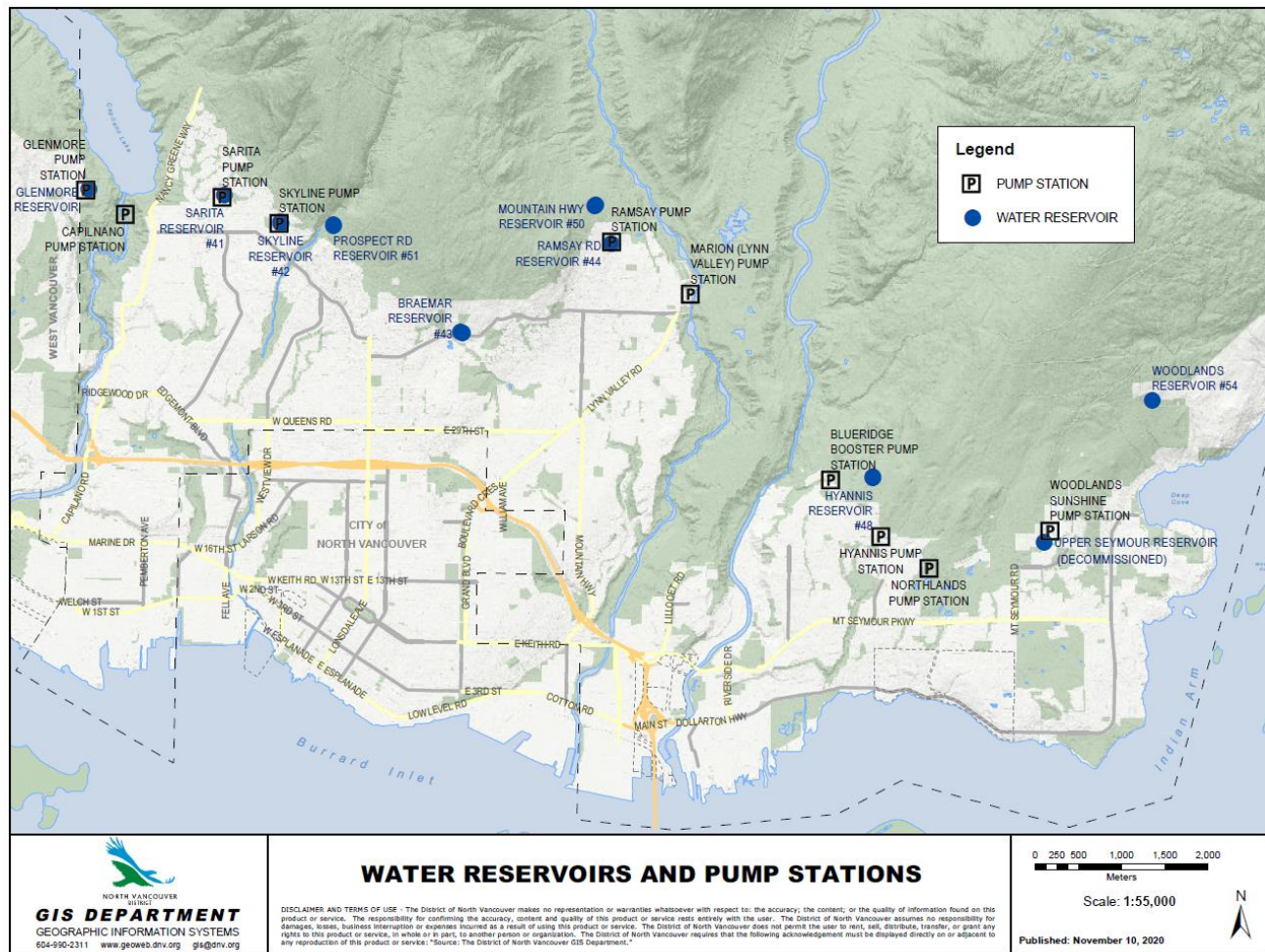
The District of North Vancouver owns and operates twelve (12) water tank reservoirs located strategically along the northern boundary of the built environment. The purpose of these reservoirs is to sustain pressure and provide storage volume for both domestic water supply and fire protection. This is achieved via a “flow through” system with the water level being drawn down and refilled throughout the day. The water tanks range in size from 120,000 imperial gallons to 500,000 imperial gallons (Appendix 3). These water tanks are pump filled from pump stations located throughout the municipality. An additional 1,000,000 imperial gallon water tank known as Sarita (Prospect Reservoir) is owned and operated by Metro Vancouver.

The pump stations in the DNV do not currently have backup power. In the event of a power failure, the tanks will continue to operate via gravity. DNV Utilities are on call 24/7 and monitor the pump stations. The water tanks/reservoirs themselves are the backup supply. The Sarita Pump Station is the first DNV pump station that will be upgraded for emergency back-up power. The upgrade is in the design and tender phase with a projected completion of 2022. The pump stations do not currently have the ability to connect to back-up generators. Long-term planning should include upgrades to all of the DNV pump stations.

The Indian River water tank is disconnected from the water distribution system with the upgrades to the flow through Blueridge and the Woodlands Pump Station. Currently the tank is abandoned and will be demolished in the future. The Indian River water tank is no longer required.

DNVFRS recognizes that water supply for firefighting purposes can be challenging in the Woodland/Sunshine Falls/Sasamat Lane neighbourhoods especially those that are not part of the water distribution network. These neighbourhoods have been previously preplanned for Fire Department response needs. Plans are in place to update the preplans. DNVFRS is collaborating with DNV Operations to develop a 100x100 area in the neighbourhood of Sunshine Falls/Sasamat Lane to act as a staging area for equipment, personnel, and water during high risk times or during incidents.





Topography

The DNV has a reported total land area of 160.76 square km (2016 Census). 19% of the land area is dedicated parkland, including steep terrain, canyons, and outdoor recreation trails. DNV trails and back country are especially popular during April through October which is also wildfire season. Overnight camping is not permitted in DNV parkland except as allowed in Park Regulation Bylaw 8310 <https://www.dnv.org/sites/default/files/bylaws/Bylaw%208310.pdf> Section 2.6 for temporary overnight camping of homeless persons. Temporary shelters are allowed between 1900 hours (7 pm) and 0900 hours (9 am) the following day. Open burning is restricted by both the Parks Bylaw and the Fire Bylaw.





View of topographic relief of the District looking north (Google Earth, 2007).

An urban/wildland interface area stretches across the municipality referred to as the Wildfire Hazard Development Permit Area (DPA). The Wildfire Hazard DPA includes over 7,253 (November 24, 2020 – GIS Data) homes that are considered to be at higher risk of wildfire. The current District of North Vancouver Community Wildfire Protection Plan Update (CWPP) is dated July 8, 2019 and identifies values at risk and provides a local threat assessment, includes risk mitigation strategies, and recommendations for ongoing community education and engagement (Appendix 3).

While wildfires are a threat to the DNV, so is extreme weather from rainfall, including landslides. Proactive mitigation efforts include a refreshed Landslide Risk Assessment and Wildfire Post Debris Flow review being conducted through DNV Operations.

The average annual precipitation over a twenty-nine (29) year period ending 2010 was 1,830.8 mm (72.08 inches) with the highest levels of rainfall in November, January, and then December. On average it rains 20



days per year in each of those three months. Snowy days average six (6) per year and tend to occur in December and January.

Climate data for North Vancouver (N Vancouver 2ND Narrows) (Elevation: 4m) 1981–2010														[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	
Average precipitation mm (inches)	262.2 (10.32)	172.3 (6.78)	168.4 (6.63)	136.3 (5.37)	103.3 (4.07)	82.5 (3.25)	53.2 (2.09)	54.9 (2.16)	76.8 (3.02)	189.0 (7.44)	293.4 (11.55)	238.6 (9.39)	1,830.6 (72.08)	
Average rainfall mm (inches)	255.3 (10.05)	167.7 (6.60)	166.8 (6.57)	136.1 (5.36)	103.3 (4.07)	82.5 (3.25)	53.2 (2.09)	54.9 (2.16)	76.8 (3.02)	189.0 (7.44)	290.2 (11.43)	229.9 (9.05)	1,805.6 (71.05)	
Average snowfall cm (inches)	6.9 (2.7)	5.2 (2.0)	1.6 (0.6)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)	2.3 (0.9)	8.7 (3.4)	24.9 (9.8)	
Average precipitation days (≥ 0.2 mm)	20.5	15.5	18.0	15.4	13.8	11.7	7.4	6.7	9.6	16.1	20.9	20.3	175.9	
Average rainy days (≥ 0.2 mm)	19.7	15.1	17.9	15.4	13.8	11.7	7.4	6.7	9.6	16.0	20.7	19.6	173.5	
Average snowy days (≥ 0.2 cm)	1.7	0.92	0.54	0.12	0.0	0.0	0.0	0.0	0.0	0.08	0.72	2.2	6.2	

Source: Environment Canada (normals, 1981–2010)^[2]

The many trails, canyons and waterfront in the DNV are a popular destination for residents and visitors alike. Mountain biking, hiking, swimming, paddling, skiing, boarding, snowshoeing, back country, and water sports are all activities that are supported in the DNV wildland. The wildland environment creates a specialty service need for technical rescues primarily in a critical response setting.

Transportation

The OCP transportation goal is to “provide a safe, efficient and accessible network of pedestrian, bike and road ways and enable viable alternatives to the car through effective and coordinated land use and transportation planning” *Our Official Community Plan for a Sustainable Future, 2011*. This goal not only affects peoples’ ability to get around but also has an impact on health and well-being. The positive health outcomes of walking and cycling also help to reduce air contaminants and noise from vehicles. The choice of transportation also affect greenhouse gas emission; “52% of the greenhouse gas generated in the DNV comes from transportation, 96% of which are from passenger vehicles” (Integral Group LLC & District of North Vancouver, 2019). Solutions include continuing to enhance RapidBus routes, transit priority lights, priority bike routes, shared transportation hubs, and work from home solutions (Transportation White Paper, February 24, 2020 - <https://www.dnv.org/property-development/official-community-plan-white-papers#transportation>).

A passenger SeaBus operated by Coast Mountain Bus Company also connects Vancouver and North Vancouver. RapidBus routes operate across municipalities. The Coast Mountain Bus transportation hub is located near the Second Narrows Bridge in the DNV. The West Vancouver Blue Bus transit centre is located in the DNV.

DNV encourage staff to use alternate forms of transportation to commute to work. DNVFRS fire stations include parking for vehicles and bicycles. End of trip facilities are in place in each fire station and include change rooms, lockers and showers. Electric charging stations are in place at each fire station for charging of the electric fleet. A growing number of staff also commute in electric vehicles.

Roads and Traffic

Municipal roadways are maintained and planned by the DNV transportation department. Additional roadways are built as part of new developments and connected to the road network. Roadwork on First Nations lands are administered through their internal systems and coordinated with the DNV Geographic Information Systems (GIS) division to ensure that area maps and services are up-to-date and that roadways meet DNV specifications.

DNVFRS staff have noticed an increased challenge of responding on the busy roadways in the DNV. The densification of neighbourhoods, construction traffic and closures is noticeable. In early 2018 the need for



traffic pre-emption was identified as a proactive measure for mitigating the impact of development on fire response in traffic congestion in the neighbourhood centres. Public Safety personnel working together with DNV Transportation participated in an analysis of options. In June 2019 (eDoc 3972356) the DNV Transportation/ITS Engineer recommended Opticom GTT equipment for the DNV signalized intersections and transmitters for the DNVFRS fleet. GTT is the major equipment choice for the Metro Vancouver area. GTT product offers GPS technology, 2.4 GHz Wi-Fi frequency, frequency-hopping spread spectrum radio signal with improved radio link and security, left-turn indicator signal traffic priority, and is compatible with Direct Short Range Communication (DSRC) next generation smart cities communication link. Sixteen (16) intersections have been identified for priority implementation. The long-term plan would be for all signalized intersections to have the technology. It is anticipated that this technology connected to fire apparatus would provide safer passage for emergency vehicles entering a signalized intersection, and would assist in decreasing apparatus response times.

North Vancouver is connected to mainland Vancouver via two bridges—the Ironworkers Memorial Second Narrows Crossing (Second Narrows Bridge) which is part of the Trans-Canada Highway, and the Lions Gate Bridge which connects to the Stanley Park Causeway. The Trans-Canada Highway serves as a major transportation route for passage through the municipality, and is a travel route to major destinations such as Whistler and the BC Ferries terminal in West Vancouver.

Rail and Marine

Canada Pacific Railway operates along the waterfront from its railway crossing on the Burrard Inlet passing through the DNV into the City of North Vancouver, back into the DNV, then through the border into West Vancouver. Transportation by rail includes raw and processed materials going to waterfront industry including Chemtrade Logistics, ERCO Worldwide, Univar Canada, Kinder Morgan/Vancouver Wharves and a number of waterfront terminals for freighter transport abroad and overseas. Goods are also shipped from these marine terminal locations via freight and rail.

The waterfront and some land adjacent to the waterfront is under the authority of the Port of Vancouver. In 2020 an agreement was put in place for the jurisdiction of the marine area of Deep Cove which was transferred from the Port Authority to the DNV. The agreement allows the DNV the ability to create bylaw and enforce compliant measures in that predominately recreational harbor. Deep Cove is a busy active harbor with government docks, public docks, marinas, moorage buoys, and private docks in front of private property. Abandoned and derelict watercraft have become an issue for bylaw enforcement officials, in this active harbor.

Financial Management

The Fire Chief of the DNVFRS is responsible for an average annual operating budget of \$21 Million. This represents 6.7% of the DNV overall operating budget. Each October the operating budget is reviewed and impacts from growth and revenue projections are balanced against operational needs, capital projects, and funding sources and are reflective of the goals and objectives of the organization. New capital projects are presented to the DNVFRS Command Staff for review and business cases are created for submission to DNV Executive, the Finance Department, and department heads such as Fleet, Facilities, and Information Technology. Council approval can occur between November and March.



Each Chief Officer of the DNVFRS is responsible for reporting on budgetary items within their division or area. Review includes explanatory notes and monthly projections. The Deputy Fire Chief is responsible for the overall accounting for, and explanation of, the financial activity of the department. Quarterly check-ins and training sessions are maintained in collaboration with the Finance Department.

2021 Financial Planning Process



Local governments are subject to a number of trade agreements which have rules relating to procurement such as: New West Partnership Trade Agreement, Canada Free Trade Agreement, Canada-European Union Comprehensive Economic Trade Agreement, Canada and the United States-Mexico Agreement. DNV Purchasing Department requires a purchase order for purchases over \$5,000, and suggests a purchase order as a best practice when needing to establish basic terms and conditions for a purchase under \$5,000. Single sourcing is permissible for purchases less than \$10,000. Purchases without justification and manager’s approval over \$10,000 require a minimum of 3 vendor quotes or approval from an appropriate manager. Purchases over \$75,000 must go through a formal tender process (may be waived by Council). Work performed for the DNV also requires insurance coverage, WorkSafe BC clearance, and a DNV business license.

Development and Development Constraints

Development in the DNV is planned for and implemented strategically as identified in the DNV OCP. The focus is on creating a “network of sustainable town and village centres that promote healthier living and social interaction, support effective transit, walking, and cycling, and protect our surrounding green space” <https://www.dnv.org/property-development/urban-planning>. The pace of development is influenced by



supply and demand. While private individuals, organizations, non-for-profits, and other levels of government construct housing, Council, through staff, regulate and process the review and development process. This allows Council the influence over “the amount, type, location and density of development permitted in the DNV” <https://www.dnv.org/sites/default/files/edocs/pace-development-rtc.pdf>.

The DNV is restricted by outward growth due to constraints placed on development by the Metro Vancouver’s “urban development boundary” and by the OCP. This results in increased density through net housing growth, i.e. demolish three (3) single family dwellings and replace with a mid-rise development or townhouse cluster. New construction is required to meet current codes and bylaws. Construction regulations are in place for safety during construction for occupants of buildings, neighbouring buildings and properties, as well, wildland urban interface restrictions and mitigation planning. New construction is revitalizing the town centres.

There is a trend for new developments in town centres to be mixed use. Mixed use reflects a number of different occupancy types under one roof. For example, residential, daycare, recreation centre, coffee shop, and restaurant. Notably the community is also noticing redevelopment of some of the industrial lands to alternate uses and processes. For example the building of a grain terminal, and the expansion of holding/transfer tanks from rail to shipping. Key issues that affect the pace of development include: changing demographics, low vacancy/high costs, loss of jobs in commercial centres, spread out community, ineffective transit, increasing gap between income levels of population, growing homeless population, and aging infrastructure and facilities.

Governance and Lines of Authority

The DNV is governed by one (1) Mayor and six (6) Councillors. The elected officials serve for a term of four (4) years.

Mayor and Councillors



New Mayor and Council sworn in Nov 5, 2018 (left to right): Jordan Back, Lisa Muri, Mathew Bond, Betty Forbes, Mayor Mike Little, Megan Curren, Jim Hanson



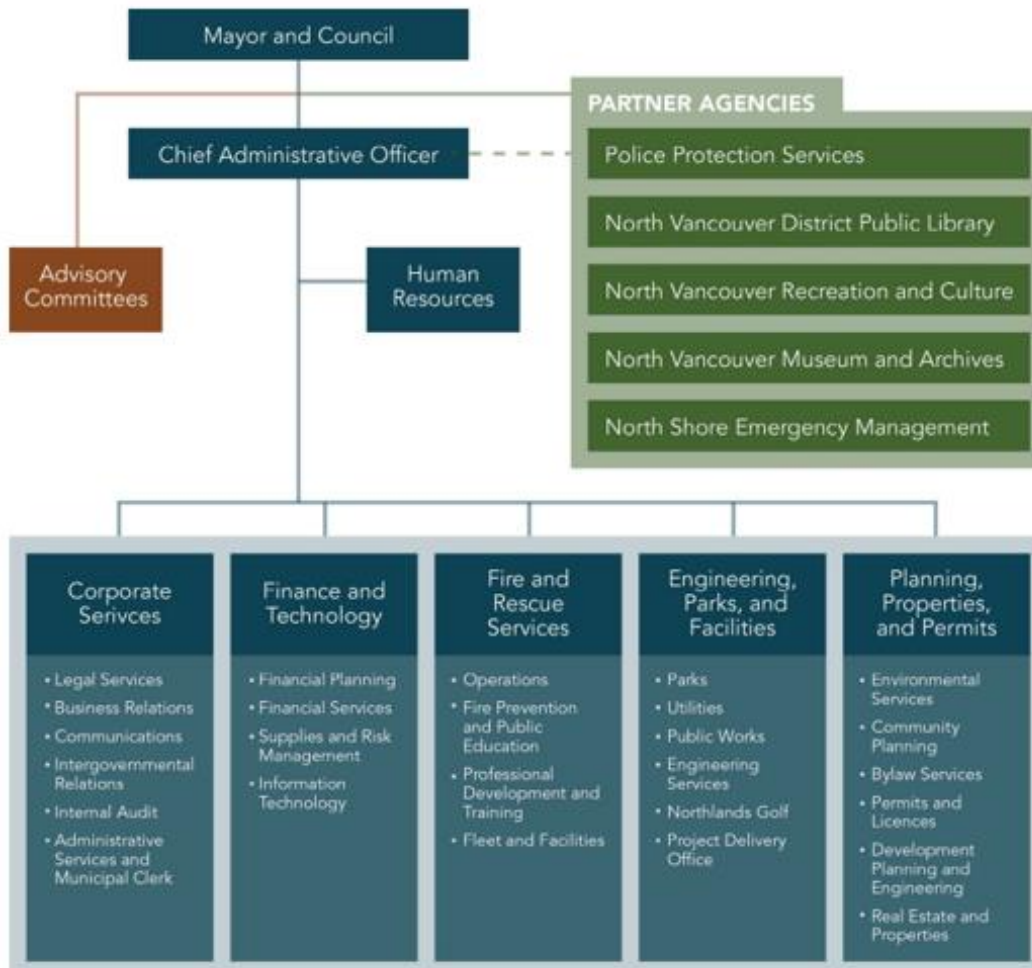
Council contact information

	Phone	Email
Mayor Mike Little	604-990-2208 (office) 604-209-3971 (cell)	mayor@dnv.org
Jordan Back	604-313-8192 (cell)	backj@dnv.org
Mathew Bond	604-783-9650	bondm@dnv.org
Megan Curren	604-219-3067 (cell)	currenm@dnv.org
Betty Forbes	604-880-3381 (cell)	forbesb@dnv.org
Jim Hanson	604-984-7555 (office) 604-505-3500 (cell)	hansonj@dnv.org
Lisa Muri	604-209-9770	muril@dnv.org

The current Council was sworn in on November 5, 2018 and will service the term through 2022. Council's role within the municipality is to "establish administrative policy, adopt bylaws governing matters delegated by local government, and levy taxes for these purposes. Council is also empowered to manage, acquire, and dispose of District's assets. The day-to-day operation of the DNV is delegated by Council to the Chief Administrative Officer and District Staff" (dnv.org/our-government/mayor-and-councillors).



District of North Vancouver Organization Chart



DNV Corporate Plan 2019-2022 is a “guiding tool for the organization that defines specific work that can be undertaken over a four-year period to help achieve community’s vision and corporate mission. Together with the Financial Plan, the Corporate Plan informs department and division work plans to deliver programs and services and meet the needs of the community” (www.dnv.org/corporate-plan-2019-2022). The DNV mission is “to provide leadership and exemplary public service fostering the economic, social and environmental well-being of our community’s needs for today, and its aspirations for tomorrow” (David Stuart, Chief



Administrative Officer). The Corporate Plan aligns with the Official Community Plan and the supporting White Papers. The focus being: housing, transportation, climate, the economy and services.

The Community Charter [SBC 2003] Chapter 26 gives Mayor and Council the authority to make statutory laws and bylaws. In 1955 and 1956 fire service in the DNV was provided by the City of North Vancouver through authorized agreement. In 1958 the DNV adopted the first of four (4) fire bylaws: Bylaw No.2285 provided for Fire Control within the Municipality of the District of North Vancouver. This bylaw and the subsequent three (3) bylaws did not clearly address the provision of fire suppression, rescue service, medical services, motor vehicle accident, hazardous materials response or non-emergency support services to the community. This clear authority has been identified as a gap and will be incorporated into the new Fire Bylaw which is expected to be presented to Mayor and Council in the first quarter of 2021.

Fire & Rescue Services Overview - DNVFRS

DNVFRS is an all-hazards fire and rescue service providing fire suppression, emergency medical services (commonly referred to by DNVFRS as MESA), technical rescue, fire prevention, investigation, and public education services to the community and visitors of the DNV. DNVFRS also participates in an automatic aid Cooperative Fire/Rescue Service Agreement on the North Shore through a tri-municipal regional service partnership, and further provides mutual aid to member municipalities of the Metro Vancouver area.

The three North Shore Fire and Rescue Services participate in a “Cooperative Fire/Rescue Service”. This functional service is executed by Memorandum of Understanding (MOU) dated April 6, 2017 between the respective Chief Administrative Officers and Fire Chiefs of the three municipalities. As stated, the goal is increasing cooperation and shared services between the three in order to:

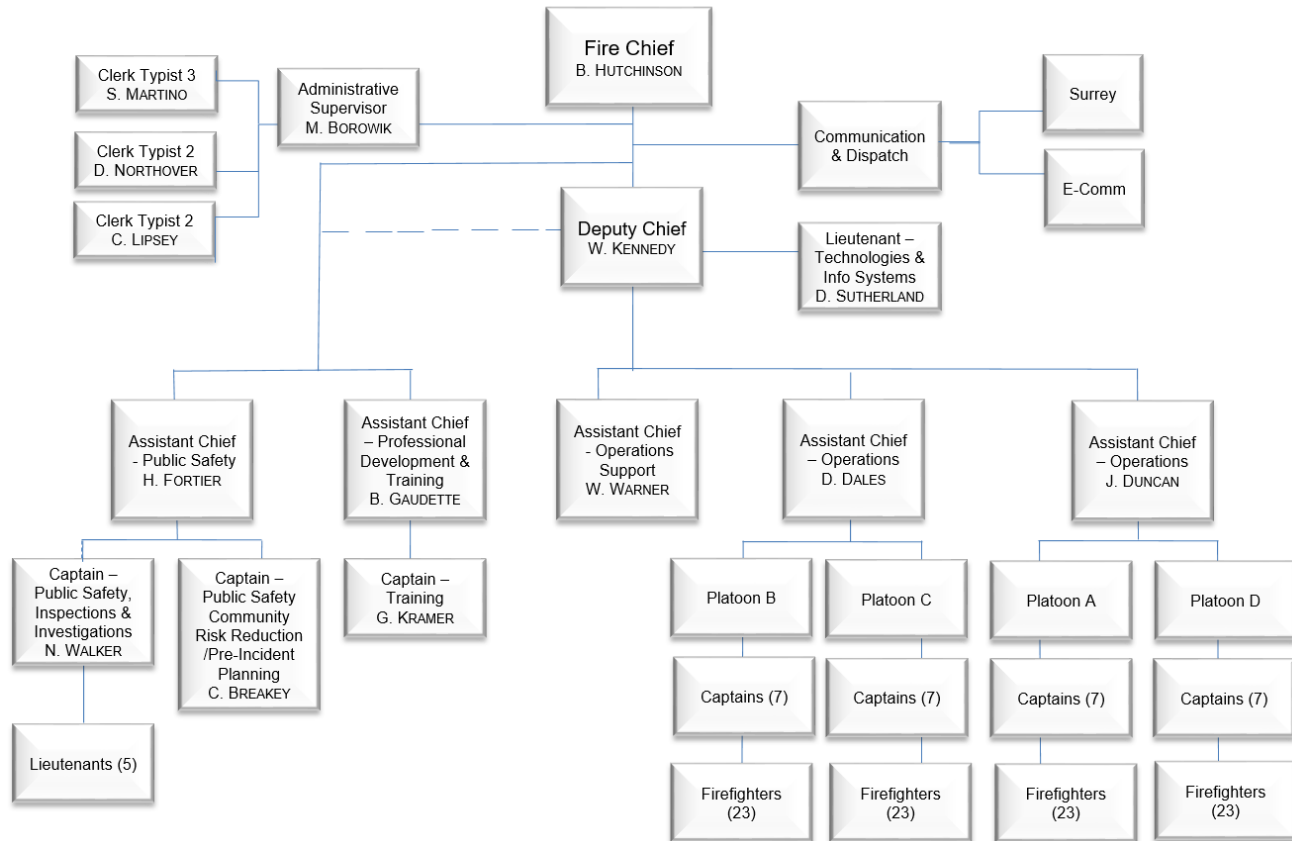
- Improve fire/rescue service levels to residents, businesses and industry
- Improve the safety of responders at mutual aid incidents
- Improve resource coordination between the three departments
- Stabilize or even reduce operating and/or capital costs of fire/rescue services
- Reduce risks associated with providing fire/rescue services.

The MOU includes details on authority/approvals, changes in service levels, joint ownership, governance, dispute resolution, and termination. The MOU is in effect for five (5) years from the date it was signed if not renewed or amended. As of 2020 the MOU was not renewed or amended.

DNVFRS is a career fire service, consisting of 129 International Association of Fire Fighters (IAFF) Local 1183 members, two and half (2-1/2) Canadian Union of Public Employee (CUPE) Local 389 members, one (1) exempt Administrative Staff, and seven (7) exempt Command Staff. There is a minimum staffing requirement of twenty-three (23) fire suppression members on duty at any time, ready to respond from five primary Fire Station locations. Response to incidents takes place in a combination of engines, quints, ladder, rescue, and squad apparatus depending on the incident type and critical tasking determinations.



DISTRICT OF NORTH VANCOUVER FIRE AND RESCUE SERVICES



DNVFRS believes that a collaborative relationship with the International Association of Fire Fighters Local 1183 serves the long-term interests of all. Collaboration enables both parties to work together for common goals including the delivery of quality services, customer satisfaction, and valuing personnel. Business is conducted with commitment and accountability in accordance with the following seven (7) principles as listed in the signed Working Relationship Agreement:

- Recognizing and respecting each other's roles, interests and accountabilities.
- Communicating with each other in ways that promote common understanding, affective problem solving and enhanced relationships.
- Working to earn and sustain trust.
- Using a collaborative approach to problem solving, decision-making and negotiation.
- Attacking issues, not people.
- Honouring the agreements we reach.
- Giving each other the benefit of the doubt.



District of North Vancouver Fire Fighters Union, Local 1183

Established in 1954, the District of North Vancouver Fire Fighters Union, Local 1183 of the International Association of Fire Fighters (IAFF) is certified to bargain on behalf of all employees of the DNVFRS employed by the Corporation at the District of North Vancouver. The Fire Chief ranks and clerical support staff are excluded from the Local.

The Local has two (2) defined objectives:

- To bargain collectively under the provisions of the labour laws of the Province of British Columbia to obtain proper remuneration, working conditions and other benefits; to encourage the attainment of a high degree of skill and efficiency; the elevation of the social, moral and intellectual levels of the members; and to cultivate friendship amongst the members.
- To endeavour to establish mutual confidence and to create and maintain harmonious relations with the Corporation of the District of North Vancouver.

IAFF Local 1183 Charitable Society (Charitable)

The District of North Vancouver Firefighters Charitable Society Local 1183 IAFF is a registered charitable society. The purpose of the Charitable is to raise money and provide grants to Canadian registered charitable organizations whose activities benefit some or all of the citizens of the District and City of North Vancouver, the citizens of the Greater Vancouver Regional District (Metro Vancouver), and the citizens of British Columbia.

DNVFRS Strategic Priorities & Implementation Plan

The DNVFRS undertook a commitment in 2018 to engage with personnel toward developing a shared mission, vision and values. The eleven (11) month process included working with DNV Human Resources and Claire Simpkins of Tekara Organizational Effectiveness, to perform a gap analysis. 36% of DNVFRS personnel were engaged resulting in feedback bubbles (Appendix 1a-d). These initial steps laid a foundation for the DNVFRS mission, vision and values (page viii), and the development of strategic priorities.





Four broad strategic priorities were identified: deliver exceptional emergency services, promote a shared culture of inclusion and engagement, foster resilient communities, and promote external and internal partnerships. DNVFRS has created strategic objectives for each of the priorities and assigned target dates for actions.

A large segment of the membership was involved throughout the strategic planning process through feedback forums and workshops. A strategic planning working group included a dedicated group of nine (9) members from across the organization that championed the initiative. The resulting Strategic Plan 2020-2025 was reviewed by DNV staff and was accepted by Council, and can be found on DNV.org/FireStrategicPlan. The strategic priorities as a whole support the recommendations outlined at the end of Part 2 of this CRA/SOC, and the recommendations matrix as detailed in Appendix 6.

Insurance Rating – Fire Underwriters’ Survey (FUS)

In 2016 DNVFRS participated in a reassessment of its insurance rating through Fire Underwriters Survey (FUS) organization. Similar to an ISO rating, DNVFRS was rated on four (4) criteria. Based on the criteria—fire department, water supply, fire safety control, and emergency communications—a rating of Public Fire Protection Classification (PFPC) is given on a scale of 1 to 10 with 1 being the highest. As well, a number of



recommendations accompany the executive summary (appendix 3). DNV is currently rated PFPC 2 with a dwelling protection grade (DPG) 1. DPG assesses the protection available for buildings such as single-family dwellings. The methodology used to calculate the PFPC and DPG is called the Classification Standard for Public Fire Protection.

There were 11 recommendations that resulted from the FUS review in 2016. The FUS recommendations are aligned with Strategic Priority #1 Deliver Exceptional Emergency Services, and #3 Fostering Resilient Communities. The FUS recommendations have been reviewed and planned for technical, operational, financial, and policy actions as follows:

- *No. 1* – Formalize cooperation agreement for North Shore Departments (Complete and Ongoing) – 2017 04 06 Memorandum of Understanding for Cooperative Fire Rescue Services on the North Shore (executed)
- *No. 2* – Assess needs of Quint apparatus (Complete and Ongoing) – Quints have been identified as a needed response apparatus in DNV and are an important component of a flexible/combined response model with engines and a ladder. Quints are designated aerial response on the waterfront/commercial/industrial areas.
- *No. 3* – Consider 15 year replacement schedule for frontline apparatus (Complete and Ongoing) – DNVFRS together with the Fleet and Finance Divisions has developed a multi-year plan to transition to a 15-year capital replacement program for frontline apparatus.
- *No. 4* – Maintain hose test records in the currently implemented database record management system (Complete and Ongoing) – Hose testing is performed on an annual basis and identified by ID number. The testing is logged by administrative support services in the DNV database.
- *No. 5* – Emergency response facilities should be designed in accordance with NFPA 1500 (In Progress and Ongoing) – The new Maplewood Fire Rescue Centre (MFRC) has been designed to many standards including NFPA 1500 Standard on Fire Department Occupational Safety, Health and Wellness Program. The DNVFRS Safety Committee meets monthly and reviews all Company led site safety inspection concerns that have been identified.
- *No. 6* – Continue to develop pre-incident planning program (Complete and Ongoing)- DNVFRS has funded and staffed this position and purchased a web based pre-incident planning program that is available on all apparatus' mobile data terminals, as well, all iPhones, iPads, and computer terminals. A comprehensive multi-year program has been planned and is underway with annual and as needed reviews.
- *No. 7* – Continue to expand dwelling programs (Complete and Ongoing) – DNVFRS has funded and staffed a position for Community Risk Reduction that includes pre-incident fire planning, and a public education and outreach program based on data analytics. Together with targeting inspections by hazards, working together with the Building and Planning Departments on new development to meet codes and standards.
- *No. 8* – Continue to develop community risk assessment program for inspection prioritizing (Complete and Ongoing) – DNVFRS has a risk based inspection program that has been adopted by Council Policy. This is reviewed on an annual and as needed basis in order to determine efficiencies and effectiveness.



DNVFRS has built a business case for 2021 to partner with FUS and OPTA towards developing a comprehensive data-based inspection program based on data analytics and community demographics.

- *No. 9* – Meet frequency of inspections (Complete and Ongoing) – In 2019 DNVFRS revised its inspection program and through this change was able to meet its inspection targets for the first time in a number of years. In 2020 inspections stalled as a result of COVID-19. When inspections restarted they began at a slower pace than normal to allow for extra safety precaution reviews and rescheduling to allow for physical distancing. Additional changes to the program occurred in late 2020 to address challenges.
- *No. 10* – Colour-coding system of hydrants (Complete and Ongoing) – DNVFRS will continue to work with DNV Utilities for colour-coding the municipal fire hydrants according to NFPA 291 Recommended Practice for Fire flow Testing and Marking of Hydrants.
- *No. 11* – Implement annual hydrant maintenance program (Complete and Ongoing) – a hydrant app was developed by GIS to track the hydrants in the DNV, when they are used, and to record when they are serviced. Fire hydrants are inspected, maintained, and serviced on an annual basis.

Interoperability

DNVFRS values its relationships with internal and external stakeholders. Interoperability is developed internally with DNV departments through weekly management meetings. Opportunities that have developed include standing up an Extended Operations Unit (EOU) staffed by DNV non-fire personnel. Beginning in 2018, DNVFRS strengthened its local response by training this 35-member EOU team of DNV personnel with skills and experience from their assigned “day” jobs such as arborists, heavy equipment operators. This trained group of staff would be used to augment the capacity of DNVFRS, resulting in increased community resiliency, and facilitating swifter recovery during disasters. The EOU team is trained in wildfire basic fire suppression, disaster emergency response training, and participates in ongoing exercises with DNVFRS personnel such as during Dry Lightening III and Exercise Annona.

Dry Lightening III provided the opportunity to exercise and further develop interoperability not only with the EOU, but also, BC Wildfire Service, Royal Canadian Mounted Police (RCMP), North Shore Emergency Management (NSEM), District of North Vancouver Parks, Metro Vancouver, and Talon Helicopters. Exercise Annona provided further interoperability with partners and emergency response agencies from across the lower mainland, as well, Tsleil-Waututh Nation, Canadian Coast Guard, Royal Canadian Marine Search and Rescue (RCMSAR), Vancouver Police Department, and Canada Task Force 2.

DNVFRS along with the North Vancouver City Fire Department (NVCFD) and West Vancouver Fire & Rescue Services (WVFRS) has a service agreement with Seaspan Vancouver Shipyards, to respond to marine emergencies. The service agreement includes Vancouver Fire Rescue Services (VFRS) with true marine firefighting capability on the water through VFRS’s two fire boats. Fire personnel are trained in partnership with the Justice Institute of BC (JIBC) and Seaspan. This interagency collaboration actively involves RCMSAR, RCMP Marine Unit, VFRS Fireboat, Vancouver Police Department Marine Unit, and the Port of Vancouver.





DNVFRS personnel respond to incidents in the wildland areas of the DNV. Rescue calls may involve a need for specialized search and rescue capacity. Interoperability with North Shore Rescue (NSR) and Talon Helicopters facilitates a need for speedier response, access to challenging locations, and urgent medical evacuation needs of patients; members of NSR are trained in Helicopter Human External Transport Systems (HETS), also known as long-line rescue. Talon Helicopters is accessible through NSR for rescue incidents. In December 2020, NSR was given provincial authority for a pilot project that allows night rescue using a night-vision imaging system.

NSR is a team of forty (40) highly skilled volunteers that respond on average to about 140 calls per year. NSR provides assistance into the mountain, canyon and urban settings of North Vancouver and beyond. Service is provided for lost and injured hikers and climbers, skiers/snowboarders and snowshoers, missing patients who wander away from care facilities, and missing children. This is provided solely and together with inter-agency partners under the authority of the RCMP.

Aerial fire-fighting service is typically accessed through BC Wildfire and may include any number of air support services that are provincially available at the time. Together with BC Wildfire and Metro Vancouver Watershed Wildfire response team, helicopter companies provide integral access and resource deployment into the wildland area. During 2019 technological advancements enhanced the capacity of aerial fire-fighting and rescue response service. Talon Helicopters is the first Transportation Canada approved NVG Night Fire Attack medium helicopter. The Dauphin



Airbus AS365 N2 is certified for night hover exit, medevac, SAR, passenger transport, and day and night fire attack. The Dauphin has a capacity of 901L of water and 83L of foam via belly tank.

Automatic Aid/Pre-Determined Aid

There is a great deal that all three North Shore municipalities have in common. The community residents, business owners, and visitors flow seamlessly across the municipal boundaries. There are a number of municipal services that two or all of the municipalities share, such as recreations services, library services, and police services. Access to shopping, restaurants, water activities, hiking and skiing are all accessed across the North Shore. Automatic aid within the North Shore region is pre-determined within the intent of the Cooperative Fire/Rescue Services Letter of Understanding.

Cooperative Fire/Rescue Services, automatic aid, and pre-determined aid are referred to locally as Shared Services. A Shared Service multi-agency response is pre-determined for identified critical infrastructure; some owned by government agencies, and some shared municipal assets. Examples are: schools and the regional hospital. Hazardous materials incidents initial response is at the local level for awareness and operational size-up, with technician mitigation capacity being sourced to the North Vancouver City Fire Department. Confirmed working fires in all three jurisdictions include an addition of two (2) engines and a Duty Chief which may be from any of the three municipalities depending on location of the incident and resources committed to other incidents. This is facilitated automatically through dispatch and may result in any of the three municipalities being part of the initial distribution (first alarm assignment) or part of the concentration (effective response force) of an incident.

Mutual Aid

The DNV has entered into a “Mutual Aid Agreement for Emergencies, October 13, 1995”. The agreement is in place for requesting and rendering aid between 20 signatory members of the Greater Vancouver/Metro Vancouver Mutual Aid consortium. Ongoing consultation, provision of emergency resources, cost recovery, termination of agreement, legal action and negligence are all addressed within the agreement. Mutual aid response is activated by a Chief Officer when there is a need for additional resources, or resources with a capacity that does not exist in that municipality, for example deployment of the DNVFRS Wildland Response Unit to assist the Richmond Fire & Rescue for a bog fire in 2019, and the deployment of the DNVFRS Structure Protection Unit to assist the Squamish Fire Rescue in 2020.

DNVFRS also participates with mutual aid partners on training exercises, such as with the Vancouver Fire & Rescue Services Heavy Urban Search and Rescue (HUSAR) team—CANTF1. DNVFRS has been collaborating with municipalities that have wildland/urban interface towards creating a Wildfire Task Force; sharing best practices, resources capacity, and lessons learned.

E-Comm 9-1-1 Primary Safety Answering Point (PSAP)

E-Comm 9-1-1 is the first point of contact for 9-1-1 callers in the DNV. E-Comm is also the primary safety answering point (PSAP) service provider for 99% of the call volume in British Columbia. E-Comm also provides dispatch services for police and fire services. However, DNVFRS and its Shared Service partners are under contract with Surrey Fire Services for dispatch services of secondary safety answering point (SSAP).



Separate to DNVFRS's contract with E-Comm for PSAP service, DNVFRS is a participatory agency in the E-Comm Wide Area Radio System (WARS) operating on a digital 700 MHz system in compliance with Industry Canada requirements. WARS is built to withstand a large scale seismic event, with primary coverage backed up by the Queen Elizabeth Park backup site. However, if an event occurs that impacts the function of WARS, backup communications could be operational locally on TAC channels, and/or simplex channels. There is also the option of short wave radio through the North Shore Amateur Radio Club (NSARC) operating at the North Shore Emergency Management (NSEM) office.

Every apparatus is assigned handheld radios for communications which are assigned to Fire Fighters. However, the size and design of some of the buildings in the DNV can interfere with emergency radio signals. The Radio Amplification Bylaw 8272 was brought into effect by Council in 2017. This replaced the previous language in the Fire Bylaw related to emergency radio coverage. Certain building and structures are required to have internal communications infrastructure installed in order to support uninterrupted operation of emergency radio communications. This is necessary in buildings which incorporate multi below-grade levels, or use construction materials that impede radio signals. DNVFRS has added digital vehicle repeaters to apparatus as well as a portable repeater to supplement field communications for existing buildings.

Surrey Fire Communications Division Secondary Safety Answering Point (SSAP)

Fire dispatch services for all three North Shore municipal fire departments have been provided by the City of Surrey Fire Services (SFS) since November 2006. Previous to the contract with SFS, dispatch services were provided locally for the North Shore out of the North Vancouver City Fire (NVCFD) Hall with a combination of DNVFRS and NVCFD dispatchers. Previous to that, dispatch services for DNV was provided internally by DNVFRS personnel.

A real-time dynamic software application through Deccan International called Live Move-up Module (LiveMUM) is managed through SFS Dispatch for the North Shore fire departments. LiveMUM manages resources through computer-aided move-ups with live coverage maps to cover gaps based on historical day of week and time of day recommendations.

SFS dispatch operators consistently meet and exceed the NFPA 1221 standard for emergency call processing. Meeting these standards is ensured through review of call handling reports on a daily, monthly, quarterly, and yearly basis. Skills maintenance training, and peer to peer mentoring ensure SFS dispatcher professional development.

The current fire service dispatch contract was awarded through an open bid process to SFS on January 1, 2020. The current agreement terminates on December 31, 2024. DNVFRS and its shared service partners would need to enter a tri-municipal purchasing process well ahead of the deadline of December 2024.

BC Emergency Health Service Secondary Safety Answering Point (SSAP)

In the Province of British Columbia (BC), pre-hospital care is a provincial responsibility and is administered through the BC Emergency Health Services (BCEHS). Emergency medical calls are routed to the BC Ambulance Services (BCAS) through the E-Comm 9-1-1 system. BCAS has an independent communications centre and three SSAPs located strategically throughout the province.



In May of 2018 BCEHS replaced their Resource Allocation Plan with the Clinical Response Model—indicators of purple, red, orange, yellow, green, and blue. BCAS dispatch triages patients based on this colour coded matrix, and shares predetermined calls with local governments that participate in pre-hospital care based on the level of patient care that they are licensed for. Calls for service that BCAS shares with DNVFRS are downloaded to SFS for fire dispatching.

BCEHS Clinical Response Model

Patient Condition	Colour
Immediately life threatening (Eg. Cardiac Arrest)	Purple
Immediately life threatening or time critical (Eg. Chest Pain)	Red
Urgent / Potentially serious, but not immediately life threatening (Eg. Abdominal Pain)	Orange
Non-urgent (not serious or life threatening) (Eg. Sprained Ankle)	Yellow
Non-urgent (not serious or life threatening). Possibly suitable for treatment at scene ** NOT Being implemented immediately	Green
Non-urgent (not serious or life threatening) Further clinical telephone triage and advice Referrals to HealthLink BC (8-1-1 calls)	Blue

North Shore Emergency Management (NSEM)

NSEM is a tri-municipal agency located in the Gerry Brewer Building in the City of North Vancouver. It has provided emergency management services to the three North Shore municipalities since 1978. The NSEM facility is an Emergency Operations Centre (EOC) which can operate in support of one or more of the municipalities on the North Shore in the event of an emergency. In major emergencies the NSEM facility becomes the Integrated North Shore Emergency Operations Center (INSEOC).

Training and exercising helps staff and inter-agency partners to be more effective through practicing their skills. NSEM also works to support the province during states of emergency through facilitating referrals for the



deployment of trained staff. DNVFRS staff has been deployed as wildfire resources, structure protection units, as well, emergency operations staff.

NSEM staff oversee the implementation of the EOC. Also, provide municipal staff and its interagency partners with training on a regular basis, and organize bi-annual simulated scenarios to test readiness.

NSEM offers volunteer opportunities to support the citizens and communities of the North Shore in their times of greatest need. Opportunities range from emergency planning and response support to public education and community outreach. The Emergency Support Services (ESS) Team is one of NSEM's core volunteer teams. ESS programming provides support for people impacted by fire and other emergencies. In larger emergencies, they provide short-term basic needs assistance to displaced residents in an evacuee reception centre and other support facilities such as group lodging.

NSEM has a communications repeater network of three linked repeaters with sites at Simon Fraser University, Vancouver General Hospital, and on Bowen Island. This VHF repeater systems is a component of the Major Emergency Operations Plan for the North Shore. NSEM is also home to the HAM Operators. The VHF and HAM system provide three additional layers of communication redundancy for the North Shore.

Hazard, Risk, Vulnerability Analysis

NSEM has completed a Hazard, Risk, and Vulnerability Analysis (HRVA) to “identify hazards or emergency situations which are a priority for North and West Vancouver” (<http://nsem.info/about-nsem>). NSEM is the coordinating agency that supports the DNV with its emergency program. NSEM also coordinates the regional emergency program for the 3 municipalities of the North Shore. This proactive integration of service enhances response capacity and capability for each individual community, and for the greater region of the North Shore.

In British Columbia (BC) the development of a HRVA is mandated in the Emergency Program Act [1996]. Specifically local governments are mandated to assess the “relative risk of occurrence and potential impact on people and property of emergencies or disasters”. The January 2010 HRVA was prepared using the HRVA Community Self-Assessment Tool that is provided by the Ministry of Public Safety and Solicitor General, Provincial Emergency Program. The resulting risk priority list is:

1. Critical facility failure
2. Dangerous goods spill/flood/severe weather
3. Transport accident (road)
4. Avalanche/fire-industrial/landslide
5. Explosion
6. Earthquake/human epidemic
7. Fire (interface/wildfire)
8. Infrastructure failure/storm surge/transport accident (air/marine)
9. Dam failure/terrorism/transport accident (rail), tsunami

A process is currently in place to update the HRVA for the North Shore. Ebbwater Consulting Inc. has been hired to develop a preliminary HRVA for the North Shore including a baseline assessment of priority hazards, vulnerabilities and risks in the region, utilizing a template to build-out a complete HRVA. On September 17, 2019, fifty-eight (58) stakeholders with subject matter expertise from across the North Shore attended a

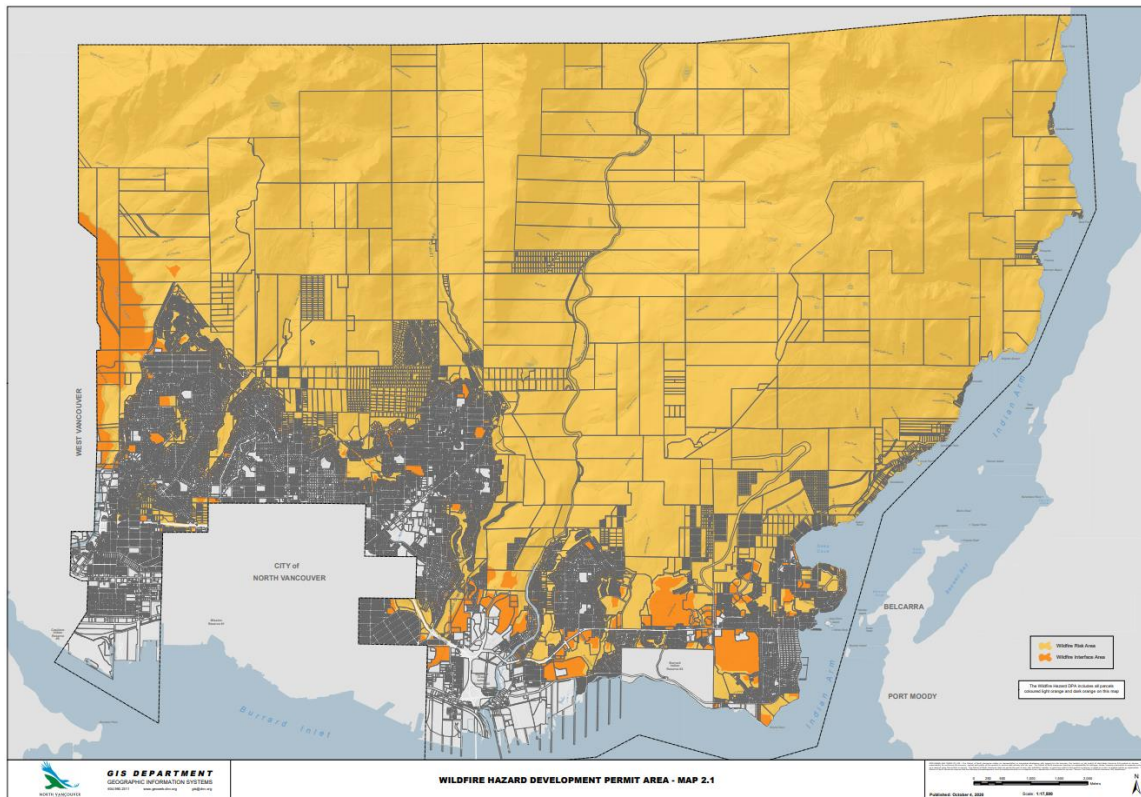


collaborative HRVA workshop. The working group focused on eight (8) priority hazards: extreme heat, extreme storms, landslides/debris flows, earthquakes, hazardous materials spills, wildfire, river/storm water flooding, and coastal storm flooding. Hazard likelihood, historical events, hazard trends, vulnerability/resiliency, strategic risk treatments, and consequences were taken into account by the group as they were presented with a hazard scenario. The following are the resulting risk priority list:

1. Windstorm
2. Landslide/debris flow
3. Extreme heat
4. Wildfire (tied with extreme heat)
5. Coastal flood
6. Earthquake
7. Hazardous material spill
8. Clearwater flooding
9. Forest Fire and Wildland Urban Interface Fire Risks

There are 7,253 (November 24, 2020 – GIS Data) residential structures located within the DNV Wildfire Hazard DPA. These structures are adjacent to 11,891 hectares of valuable forest/natural assets. The potential for wildfire encroachment into the urban space of the DNV and further to the North Shore continues to increase as our community experiences hotter and dryer weather cycles. As well as risk to homes, key critical infrastructure is susceptible to wildfire, such as the power grid, evacuation routes, and culturally significant heritage sites. Impacts to these can have downstream implications to water supply for firefighting, life safety for resident, and the protection for the DNV community and Indigenous peoples. Climate change, recent fire losses in BC and on the North Shore, and the increasing pressure from residents in the wildland urban interface (WUI) are a critical gap that the DNVFRS is addressing.





The Community Wildfire Protection Plan (CWPP) is a documented process that was created in the province in response to the devastating wildfire season in 2003. A CWPP is a strategic assessment of a municipality's risks to wildfire and includes recommendations to reduce the risk and improve safety to the community. The original CWPP for the DNV was developed in 2007 <https://www.dnv.org/community-environment/community-wildfire-protection-plan>. As of July 8, 2019 the DNV had completed 37 of the 38 recommendations the most notable being: establishment of a Wildfire DPA that requires new construction to comply with FireSmart, NFPA and DNV standards, prescribed development of 72.4 ha and fuel treatment of land surrounding the community, specialized training for DNVFRS, and development of a forest health strategy to address dwarf mistletoe and infected Western Hemlock.

The second iteration of the CWPP is dated July 8, 2019 and includes an additional 52 recommendations (CWPP Update eDoc# 4129268). The recommendations are included in the Executive Summary (Appendix 3) which includes potential funding sources including grant funding.

In 2019 the DNVFRS completed an application for a 2020 Community Resiliency Investment (CRI) Program Grant through the Union of BC Municipalities. DNV was granted up to \$62,241 in specific funding for FireSmart related projects related to education, planning, interagency co-operation, emergency planning, cross training, and fuel management. A 2021 CRI Grant was submitted in October 2020 to further the DNV Wildfire Community Risk Reduction and Resiliency Initiative Program.

The DNVFRS has primary responsibility for suppressing fires in its jurisdiction, including the WUI and our wildland/forested area. Regional and Provincial resources fulfill an assisting agency role. DNVFRS has:



- Three (3) Type-II Structure Protection Units each with a capacity to protect up to fifty (50) homes;
- One (1) Wildfire Response vehicle and three (3) additional on order with delivery of two (2) expected in the spring of 2021, and a third slated for purchase in the fall of 2021;
- Twenty-eight foot (28') Command/Response Trailer;
- Addition of two (2) HydroSub-60 mobile pumping units and a Wildland Cache to support firefighting efforts in the Woodlands/Sunshine Falls/Cascade area;
- The Command Staff have 10 BC Wildfire Services certified Task Force/Strike Team Leaders and one (1) Division/Group Supervisor;
- Enhanced operability with a 25 person special operations Type-I Wildfire Initial Attack Crew and a 35-member person Extended Operations Unit to support large duration wildfire events; and
- Field experience with multiple deployments throughout the province: Smithers, Vanderhoof, Burns Lake, Telegraph Creek, Babine Lake, Dawson, Penticton, Squamish, and Richmond Bog.

In 2019 a successful Business Case was built for the 2020 Capital Budget to further increase DNVFRS resource capacity and capability, and provide necessary emergency water supply in the event of a water system failure. This \$1,010,000 four (4) year investment in wildfire protection includes one (1) wildfire squad replacement, plus two (2) new wildfire squads (delivery in 2021), as well as a tactical tender water supply (delivery 2023). These changes improve incident response effectiveness (capability and response time) and protect lives, infrastructure, natural assets and resources in the WUI. The effect of this change reflects a direct reduced risk to 30,000 people, 7,253 (November 24, 2020 – GIS Data) homes in the built environment worth \$2.4 Billion, and \$76 million in natural assets (eDoc#4003907).

Major Emergency Operations Plan

The Major Emergency Operations Plan (MEOP) is an all-hazard plan that was developed in collaboration with the DNVFRS' Cooperative Fire/Rescue Services partners—North Vancouver City Fire Department and West Vancouver Fire Rescue—and supported by North Shore Emergency Management (NSEM). Developing an emergency plan is mandated by the Province of BC under the Emergency Program Act RSBC 1996, Section 6 (2).

The plan is designed to provide direction to personnel from all three of the North Shore Fire Services, in the event of a major incident or disaster. The MEOP provides direction to: suppression personnel in the field, non-suppression personnel at their respective worksites, administrative support staff at respective worksites, dispatch personnel at Fire Dispatch, personnel at the Department Operations Centre (DOC), personnel reporting to the EOC at NSEM's Integrated North Shore Emergency Operations Centre (INSEOC), and all off-duty personnel.

The MEOP is intended to provide guidelines for standardized operational procedures in the event of any major natural or manmade incident that may occur with or without warning. The plan is a living document and is intended to be reviewed, exercised and updated on an annual basis, or more often if required.

Community Risk Reduction Programs

In 2020 the DNVFRS received support and funded an IAFF position in the Public Safety Division dedicated to Community Risk Reduction and Pre-Incident Fire Planning. This is an annually reviewed three-year position



staffed to create and manage the delivery of these two public safety programs. The funding for this position is through the Emergency Protective Reserve Fund.

Through this CRA/SOC and the work towards accreditation, it is expected that by 2022 DNVFRS will have supported the foundation laid with this initial CRA/SOC, and built a Community Risk Reduction Program that is comprehensively supported by data analytics. Data sets exist within a variety of organizations—DNV GIS, Census Data, Crime Statistics, Business Associations, fire department response data, building stock, etc. There are a variety of data analytic platforms that have the capacity to import and display multi-layered information related to the demographics and design of a community. During 2021, DNVFRS will explore the options available in the market, determine options and costs, and look forward to improve upon the comprehensiveness of this initial CRA/SOC.

In mid-2020 a business case was built for the 2021 Capital Budget to engage a geo-special data analytics organization to prepare a multi-layered community specific risk analysis for fire inspections, using DNV building occupancies, and community and response data. The result should provide the ability to target individual community areas with a goal to reduce risk through prioritized fire inspections. Results would be tracked and an ongoing program of continuous improvement could be planned. In addition to targeting inspections, the results could include other targeted risk reduction programs such as enforcement, built environment, public education and outreach, internal and external training, and information and technology systems. This should have application to a comprehensive Community Risk Reduction program and provide analytical feedback on achieved reductions in fire incidents and annual loss.

Public Education & Outreach

Serving in and caring for the community is a top priority for all DNVFRS personnel, and as such, all personnel are considered to be fire and life safety educators. Each and every person performs outreach in a variety of different ways throughout the day both organically and intentionally. This may be teaching fire safety to children or helping seniors plan and practice evacuation in an emergency. It may be the leadership we exemplify at an incident or during a conversation with a resident.

Community events are attended in order to increase public awareness and safety. In 2019 DNVFRS personnel participated in 172 events and engaged with over 10,000 people through open houses, summer reading club, elementary school visits, fire extinguisher training, fire prevention week, community events, and Fire Station visits (Annual Report, 2019). DNVFRS impacted more than twice the number of people from the previous year.

The increase in wildfire threat to DNV and the need for community-wide resiliency was identified as a public information gap. To address this need, DNVFRS has been supporting the training of Local FireSmart Representatives (LFRs) to be able to conduct assessments in the community, as well, FireSmart public education and outreach. DNV began providing FireSmart public education and outreach in 2019 as a proactive awareness campaign.



Through collaboration, as of 2020 two communities in the DNV have been recognized by FireSmart for their resiliency initiatives. As a result of a local wildfire in 2020, further outreach resulted in a number of communities requesting assessments, including the high risk communities in Woodlands/Sunshine Falls.

DNVFRS engages with the community in person through open houses and community events, as well, virtually through social media channels. The global pandemic of 2020 changed our primary method of in person events and forced us to create more distanced opportunities to engage. Pilot programs such as “drive-by-birthdays” and “high school graduation parades” have maintained contact within the community while supporting social distancing. Website and social media coordination and updates are ongoing, allowing DNVFRS to meet the changing environment and needs.

Stakeholder Engagement

As part of undertaking a Community Risk Assessment (CRA) and developing a Community Risk Reduction (CRR) program, DNVFRS will continue to engage with internal and external stakeholders. Public Safety staff are working with the Communications Division on a stakeholder engagement program for 2021-2026. Plans are underway to create a diverse panel of interested members of the community to provide regular feedback to DNVFRS on programs, progress, expectations, and general feedback. The plan would be to build on current engagement processes and create a program that could be built upon over the years to become a comprehensive tool that provides feedback from the community, and a path of information to and from the community.

Early in 2020 an opportunity was created for a graduate student to intern with the DNVFRS specifically to work with the Public Safety Division and create a Stakeholder Engagement Plan. The global pandemic has delayed this opportunity. Regardless, the Public Safety Division is working with the Communications Division to create a community and stakeholder engagement plan for 2021, with a plan to review, revise, and build a comprehensive plan for future years.

Equity, Diversity and Inclusion

A diverse work force is a benefit to an organization. There is benefit in reflecting the diversity of the community to better serve the customer base. Diversity includes gender identity. It also includes Lesbian, Gay, Transgender, Bisexual, Queer, Questioning, 2 Spirit, Intersex, Asexual and other identities (LGBTQ2IA+), as well, Black, Indigenous and People of Colour (BIPOC). Having a diverse team brings diverse perspectives which can lead to innovation and creativity. Innovation and creativity support continuous improvement and problem solving.

Equity is not the same as equality. Treating all people in an equitable way focuses on the individual needs of all people that make up diverse teams. This approach acknowledges that people have individual needs and experiences.

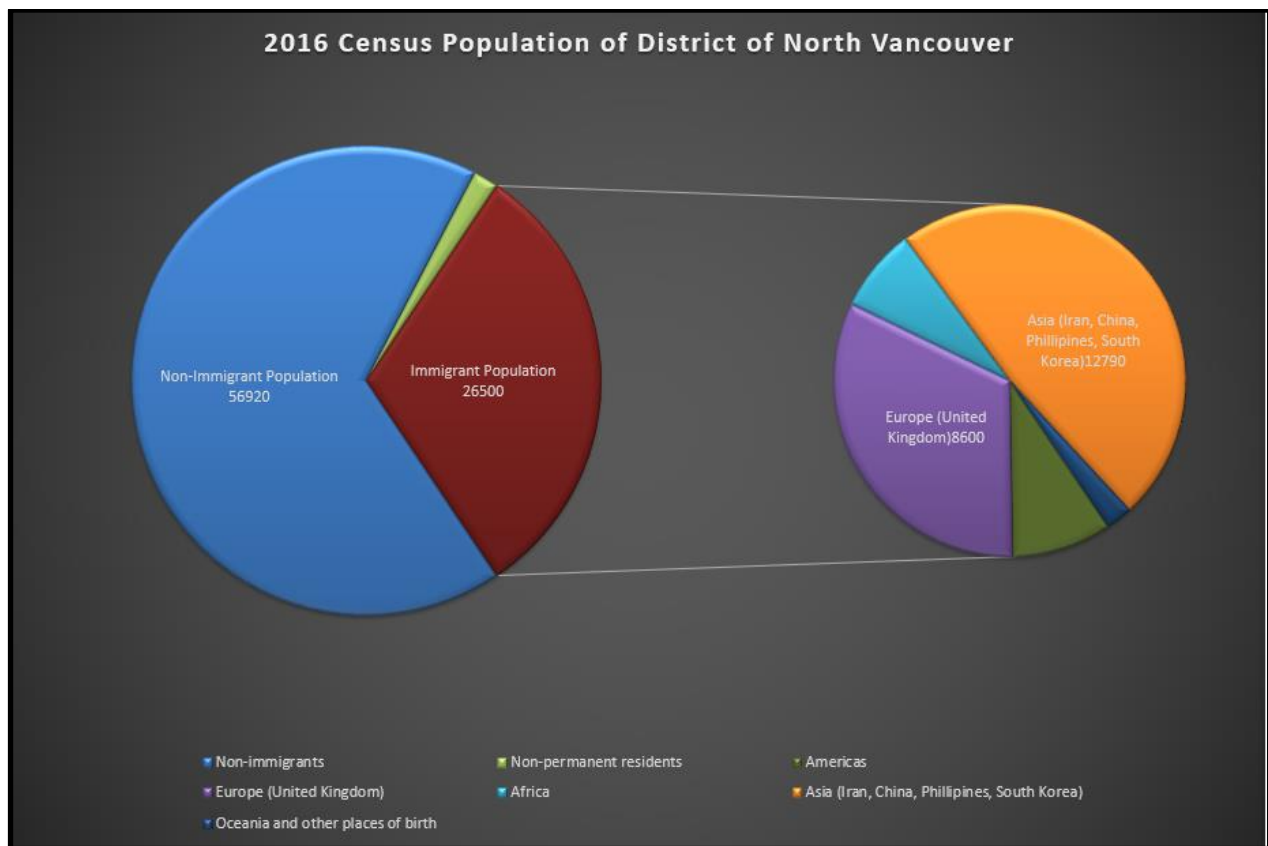
An inclusive work environment is a work place where all people feel valued and that they belong. This fosters a work place that attracts more diversity in team make-up and could help support retention through job satisfaction.

The DNV is a culturally diverse community. The 2016 Census provided a population of 84,875 people. The demographic is comprised of 56,920 non-immigrants, 1,450 non-permanent residents, and 26,505 immigrants.



Total - Immigrant status and period of immigration for the population in private households - 25% sample data		84875
Non-immigrants		56920
Immigrants		26505
Before 1981		7900
1981 to 1990		3255
1991 to 2000		5585
2001 to 2010		6525
2001 to 2005		3050
2006 to 2010		3470
2011 to 2016		3240
Non-permanent residents		1450

Over 31% of the residents of the DNV are immigrants. 3,240 of those immigrants, immigrated between 2011 and 2016. Of people immigrating to the DNV the majority came from Asia (48%), and the United Kingdom (32%). The most popular area in Asia for immigrants is Iran (39%), China (14%), Philippine (11%), and South Korea (10%). Immigrants include both gender identities, LGBTQ2IA+, and BIPOC.



It is notable that the diversity of the DNVFRS does not match the diversity of the community it serves. There are benefits to a career with DNVFRS which has great opportunity and challenging experiences for all; including technical rescue, wildland fire fighting, and DNVFRS as a First Responder Agency is focused on proactively expanding its role within the delivery of pre-hospital care through a fire-based EMS model that incorporates



First Responder and Emergency Medical Responder levels of care. DNVFRS is a well-funded department with quality apparatus and equipment, training, and health and wellness programs. Opportunities also exist within the Public Safety Division, for instructing in the Training Division, and Chief Officer Development Training.

The makeup of DNVFRS personnel include people who identify as females and males, as well, there is a minimal representation of BIPOC. Less than 2% of fire fighters identify as female, and less than 2% of fire fighters may identify as BIPOC. The ratio of females in the Chief Officer ranks as well as the Public Safety Division ranks are approximately 14% or 1 in 7. Both divisions also have a member who may identify as BIPOC. In comparison, the gender makeup of the community is representative of 49% of the population identifying as male, and 51% of the population identifying as female. This percentage only varies slightly amongst age groups.

The DNVFRS wants to attract more applicants and build diverse teams. To do this we offer a variety of opportunities to help applicants to be well prepared for the hiring process and potential career. DNVFRS participates in career days with each graduating class from the local fire academy—the Justice Institute of BC (JIBC). In addition to potentially attracting JIBC grads, DNVFRS hosts a two (2) day annual high school cadet program for female and male grade 11 and 12 students of School District #44. DNVFRS sponsors at least one camper annually for Camp Ignite Mentorship Program—4 day 3 night firefighting camp for teenage girls. Throughout the school year, high school students participate in a work experience program as referred by their guidance counsellor. Young people of all ages have an opportunity to see females and males working together successfully in the fire service. However, there are so few under-represented groups, that seeing diversity is a challenge. It is well recognized that “you can’t be what you can’t see”.

DNVFRS has been an active partner with the JIBC for women in fire fighting workshops since 2017. Plans to host a partner program with the JIBC at the DNVFRS Training Centre for 2020 was postponed due to the COVID crisis. The training program is organized and ready to be delivered when the crisis situation is satisfactorily resolved. The plan would be to host women specific training days each year.

The average age that a fire fighter has been hired with the DNV over the past five (5) years is 30 years old. It is notable that applicants would be developing their fire fighting knowledge, skills and abilities in their early 20’s and actively in the recruitment process by their mid-20’s. Consideration should be given to programs that could target nearly 16,575 youth at various stages of their education and development from childhood through their teens.

Age Groups in Focus	Male	Female	
5 to 9 years	2695	2500	Outreach
10 to 14 years	2705	2770	Outreach
15 to 19 years	3005	2900	Outreach
20 to 24 years	2665	2370	KSAs
25 to 29 years	1810	1820	Recruitment Process
30 to 34 years	1930	1940	Career
35 to 39 years	2135	2675	Career
40 to 44 years	2650	3235	Career
45 to 49 years	3275	3660	Career
50 to 54 years	3390	3765	Career
55 to 59 years	3515	3675	Career
Total Representative of Population	29775	31310	61085
	0.49	0.51	
Total of All Age Groups	41325	43550	84875
	0.49	0.51	

Recruiting and Outreach

DNVFRS participates in a joint recruitment process with the North Vancouver City Fire Department (NVCFD) and the District of West Vancouver Fire & Rescue Services (DWVFRS). A recruit committee comprised of fire fighters, Human Resources (HR), and Chief Training Officers oversees the recruitment process. The process includes a written test, scoring on resume, skills testing, station orientation, fitness testing, and psychometric



testing, and Fire Chief's interview. While the current process results in the hiring of top notch male fire fighters who are well skilled, well trained, and well prepared for a career with DNVFRS, there hasn't been marked success in hiring diverse candidates.

During the three year period 2017-2019 the percentage of female applicants was 1.95%, 1.95% to 3.06% in 2019 respectively (November 16, 2020 – HR Email). During the last three years, one female progressed through all steps of the process on the North Shore, and was offered a position at DWVFRS. The fire fighter was not retained; she changed municipalities within the year of hire. As of 2003 the baseline performance for hiring of gender diversity in the suppression ranks of the DNVFRS is zero. Respectively, since 2017, one female was hired into Public Safety and one into the Command Staff. DNVFRS has not hired a female fire fighter since December 12, 2003.

Not only is recruiting a challenge, but retention can also be an issue. It is important to create an environment where people who identify as female, BIPOC and LGBTQ2IA+ can belong. The diversity of experiences and perspectives of all people adds to the abilities of the team, when all team members bring their unique life experiences to their position. This fosters an environment of inclusion. It would be against efforts to be successful in recruiting for diversity and then to foster an environment that is not progressive with supporting retention.

Retention with a lens to building diverse teams would benefit all. It would also reflect positively towards the community. Changing the culture of the organization by moving the needle to be reflective of the value of all individuals whether they identify as male, female, BIPOC, or LGBTQ2IA+ moves past internalized sexism, racism, and homophobia, and confronts past stereotypes and myths. It showcases that all are allies and that none need to leave who they are at the Fire Station door.

DNVFRS does not currently have a dedicated staff position for Diversity and Inclusion or Recruiting and Outreach. In late 2020, the Training Division filled a temporary position of Recruitment and Outreach. This position continued with work to reduce barriers and build relationships with underrepresented groups in the community. While a number of positions are temporarily stood up in the Training Division, a consistent staffing gap exists. DNVFRS could benefit from a full-time position that develops a Recruitment and Outreach program that is clearly focused on increasing diversity and inclusion. It will continue to be challenging to reflect the diverse makeup of the community without a plan, a SMART goal, and a champion to move the needle.

DNVFRS culture in the fire stations may be challenging for a recruit. However, recruits with a solid skill set, work ethic, and positive "get it done" attitude will do well. Hiring the right person, and supplementing them with the eight (8) week in-house training program sets a recruit up for success. Recruits get to know the municipality and the idiosyncrasies of each fire station response area, and by rotating through each area they get the opportunity to learn from the majority of personnel. Putting an emphasis on training and inclusion helps to foster an environment where diversity should succeed.

A comprehensive Diversity and Inclusion Program could include training programs on how to have challenging conversations such as in the "Active Bystander Training" to help achieve local changes (Motorola Solutions, Fire Service Women Ontario). A Diversity and Inclusion Program should include the work of all personnel as allies to enhancing the fire service and supporting a "Fire Service for All" (CAFC, 2020). Supporting personnel



skill development in all areas including diversity and inclusion, reflects an innovative and progressive work place where stripes are not required to be a leader.

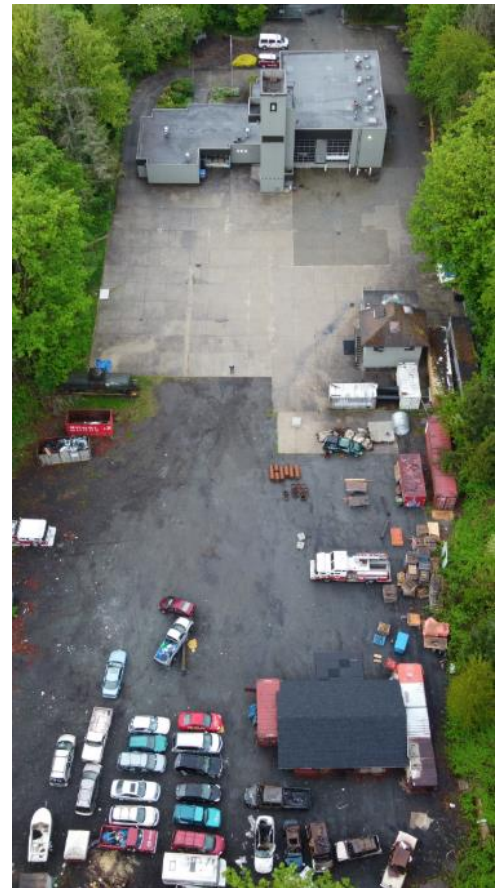
The number of applicants that identify as female, has not been noticeably increasing. Of those that apply, a few make it through the process but have not been successful progressing to the interview stage, or to be offered a job. Not every female, LGBTQ2IA+, or BIPOC applicant will be hired by DNVFRS, but the better that all applicants are prepared, the more successful they should be. We can help prepare under-represented people by demystifying the fire fighter role. This does not begin with recruiting of people in their mid-20's, but instead for all to recognize that fire-fighting is a career that they could aspire to from an early age.

Fire Training Centre - Training and Professional Development

The DNVFRS Training Centre is located at 900 St. Denis Avenue. The Training Centre is permanently staffed by an Assistant Fire Chief and a Training Captain who are responsible for the Probationary fire fighter Training Program, Internal Fire Training Program, Inter-agency Training Partnership with the JIBC, external training programs with partner agencies, the maintenance of training records as well as the facilitation of recruitment and outreach programs.

DNVFRS is a full service Fire Department that trains its fire fighters to a level that meets and exceeds the British Columbia Office of the Fire Commissioner's Fire Fighter Minimum Training Standards. As a full service agency, training requirements are met primarily through company officer led Foundational Skills training that are facilitated through a Fire Department Learning Management System (LMS). This foundational training supports the annual training discipline program that is led by a NFPA 1041 Standard for Fire and Emergency Services Instructor Professional Qualified internal instructor group. This program is designed to provide DNVFRS fire fighters with additional training and competencies that enable them to respond in an efficient and effective manner to the specific emergency incident types encountered in the DNV response area.

Training disciplines include: Blue Card Incident Command, Modern Fire Behavior and Evidence Based Fire Suppression, High Rise Firefighting, Wildland Urban Interface Fire Suppression and Protection, Swiftwater Rescue, High Angle Rope Rescue, Confined Space Rescue, Structural Collapse Rescue, Vehicle Rescue and Extrication, Fire Fighter Survival and Rapid Intervention Team Operations, and delivery of pre-hospital emergency medical response. In addition, DNVFRS has an internal training program that certifies emergency vehicle operators to the NFPA 1451 Standard for a Fire and Emergency Service Vehicle Operations Qualification and Company Level Fire Officers to the NFPA 1021 Standard for Fire Officer Professional Qualification—Fire Officer II level. This Training is delivered and



supported through an Interagency Fire Training Partnership with the Justice Institute of British Columbia, who supports DNVFRS status as an authorized provider through the Pro Board Accreditation program.

DNVFRS maximizes training and development opportunities through training relationships with emergency service and industry partners including the North Vancouver City Fire Department, West Vancouver Fire and Rescue, Vancouver Fire and Rescue, North Shore Search and Rescue, Metro Vancouver Protection and Parks, Emergency Management British Columbia, the Construction Safety Alliance, British Columbia Wildfire Management Service, Royal Canadian Marine Search and Rescue, Royal Canadian Mounted Police, West Vancouver Police, Seaspan Vancouver Shipyards, Arboriculture Canada, The Canadian Red Cross, and North Shore Emergency Management. The DNVFRS facilitates the majority of internal Instructor lead discipline training and much of external partner training at the DNVFRS Fire Training Facility. This facility has served DNVFRS training needs well for many years. Over the past several years, due to the growing Training needs and the concurrent modernization of the Fire Department, the functional capacity of this facility no longer adequately sustains current Fire Department Training operations.

It is anticipated that this aging facility will be decommissioned after a number of functional areas of DNVFRS are relocated to the new Maplewood Fire Rescue Centre (MFRC). The anticipated timeline for occupancy of the MFRC in 2023.

Maplewood Fire Rescue Centre

The Maplewood Fire Rescue Centre (MFRC) will be a new combined fire station, training centre and administrative building for the DNVFRS. The new MFRC located on a former municipal operational fill site near



the Maplewood Town Centre, replaces aging infrastructure and will improve fire response times, create operational efficiencies, and optimize the capital investment required to accommodate these functional service areas.

The facility is approximately 39,000 square feet and will occupy approximately four (4) acres of land. It will include four (4) double apparatus bays and live/work quarters for seven (7) – fifteen (15) fire fighters. It will include offices, workspaces, and support areas for nineteen (19) full and part-time management and administrative service staff, including the Public Safety Division. It will have an indoor training facility and a state-of-the-art outdoor training

facility including live fire training, vehicle operation, hose training, and rescue operations that will allow for fire fighters to perform realistic training scenarios in the training disciplines of residential and commercial firefighting, high rise fire fighting, emergency vehicle operation, vehicle extrication, high angle rescue, confined space rescue, structural collapse rescue, and much more.



It should be expected that moving the Training Division function to a new location will be challenging. The Training functions will continue to need to be provided. There is also additional opportunities for the use of the facility by external stakeholders. The capacity of the Training Division will be increasing. The short-term and long-term staffing needs should be examined and a plan put in place to meet current and projected needs.

Health and Wellness

The DNVFRS Safety Committee is organized to comply with WorkSafe BC guidelines and is overseen by an Occupational Health & Safety specialist through the Human Resources Department. The safety committee is co-chaired by an Assistant Chief and a member of the IAFF Local 1183. The safety committee meets monthly. Following each monthly meeting, a safety inspection is also performed at each fire station.

The Assistant Fire Chief of Operations Support is responsible for the department's health and wellness program. This includes connection to and support of the Employee Family Assistance Program (EFAP) through Homewood Health, and an illness and injury program.

A “book off” telephone line is available for all personnel to call in and leave a message if unable to report for regular duties. Components of this type of leave could include: documentation (leave greater than six (6) days and/or injury), review and verification, leave approval and coding, staffing replacement needs, and return to work. With the COVID health crisis, additional measures have been put in place to track illness of personnel for flu-like symptoms, as well, personnel who have been asked by the Health Department to isolate due to exposure or travel.

DNVFRS also has a work place Critical Incident Stress Management team (CISM). The team can be activated in accordance with Operational Guideline 1.04.09 by an individual, officer or Duty Chief. The contact numbers for CISM team members are on FireNet and on the safety boards in each fire station. The CISM team also has a canine in the program that was trained through the Citadel Canine Society—an Australian Shepherd owned by DNVFRS Captain Dickson, named Boomer.



A defuse or debrief will be automatic for: a line of duty death, a suicide or attempted suicide of a co-worker, a severe line of duty injury at work, a mass casualty, or a significant injury or death of a child, adolescent or young adult. In addition, events which could include a defuse or debrief include: drowning, severe or mutilated victim, civilian death resulting from firefighting operations, rescue where victim could not be reached, victim who is related to a fire fighter, or a traumatic situation that results in co-workers asking “are you okay”? In addition to the CISM team, EFAP is available, as well, registered counselling through Blue Cross health plan, and additional wellness services if recommended by the family doctor. Efforts are also underway to incorporate a fire department chaplaincy program into DNVFRS's approach to mental health and wellness.

DNVFRS supports mental health awareness on an ongoing basis. Speaker series have been organized in conjunction with the Charitable Society, as well, the BC First Responders' Mental Health Speaker Series. In 2019 a mental awareness seminar was provided for personnel's family members focusing on the Resilient



Minds program <https://resilientminds.cmha.ca/>. Other support services include Honour House (<https://www.honourhouse.ca/>) “a home away from home” in the Metro Vancouver area, focused on recovery for Canadian Armed Forces, Emergency Services Personnel, Veterans, and their families, as well, Honour Ranch a 120-acre property facility designed for learning healthy strategies to cope with occupational stress injuries such as PTSD.

Fire Inspections

Mitigating the impact of fire and reducing the number of fires that start in the first place is a primary goal of DNVFRS. We pursue this goal by working with builders and developers to ensure that measures are in place to limit fire risk, and by regularly inspecting commercial, industrial, and multi-family buildings to ensure they comply with all fire codes and standards. Under the Fire Services Act [RSBC 1996] https://www.bclaws.ca/civix/document/id/complete/statreg/96144_01 “a municipal council must provide for a regular system of inspection of hotels and public buildings in the municipality”. As required by the Fire Services Act, Section 26(1), Council endorsed “Council Policy – Frequency of Inspections” which may be amended from time to time at the discretion of the Chief Administrative Officer (CAO). Through Fire Bylaw 7481 the CAO has delegated this responsibility to the Fire Chief.

The annual fire inspection practice in the DNV is designed to reduce the risk to life and property from fire by using a risk based inspection methodology. This is accomplished based on major property occupancy type through a frequency range. Risk criteria may include but is not limited to past history of violations, occupancy type, construction type, and hazardous material quantity and location.

Property Classification	Inspection Frequency Range
A1, A2, A3, A4 Assembly Occupancies	6 to 12 months
B1, B2, B3 Detention, Treatment, and Care Occupancies	6 to 12 months
C Residential Occupancies	12 to 36 months
D Business and Personal Services Occupancies	12 to 24 months
E Mercantile Occupancies	12 to 24 months
F1 High Hazard Occupancy	6 months
F2 Medium Hazard Occupancy	6 to 24 months
F3 Low Hazard Occupancy	6 to 24 months

The move to a risk based inspection model has been underway in local governments for a number of years. Defined changes are being considered in the upcoming provincial act. The risk based inspection model that the DNV supports is based on personal historical experience. DNVFRS has not had the ability to assign risk based on data analytics. This could change in the near future. A “Fire Prediction Model” proof of concept through Opta and Fire Underwriters’ (FUS) is being considered for further refining the risk based inspection program. Opta provides the analytic data intelligence, and FUS is the sole provider of fire protection class evaluation in the public fire insurance grading index. This model is the result of a project that aligns with NFPA 1730 “Standard on Organizational and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation and Public Education Operations”, the BC Fire Safety Act Part 6 Compliance Monitoring”, and NFPA 1300 “Standard on Community Risk Assessment and Community Risk Reduction Plan Development,



Chapter 5”. The concept of this data-driven approach is to build a structure based risk assessment model that predicts which fire inspections could be better prioritized when analytics are include: building data (size, height, use), economic data (land value, building value, tax levy), crime data (location and rate), fire department data (incidents and inspections), geographic data (address and parcel), demographic data (census and demographic), planning data (zoning and building permits) and other datasets customized to the DNV.

A fire inspection prediction model would allow DNVFRS to leverage data and artificial intelligence (AI) capabilities together with DNV specific datasets to identify properties that are predicted to have a higher risk. Inspection could then be scheduled and linked annually to priorities in an AI environment. This project would entail an initial investment of \$5,000, a “go live” investment of \$35,000 and would be followed by an annual refresh cost of \$10,000. Metrics are built into the AI design to measure performance of the model at reducing hazards and property loss due to fire. This potential AI tool could be utilized for a CRA and CRR program.

DNVFRS has struggled for years to meet its inspection targets. In 2019 the inspection platform was redesigned to allow the majority of inspectors to focus on routine annual inspections. A subset of the team focused on a new re-inspection process that redirected the onus of completing an inspection on the business/property owner and align with the BC Fire Code. A great degree of administrative work supported the division to achieve 2019 targets. DNVFRS completed 5,971 inspections compared to 3,525 in 2018. The platform was further refined in 2020 to alleviate the administrative burden. The changes to the inspection platform together with the potential of a new fire prediction model would allow the department to further prioritize annual inspections and provide a more effective, efficient, as well, a consistent level of service to the community.

Upcoming changes to the provincial act (BC Fire Safety Act) that governs the way the fire service operates are expected within the next few years. A draft version of the Fire Safety Act includes opportunities to move towards third party and self-inspections. Utilizing a fire inspection prediction model such as the one being considered could allow for identification of a subset of very low risk inspections that could form a trial target group. Moving in this direction would represent a change in business, and should be explored holistically across the North Shore; considering legality as well as impact on Shared Service partners—the City of North Vancouver and The District of West Vancouver.

Fire Investigations

The Fire Services Act [RSBC 1996] mandates that a fire be investigated by a Local Assistant to the Fire Commissioner (LAFC) in a general way to determine cause, origin and circumstances within three (3) days after the fire “to ascertain whether a fire was due to accident, negligence, or design”.



Reportable fires are defined by the Province of BC, Office of the Fire Commissioner. In 2018 DNVFRS staff investigated 96 structure, vehicle, and other fires compared to 88 investigations in 2019. The LAFC is required to report their findings to the Office of the Fire Commissioner in a prescribed form which provides data for statistical analysis, and for tracking of trends on a local, regional, and provincial level. The power of the LAFC is as a peace officer for the purposes of the Act and includes the authority to investigate, and the ability to exclude a person from a fire scene.

DNVFRS has a fee recovery program in place that levies a fee to the property owner of \$500 where damage over \$5000 has occurred (Fire Bylaw 7481, Section 73). The current Fire Bylaw is being revised to better reflect the service that is provided for fire investigation and recover direct costs that are not part of day to day service provision, as well, to more accurately reflect additional costs for service to the end user as opposed to putting additional costs on the community through the tax base. A minimal remuneration fee is also collected from the Province at the end of the calendar year for reconciled fire investigation report submissions.

DNVFRS has six (6) personnel that are trained to perform the functional task of a fire investigator, as well, one (1) Assistant Chief. All seven (7) are certified by the International Fire Service Accreditation Congress (IFSAC) and Pro Board to NFPA 1033, Standard for Professional Qualifications for Fire Investigator. Continuing education takes place annually through professional affiliations with the International Association of Arson Investigators (IAAI), through the Canadian Association of Arson Investigators (CAAI), and locally on a tri-municipal level.

Community Loss and Save Information

DNVFRS's Public Safety Division is staffed by seven (7) Fire Officers that are responsible for inspections, fire investigation, plan review, public education, community risk reduction and pre-incident fire planning. The Officers are recognized by the Province of British Columbia Office of the Fire Commissioner (OFC) as Local Assistants to the Fire Commissioner (LAFC). As LAFC's those fire officers have the authority to investigate fires. All of those fire officers are also NFPA 1033 Level III certified Fire Investigators.

The role of the Fire Investigator is to determine cause and origin in a general way, and to document their findings and submit them to the OFC. Information as prescribed by the OFC is collected and filed digitally in the DNVFRS records management system, and filed electronically to the OFC. The fire investigators submit detailed information including dollar loss, value at risk, type of fire, injuries and deaths. The below table represents the loss and save data for the previous three (3) years. The values are determined by the value of the building and contents, and the loss of the building and contents as reported by the fire investigator to the OFC.

Reportable Fire Guidelines

All fires that cause damage to property, injuries or fatalities, or which require fire department resources to suppress must be reported to the Office of the Fire Commissioner. Examples include:

Structural* Fires	Vehicle Fires	Outdoor Fires
<ul style="list-style-type: none"> ▪ Buildings ▪ Piers ▪ Decks and patios ▪ Parkades and covered parking lots 	<ul style="list-style-type: none"> ▪ Cars and trucks ▪ Trains ▪ Boats ▪ Planes ▪ All-terrain vehicles (ATVs) ▪ Recreational vehicles (RVs)* 	<ul style="list-style-type: none"> ▪ Dumpsters ▪ Playground equipment ▪ Telephone/Hydro poles ▪ Grass ▪ Bark mulch



Relying on community specific knowledge, DNVFRS personnel as a result of a tragic fire in 2018 identified a safety gap for eighteen (18) buildings with a similar configuration. Along with these buildings, an additional twenty-eight (28) pre-1992 residential buildings were contacted and a recommendation was made for voluntary upgrades. As of November 2020, seven (7) of the subject buildings underwent voluntary life safety system upgrades, with additional buildings planning to budget for the upgrades.

Community Loss and Save Table

	<u>2017</u>	<u>2018</u>	<u>2019</u>
# of fire investigations	65	96	88
Type of fire:			
structure	23	35	36
vehicle	10	6	5
outdoor	32	55	47
\$ Loss (building and contents)	711,219	11,839,014	1,139,552
# of Injuries	0	22	4
# of deaths	0	2	0
\$ Save (total value - total loss)	21,691,830	101,015,290	47,525,002

Pre-Incident Fire Planning

Pre-Incident fire plans are an integral tool for planning for and responding to emergency situations in our built environment. In 2019 DNVFRS laid the foundation for a new Pre-Incident Fire Program. In early 2020 the new APX web-based program went live on all apparatus' mobile data terminals, tablets, iPhones, iPads, and desktops computers within the department. APX allows the user to have real-time access to site plans, floor plans, and building specific life safety design and hazard information, as well, the ability for real-time updates. It also allows timely access and sharing of preplans with inter-agency partners and provides access to the pre-incident fire plans of both of our shared service partners. With the staffing of a new position of Captain – Community Risk Reduction and Pre-Incident Planning, a fulsome program will be developed that will include regular review, revision, creation of missing preplans, and fee recovery. This will allow DNVFRS to better meet the needs of the community and membership. As well, fill a gap that resulted in the Fire Underwriters' Survey 2016 recommendation #6 (Appendix 7).

Engineered Environment

DNVFRS Public Safety staff play a key role in the development of the engineered environment in the DNV. Staff educated and experienced in codes and standards participate in plan reviews for new and existing buildings, for demolition and construction sites. Compliance with codes starts with the design phase of new buildings working with developers and DNV departments through the building permit stage. Occupancy inspections of new systems and buildings provide functional demonstration and training opportunities for all personnel.



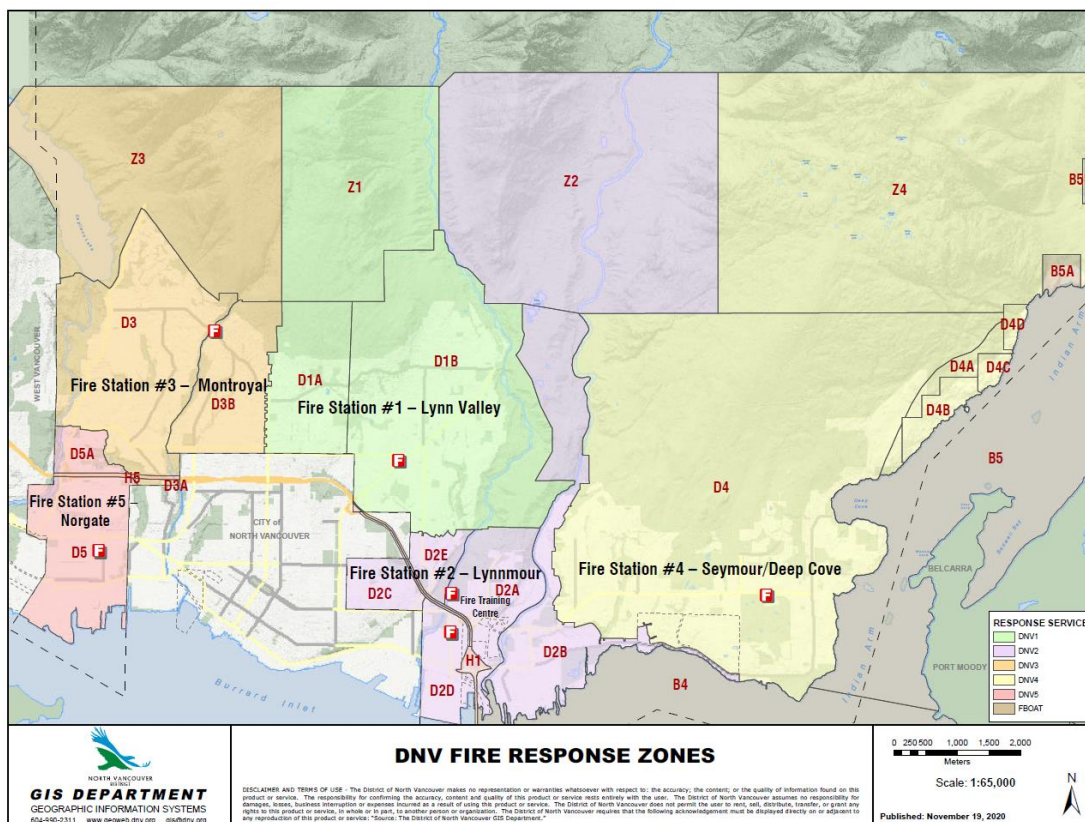
DNVFRS collects 0.075% of the value of work stated on a building permit to offset the cost of the Public Safety Division budget. In 2019 this amounted to \$350,000 for over 160 submissions. This was an increase over the collected fees of \$110,000 in 2018. In addition to permit review fees for service, cost recovery is also charged for fire safety plan reviews for construction sites and occupancies.

Risk Methodology by Response Category

For the purposes of Fire Department response, the DNV is divided into five (5) fire station response planning areas:

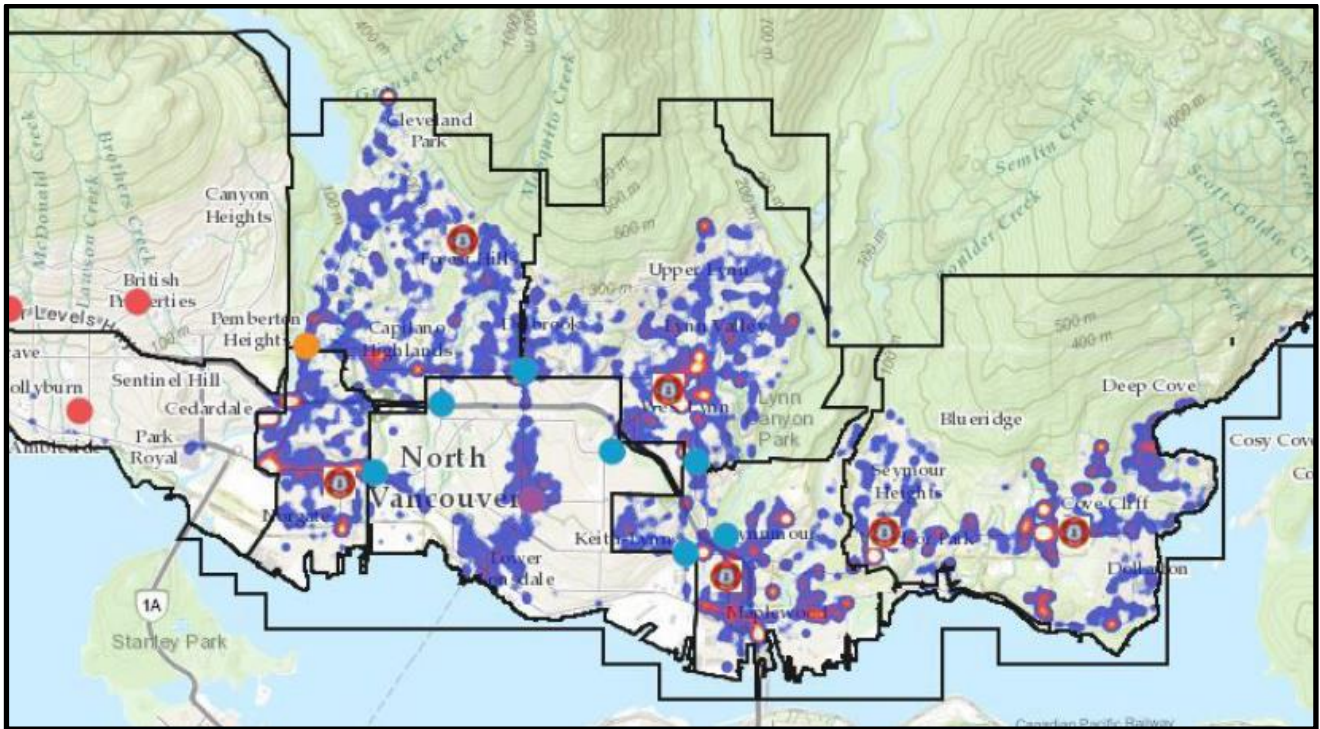
- Fire Station #1 – Lynn Valley
- Fire Station #2 – Lynnmour
- Fire Station #3 – Montroyal
- Fire Station #4 – Seymour/Deep Cove
- Fire Station #5 – Norgate

Further dividing these response planning areas into fire response zones allows for greater determination of closest apparatus for fulfilling concentration (effective response force ERF), as well, for recognizing unique areas in the DNV, such as wildland zones Z1 – Z4, and highway zones H1 – H5. The zones are used by computer aided dispatch (CAD) for managing resources through computer-aided move-ups using a “live move-up module” termed LiveMUM by Deccan International.



During the period 2017-2019 DNV responded to an average of 4,517 total incidents. The following heat map depicts the annual average of total incidents that DNVFRS was dispatched to for the three year period. Fire station locations are noted by the DNVFRS Maltese Cross (logo), standby locations are noted by the coloured dots.

All Incidents within All DNV Fire Station Response Areas 2017-2019



Incident Volume Breakdown - All DNV Fire Station Response Areas

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	1076	1076	1142
Rescue and MVA	464	447	470
Emergency Medical Services	2605	2009	1912
Non-Emergency	400	431	483
Hazardous Materials	91	83	68
Standbys	324	289	182
TOTALS	4960	4335	4257

The municipal boundary of DNV as reported in the 2016 Census is 160.76 km². For the purpose of determining area response characteristics, DNV Geographic Information Systems (GIS) has utilized a mapping tool that has approximated the land area of DNV to 164.74 km² (GIS data will be utilized for CRA/SOC for the remainder of this document unless indicated). Of this land mass, 41.02 km² is built up area, and 123.72 km² is wildland (12.8 km² of ocean has been excluded from the data).

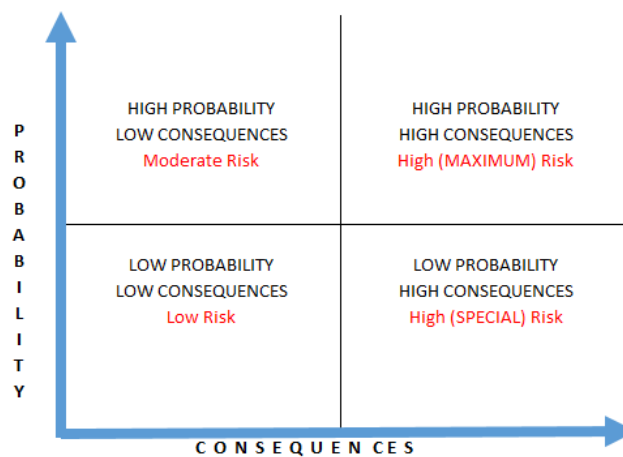


Within the 41.02 km² of developed area, as of November 2020, there are 3,823 inspectable properties as defined in the BC Fire Service Act. These “inspectable” properties are comprised of assemblies such as schools, places of worship, municipal buildings, and restaurants. Care and treatment occupancies include seniors housing. Inspectable residential buildings are multi-family buildings including high rise, low and medium height apartment buildings, and common areas of townhouse developments. Commercial offices include service and mercantile use. Low, medium and high hazard industrial facilities may include warehouses, repair shops, manufacturing or transportation shipping and receiving by land, rail or water type uses. The total inspectable properties in the DNV changes continually as new businesses begin, and as businesses move or cease to operate. Type of occupancy are further broken into fire station areas, along with population, and area hazards.

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	514	13.44
B	Detention/Treatment/Care	53	1.39
C	Residential	812	21.24
D	Office/Service	995	26.03
E	Mercantile	325	8.50
F	Industrial	1,124	29.40
		<u>3,823</u>	<u>100.00</u>

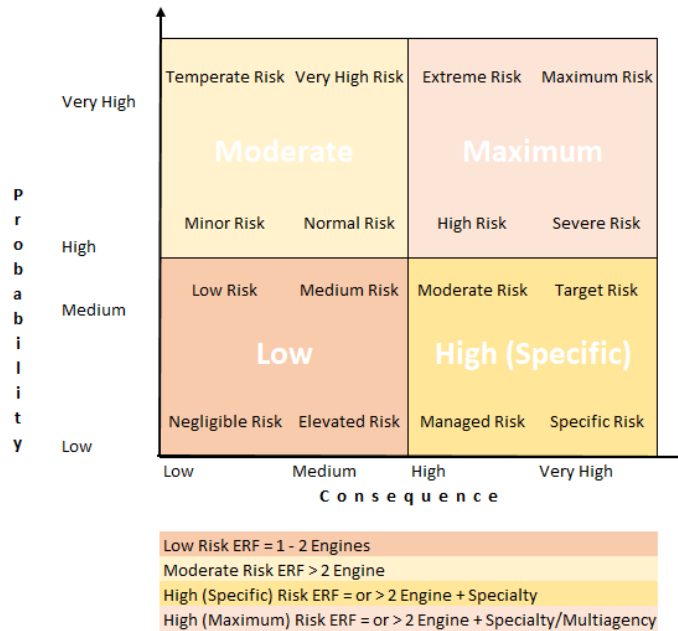
DNVFRS risk methodology takes into consideration a 2-axis risk categorization based on probability and consequences for three (3) main response categories that have the highest number of incidents—Fire suppression, emergency medical services (commonly referred to as a MESA responses), and Rescue. This methodology relies on the commitment of resources for the service being provided, as well as the frequency of incidents by type and the severity of the outcome on the community. Outcome on community takes into consideration the types of use in the built-up area and the wildland.

RISK METHODOLOGY 2-Axis Risk Categorization Process



The allocation of resources has been determined to meet the level of risk. Resource commitment for the service being provided also incorporates consequences as a factor, rated from low to very high. The benefit to recognizing moderate risk as including minor risk, normal risk, temperate risk, and very high risk align with the resources deployed for high probability events that occur frequently, for example structure fires (see following commitment of resources chart).

Commitment of Resources for the Service Being Provided

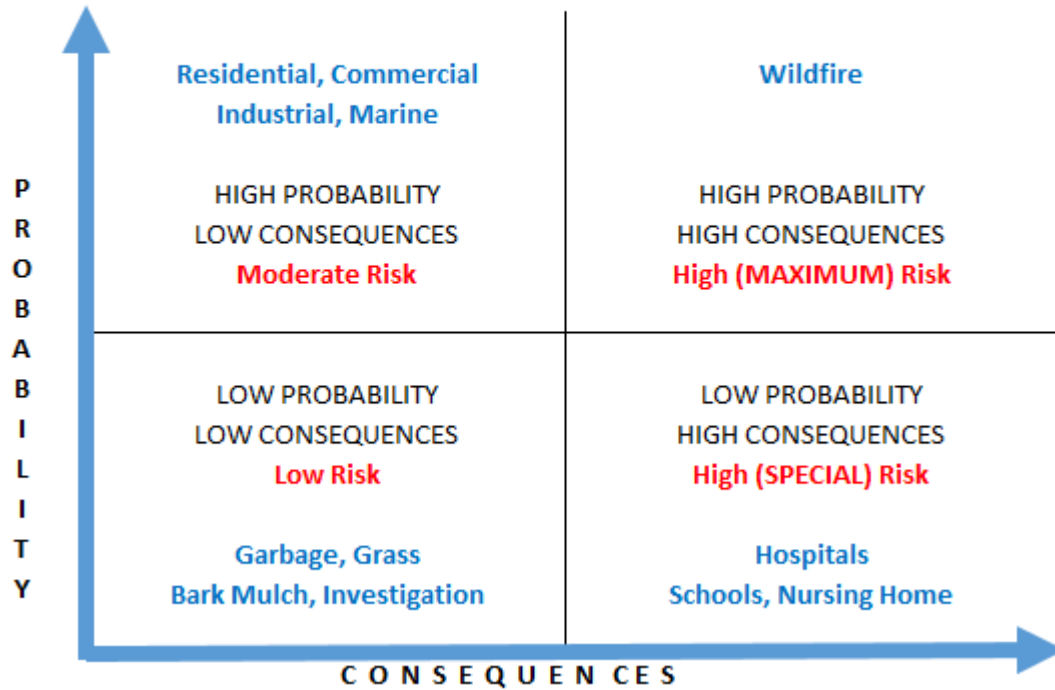


This methodology recognizes maximum risk as including maximum risk, extreme risk, severe risk, which aligns with the high probability of a wildfire to the community, and the high consequence it could have on the wildland area and urban interface.



Fire Suppression: DNVFRS has categorized fires by low, moderate, high risk, and high (maximum) risk. Fires are sub-divided by structure fire, motor vehicle fire, outdoor fire, and wildfire in this CRA/SOC and align with Operating Guideline 2.03.04.

RISK METHODOLOGY 2-Axis Risk Categorization Process Fire Suppression

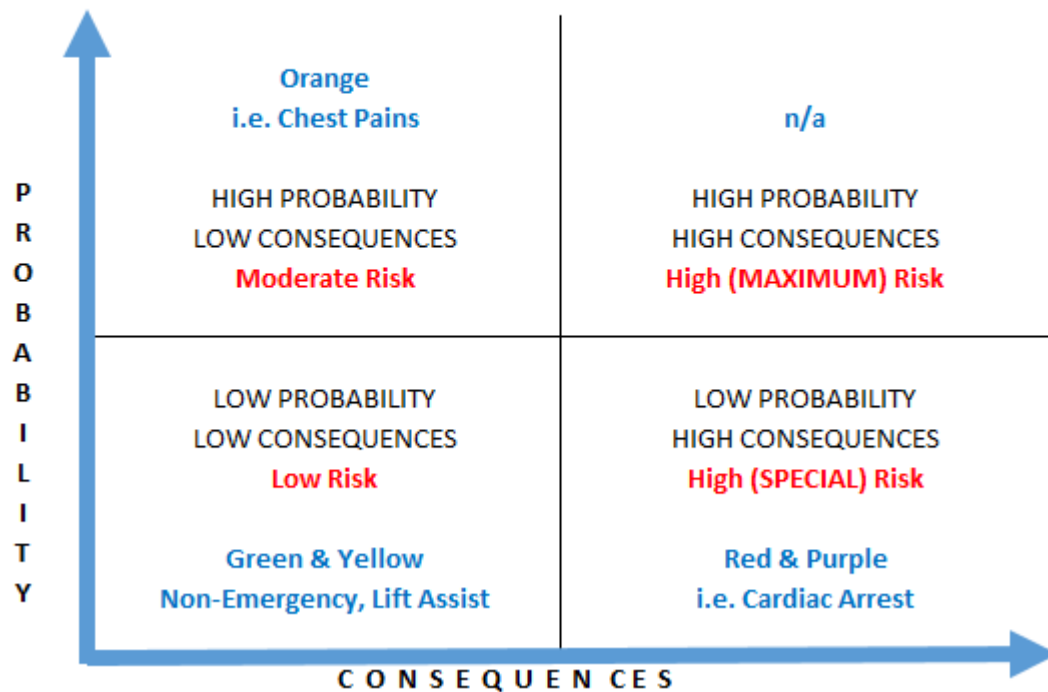


For the purpose of initial accreditation DNVFRS will be reporting on the moderate risk structure fires in this CRA/SOC. All areas of service are written to in the performance indicators of the FESSAM.



Emergency Medical Services (commonly referred to by DNVFRS as MESA): DNVFRS has categorized MESA calls by low, moderate, and high risk and align with Operating Guideline 2.03.04. MESA calls are sub-divided by the BC Emergency Health Services (BCEHS) colour coded Clinical Response Model.

RISK METHODOLOGY 2-Axis Risk Categorization Process MESA (Emergency Medical Services)



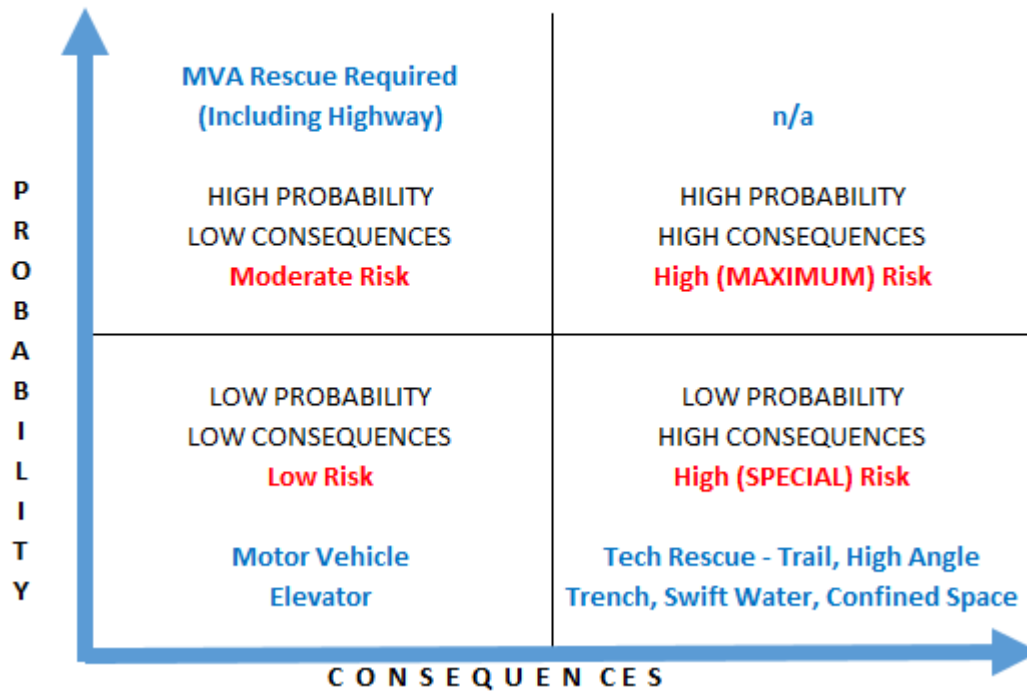
For the purpose of initial accreditation DNVFRS will be reporting on the moderate risk MESA calls in this CRA/SOC. All areas of service are written to in the performance indicators of the FESSAM. NOTE: link to Page 35 [BCEHS Clinical Response Model](#).



Rescue: DNVFRS has categorized Rescue calls by low, moderate, and high risk. Technical rescues are grouped into one category based on DNVFRS response procedures outlined in Operating Guideline 2.03.04.

RISK METHODOLOGY 2-Axis Risk Categorization Process

Rescue



For the purpose of initial accreditation DNVFRS will be reporting on the moderate risk rescues referred to as “rescue MVA” and the high risk “technical rescues” in this CRA/SOC. All areas of service are written to in the performance indicators of the FESSAM.



Risk Methodology by Fire Station Response Area

For the purposes of documented population, the Canadian Census 2016 statistic of 85,935 is considered documented and verifiable. Census data for the DNV is also available for socio-economic, culture, gender, and immigration data and is reflected in this CRA/SOC. Those statistics are broken down by Census by neighbourhood, however the neighbourhoods do not align with the fire station response area boundaries. Census information has been considered as it applies to the entire boundary of the DNV.

Risk methodology for the DNV considers occupancy type/use information which aligns with fire department response. The services provided include consideration for natural and manmade hazards and risk identification and correlate with the existing HRVA. The anticipated future needs related to wildfire are also included in the HRVA update that is currently underway.

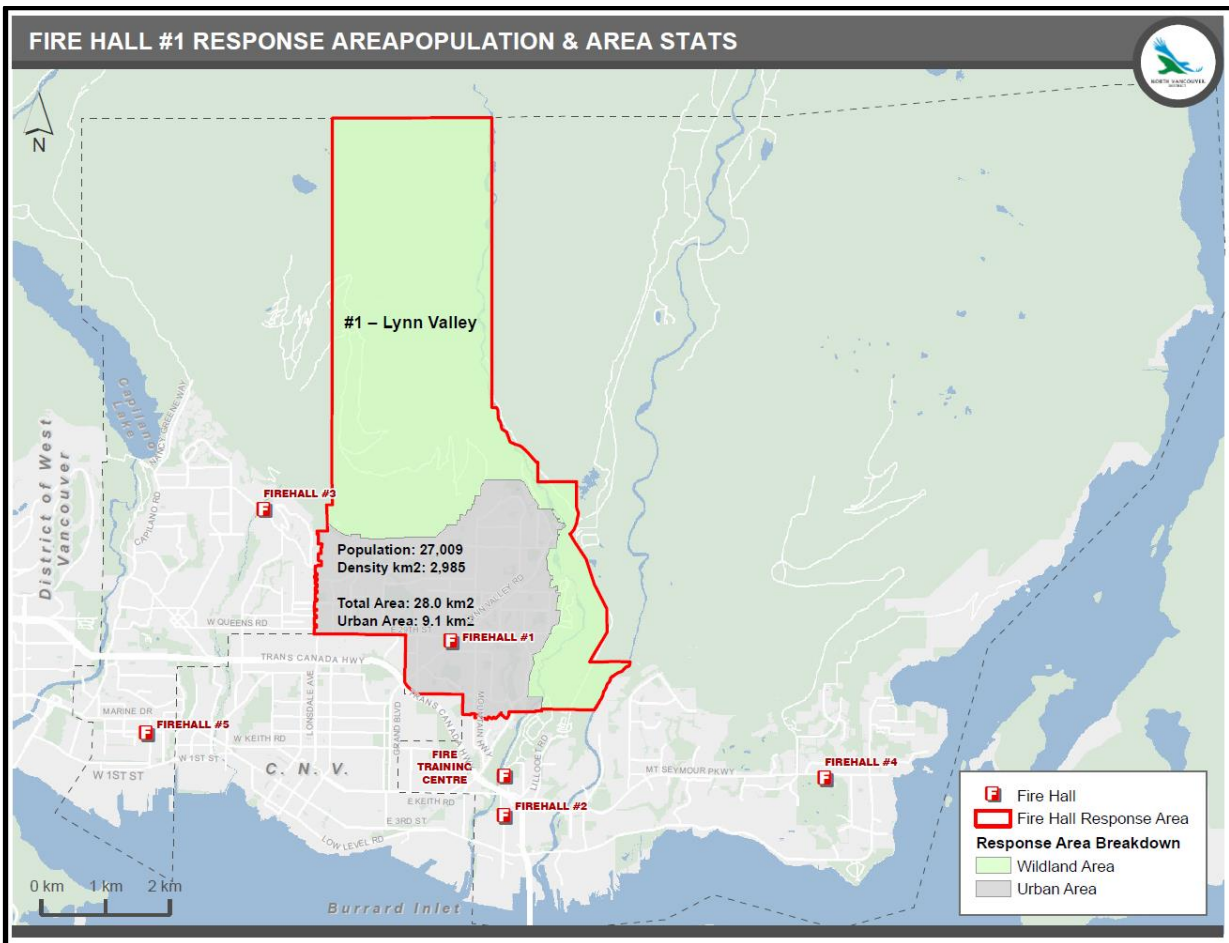
Risk is further determined by fire station response area, providing a more detailed Community Risk Assessment (CRA). In the future, additional data sets would form a component part of a comprehensive Community Risk Assessment, including census demographics by neighbourhood. This would include socio-economic factors, gender, age, and cultural background which could then be applied to a mapping layer that includes incident response. The work may require realigning fire station response areas to align with government neighbourhood mapping.

For the purposes of determining current population by fire station response area, on November 26, 2020, DNV Geographic Information Systems (GIS) used the 2016 Census data to extrapolate the population in the DNV as a total of 91,802. This was achieved for single family dwellings by applying population averages by neighbourhood, and for multi-family dwellings by multiplying the units by the structure type values provided by Census Canada. This is considered by the municipality to be a reliable estimate. GIS has also provided area calculations for km², residential housing stock, and homes in the Wildfire DPA by fire station response area. Occupancy type by fire station area has been included using data maintained by DNVFRS.



Fire Station #1 – Lynn Valley

1110 Lynn Valley Road, North Vancouver BC V7J 1Z9 (604)990-3681



Response Category:	Urban and Wildland
Urban Area in km ² :	9.05 km ²
Wildland Area in km ² :	18.96 km ²
Total km ² Fire Station #1:	28.01 km ²
Urban Population:	27,009 (November 26, 2020 – GIS Data)
Population Density/Urban km ² :	2,985/km ²
Wildland Population:	0
#Buildings:	6,431
Residential Buildings:	6,194
Percent Residential/Total:	96%
#Residential/km ² :	684/km ²
Multi Family (Included in Residential):	236
#Multi/km ² :	26/km ²
FDM Inspectable Properties:	476
High-rise Buildings:	11

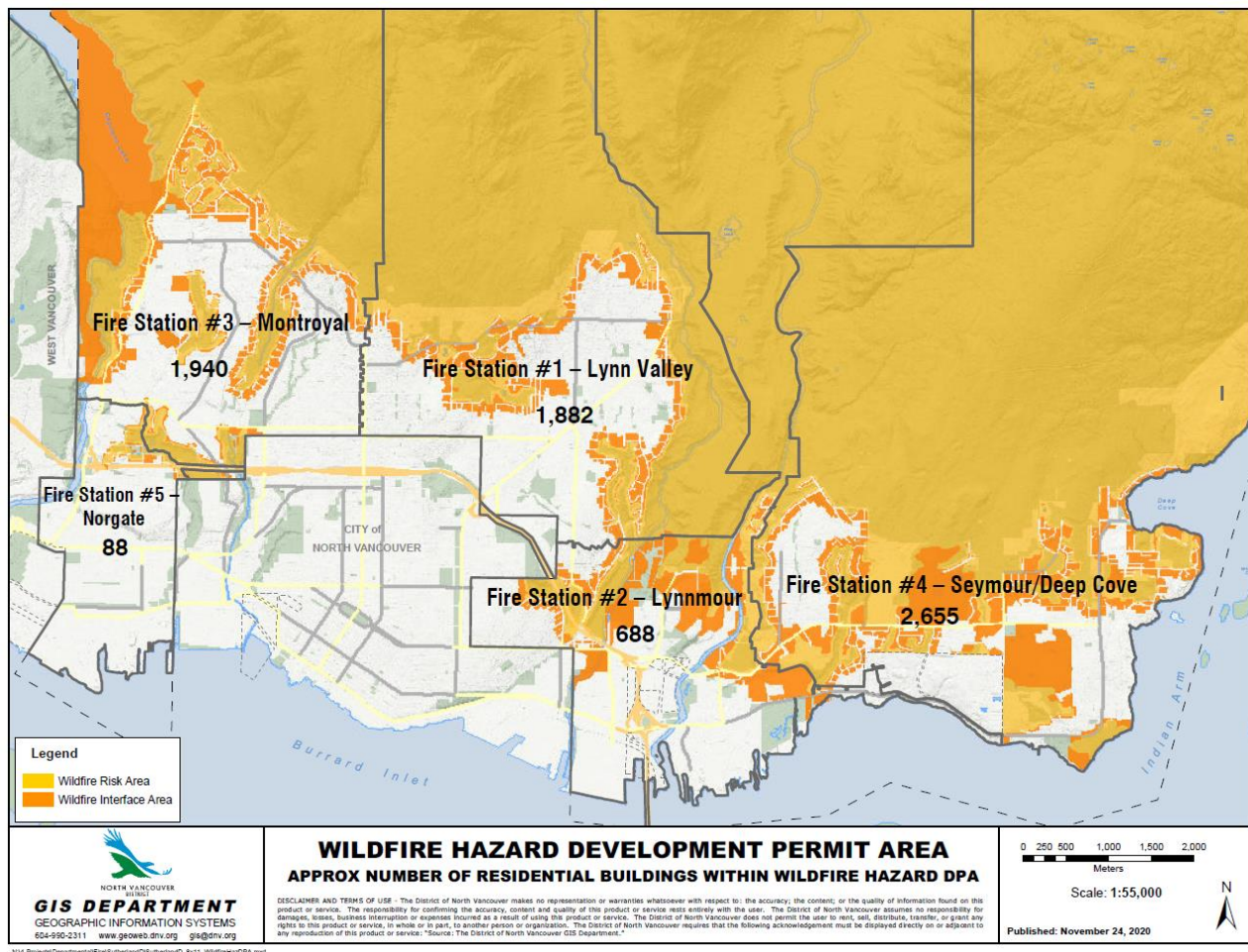


The built up environment of the Fire Station #1 – Lynn Valley response area is comprised primarily of residential land use. The exception to this is a town centre located near the major intersection of Lynn Valley Road and Mountain Highway, referred to as the Lynn Valley Town Centre. The town centre is the location for mixed use residential medium (under 6-stories) and high buildings (over 6-stories as defined by the BC Building Code). It is also the location for the majority of commercial businesses in this geographic planning zone including grocery stores, service and retail, and restaurants. Institutional use is throughout the area including schools, recreation facilities, churches, as well as seniors care facilities and children’s daycares.

Fire Station #1 Occupancy Summary			
<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	94	19.75
B	Detention/Treatment/Care	22	4.62
C	Residential	211	44.33
D	Office/Service	90	18.91
E	Mercantile	52	10.92
F	Industrial	7	1.47
		476	100.00

Lynn Valley borders the wildland of the DNV. The Lynn Valley planning zone includes 1,882 individual dwellings (single family dwellings and individual multi-family units) located in the Wildland DPA. During design and construction, new structures in the Wildland DPA have additional mitigating measures placed on them to prevent and protect from wildfire including FireSmart restrictions on construction materials, landscaping, and a permitting process that is required for construction activities during high and extreme forest fire risk.





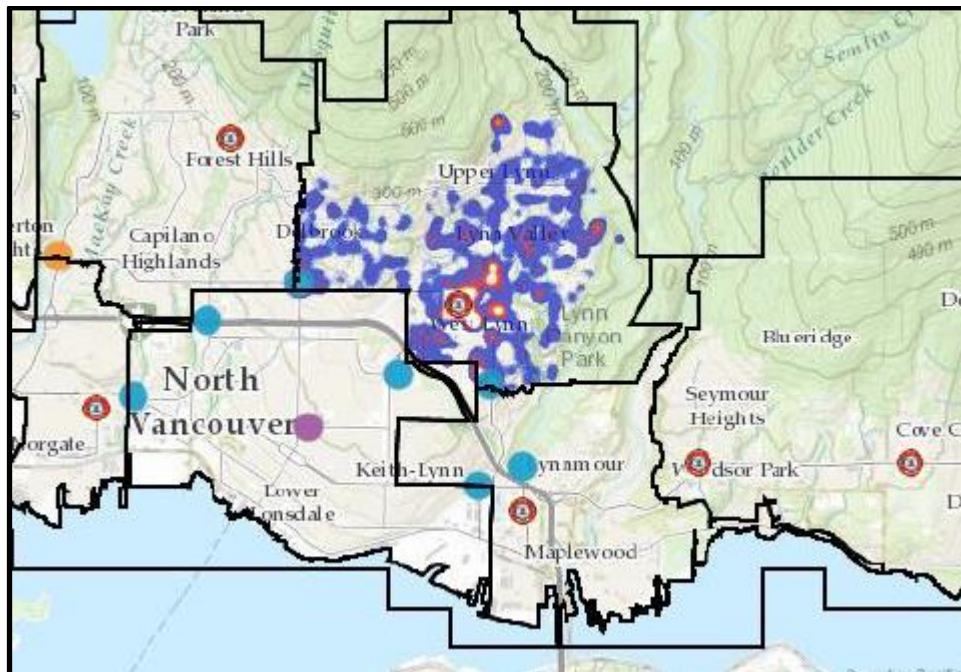
The Wildland DPA is a resiliency initiative that was identified in the 2009 Community Wildfire Protection Plan (CWPP). The DNV also has a multi-year program of fuel reduction strategies, as well as community risk reduction strategies such as the availability of FireSmart assessments for existing neighbourhoods, and public education and outreach. All frontline apparatus carry wildfire quick response capabilities. The Wildland Urban Response Vehicle is a specialty apparatus for response to wildfire and along with DNVFRS Type II Structure Protection Unit(s), are located centrally at Fire Station #2 and will be dispatched upon request of the Company or Chief Officer.

The Wildland areas of Lynn Valley are popular year-round for hiking and mountain biking. Lynn Canyon is a popular location for DNVFRS training for technical rescues from the canyons and swift-water as this is a prime location for rescue calls in the warmer weather. Rescue in the wildland may be a Squad response at the discretion of the Company Officer. All frontline apparatus are equipped with medical and rescue equipment capable of initiating a technical rescue. The Heavy Rescue Apparatus carries additional specialized rescue equipment. Squads are equipped with the same rescue equipment at the frontline apparatus. Staff at Fire Station #1 are equipped with alternate assigned personal gear with them appropriate for environmental conditions, such as shorts and hiking boots.



Fire Station #1 – Lynn Valley Complement:	2 Captains and 5 Fire Fighters
Fire Apparatus:	DNV Engine 1, DNV Tower 1 DNV Rescue 1, DNV Squad 1 DNV Command
Structure Fire Risk Assessment:	Moderate and High (Special Risk)
Wildfire Risk Assessment:	High (Maximum Risk)
Technical Rescue:	High (Special Risk)
MESA Risk Assessment:	Moderate Risk

All Incidents within Fire Station #1 Response Area 2017-2019



Incident Volume Breakdown - DNV Fire Station 1 Response Area

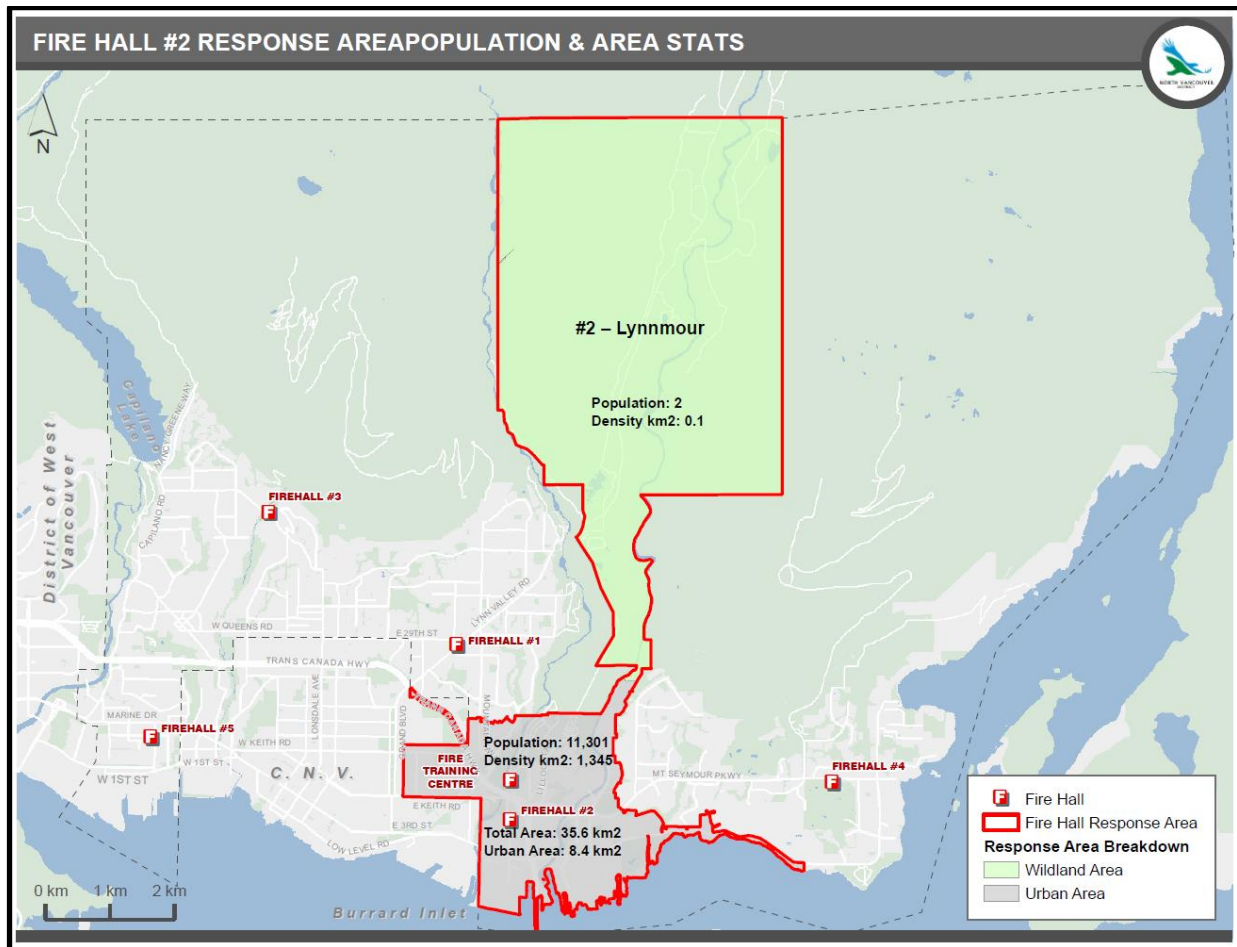
<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	242	257	280
Rescue and MVA	78	75	95
Emergency Medical Services	716	540	408
Non-Emergency	97	138	156
Hazardous Materials	16	18	17
Standbys	244	183	79
TOTALS	1393	1211	1035



Fire Station #2 – Lynnmour

480 Mountain Highway, North Vancouver V7J 2L2

Direct Line (604)990-3682



Response Category:	Urban and Wildland
Urban Area in km ² :	8.4 km ²
Wildland Area in km ² :	27.23 km ²
Total km ² Fire Station #2:	35.63 km ²
Urban Population:	11,301 (November 26, 2020 – GIS Data)
Population Density/Urban km ² :	1,345/km ²
Wildland Population:	2 (0.1/km ²)
#Buildings:	2,839
Residential Buildings:	2,158
Percent Residential/Total:	76%
#Residential/km ² :	257/km ²
Multi Family (Included in Residential):	278
#Multi/km ² :	33/km ²
FDM Inspectable Properties:	1,312
High-rise Buildings:	9



Fire Station #2 Occupancy Summary			
<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	123	9.38
B	Detention/Treatment/Care	6	0.46
C	Residential	189	14.41
D	Office/Service	254	19.36
E	Mercantile	49	3.73
F	Industrial	691	52.67
		<u>1,312</u>	<u>100.00</u>

The Lynnmour response area is a combination of residential land use, mixed use commercial, commercial, light industrial commercial, and medium and high risk industrial along the foreshore. There is a town centre located along lower Mountain Highway between Trans-Canada Highway 1 and Main Street, referred to as Lynn Creek Town Centre. Lynn Creek Town Centre is seeing rapid development and is the location for mixed use residential medium (under 6-stories) and high buildings (over 6-stories as defined by the BC Building Code). A large recreation centre, and mixed use high-rise(s) are in the development process in this geographic planning zone including grocery store, service and retail, and restaurants. Institutional use is throughout the area including schools, sports fields, university, churches, seniors care facilities, and children’s daycares. Industrial occupancies along the foreshore include ChemTrade, Lynnterm – Western Stevedoring, Univar Canada, Metro Vancouver Transfer Station, ERCO Worldwide, TerraPur Environmental, and McMillan Fisheries.

There is also a town centre located near the eastern boundary between Mount Seymour Parkway and Dollarton Highway, known as Maplewood Village Town Centre. Maplewood Town Centre is a densifying neighbourhood that is growing at a rapid pace. The area is primarily mixed use with midrise residential (up to 6-stories), commercial, and light industrial. This geographic planning zone includes a grocery store, service and retail, and restaurants.

The Lynnmour response zone is the access point for the North Vancouver Cemetery, as well, the Metro Vancouver Watershed. The North Vancouver Cemetery is owned and operated by the City of North Vancouver, and is considered a shared service for the two North Vancouver municipalities. Adjacent to the North Vancouver Cemetery is the Lower Seymour Conservation Reserve (LSCR) which is owned and operated by Metro Vancouver. The Metro Vancouver Operations Yard (Bone Yard) is maintained as a year-round maintenance facility and during the warmer season is a base for regional wildfire response. North Shore Rescue (NSR) also maintains a building at the Bone Yard for deployment for rescue calls. A helicopter landing pad is also at this location. The LSCR is home to the Seymour Water Reservoir and Dam, as well, a filtration plant. It is also home to the LSCR demonstration forest, Rice Lake and provides access to Lynn Canyon and Lynn Headwaters regional parks (Appendix 5a and 5b).

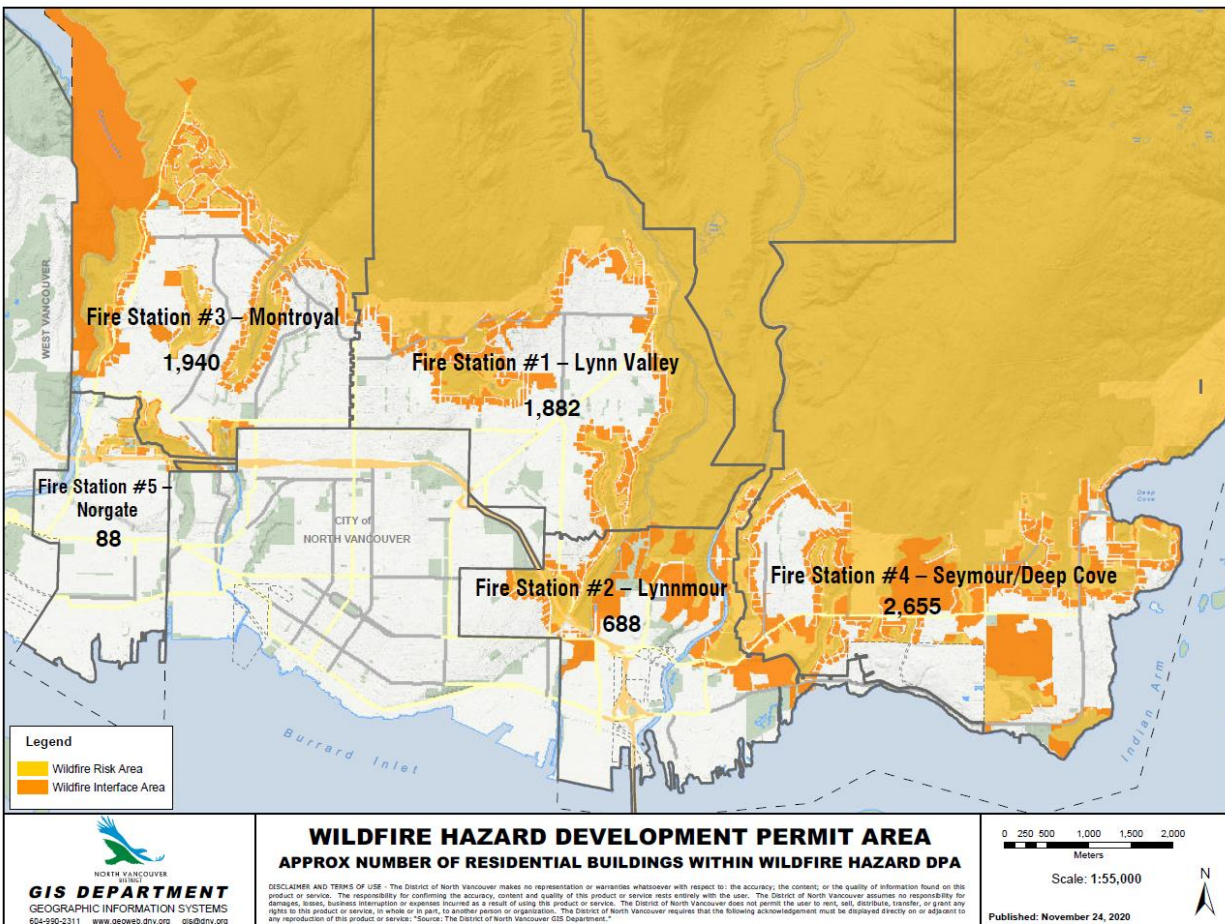
The abundance of easy access to parkland and wildland in this area has resulted in a concentration of homeless populations along the rivers creating additional response concerns for medical aid response and non-



compliance with outdoor burning. Non-compliance with outdoor burning restrictions is of greater concern seasonally during hot dry weather when the fire hazard rating is high and extreme.

The easy access to parkland and wildland also contributes to the extra-curricular activities such as hiking, mountain biking, and using the waterways for example, and paddling. These activities result in high risk rescue needs for the community.

Lynnmour response zone borders the wildland of the DNV. 688 individual dwellings (SFDs and multi-family) located in the Lynnmour planning zone are in the Wildland DPA. During design and construction, new construction in the Wildland DPA have additional mitigating measures placed on them to prevent and protect from wildfire including FireSmart restrictions on construction materials, landscaping, and a permitting process that is required for construction activities during high and extreme forest fire risk.



The Wildland DPA is a resiliency initiative that was identified in the 2009 Community Wildfire Protection Plan (CWPP). The DNV also has a multi-year program of fuel reduction strategies, as well as community risk reduction strategies such as the availability of FireSmart assessments for existing neighbourhoods, and public education and outreach. All frontline apparatus carry wildfire quick response capabilities. The Wildland Urban Response Vehicle is a specialty apparatus for response to wildfire and along with DNVFRS Type II Structure



Protection Unit(s), are located centrally at Fire Station #2 and will be dispatched upon request of the Company or Chief Officer.

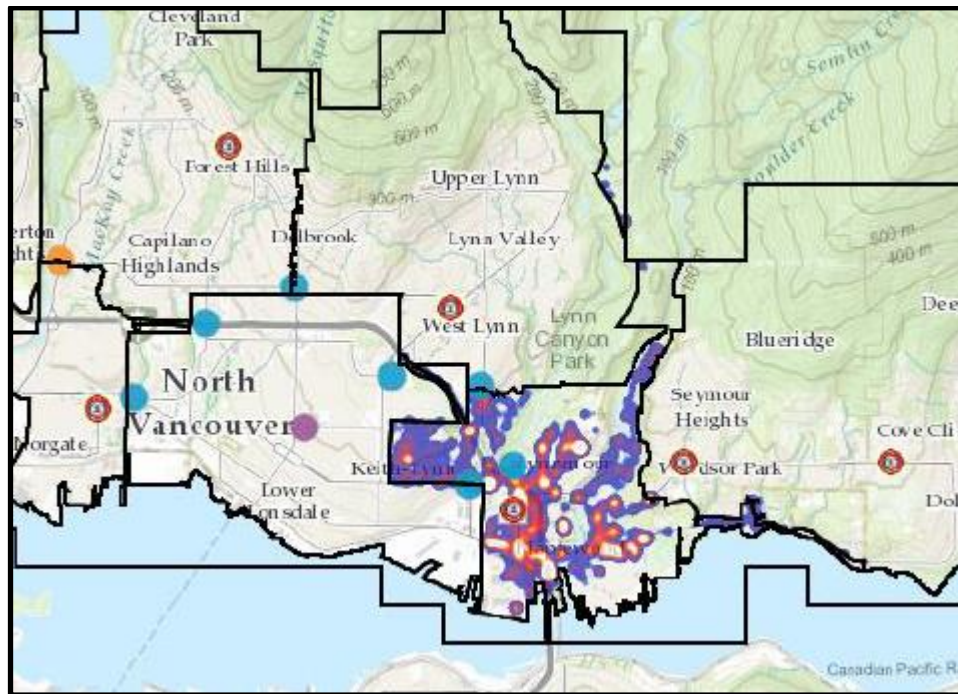
The Wildland areas of Lynnmour are adjacent to the Lynn Valley response area and also include off road use. This area is popular year-round for hiking, mountain biking and street cycling, as well river fishing. Lynn Creek (and Canyon) is also accessible from the east making it also a location for technical rescues from the canyons and swift-water. Rescue in the wildland may be a Squad response at the discretion of the Company Officer. Consideration may be for quicker response to the LSCR which is accessed along a stretch of maintained paved road with multiple speed bumps (Appendix 5b). All frontline apparatus are equipped with medical and rescue equipment capable of initiating a technical rescue. The Rescue is equipped with additional specialized rescue equipment. Squads are equipped with the same rescue equipment at the frontline apparatus. Staff at Fire Station #2 are equipped with alternate assigned personal gear with them appropriate for environmental conditions, such as shorts and hiking boots and wildfire PPE.

The Squamish Nation has First Nations Lands which are located in the Lynnmour response area. This includes a small residential neighbourhood and commercial land use including a Great Canadian Superstore, a golf/driving range, and storage/parking areas. This is one of three (3) Squamish Nations Lands on the North Shore. A larger residential community is located in the City of North Vancouver, as well, a large residential community, band offices, and recreational and support services are located in the District of West Vancouver adjacent to DNVFRS Fire Station #5 Norgate response area, with a small portion of those homes located within the DNV boundary. The Squamish Nation has its own peacekeeping force which helps to support interagency needs on Squamish lands. The only outdoor fires that are permitted are for ceremonial purposes.



Station #2 – Lynnmour Complement:	1 Captain and 3 Fire Fighters
Fire Apparatus:	DNV Engine 2, Squad 2
Structure Fire Risk Assessment:	Moderate and High (Special Risk)
Wildfire Risk Assessment:	High (Maximum Risk)
Technical Rescue:	High (Special Risk)
MESA:	Moderate Risk

All Incidents within Fire Station #2 Response Area 2017-2019



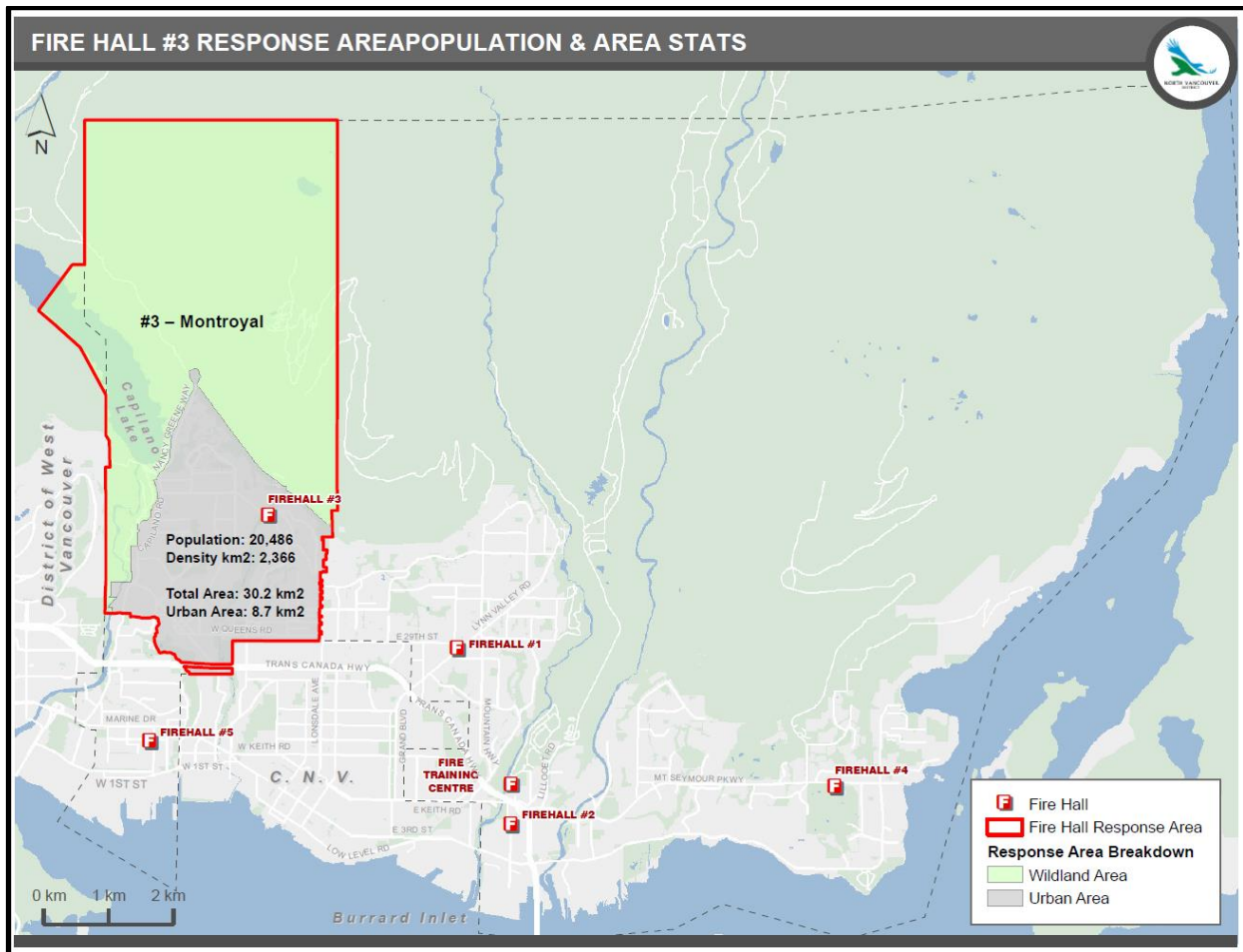
Incident Volume Breakdown - DNV Fire Station 2 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	203	235	243
Rescue and MVA	180	165	139
Emergency Medical Services	345	310	287
Non-Emergency	37	50	37
Hazardous Materials	27	30	17
Standbys	18	28	26
TOTALS	810	818	749



Fire Station #3 - Montroyal

550 Montroyal Boulevard, North Vancouver V7N 3E3 (604)990-3683



Response Category:	Urban and Wildland
Urban Area in km ² :	8.66 km ²
Wildland Area in km ² :	21.58 km ²
Total km ² Fire Station #3:	30.24 km ²
Urban Population:	20,486 (November 26, 2020 – GIS Data)
Population Density/Urban km ² :	2,366/km ²
Wildland Population:	0
#Buildings:	6,237
Residential Buildings:	6,016
Percent Residential/Total:	96%
#Residential/km ² :	694.7/km ²
Multi Family (Included in Residential):	152
#Multi/km ² :	17/km ²
FDM Inspectable Properties:	416
High-rise Buildings:	0

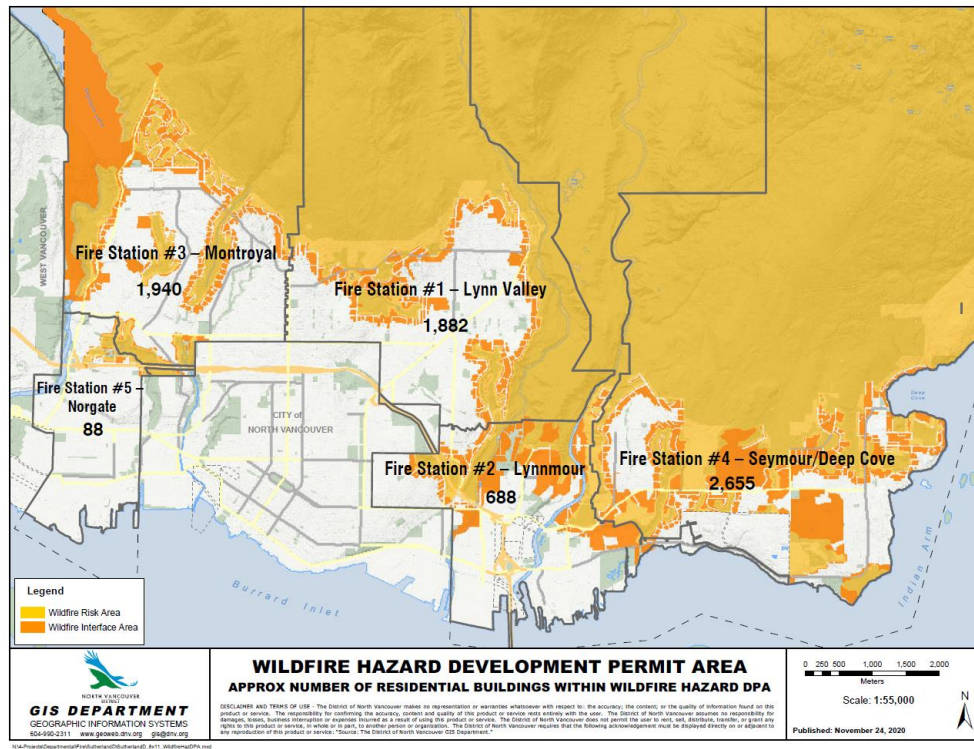


The Montroyal response area is comprised primarily of residential land use. There is a town centre located on Edgemont Boulevard between Ridgewood Drive and West Queens Road, referred to as Edgemont Village Town Centre. The town centre is the location for mixed use residential medium (under 6-stories) and commercial occupancy use. Edgemont Village Town Centre is the location for the majority of commercial businesses in this geographic planning zone including a grocery store, service and retail, and restaurants. Institutional use is throughout the area including schools, recreation centre facilities, and churches.

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	76	18.27
B	Detention/Treatment/Care	12	2.88
C	Residential	128	30.77
D	Office/Service	125	30.05
E	Mercantile	49	11.78
F	Industrial	26	6.25
		<u>416</u>	<u>100.00</u>

Montroyal borders the wildland of the DNV. 1,940 individual dwellings (SFDs and multi-family) located in the Montroyal planning zone are in the Wildland DPA. During design and construction, new structures in the Wildland DPA have additional mitigating measures placed on them to prevent and protect from wildfire including FireSmart restrictions on construction materials, landscaping, and a permitting process that is required for construction activities during high and extreme forest fire risk.





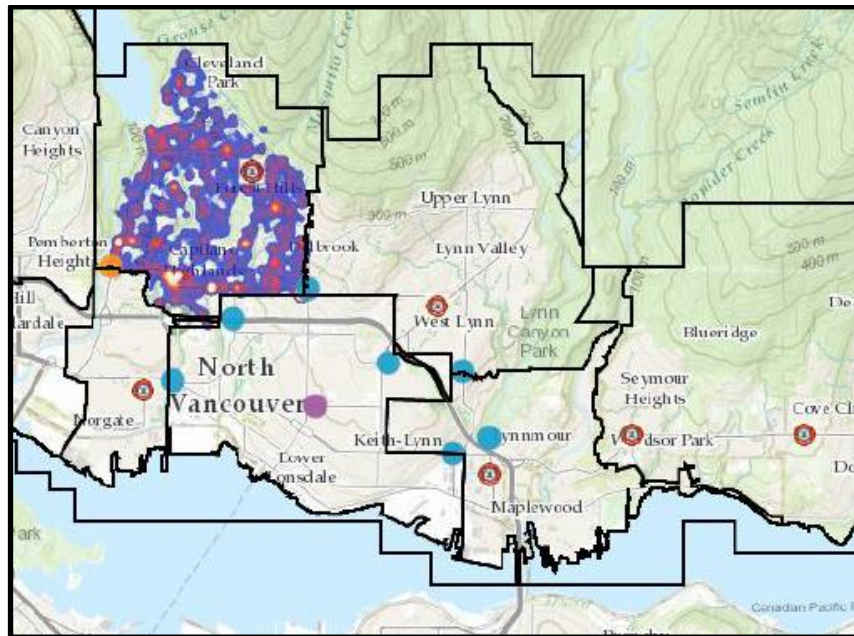
The Wildland DPA is a resiliency initiative that was identified in the 2009 Community Wildfire Protection Plan (CWPP). The DNV has a multi-year program of fuel reduction strategies, as well as community risk reduction strategies such as the availability of FireSmart assessments for existing neighbourhoods, and public education and outreach. All frontline apparatus carry wildfire quick response capabilities. The Wildland Urban Response Vehicle is a specialty apparatus for response to wildfire and along with DNVFRS Type II Structure Protection Unit(s), are located centrally at Fire Station #2 and will be dispatched upon request of the Company or Chief Officer. An additional SPU will be operational in 2021 and either placed at DNVFRS Fire Station #3 or Fire Station #5.

The Wildland areas of Montroyal include off road use. Grouse Mountain Ski Resort's base operation is located in this area, as is the popular Grouse Grind and BC Mountaineering Club (BCMC) trailheads. The Baden Powell Trail crosses here from Deep Cove across the North Shore to Horseshoe Bay. This area is popular year-round for hiking. Numerous locations along the Capilano River are accessible to residents and visitors alike including the Capilano Dam (operated by Metro Vancouver), Capilano Fish Hatchery, and the Capilano Suspension Bridge. The Capilano River is a destination for fishing, kayaking, sight-seeing, and hiking which makes it a prime location for technical rescues from the canyons and swift-water in the warmer weather and fishing season. All frontline apparatus are equipped with medical equipment, and rescue jump bags, however, the Rescue and Squad are both equipped with specialized rescue equipment. Rescues on the Capilano River often involve the District of West Vancouver Fire & Rescue Services operating from the west side (river right). DNVFRS operates from the east side (river left). The orientation for determining river right and left is as if looking downstream. Staff at Fire Station #3 are equipped with alternate assigned personal gear such as shorts and hiking boots with them for affecting rescues on the Grouse Grind and BCMC.



Station #3 – Montroyal Complement:	1 Captain and 3 Fire Fighters
Fire Apparatus:	DNV Engine 3
Structure Fire Risk Assessment:	Moderate and High (Special Risk)
Wildfire Risk Assessment:	High (Maximum Risk)
Technical Rescue:	High (Special Risk)
MESA:	Moderate Risk

All Incidents within Fire Station #3 Response Area 2017-2019



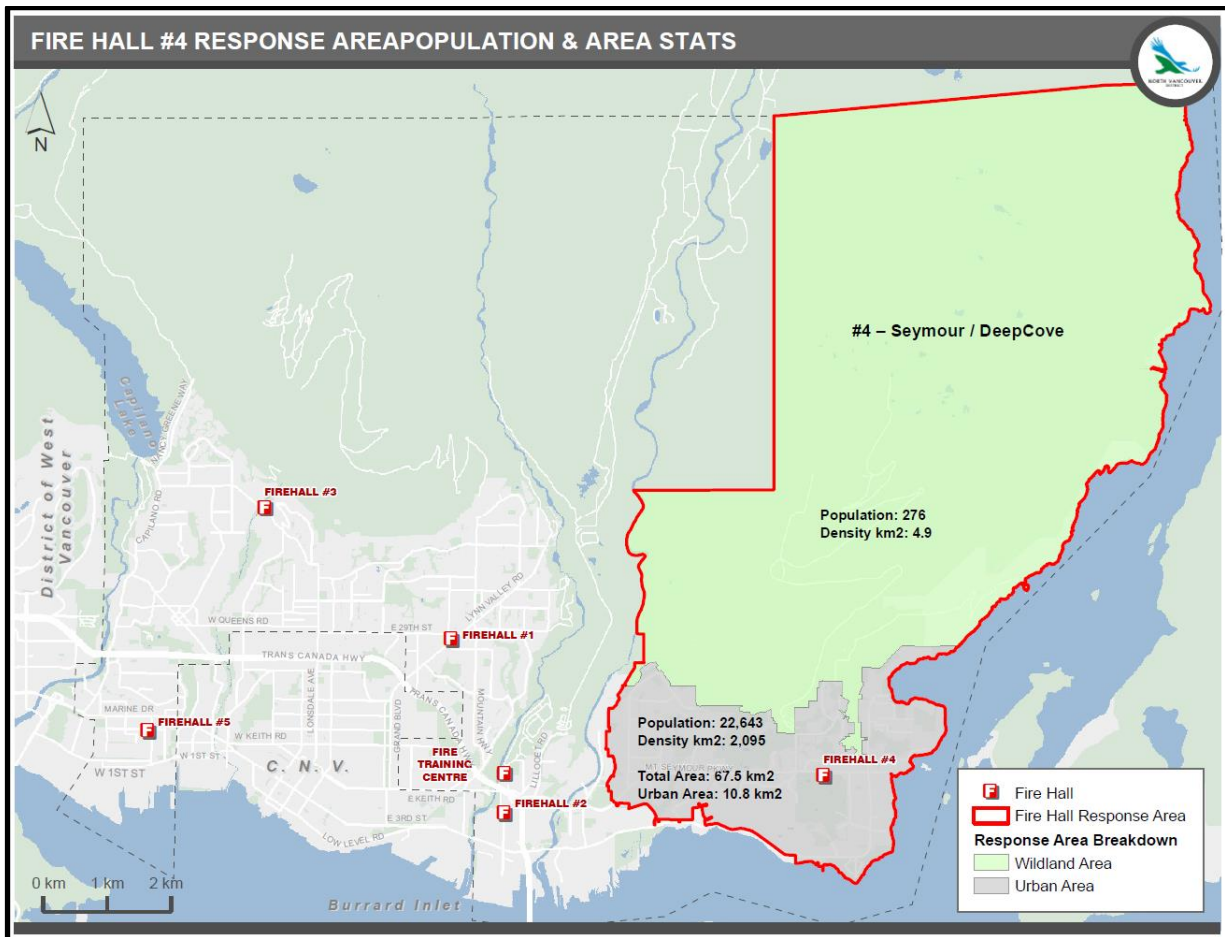
Incident Volume Breakdown - DNV Fire Station 3 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	220	195	238
Rescue and MVA	62	57	72
Emergency Medical Services	521	350	391
Non-Emergency	89	66	98
Hazardous Materials	18	9	10
Standbys	0	0	0
TOTALS	910	677	809



Fire Station #4 – Seymour/Deep Cove

3891 Mount Seymour Parkway, North Vancouver V7G 1C4 (604)990-3684



Response Category:	Urban and Wildland
Urban Area in km ² :	10.81 km ²
Wildland Area in km ² :	56.72 km ²
Total km ² Fire Station #4:	67.53 km ²
Urban Population:	22,643 (November 26, 2020 – GIS Data)
Population Density/Urban km ² :	2,095/km ²
Wildland Population:	276 (4.9/km ²)
#Buildings:	5,510
Residential Buildings:	5,303
Percent Residential/Total:	96%
#Residential/km ² :	490.6/km ²
Multi Family (Included in Residential):	483
#Multi/km ² :	45/km ²
FDM Inspectable Properties:	402
High-rise Buildings:	3



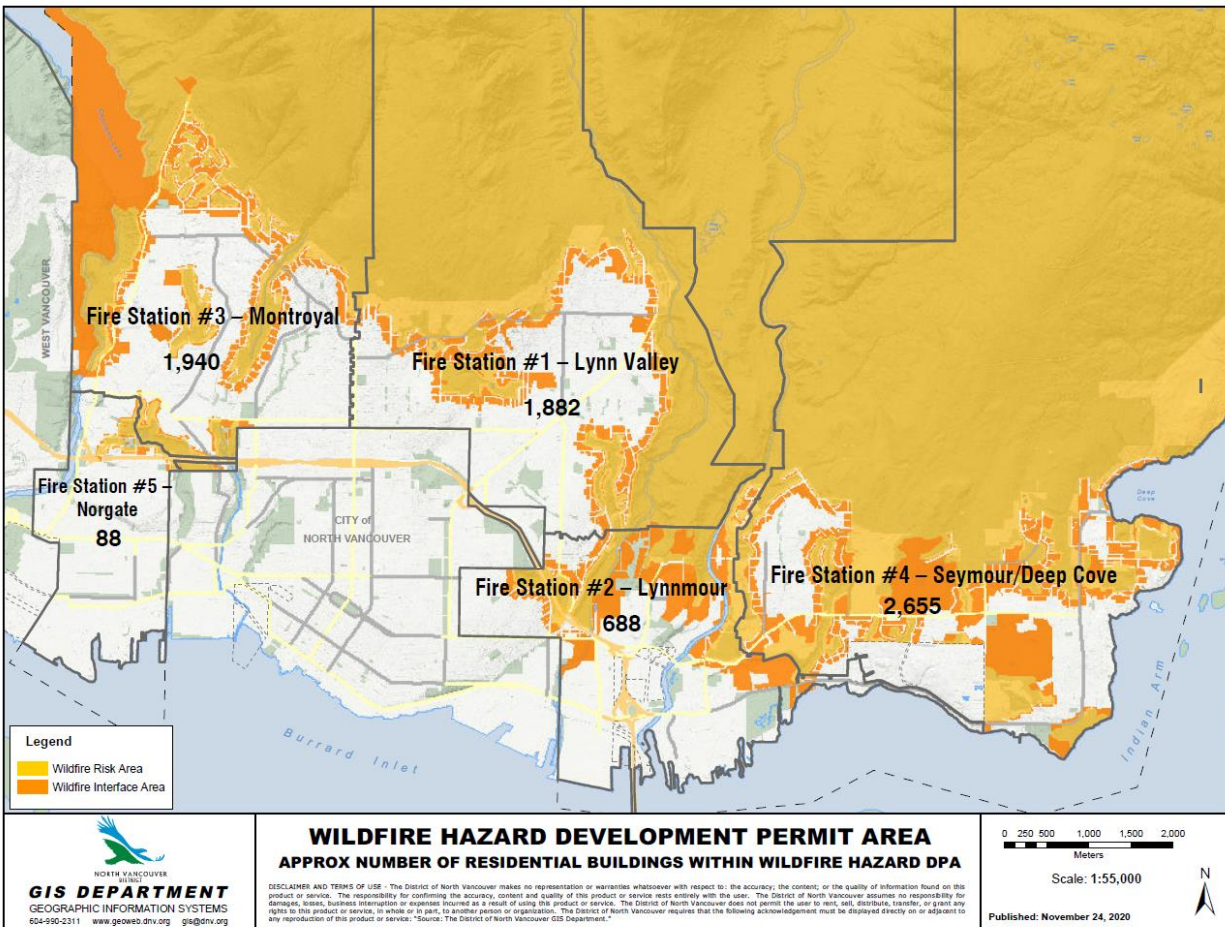
The Seymour/Deep Cove response area is comprised primarily of residential and commercial land use. There are two community villages located in this boundary—Parkgate Village and Deep Cove Village. The villages are primarily residential and commercial use with some institutional use. This geographic planning zone includes a grocery store, service and retail, and restaurants. Institutional use is throughout the area including schools, parks, recreation centre facilities, golf courses, marinas, and churches.

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	106	26.37
B	Detention/Treatment/Care	9	2.24
C	Residential	165	41.04
D	Office/Service	51	12.69
E	Mercantile	38	9.45
F	Industrial	33	8.21
		402	100.00

The Tsleil Waututh First Nations (TWN) Lands are located in the Seymour/Deep Cove response area. The TWN Indigenous peoples have primarily a residential community with support services, some commercial, and TWN office buildings. TWN maintains a “written consent” system for ceremonial burning, cooking fires, and bonfires on their lands (TWN Fire Bylaw 2001). TWN service agreement expires December 31, 2020 and is currently being collaboratively reviewed and revised. An appendix Operational Fire Service Agreement is in the preliminary planning stage. The TWN incorporates residential developments for non-indigenous people on their lands such as the Ravenwoods development. TWN is currently seeking to develop the Maplewood lands.

Seymour/Deep Cove borders the wildland of the DNV. 2,655 individual dwellings (SFDs and multi-family) located in the Seymour/Deep Cove planning zone are in the Wildland DPA. During design and construction, new structures in the Wildland DPA have additional mitigating measures placed on them to prevent and protect from wildfire including FireSmart restrictions on construction materials, landscaping, and a permitting process that is required for construction activities during high and extreme forest fire risk.



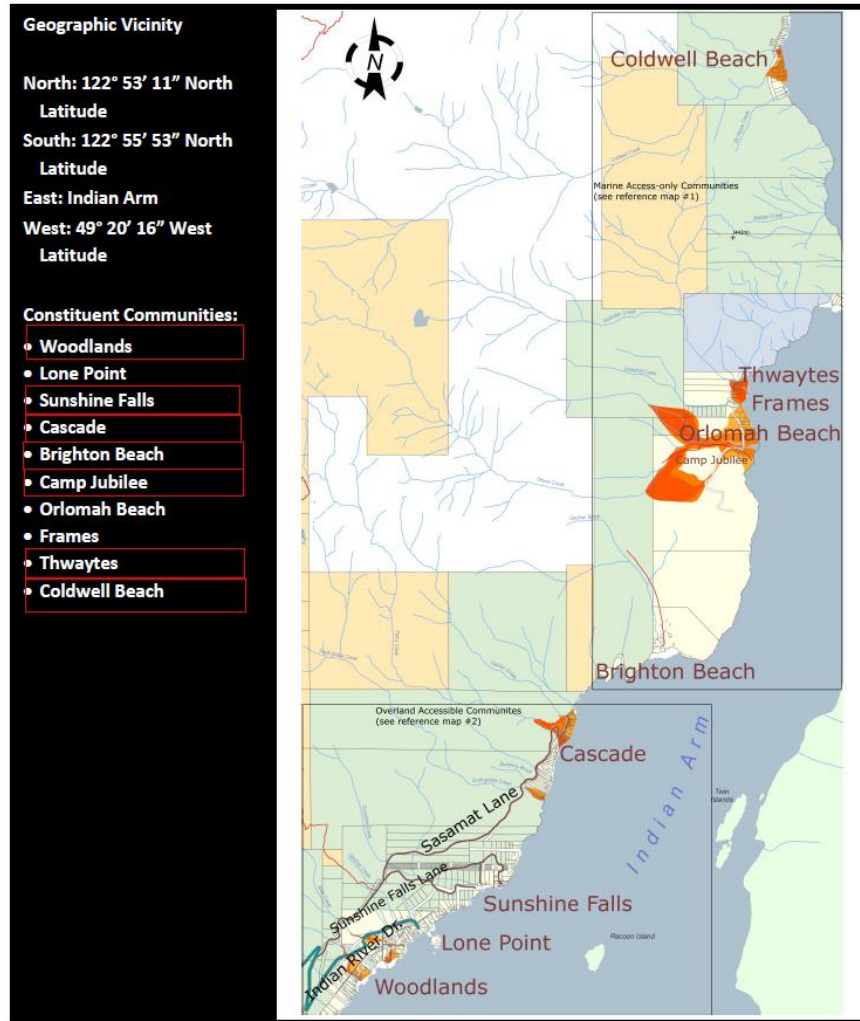


The Wildland DPA is a resiliency initiative that was identified in the 2009 Community Wildfire Protection Plan (CWPP). The DNV also has a multi-year program of fuel reduction strategies, as well as community risk reduction strategies such as the availability of FireSmart assessments for existing neighbourhoods, and public education and outreach. All frontline apparatus carry wildfire quick response capabilities. The Wildland Urban Response Vehicle is a specialty apparatus for response to wildfire and along with DNVFRS Type II Structure Protection Unit(s), are located centrally at Fire Station #2 and will be dispatched upon request of the Company or Chief Officer. Three (3) new Wildfire Response Squads will be Station #3, #2, and #5. Eventually the Squad at Station #5 will be moved to Fire Station #1 once heavy apparatus are moved to the new Maplewood Fire Rescue Center. Future plans include location of SPU at Fire Station #1, #2, and #3 (or #5 depending on room).

An area of inhabited wildland exists beyond the Metro Vancouver’s Urban Containment Boundary. In this geographic planning zone there are a total of ten (10) separate DNV communities which are located along the Indian Arm north of Deep Cove. Some of these communities are accessed from Indian River Drive, and some are boat/water access only. All of these communities are considered to be remote communities that can be challenging and time-restrictive to access. The communities are: Woodlands, Lone Point, Sunshine Falls, Cascade, Brighton Beach, Camp Jubilee, Orломah Beach, Frames, Thwaytes, and Coldwell Beach. Woodlands,



Sunshine Falls, and Cascade are accessible by road. Woodlands is divided into seven (7) fire lanes with varying degrees of challenging access due to steep and narrow roadways. Similarly is Sunshine Falls which is also known as fire lane 8. Sunshine Falls is the terminus of the DNV water distribution network. Cascade is accessible from the paved road but has no DNV fire hydrants. The remaining seven (7) communities have no road access or DNV water supply. A fire response pre-fire plan was updated in 2016; planning is in place for the redevelopment of pre-fire plans for this geographic area, as well, ongoing FireSmart education and outreach.



Additional wildland areas of Seymour/Deep Cove include off road use. Mount Seymour Ski Resort's base operation is accessed from this response area. The Baden Powell Trail parallels the base of the mountain and crosses the entire municipality. There are numerous mountain biking trails, and the popular hiking/viewing area called Quarry Rock. All frontline apparatus are equipped with medical equipment, and rescue jump bags, however, the Squad are both equipped with specialized wildfire and rescue equipment. Staff at Fire Station #4 are equipped with alternate assigned personal gear such as shorts and hiking boots with them for affecting rescues on the Quarry Rock and mountain biking trails, as well, wildfire response PPE.



Station #4 – Seymour/Deep Cove Complement:1 Captain and 3 Fire Fighters

Fire Apparatus: DNV Engine 4, DNV Engine 7, Squad 4
 Structure Protection Unit (SPU-1)
 Extended Operations Unit (SPU-3)

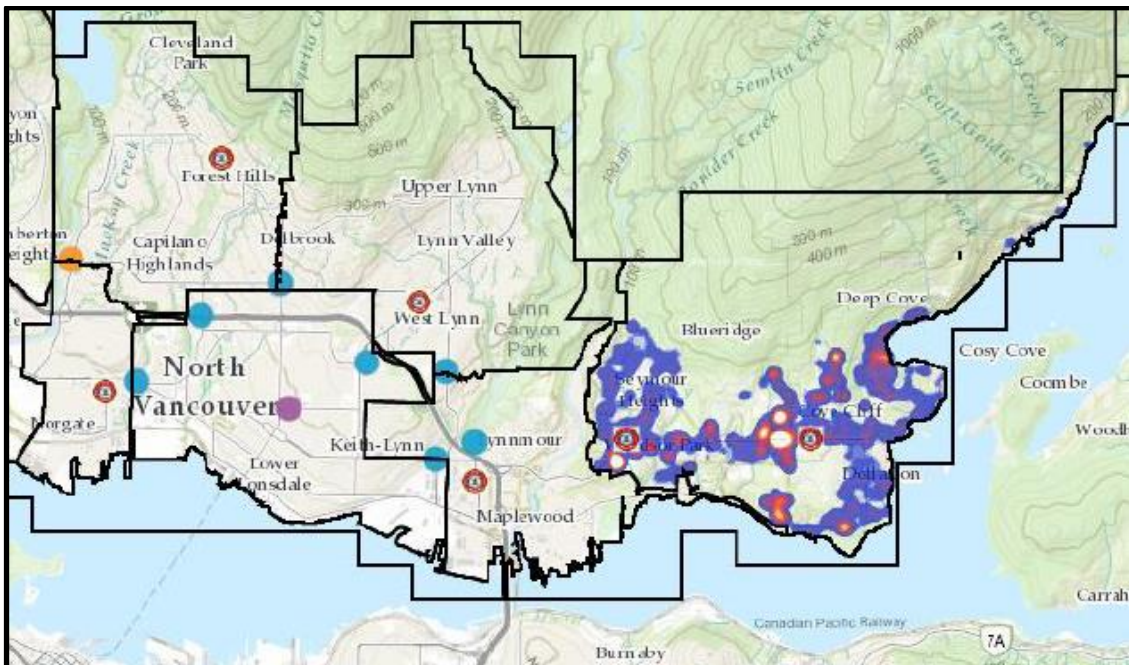
Structure Fire Risk Assessment: Moderate and High (Special Risk)

Wildfire Risk Assessment: High (Maximum Risk)

Technical Rescue: High (Special Risk)

MESA: Moderate Risk

All Incidents within Fire Station #4 Response Area 2017-2019



Incident Volume Breakdown - DNV Fire Station 4 Response Area

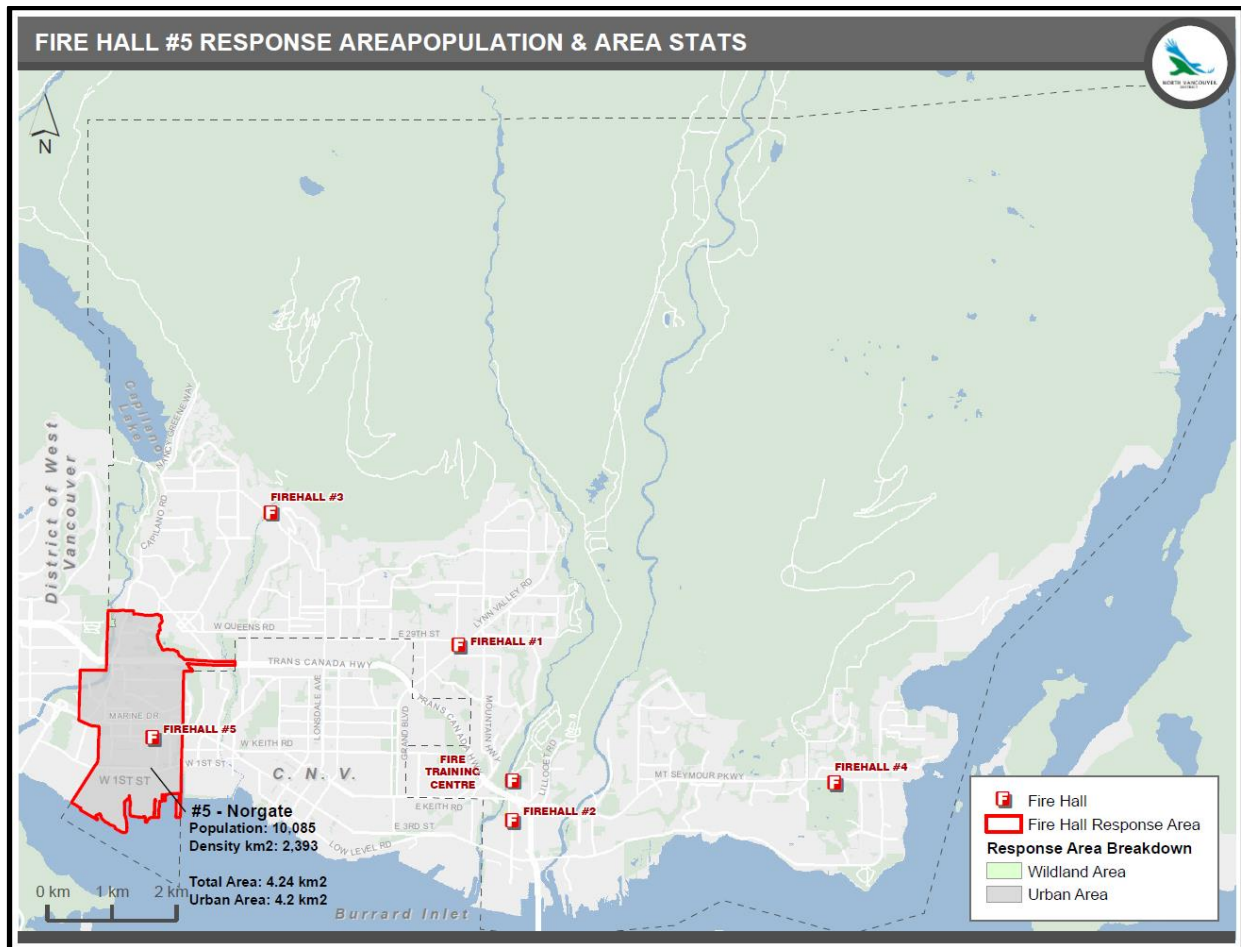
<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	250	220	182
Rescue and MVA	70	72	67
Emergency Medical Services	616	507	531
Non-Emergency	109	106	121
Hazardous Materials	19	18	9
Standbys	47	68	67
TOTALS	1111	991	977



Fire Station #5 - Norgate

1221 West 15th Street, North Vancouver V7P 1N1

(604)990-3685



Response Category:	Urban
Urban Area in km ² :	4.22 km ²
Wildland Area in km ² :	0.02 km ²
Total km ² Fire Station #5:	67.53 km ²
Urban Population:	10,085 (November 26, 2020 – GIS Data)
Population Density/Urban km ² :	2,393/km ²
Wildland Population:	0
#Buildings:	2,240
Residential Buildings:	1,869
Percent Residential/Total:	83%
#Residential/km ² :	442.9/km ²
Multi Family (Included in Residential):	88
#Multi/km ² :	21/km ²
FDM Inspectable Properties:	1,217
High-rise Buildings:	11

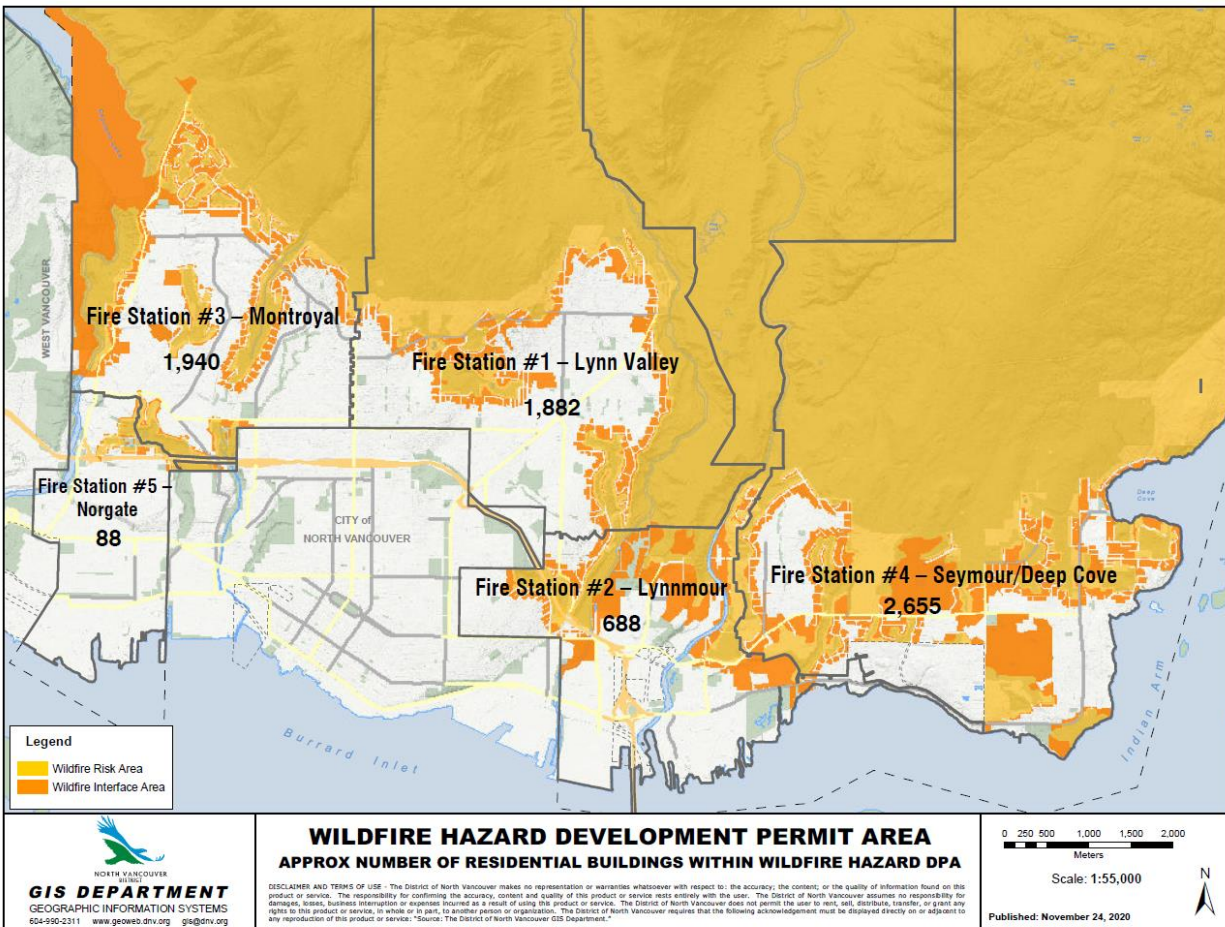


The Norgate response area is a mix of residential land use, mixed use commercial, commercial, light industrial, commercial, and medium and high risk industrial along the foreshore. There is a new town centre located along Capilano Road between Trans-Canada Highway 1 and Marine Drive. The new Lions Gate Village Town Centre is rapidly developing. It is the location for mixed use residential medium (under 6-stories) and high buildings (over 6-stories as defined by the BC Building Code). A large recreation centre is the development process in this geographic planning zone. Institutional use is throughout the area including schools, sports fields, churches, seniors care facilities, and children’s daycares. Industrial occupancies along the foreshore include: Seaspan, Lions Gate Marina, Pembina Canada Terminals/Vancouver Shipyards, and Fibreco, as well, includes new construction of a grain elevator and a water treatment plant.

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A	Assembly	115	9.45
B	Detention/Treatment/Care	4	0.33
C	Residential	119	9.78
D	Office/Service	475	39.03
E	Mercantile	137	11.26
F	Industrial	367	30.16
		1,217	100.00

Comparatively, the Norgate response area does not have a high risk of wildfire. However, there is urban interface area adjacent to parkland and 88 individual dwellings (SFDs and multi-family) located in the Norgate planning zone are in the Wildland DPA. Construction interface protocols apply to all construction during high and extreme forest fire hazard ratings adjacent to parks.





The wildland areas of Norgate are adjacent to the Capilano River. This area is popular year-round for hiking and river fishing. Capilano River is a shared response with Norgate and Montroyal fire stations being first in companies from the east and the District of West Vancouver Fire & Rescue Services (DWVFRS) responding from the west for technical rescues. Rescues on the Capilano River often involve the DWVFRS operating from the west side (river right) and DNVFRS operating from the east side (river left). The orientation for determining river right and left is as if looking downstream. All frontline apparatus are equipped with medical equipment, and rescue jump bags, however, the Rescue is equipped with the swift water specialized rescue equipment. Staff at Fire Station #5 are equipped with alternate assigned personal gear such as shorts and hiking boots with them.

The Norgate response area is adjacent to one of three Squamish Nations Lands on the North Shore. A large residential community, band offices, and recreational and support services are located in the District of West Vancouver at the foot of Capilano Road, a small portion of those homes are located within the DNV municipal boundary. The Squamish Nation has its own peacekeeping force which helps to support interagency needs on Squamish lands. The only outdoor fires that are permitted are for ceremonial purposes.



Station #5 – Norgate Complement: **1 Captain and 3 Fire Fighters**

Fire Apparatus: DNV Quint 5

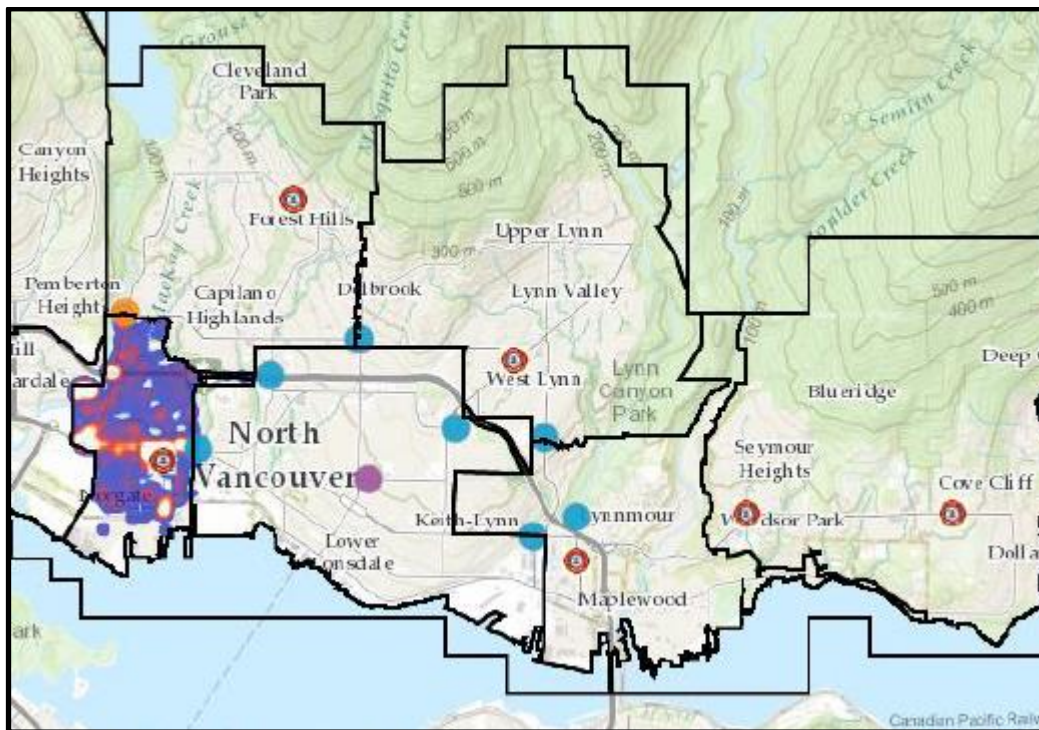
Structure Fire Risk Assessment: Moderate and High (Special Risk)

Wildfire Risk Assessment: High (Maximum Risk)

Technical Rescue: High (Special Risk)

MESA: Moderate Risk

All Incidents within Fire Station #5 Response Area 2017-2019



Incident Volume Breakdown - DNV Fire Station 5 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	161	169	199
Rescue and MVA	74	78	97
Emergency Medical Services	407	302	295
Non-Emergency	68	71	71
Hazardous Materials	11	8	15
Standbys	15	10	10
TOTALS	736	638	687



SECTION 2 STANDARDS OF COVER

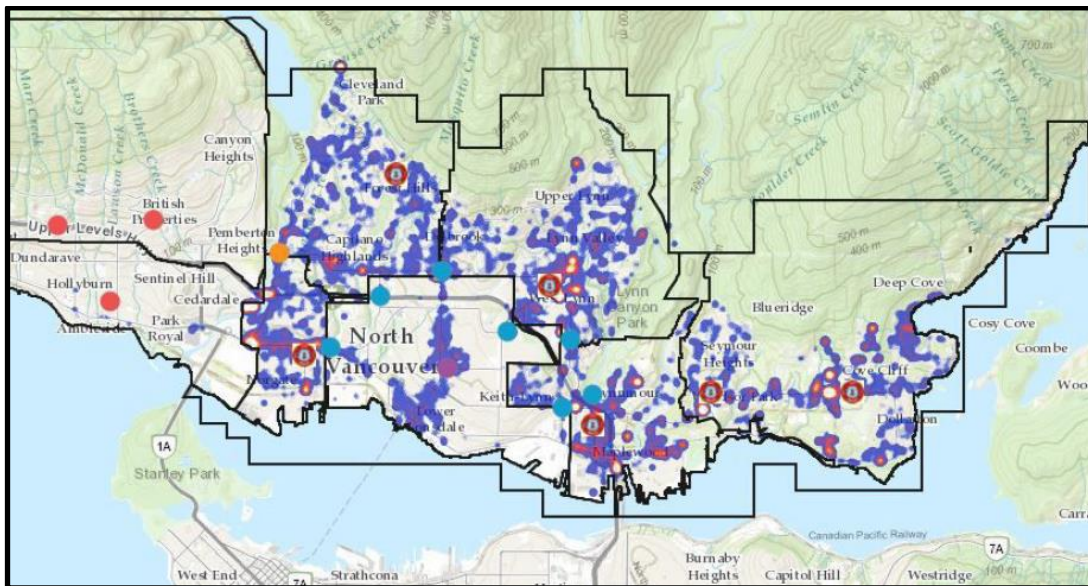
Current Delivery System

District of North Vancouver Fire and Rescue Services (DNVFRS) provides emergency and non-emergency response, and community risk reduction services to the residents and visitors of the District of North Vancouver (DNV). DNVFRS “engages across the organization at the strategic, tactical, and task level” as referenced by Fire Chief Brian Hutchinson “our priorities are summed up as the five ‘rights’: our job is to ensure the right people (our fire fighters), are at the right place, at the right time, with the right equipment and training, doing the right things and solving the problems at hand” (Annual Report 2019).

DNVFRS provides service to the 160 square kilometers of DNV urban and wildland environment with a total of 139.5 command staff, fire fighters, public safety, and support staff. Frontline apparatus consisting of five (5) fire engines/quints, one each (1) tower/rescue (cross staffed) , and a command vehicle, operate from five (5) strategically located fire stations and together with the training centre support our capacity in the urban environment. Additional light apparatus including wildland and rescue squads support response into the wildland.

The International Association of Fire Fighters (IAFF) collective agreement is in place to support IAFF Group 1 (fire suppression), and Group 2 (training and public safety) staff. The current IAFF collective agreement is dated 2012 January 01 to 2019 December 31. The Canadian Union of Public Employees (CUPE) collective agreement is in place to support the administrative support staff. The current CUPE Local 389 collective agreement is dated 2020 January 01 to 2021 December 31. The seven (7) Command Staff and one (1) administrative position are exempt DNV employees and as such are not supported by collective agreement.

All Incidents within All Fire Station Response Areas 2017 - 2019



In addition to fighting fires, DNVFRS fire fighters routinely respond to calls for medical assistance, rescue of all kinds, hazardous materials concerns, requests for public assistance and more. In 2019 DNVFRS fire fighters



responded to 4,257 incidents. The top five response types in 2019 were: emergency medical services (MESA) 52%, alarms ringing 18%, vehicle accidents 9%, fires 7%, and rescues 4% (Annual Report, 2019).

Incident Volume Breakdown - All DNV Fire Station Response Areas

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	1076	1076	1142
Rescue and MVA	464	447	470
Emergency Medical Services	2605	2009	1912
Non-Emergency	400	431	483
Hazardous Materials	91	83	68
Standbys	324	289	182
TOTALS	4960	4335	4257

Mitigating the impact of fire and reducing the number of fires that start in the first place is a primary goal of DNVFRS. Risk reduction measures are pursued by investigating fires to understand where they started and what caused them, by working with builders and developers to ensure that measures are in place to limit fire risk, and by regularly inspecting commercial, industrial, and multi-family buildings to ensure they comply with all fire codes and standards. In 2019 Public Safety staff completed 88 fire investigations, 5,971 fire inspections, 122 fire safety plan reviews, and 160 construction plan reviews (Annual Report, 2019). Risk reduction measures benefit the community and DNVFRS fire fighters by providing building and occupancy specific details, hazard alerts, and ensuring that life safety systems are regularly serviced.

The personnel of DNVFRS are its greatest asset. DNVFRS provides comprehensive training to its members. In 2019 the Training Division provided 9,392 hours of specialized training delivered in 343 training sessions to 126 staff (Annual Report, 2019). Specialized training of fire and rescue disciplines is delivered by DNVFRS professionally certified instructors. The instructor led disciplines include: fire ground survival, rapid intervention team, emergency vehicle operations, Critical Incident Stress Management/Resilient Minds, utilities safety, structural collapse, Blue Card Hazard Zone Incident Command, fire behavior, swift-water rescue, high angle rope rescue, vehicle extrication, fire ground operations, wildland firefighting, and Emergency Medical Assistant (EMA) delivered at the First Medical Responder (FMR) and Emergency Medical Responder (EMR) levels. This depth and breadth of training enhances DNVFRS operational capacity and effectiveness when responding to emergencies.

In addition to specialized training, DNVFRS personnel also receive a significant amount of on-the-job training that teaches foundational skills such as ladder operations, traffic safety, radio communications, hose deployment, gas and electric safety, and building construction. Foundational skill training ensures that DNVFRS Fire Fighters maintain the required competency standards for Fire Fighters in a “Full Service” Fire Department as outlined by the BC Office of the Fire Commissioner in the BC Fire Service Structure Fire Fighters Competency and Training Playbook (Playbook, May 2015). In 2019 DNVFRS recorded 17,692 training sessions for a total of 26,111 hours which equates to 207.2 hours per person (Annual Report, 2019).



Staffing Levels and Patterns

DNVFRS fire suppression personnel follow the two-platoon system as referenced in the Fire Department Act [RSBC 1996] Chapter 143. The two platoon system as defined is the *No. 2 System* whereby “one platoon must be on duty for day work for 10 consecutive hours each day, and the other platoon must be on duty for night work for 14 consecutive hours each day. Each platoon must alternate at least once in every 7 days from day work to night work to day work” (Fire Department Act, Section 4). In addition, there is a requirement that each “officer or employee must not be required on duty for more than 48 hours in any one week unless there is an arrangement that the hours of duty...averaged over a number of weeks are not more than 48 hours a week” (Fire Department Act, Section 5). The DNVFRS has four (4) platoons lettered A, B C, and D. All personnel within this system work 48 hours in an eight (8) day cycle; with two (2) 10-hour days followed by two (2) 14-hour nights followed by four (4) days off.

DNVFRS maintains a regular shift strength of the following levels as per Letter of Understanding (LOU) dated March 15, 2016:

- | | |
|----------------------------|--|
| • Station #1 – Lynn Valley | Two (2) Captain plus five (5) Fire Fighters |
| • Station #2 – Lynnmour | One (1) Captain plus three (3) Fire Fighters |
| • Station #3 – Montroyal | One (1) Captain plus three (3) Fire Fighters |
| • Station #4 – Deep Cove | One (1) Captain plus three (3) Fire Fighters |
| • Station #5 – Norgate | One (1) Captain plus three (3) Fire Fighters |

Minimum staffing of shift strength is equal to 23 fire suppression staff.

Since 1997, the least senior ten (10) fire suppression personnel are scheduled on a 56-day cycle in accordance with Operating Guideline 5.01.16.16 “Fire fighter Relief Pool” and letter of understanding (LOU) dated March 15, 2016. This was updated from originally being eight (8). The policy is in place to ensure appropriate shift strength is maintained. Relief pool members are full-time fire fighters who are assigned to a platoon for the purposes of determining benefits. However, instead of working the two platoon system, they work a 56-day cycle consisting of no more than 336 hours through working any combination of platoons. They shall not work more than 38 consecutive hours, no more than 84 hours in each 8 day block, and shall be granted two (2) consecutive 24 hour periods off in each eight (8) day block (aligning with their assigned platoon). Relief pool members shall not be called to cover a vacancy on a shift that has already started, instead overtime callout procedures would be initiated. Relief pool members make themselves available on a daily basis until 336 hours have been worked in their 56-day cycle. This pool of personnel is utilized to avert overtime on the four (4) platoons due to injury and illness, but may be used to cover short notice gratuity or banked overtime requests for leave if assigned to same platoon or if the relief pool member is well behind on their hours and nearing the end of their 56-day cycle.

As of December 2020 DNVFRS maintains seven (7) positions in the Public Safety Division, staffed by Group 2 IAFF personnel. The Training Division is staffed by one (1) Group 2 IAFF member. The hours of work are a 35 hour week. As of January 1, 1977 a principle of hours was set out in the Collective Agreement stating that Group 2 employees who are required to work a four (4) day week shall work a 9-1/4 hour day inclusive of a 30 minute lunch break. Employees who work a five (5) day week shall work eight (8) hours with a one (1) hour lunch break.



Fire Apparatus

DNVFRS has a frontline response force of three (3) engines, two (2) quints, one (1) tower, one (1) rescue, and one (1) command staff vehicle. Additional emergency vehicles that are available to personnel for response include two (2) squads. As well, a backup capacity of two (2) engines is maintained at readiness—Engine 6 is at Fire Station #5 and Engine 7 is at Fire Station #4 in a reserve capacity. Additionally, Engine 8 is used for training purposes at the Training Centre.

DE1 – 2014 Pierce Pumper Engine, 68545 Km
300 Gallon Tank Capacity, Single Stage Pump



DQ2 – 2006 Spartan Smeal Quint, 107321 Km
300 Tank Capacity, Single Stage Pump, 55' Ladder



DE3 – 2016 Pierce Pumper Engine, 53346 Km
344 Gallon Tank Capacity, Two Stage Pump



DE4 – 2016 Pierce Pumper Engine, 42750 Km
336 Gallon Tank Capacity, Two Stage Pump



DQ5 – 2003 Spartan Smeal Quint, 148857 Km
300 Gallon Tank Capacity, Single Stage Pump,
55' Ladder



DT1 – 2008 Spartan Smeal Aerial/Platform,
87097 Km, 300 Gallon Tank Capacity, Single
Stage Pump, 100' Ladder



DR1 – 2000 Freightliner FL 112 Rescue, 195073 Km



Command – 2017 Ford F350 Pickup, 51429 Km



Squad 2 – Ford F550 Pickup, 16182 Km



Squad 4 – 2008 Chevy Sierra Pickup, 61965 Km



DE6 – 1997 Spartan Superior Pumper Engine, 18898 Km, 300 Gallon Tank Capacity, Two Stage Pump



DE7 – 1994 Spartan Superior Pumper Engine, 203350 Km, 300 Gallon Tank Capacity, Two Stage Pump



DE8 – 1994 Spartan Superior Pumper Engine, 207477 Km, 300 Gallon Tank Capacity, Two Stage Pump



Squad 1 – 2017 Ford F350 Pickup, 13160 Km



Non-Emergency Services Fleet

DNVFRS has a non-emergency services fleet to support the emergency services fleet, and to support the non-emergency services that are provided to the community. These vehicles are assigned to the Public Safety Division and the Training Division.

The Public Safety staff have a combined fleet of eight (8) small pickup trucks, hybrid cars, and electric cars, as well, a Fire Investigation Unit. The transition to energy efficient vehicles began in 2012 with the purchase of two hybrids, then moved to full electric vehicles in 2019. There is a multi-year plan to replace the fleet of small gas fueled pickups with electric vehicles.

Fleet#717 – 2019 Nissan Leaf, 4723 Km



Fleet#718 – 2019 Nissan Leaf, 5528 Km



Fleet#719 – 2019 Nissan Leaf, 4302 Km



Fleet#610 - 2009 Ford Ranger, 97582 Km



Fleet#608– 2007 Ford Ranger, 90500 Km



Fleet#710 – 2004 Ford Ranger, 100793 Km



Fleet#713 - 2012 Toyota Prius Hybrid, 56170 Km



Fleet#71 - 2012 Toyota Prius Hybrid, 27797 Km



Fire Investigation Unit
Fleet#720 – 2020 Ford F350, 665 Kms



The Training Division has a non-emergency fleet that supports training functions as well as transportation of larger groups of personnel. This is accomplished with an SUV, and a passenger van.

Fleet#611 – 2011 Ford Flex, 56013 Kms



Fleet#607 – 2004 Chevy Express Van, 91537 Km



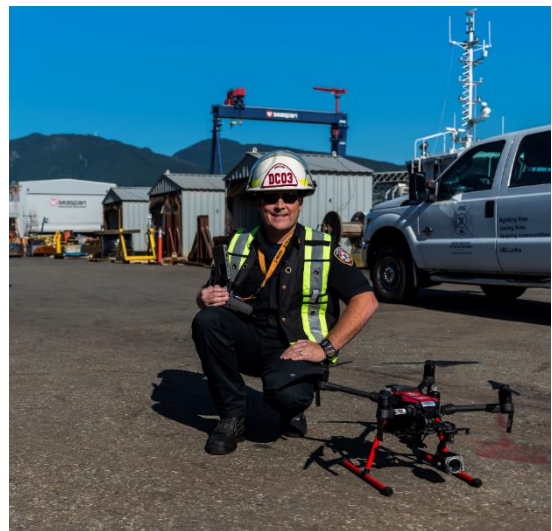
Remotely Piloted Aircraft System (RPAS)

DNVFRS operates an unmanned aerial vehicle referred to as a Remotely Piloted Aircraft System (RPAS), more commonly known as a drone. The RPAS may be deployed upon request by an Officer through dispatch or directly through a Duty Chief for structure fires, technical rescue incidents, swift water response, wildland interface fires, post fire/disaster building inspections, post fire investigations, and hazmat response. DNVFRS has a Special Flight Operating Certificate (SFOC) issued by Transport Canada in cooperation with NAV Canada for airspace coordination and operations.

The RPAS program is required to be operated by two certified personnel at all time. A Pilot in Charge (PIC) and a Visual Observer (VO) maintain sole responsibility for the operation and must maintain Visual Line Of Sight (VLOS) with the RPAS while it is underway. The PIC is responsible for determining operational parameters such as temperature, wind, site conditions, and that operational parameters comply with applicable SFOC and Transport Canada.

The RPAS records image via video camera. Images are stored on an SD card and downloaded to a secure drive folder. Access to the folder is limited. Authorization for external distribution or release of video is in accordance with legal guidelines set by the Freedom of Information and Protection of Privacy Act (FOIPPA).

The RPAS program is managed by the Assistant Chief of Operation Support. The program manager in consultation with the Privacy Officer for the DNV will determine any video that may be able to be viewed for internal training and quality improvement purposes as per Operating Guideline 2.04.11.



Maintenance

The Assistant Fire Chief – Operations Support is responsible for overseeing the needs of the fleet and facilities. The DNV fire station facilities are maintained by contract workers as scheduled by Operations Support. Annual servicing, repairs, and replacement are planned in accordance with DNV Purchasing guidelines and tracked by purchase order and/or business unit/account number. Since 2017 DNVFRS fleet has been managed by the DNV Fleet Division out of the DNV Operations Yard at 1370 Crown Street, North Vancouver. The maintenance program includes provincially mandated annual service, emergency/unplanned repairs, damage and warranty work, as well, a capital replacement purchase program. The DNV mechanics are TQ certified heavy duty mechanics.

Baseline Actual Responses for All Incidents (3 Years: 2017, 2018, 2019)

DNVFRS provides emergency and non-emergency services to the DNV residents and visitors. Through the regional Cooperative Fire Rescue Service Letter of Understanding (Shared Service agreement), DNVFRS also responds to the City of North Vancouver and the District of West Vancouver. DNVFRS could be a first due apparatus in any of the three municipalities, as well, part of the effective response force (ERF) and vice versa.

Incident Volume Breakdown - All DNV Fire Station Response Areas

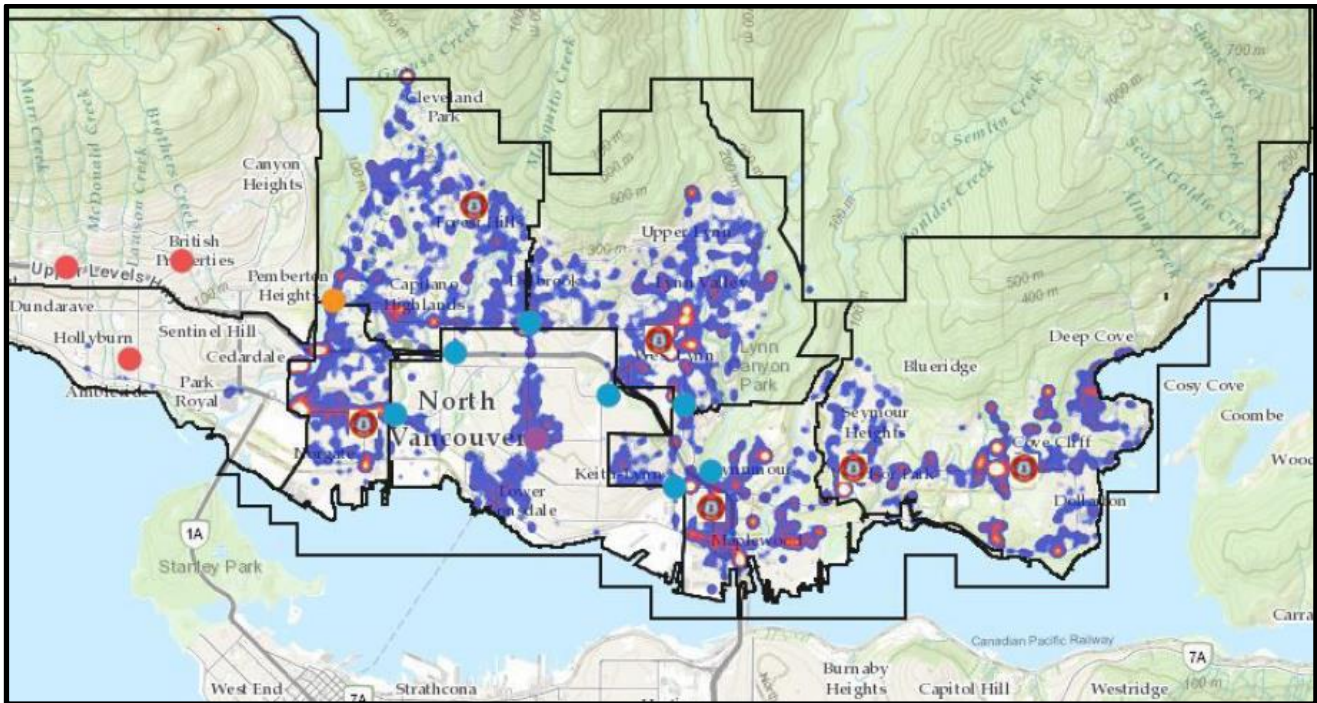
<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	1076	1076	1142
Rescue and MVA	464	447	470
Emergency Medical Services	2605	2009	1912
Non-Emergency	400	431	483
Hazardous Materials	91	83	68
Standbys	324	289	182
TOTALS	4960	4335	4257

In the three year period 2017-2019 DNVFRS responded to an average of 4,517 calls for service. While there are three (3) separate municipalities on the North Shore, in many ways the boundaries are seamless. Residents from all three (3) municipalities use a variety of services from other municipalities, and while they may live in one municipality they may work in the neighbouring municipality.

The Cooperative Fire Rescue Service Letter of Understanding supports the provision of the best service for all residents and visitors to the North Shore. While DNVFRS predominantly responds within the DNV, service is also provided to the City of North Vancouver and the District of West Vancouver to support their primary service provision. On average during the three year period 2017-2019, 86.6% of DNVFRS calls for service were located in the DNV. DNVFRS personnel responded into the City of North Vancouver 10.2%, and 3.2% in the District of West Vancouver. This response is either as a first due or part of an effective response force.



All Incidents within All Fire Station Response Areas 2017 - 2019



Incident response times are reviewed by Fire Officers upon return to station, as well, data is verified by the Acting Captain Information Technology and revised upon confirmation with Fire Command AVL data records. DNVFRS data for 2017-2019 represents actual response types and times, as opposed to dispatched as, for example an alarms ringing call may actually be a structure fire, or an apparatus may forget to push “on scene”.

Fire Stations – All Incident Types 90th Percentile Baseline Actuals

In prior years, DNVFRS reported its performance for turnout time, travel time, and total response time based on averages. To align with best practices and the CFAI accreditation model, DNVFRS has reported the three (3) year period 2017-2019 using the methodology of calculating 90th percentile. 90th percentile tells you that 90% of times your performance was better than this number but 10% of times it was slower. Therefore, this number sets a realistic expectation of response performance for the community. There are several ways of calculating 90th percentile. Through Deccan International, the data tables are in accordance with the CPSE 2020 edition “Quality Improvement for the Fire and Emergency Services”. The methodology utilized by Deccan International for DNVFRS to calculate the 0.9th fractal or 90th percentile is as follows:

- The method returns 0 if the number of observations is less than 2.
- If the number of observations is greater than 1, the method involves first calculating an intermediary value (k) – the least integer greater than or equal to the number of observations multiplied by 0.9.
- If the number of observations multiplied by 0.9 is an integer and is hence equal to ‘k’, the average of the [k – 2]th and [k – 1]th observations sorted from the lowest to highest values is returned as the 90th percentile.



- If the number of observations multiplied by 0.9 is not an integer and is hence not equal to 'k', the [k – 2]th observation sorted from lowest to highest values is returned as the 90th percentile.

In math terms:

- Number of Observations = N
- When N = 0, returns 0
- When N = 1, returns 0
- When N > 1,
- $K = \text{Ceiling}(N * 0.9)$
- If $K = N * 0.9$, returns $([K - 2]^{\text{th}} \text{ observation} + [K - 1]^{\text{th}} \text{ observation}) / 2$, where the observations are sorted from lowest to highest values
- If $K <> N * 0.9$, returns $[K - 2]^{\text{th}}$ observation sorted from lowest to highest values

Baseline performance is the actual performance. The 90th percentile is depicted individually for alarm handling time, turnout time, travel time, and total response time. The total response time is listed for the first arriving apparatus, as well the effective response force (ERF) as represented in critical tasking. The n= factor represents the number of times that the response critical tasking criteria was achieved. NOTE: cumulative responses less than two (2) are not a reliable calculations and represent (n/a) as a calculation.

As a fire service agency that is seeking first time accreditation, DNVFRS is required to write to all services areas in the Fire & Emergency Services Self-Assessment Manual, as well, to report the response data for the top three (3) response types, and any response type where service was provided more than 50 times in three (3) years. The DNVFRS will be reporting on four (4) incident types—fire suppression moderate risk, emergency medical services (MESA) moderate risk, rescue moderate risk, and rescue high risk (technical rescue). DNVFRS also responded to an average of 86 hazardous materials incidents during the three-years 2017-2019. DNVFRS personnel are trained to awareness and operations levels as detailed in the Standards of Cover.



Top Four (4) Reportable Incident Types (2017 - 2019)

DNVFRS records the total response time to incidents (*baseline actuals*) and has established goals for response time and aligned with industry best practices (*benchmark targets*). Data analytics have been prepared by Deccan International for the three (3) greatest moderate risk response types and responses greater than 50 per year.

The incident types being reported are: Fire suppression Moderate Risk, Emergency Medical Services (MESA) Moderate Risk, Rescue Moderate Risk, and Rescue High Risk (technical rescue). The benchmark targets that have been established for these four (4) incident types are broken down by alarm handling, turnout time, travel time of first due, total response time of first due, additional travel time for the effective response force (ERF), and the total response time of the ERF. Establishing a benchmark target has allowed the DNVFRS to review and analyze performance to the 90th percentile as opposed to the previous reported method of using averages. The following table represents the benchmark targets for DNVFRS:

Benchmarks for Reporting							
Reportable Categories Based on Moderate Risk and Responses Greater than 10/Year		in Minutes:Seconds					
		Alarm Handling	Turnout Time	Travel Time First Due	Total Response Time - First Due	Add'l Travel Time ERF	Total Response Time - ERF
Fire Suppression - Moderate Risk	Urban	01:00	01:30	04:00	06:30	04:00	10:30
Emergency Medical Services (MESA) - Moderate Risk	Urban	01:00	01:00	04:00	06:00	n/a	06:00
Rescue Motor Vehicle Accident (MVA) - Moderate Risk	Urban	01:00	01:30	04:00	06:30	04:00	10:30
Technical Rescue - High Risk	Urban	01:00	01:30	04:00	06:30	04:00	10:30



Critical Tasking

DNVFRS critical tasking of fire apparatus and personnel is determined by response procedures as outlined in Operation Guideline #2.03.04. The following table aligns resource allocation with critical tasking for fire suppression. DNVFRS will be reporting data analytics on response to moderate risk fire suppression incidents. First due times as well as ERF will be reported for Fire suppression in the data analytics.

Fire Suppression								
Task	Low Risk			Moderate Risk			High Risk & Maximum	
	Garbage, grass, bark mulch	Investigation	MVA Fire	First Alarm: residential, industrial, marine and commercial	Working Fire (Special Alarm Designation)	Second Alarm: residential, industrial, marine and commercial	Special Incident Types: Schools, Nursing Homes, Hospitals (Automatic Aid/Predetermined Shared Services) Maximum Risk - Wildfire	Second Alarm
Initial Deployment	1 - Engine/Quint	1 - Engine/Quint	2 - Engine/Quint	3 - Engine/Quint, 1 Tower/1 Rescue	2 - Engine/Quint	3 - Engine/Quint, 1 Tower/1 Rescue	3 - Engine/Quint, 1 Tower/1 Rescue, + 2 Engine/Quint	3 - Engine/Quint, 1 Tower/1 Rescue, + 2 Engine/Quint
Incident Command	1	1	1	1			1	1
Scene 360 Assessment	1*	1*	1	1*			1*	1*
Engine Operations	1	1	1	1	1	1	2	2
Water Supply	1*	1*	1	1*			1*	1*
Fire Control	2		2	2	2		5	5
Backup Attack Line				4			4	4
Rapid Intervention Team (RIT)				4		4	4	4
Incident Safety Officer				1*	1	1	1	1
Accountability				1*	1*	1	1*	1*
Ventilation & Utilities				2*			2*	2*
Search & Rescue				4*			4*	4*
Salvage & Overhaul				4*			4*	4*
Forceable Entry and Exposures				1*			1*	1*
Chief Officer								
Tactical Reserve				3		4	3	3
Investigation		2	2					
Evacuation					4	4	4	4
Exposures								
Number of Personnel	4	4	8	15	8	15	23	23

*Personnel can function in a secondary role once their primary role is completed
 *NS Working Fire is an add to first alarm of 8
 *Second alarm for a moderate risk fire is an add to duplication of first alarm regardless of NS Working Fire or Special Up Requests, i.e. 15 + 15 = 30 or 15 + 8 + 15 = 38
 *Interface fire may include a special resource request for Wildfire resources after first alarm assignment, i.e. Structure Protection Unit, Wildfire Squad



The following table aligns resource allocation with critical tasking for emergency medical assistance, commonly referred to by DNVFRS as MESA. DNVFRS will be reporting data analytics on response to moderate risk MESA incidents. First due times and ERF will be reported as the same figures in the data analytics as this is a single unit response.

Emergency Medical Services (MESA)			
Task	Low Risk	Moderate Risk	High Risk
	Green/Yellow Non-emergency, lift assists	Orange (i.e. chest pain) Red & Purple (i.e. cardiac)	n/a
Initial Deployment	1 - Engine/Quint	1 - Engine/Quint	
Incident Command	1	1	
Scene 360 Assessment	1*	1*	
Safety	1	1	
Patient Care	1*	2	
Lift & Transfer	2	2*	
Number of Personnel	4	4	

*Personnel can function in a secondary role once their primary role is completed
 All staff are trained to a minimum of First Responder Level III with AED and CPR endorsement.
 BCEHS Clinical Response Model:
 Purple - Immediately life threatening (cardiac/respiratory arrest) Highest Priority Echos/Deltas
 Red - Immediately life threatening or time critical advanced skills recommended
 Orange - Urgent/Potentially serious but not immediately life threatening
 Yellow - Non-Urgent (not serious or life threatening)
 Green - Non-Urgent (not serious or life threatening)
 Blue - Non-Urgent (Not serious or life threatening/further telephone triage appropriate)



The following table aligns resource allocation with critical tasking for Rescue including Motor Vehicle Accidents (MVA). DNVFRS will be reporting data analytics on response to moderate risk and high risk Rescue & MVA incidents. Both of these incident types have greater than 50 incidents per year. First due times as well as ERF will be reported for Rescues in the data analytics.

Rescue & MVA			
Task	Low Risk	Moderate Risk	High Risk
	Motor Vehicle, Elevator	MVA Rescue Required (Incl Highway)	Tech Rescue (Water, High Angle, Trench, Confined Space, Trail)
Initial Deployment	1 - Engine/Quint 1-Rescue	2 - Engine/Quint, 1 Rescue	3 - Engine/Quint, 1 Rescue
Incident Command	1	1	1
Scene 360 Assessment	1*	1*	1*
Establish Outer Perimeter	1*	1	1
Pump Operations	1	1	
Establish Inner Perimeter	1*	1*	1*
Triage Patients	1	1	1
Patient Care	2	1	2
Extrication	2*	1	2
Rescue Team Lead	1	1	1
Main Line Rigging & Operations			1
Belay Line Rigging & Operations			1
Rescue/Edge Attendant			1
Incident Safety Officer	1	1	1
Ventilation			
Air Supply/Management			
Haul Team & Manpower		3	3
Number of Personnel	7	11	15

*Personnel can function in a secondary role once their primary role is completed
Each apparatus is equipped with either lightweight combination tools or heavy extrication tools, specialty rescue eqpt is contained on the Rescue and the Squads.



Hazardous Materials (HazMat) Response

Hazardous Materials (HazMat) response is a high risk low frequency response. HazMat response by DNVFRS personnel is provided at an operations levels employing mitigation tactics such as diking and damming, and operational duties such as decontamination. The North Vancouver City Fire Department (NVCFD) provides technician and specialty capabilities as part of the Cooperative Fire Rescue Services Agreement. DNVFRS responded to an average of 86 calls at a HazMat operations level during the three-year period 2017-2019.

At this level, DNVFRS personnel are expected to be able to identify a hazardous materials incident, and to be able to establish a safety zone. The NVCFD HazMat Team can be specially requested through dispatch if not already part of the original deployment.

During an incident DNVFRS crews are responsible for the decontamination area set-up in the warm zone, as well, decontamination of personnel. The warm zone is a defined area within an incident between the hot zone where the technicians are operating, and the cold zone where additional personnel and support services are located. The NVCFD HazMat Team provides incident mitigation as Technicians trained to NFPA 472.

Performance Monitoring Methodology

In 2018 DNVFRS established a data analytics reporting process for turnout times by incident. Data was analyzed and cleaned utilizing actual information based on Fire Command and supported by Chief Officers. As an example an incident dispatched as an alarms call that became a fire suppression incident would be coded to the actual nature of the incident and reported as such. Responses that were over a total response time of 10 minutes were investigated and compared against Fire Command for actuals and the records were adjusted if warranted. The reporting statistic employed an “average” calculation. For example, the average turnout time in 2018 across all incident types was 1 minute and 38 seconds. The average travel time reported in 2018 was 5 minutes and 42 seconds (Annual Report, 2018). Comparatively the same averages were reported in 2019. The average turnout time by incident was 1 minutes and 31 seconds. The travel time average was 5 minutes and 36 seconds. DNVFRS has transitioned away from reporting as an average to reporting based on the CFAI model of 90th percentile. This means that DNVFRS is now reporting data on what is being done 90%of the time, as opposed to the broader range that averages provides. This process also provides the ability to quantify deployment data and compare to previous years, established benchmark targets, and like-sized organizations.

90th percentile based on baseline actuals and benchmark targets established by DNVFRS provide a consistent and quantifiable approach to data analytics. The economic restrictions for DNVFRS to provide response coverage meeting NFPA 1710 100 percent of the time is not possible. Using the industry best practice of the CFAI model supports the positioning of stations and resources to cover 90 percent of the service area in each first-due area, and achieving the concentration of the effective response force (ERF) to multi-unit responses. Utilizing the 90th percentile and CFAI aligned data analytics will support decision-making to allow for equity of service to DNV residents and visitors, as well, the ability to proactively plan for efficient and effective service levels.

Data analytics for total response time to the four (4) reportable incident types includes: alarm handling, turnout time, travel time, and total response time. This is reported for the first due unit as well as the concentration of the ERF. The total response time of the first due unit allows DNVFRS to test distribution of



resources within the DNV, and determine how well the needs of the community are met. The total response time of the ERF allows DNVFRS to test how well the concentration the full first alarm complement performed, as determined based on critical tasking analysis. For the purpose of data analytics the following definitions are applied:

- Alarm handling is the call handling time from when Surrey Fire Dispatch received the call from E-Comm 9-1-1 operators to the time when the Surrey Fire Service (SFS) dispatcher commits the apparatus to the incident.
- Turnout time begins when the SFS dispatcher commits the apparatus to the call and ends when the officer of the apparatus selects “On Route” or advised SFS Dispatch they are “On Route”.
- Travel time begins when the DNVFRS apparatus begins “On Route” and ends when the DNVFRS Officer of the apparatus selects “On Scene” or advises SFS Dispatch that they are “On Scene”.
- Total response time is the total of alarm handling time, turnout time, and travel time.

Alarm handling time is under the control of SFS Dispatch Centre and consistently meets and exceeds NFPA 1121, 2019 Edition of 60 seconds 90 percent of the time. Alarm handling time is not influenced by DNVFRS personnel. DNVFRS personnel have the capacity to influence turnout time and travel time as components of total response time. Turnout time can be influenced by personnel readiness, physical location, and Station layout. Travel time can be influenced by personnel preparedness and direction for routing. Travel time is also impacted by traffic congestion, construction, and could fluctuate with time of day, day of week, time of year, and weather conditions.

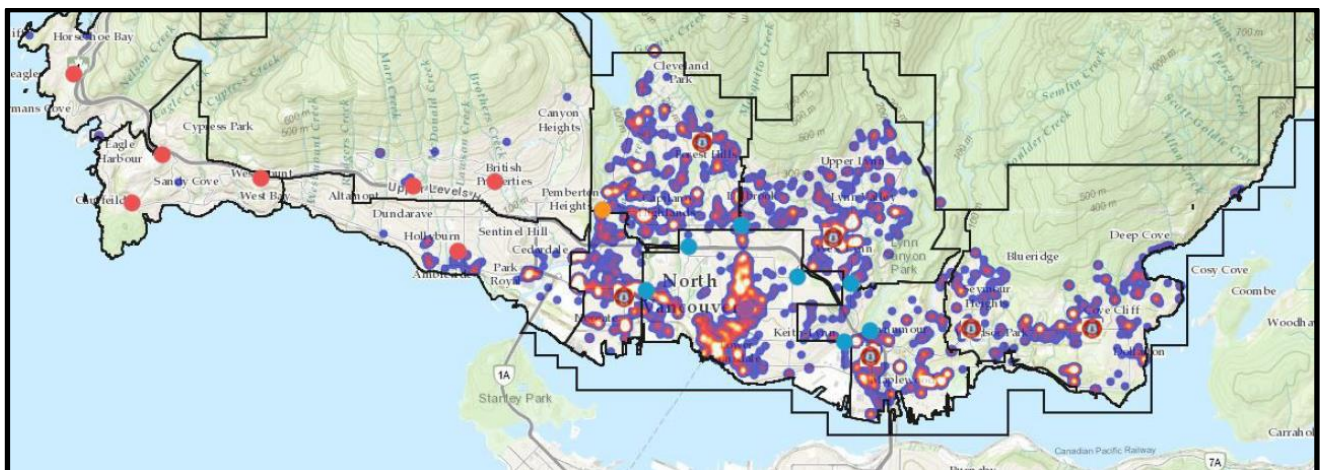


ALL STATIONS BASELINE/BENCHMARK PERFORMANCE

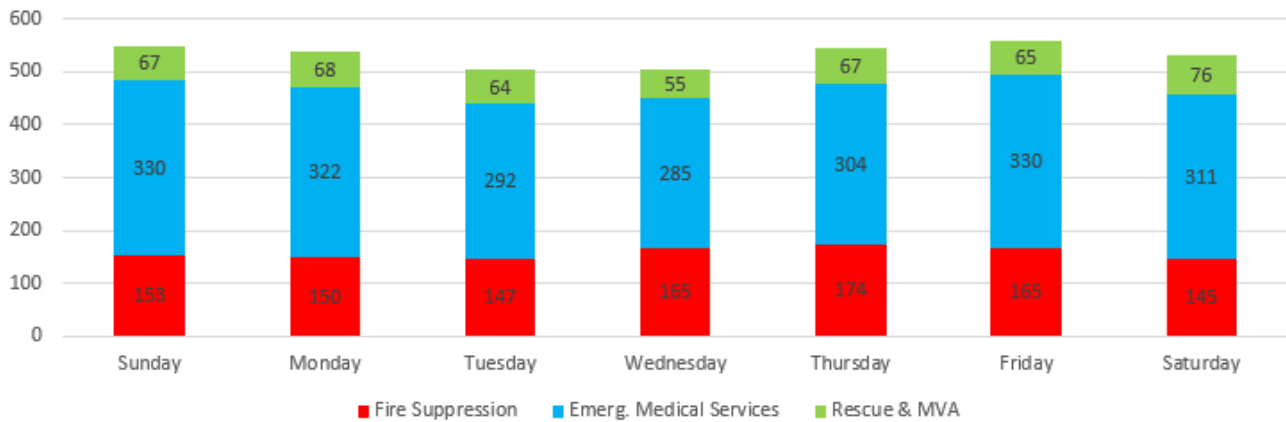
Incident Volume Breakdown - All DNV Fire Station Response Areas

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	1076	1076	1142
Rescue and MVA	464	447	470
Emergency Medical Services	2605	2009	1912
Non-Emergency	400	431	483
Hazardous Materials	91	83	68
Standbys	324	289	182
TOTALS	4960	4335	4257

All Incidents for All Fire Station Response Areas 2017-2019

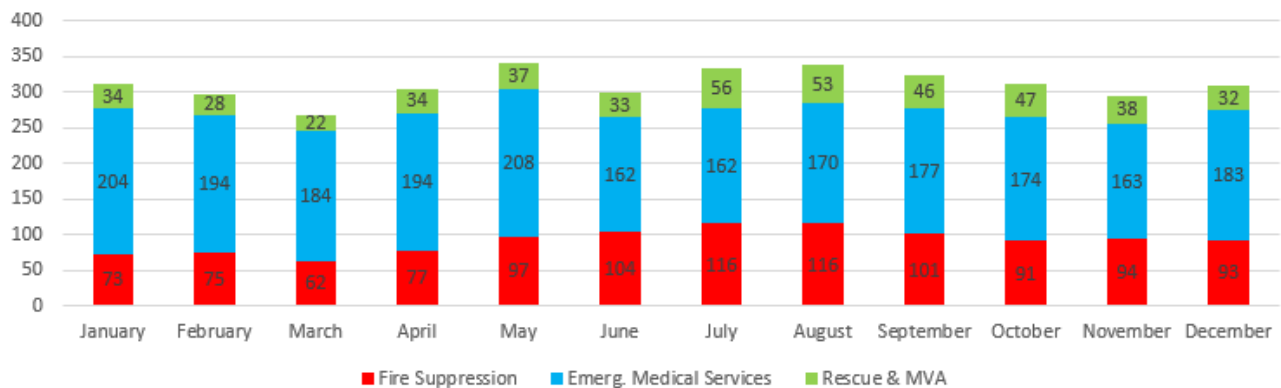


Incident Volume (Avg) by Day of Week - All DNV Fire Station Response Areas



For All Stations in total, during the three year period 2017-2019 call volume was fairly consistent for MESA calls, although a peak is noticed in January and May. Fire suppression calls are lower in the first four months of the year, and peak in July. Rescue calls are the highest in July through September.

Incident Volume (Avg) by Month of Year - All DNV Fire Station Response Areas



Fire Suppression Performance Statements

This section represents data analytics for Fire Suppression – Moderate Risk calculated as a total for all fire stations for the three-year period 2017-2019. **NOTE: Baseline Performance Tables for “All of District of North Vancouver” includes response time and (n=) for incidents to the City of North Vancouver and/or the District of West Vancouver. ERF is triggered by apparatus type (3 Engine/Quint + 1 Tower) and 15 personnel. For response solely within the DNV refer to the individual Fire Station Response Areas.**

All of DNV Fire Response Areas

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:58	00:00:58	00:01:06	00:00:58
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:25	00:02:25	00:02:39	00:02:36
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:21	00:06:26	00:06:16	00:06:18
	Travel Time ERF Concentration	Urban	00:18:27	00:15:14	00:20:07	00:16:13
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:45	00:08:46	00:08:53	00:08:33
			n=1,940	n=715	n=620	n=605
	Total Response Time ERF Concentration	Urban	00:29:59	00:20:52	00:24:45	00:30:41
			n=90	n=32	n=37	n=21



BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:45 minutes in all fire response areas. The first-due unit for all Fire suppression – Moderate Risk fires is capable of: providing 500 gallons (2,200 litres) of water and 1,500 gallons per minute (gpm) (6,000 litres/minute) pumping capacity, initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, fire control flowing a minimum 150 gpm on each hand line, establishing an uninterrupted water supply, and containing the fire. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in all fire response areas. The first-due unit for all Fire suppression – Moderate Risk fires shall be capable of: providing 500 gallons (2,200 litres) of water and 1,500 gallons per minute (gpm) (6,000 litres/minute) pumping capacity, initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, fire control flowing a minimum 150 gpm on each hand line, establishing an uninterrupted water supply, and containing the fire. These operations shall be done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 29:59 minutes in all fire response areas. The ERF for all Fire suppression – Moderate Risk fires is capable of: providing 500 gallons (2,200 litres) of water and 1,500 gallons per minute (gpm) (6,000 litres/minute) pumping capacity, initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, fire control flowing a minimum 150 gpm on each hand line, establishing an uninterrupted water supply, containing the fire, backup attack line, rapid Intervention Team (RIT), Incident Safety Officer, accountability, ventilation and utilities, search and rescue, salvage and overhaul, forcible entry and exposures, and tactical reserve. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in all fire response areas. The ERF for all Fire suppression – Moderate Risk fires shall be capable of: providing 500 gallons (2,200 litres) of water and 1,500 gallons per minute (gpm) (6,000 litres/minute) pumping capacity, initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, fire control flowing a minimum 150 gpm on each hand line, establishing an uninterrupted water supply, containing the fire, backup attack line, rapid intervention team (RIT), Incident Safety Officer, accountability, ventilation and utilities, search and rescue, salvage and overhaul, forcible entry and exposures, and tactical reserve. These operations shall be done in accordance with departmental operating procedures while providing for the safety of responders and the general public.



All DNV Fire Station Response Areas Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	89%	91%	86%	91%
Turnout Time	00:01:30	34%	34%	32%	36%
Travel Time	00:04:00	62%	61%	63%	61%
Total Response Time	00:06:30	64%	63%	62%	66%
Travel Time ERF	00:08:00	37%	48%	27%	41%
Total Response Time ERF	00:10:30	18%	24%	14%	19%

Fire suppression moderate risk (Page 91):

- Residential
- Industrial
- Marine
- Commercial

Initial deployment (effective response force ERF):

- Three (3) Engines/Quints
- One (1) Tower
- Fifteen (15) Fire Fighters



Emergency Medical Services (MESA) Performance Statement

This section represents data analytics for MESA – Moderate Risk calculated as a total for all fire stations for the three year period 2017-2019. **NOTE: Baseline Performance Tables for “All of District of North Vancouver” includes response time and (n=) for incidents to the City of North Vancouver and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. For response solely within the DNV refer to the individual Fire Station Response Areas.**

All of DNV Fire Response Areas

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:38	00:00:41	00:00:40	00:00:34
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:27	00:02:21	00:02:31	00:02:29
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:02	00:05:48	00:05:49	00:06:18
	Travel Time ERF Concentration	Urban	00:06:02	00:05:47	00:05:49	00:06:19
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:10	00:07:56	00:08:01	00:08:24
			n=4,882	n=1,445	n=1,526	n=1,911
	Total Response Time ERF Concentration	Urban	00:08:08	00:07:52	00:07:57	00:08:24
			n=4,787	n=1,433	n=1,484	n=1,870



BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:10 minutes in all fire response areas. The first-due unit for all MESA – moderate risk is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, ensuring safety of personnel and patient(s), patient care, and lift and transfer. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in all fire response areas. The first-due unit for all MESA – moderate risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, ensuring safety of personnel and patient(s), patient care, and lift and transfer. These operations shall be done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 08:08 minutes in all fire response areas. The ERF for all MESA – moderate risk is the first-due unit and is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, ensuring safety of personnel and patient(s), patient care, and lift and transfer. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in all fire response areas. The ERF for all MESA – moderate risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, ensuring safety of personnel and patient(s), patient care, and lift and transfer. These operations shall be done in accordance with departmental operating procedures while providing for the safety of responders and the general public.



All DNV Fire Station Response Areas Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	95%	95%	95%	94%
Turnout Time	00:01:00	21%	22%	19%	22%
Travel Time	00:04:00	64%	63%	65%	64%
Total Response Time	00:06:00	65%	64%	66%	65%
Travel Time ERF	00:04:00	64%	63%	65%	64%
Total Response Time ERF	00:06:00	65%	63%	67%	65%

Emergency Medical Services (MESA) Moderate Risk (Page 97):

- Orange
- Red
- Purple

Initial deployment (effective response force ERF):

- One (1) Engines/Quints
- Four (4) Fire Fighters



Rescue MVA (Moderate Risk) Performance Statement

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for all fire stations for the three year period 2017-2019. **NOTE: Baseline Performance Tables for “All of District of North Vancouver” includes response time and (n=) for incidents to the City of North Vancouver and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel. For response solely within the DNV refer to the individual Fire Station Response Areas.**

All of DNV Fire Response Areas

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:01:27	00:01:07	00:01:34	00:01:37
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:37	00:02:24	00:02:38	00:02:41
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:45	00:07:10	00:05:19	00:07:00
	Travel Time ERF Concentration	Urban	00:10:55	00:10:52	00:10:31	00:10:55
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:09:04	00:09:04	00:08:05	00:09:47
			n=267	n=94	n=82	n=91
	Total Response Time ERF Concentration	Urban	00:14:40	00:14:40	00:13:26	00:14:30
			n=91	n=31	n=31	n=29



BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 09:04 minutes in all fire response areas. The first-due unit for all Rescue – Moderate Risk is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients and patient care. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in all fire response areas. The first-due unit for all Rescue – Moderate Risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients and patient care. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 14:40 minutes in all fire response areas. The ERF for all Rescue – Moderate Risk is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, patient care, extrication, rescue team lead, incident safety officer, and haul team and manpower. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in all fire response areas. The ERF for all Rescue – Moderate Risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, patient care, extrication, rescue team lead, incident safety officer, and haul team and manpower. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.



All DNV Fire Station Response Areas Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	78%	78%	72%	85%
Turnout Time	00:01:30	40%	36%	35%	49%
Travel Time	00:04:00	35%	31%	44%	32%
Total Response Time	00:06:30	40%	32%	51%	38%
Travel Time ERF	00:08:00	69%	66%	74%	68%
Total Response Time ERF	00:10:30	71%	72%	71%	71%

Rescue MVA Moderate Risk (Page 93):

- MVA Rescue Required
- Highway

Initial deployment (effective response force ERF):

- Two (2) Engines/Quints
- One (1) Rescue
- Eleven (11) Fire Fighters



Technical Rescue (High Risk) Performance Statement

This section represents data analytics for Technical Rescue – High Risk calculated as a total for all fire stations for the three year period 2017-2019. **NOTE: Baseline Performance Tables for “All of District of North Vancouver” includes response time and (n=) for incidents to the City of North Vancouver and/or the District of West Vancouver. ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel. For response solely within the DNV refer to the individual Fire Station Response Areas.**

All of DNV Fire Response Areas

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:04:27	00:02:43	00:04:51	00:04:27
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:50	00:02:58	00:03:02	00:02:34
Travel Time	Travel Time 1st Unit Distribution	Urban	00:11:45	00:10:28	00:10:03	00:12:26
	Travel Time ERF Concentration	Urban	00:27:29	00:14:23	00:16:01	00:27:29
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:16:11	00:15:21	00:15:38	00:17:10
			n=301	n=106	n=85	n=110
	Total Response Time ERF Concentration	Urban	00:33:45	00:21:47	00:18:44	00:33:45
			n=24	n=5	n=6	n=13



BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 16:11 minutes in all fire response areas. The first-due unit for all Rescue – High Risk is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, and patient care. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in all fire response areas. The first-due unit for all Rescue – High Risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, and patient care. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters, four (4) officer is: 33:45 minutes in all fire response areas. The ERF for all Rescue – High Risk is capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, patient care, extrication, rescue team lead, main line rigging and operations, belay line rigging and operations, rescue/edge attendant, ventilation, air supply/management, incident safety officer, and haul team and manpower. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officer shall be: 10:30 minutes in all fire response areas. The ERF for all Rescue – High Risk shall be capable of: initiating command and providing a 360 degree scene assessment follow up report, requesting additional resources, establish outer perimeter, pump operations, establish inner perimeter, triage patients, patient care, extrication, rescue team lead, main line rigging and operations, belay line rigging and operations, rescue/edge attendant, ventilation, air supply/management, incident safety officer, and haul team and manpower. These operations are done in accordance with departmental operating procedures while providing for the safety of responders and the general public.



All DNV Fire Station Response Areas Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	49%	46%	36%	61%
Turnout Time	00:01:30	43%	36%	45%	37%
Travel Time	00:04:00	33%	32%	32%	36%
Total Response Time	00:06:30	26%	26%	25%	26%
Travel Time ERF	00:08:00	21%	23%	17%	20%
Total Response Time ERF	00:10:30	0%	0%	0%	0%

Rescue High Risk Technical Rescue (Page 93):

- Swift water
- High angle
- Trench
- Confined space
- Trail

Initial deployment (effective response force ERF):

- Three (3) Engines/Quints
- One (1) Rescue
- Fifteen (15) Fire Fighters

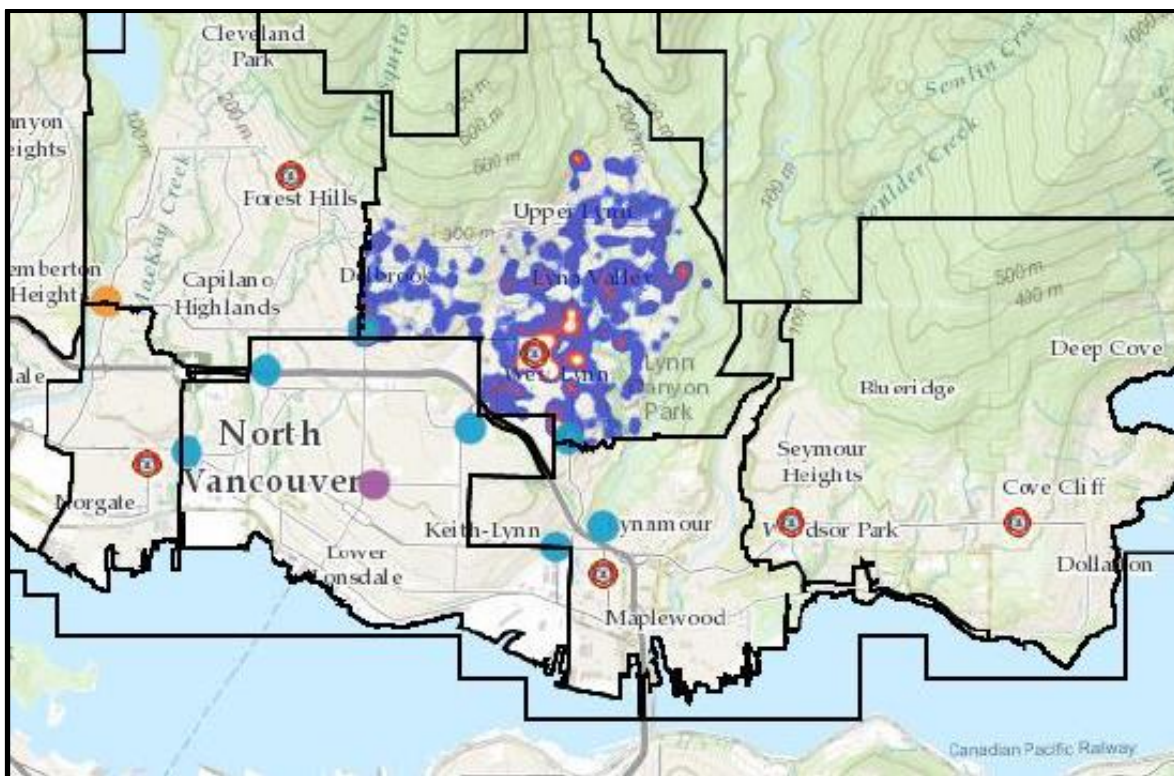


FIRE STATION #1 – LYNN VALLEY BASELINE/BENCHMARK PERFORMANCE

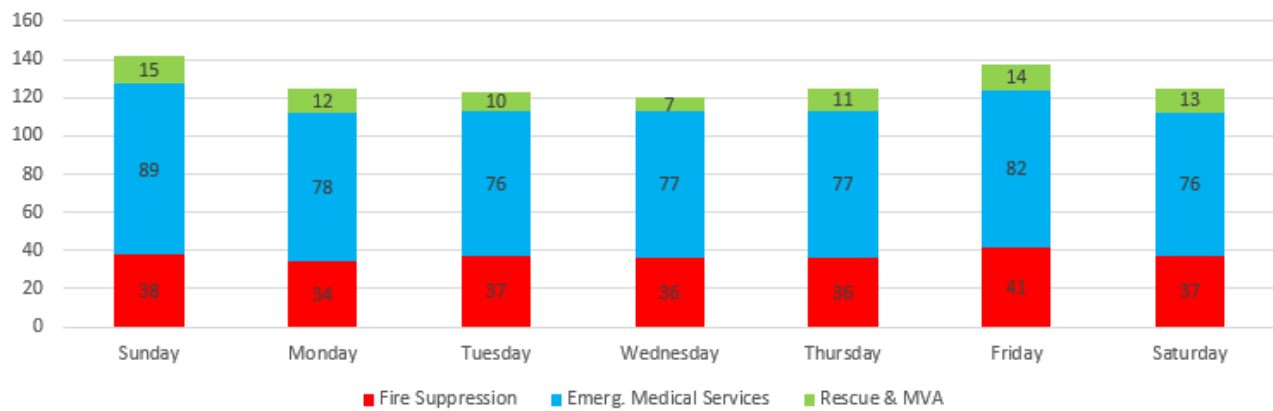
Incident Volume Breakdown - DNV Fire Station 1 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	242	257	280
Rescue and MVA	78	75	95
Emergency Medical Services	716	540	408
Non-Emergency	97	138	156
Hazardous Materials	16	18	17
Standbys	244	183	79
TOTALS	1393	1211	1035

All Incidents within Fire Station #1 Response Area 2017-2019

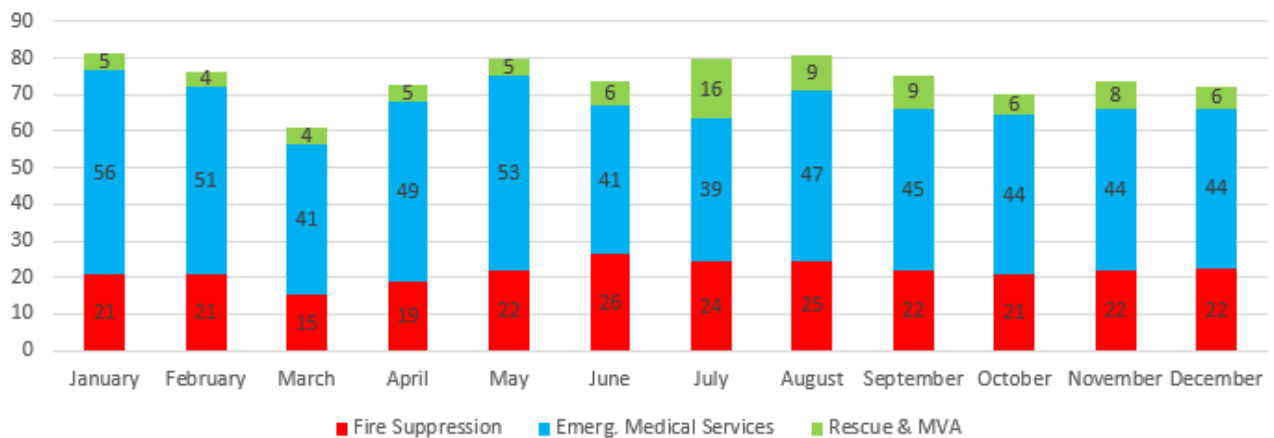


Incident Volume (Avg) by Day of Week - Fire Station #1 Response Area



For Fire Station #1 – Lynn Valley, during the three year period 2017-2019 call volume was fairly consistent for MESA calls, also aligning with All Stations, there was a peak January and May. Fire suppression calls are also lower early in the year, but instead March and April with a peak in June. Rescue calls are the highest in July through September.

Incident Volume (Avg) by Month of Year - Fire Station #1 Response Area



Fire Suppression Performance Statement Excerpt

This section represents data analytics for Fire Suppression – Moderate Risk calculated for Fire Station #1 Response Area – Lynn Valley for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by total apparatus by type (3 Engine/Quint + 1 Tower) and must be 15 personnel.**

Fire Station #1 Response Area

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:58	00:00:55	00:00:49	00:00:59
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:36	00:02:26	00:02:51	00:02:33
Travel Time	Travel Time 1st Unit Distribution	Urban	00:05:49	00:06:03	00:05:49	00:05:05
	Travel Time ERF Concentration	Urban	00:15:37	00:12:18	00:14:46	00:15:37
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:25	00:08:31	00:08:23	00:07:24
			n=339	n=139	n=98	n=102
	Total Response Time ERF Concentration	Urban	00:19:06	00:15:57	00:22:47	00:17:43
			n=15	n=4	n=5	n=6



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:25 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #1 – Lynn Valley fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters, four (4) officers is: 19:06 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters, four (4) officers shall be: 10:30 minutes in Fire Station #1 – Lynn Valley fire response area.

Fire Station #1 Response Area Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	91%	89%	90%	92%
Turnout Time	00:01:30	29%	31%	28%	28%
Travel Time	00:04:00	69%	76%	63%	68%
Total Response Time	00:06:30	71%	70%	68%	73%
Travel Time ERF	00:08:00	40%	50%	40%	25%
Total Response Time ERF	00:10:30	27%	17%	40%	25%



Emergency Medical Services (MESA) Performance Statement Excerpt

This section represents data analytics for MESA – Moderate Risk calculated as a total for Fire Station #1 Response Area – Lynn Valley for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. 1st Unit on Scene has the potential to be any apparatus.**

Fire Station #1 Response Area

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:45	00:00:40	00:00:45	00:00:50
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:24	00:02:19	00:02:25	00:02:24
Travel Time	Travel Time 1st Unit Distribution	Urban	00:05:04	00:04:58	00:05:02	00:05:15
	Travel Time ERF Concentration	Urban	00:05:07	00:04:59	00:05:03	00:05:20
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:07:22	00:07:11	00:07:00	00:07:32
			n=1,375	n=330	n=440	n=605
	Total Response Time ERF Concentration	Urban	00:07:21	00:07:10	00:06:58	00:07:32
			n=1,308	n=325	n=409	n=574



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 07:22 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #1 – Lynn Valley fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 07:21 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #1 – Lynn Valley fire response area.

Fire Station #1 Response Area Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	93%	92%	94%	94%
Turnout Time	00:01:00	21%	22%	20%	22%
Travel Time	00:04:00	78%	78%	79%	78%
Total Response Time	00:06:00	77%	77%	79%	75%
Travel Time ERF	00:04:00	78%	78%	78%	78%
Total Response Time ERF	00:06:00	78%	77%	79%	76%



Rescue MVA (Moderate Risk) Performance Statement Excerpt

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for Fire Station #1 Response Area – Lynn Valley for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel.**

Fire Station #1 Response Area

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:43	00:00:00	00:00:18	00:00:18
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:09	00:00:00	00:02:06	00:02:05
Travel Time	Travel Time 1st Unit Distribution	Urban	00:05:04	00:00:00	00:03:27	00:03:36
	Travel Time ERF Concentration	Urban	00:06:16	N/A	00:00:00	00:06:16
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:07:01	00:00:00	00:05:31	00:06:49
			n=8	n=1	n=3	n=4
	Total Response Time ERF Concentration	Urban	00:08:13	N/A	00:00:00	00:08:13
		Urban	n=4	n=0	n=1	n=3



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 07:01 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #1 – Lynn Valley fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 08:13 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in Fire Station #1 – Lynn Valley fire response area.

Fire Station #1 Response Area Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	88%	100%	67%	100%
Turnout Time	00:01:30	25%	25%	0%	100%
Travel Time	00:04:00	75%	75%	67%	100%
Total Response Time	00:06:30	62%	50%	67%	100%
Travel Time ERF	00:08:00	75%	67%	100%	N/A
Total Response Time ERF	00:10:30	75%	67%	100%	N/A



Technical Rescue (High Risk) Performance Statement Excerpt

This section represents data analytics for Technical Rescue – High Risk calculated as a total for Fire Station #1 Response Area – Lynn Valley for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. Note: ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel.**

Fire Station #1 Response Area

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:02:05	00:01:26	00:01:51	00:02:29
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:47	00:02:56	00:02:47	00:02:32
Travel Time	Travel Time 1st Unit Distribution	Urban	00:08:19	00:08:13	00:06:30	00:08:34
	Travel Time ERF Concentration	Urban	00:27:29	00:00:00	00:08:26	00:27:29
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:11:14	00:11:07	00:10:46	00:11:35
			n=110	n=43	n=31	n=36
	Total Response Time ERF Concentration	Urban	00:33:45	00:00:00	00:11:21	00:33:45
			n=8	n=1	n=2	n=5



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 11:14 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #1 – Lynn Valley fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 33:45 minutes in Fire Station #1 – Lynn Valley fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #1 – Lynn Valley fire response area.

Fire Station #1 Response Area Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	60%	59%	45%	72%
Turnout Time	00:01:30	34%	35%	39%	30%
Travel Time	00:04:00	37%	39%	42%	33%
Total Response Time	00:06:30	37%	39%	45%	30%
Travel Time ERF	00:08:00	0%	0%	0%	0%
Total Response Time ERF	00:10:30	0%	0%	0%	0%

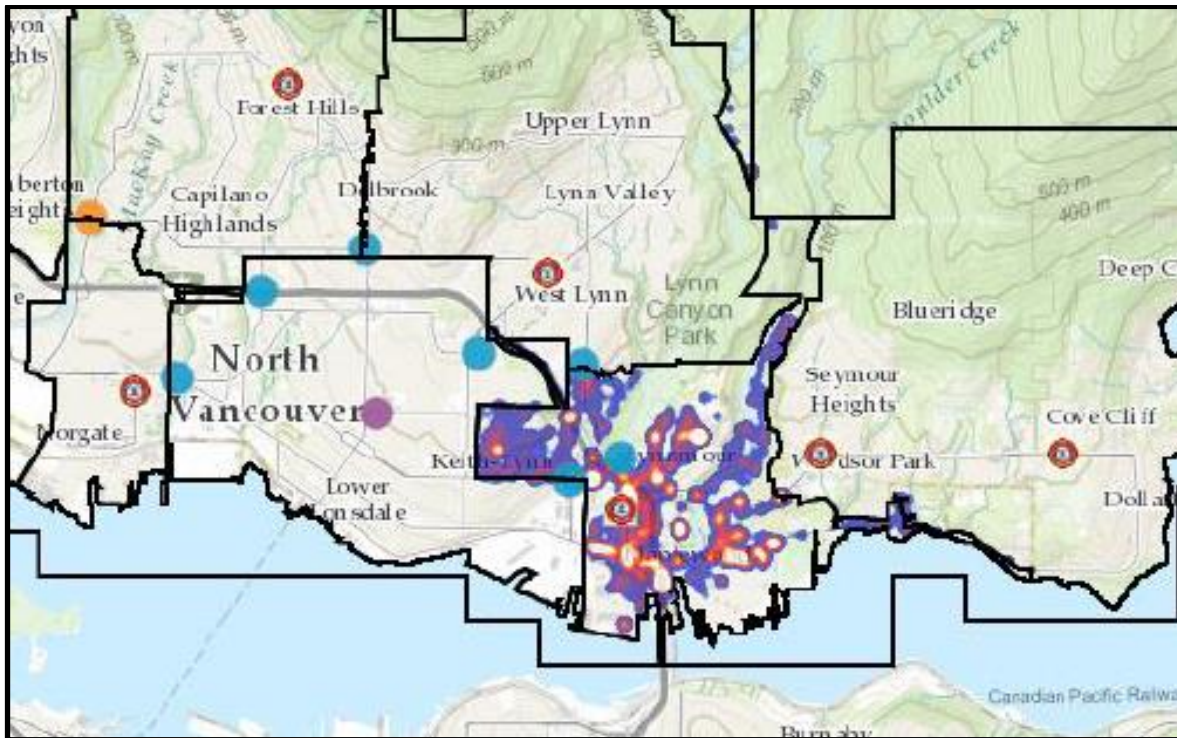


FIRE STATION #2 – LYNNMOUR BASELINE/BENCHMARK PERFORMANCE

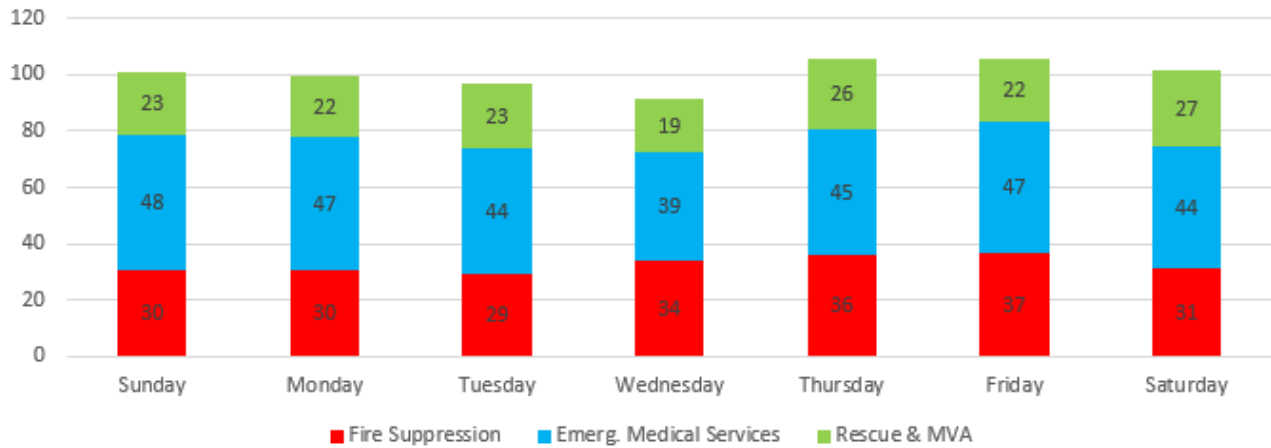
Incident Volume Breakdown - DNV Fire Station 2 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	203	235	243
Rescue and MVA	180	165	139
Emergency Medical Services	345	310	287
Non-Emergency	37	50	37
Hazardous Materials	27	30	17
Standbys	18	28	26
TOTALS	810	818	749

All Incidents within Fire Station #2 Response Area 2017-2019

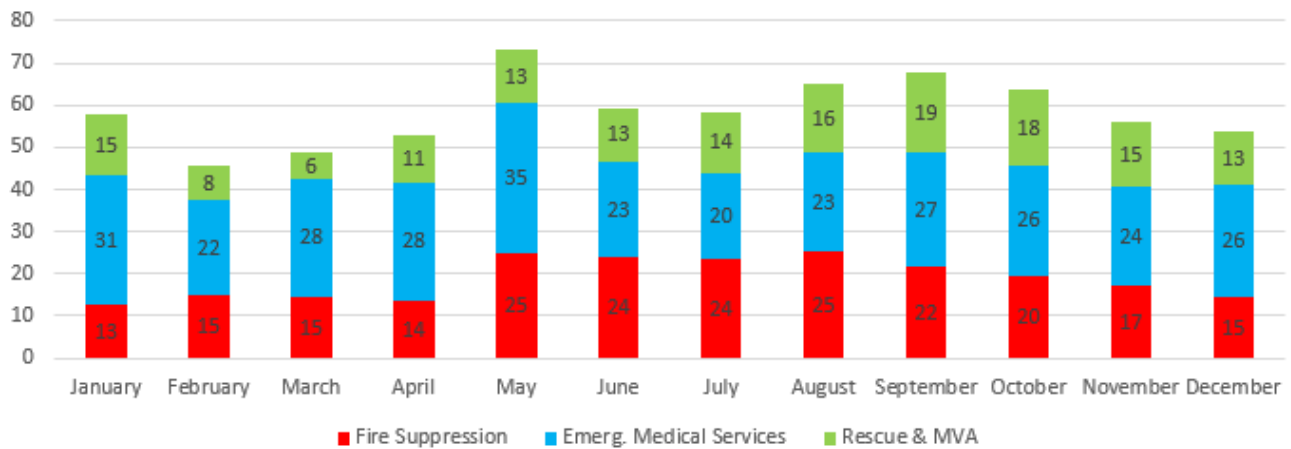


Incident Volume (Avg) by Day of Week - Fire Station #2 Response Area



For Fire Station #2 – Lynnmour, during the three year period 2017-2019 call volume was fairly consistent for MESA calls, also aligning with All Stations, there was a peak January and May and a decline in February and July. Fire suppression calls are also lower early in the year including December, with a consistent peak in May through August. Rescue calls are the highest in August through October.

Incident Volume (Avg) by Month of Year - Fire Station #2 Response Area



Fire Suppression Performance Statement Excerpt

This section represents data analytics for Fire Suppression – Moderate Risk calculated for Fire Station #2 Response Area – Lynnmour for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by total apparatus by type (3 Engine/Quint + 1 Tower) and must be 15 personnel.**

Fire Station #2 Response Area

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:01:00	00:00:56	00:01:00	00:00:58
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:23	00:02:13	00:02:17	00:02:25
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:26	00:06:13	00:06:12	00:06:26
	Travel Time ERF Concentration	Urban	00:09:09	00:14:17	00:06:43	00:00:00
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:40	00:08:36	00:08:01	00:09:14
			n=268	n=101	n=91	n=76
	Total Response Time ERF Concentration	Urban	00:18:43	00:20:52	00:09:19	00:00:00
			n=12	n=8	n=3	n=1



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:40 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #2 – Lynnmour fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 18:43 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #2 – Lynnmour fire response area.

Fire Station #2 Response Area Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	89%	90%	87%	91%
Turnout Time	00:01:30	38%	32%	47%	35%
Travel Time	00:04:00	49%	41%	53%	51%
Total Response Time	00:06:30	55%	47%	57%	59%
Travel Time ERF	00:08:00	50%	0%	67%	50%
Total Response Time ERF	00:10:30	33%	0%	67%	25%



Emergency Medical Services (MESA) Performance Statement Excerpt

This section represents data analytics for MESA – Moderate Risk calculated as a total for Fire Station #2 Response Area – Lynnmour for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. 1st Unit on Scene has the potential to be any apparatus.**

Fire Station #2 Response Area

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:41	00:00:43	00:00:40	00:00:38
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:22	00:02:16	00:02:21	00:02:29
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:23	00:06:03	00:06:06	00:06:52
	Travel Time ERF Concentration	Urban	00:06:25	00:06:03	00:06:00	00:06:52
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:25	00:08:48	00:07:56	00:08:36
			n=643	n=184	n=213	n=246
	Total Response Time ERF Concentration	Urban	00:08:25	00:08:48	00:07:54	00:08:36
		Urban	n=636	n=183	n=211	n=242



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:25 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #2 – Lynnmour fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 08:25 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #2 – Lynnmour fire response area.

Fire Station #2 Response Area Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	93%	92%	93%	92%
Turnout Time	00:01:00	26%	30%	22%	28%
Travel Time	00:04:00	53%	52%	55%	55%
Total Response Time	00:06:00	57%	54%	61%	62%
Travel Time ERF	00:04:00	53%	51%	56%	55%
Total Response Time ERF	00:06:00	57%	54%	61%	62%



Rescue MVA (Moderate Risk) Performance Statement Excerpt

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for Fire Station #2 Response Area – Lynnmour for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel.**

Fire Station #2 Response Area

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:01:13	00:00:59	00:01:52	00:01:08
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:42	00:02:24	00:02:42	00:02:41
Travel Time	Travel Time 1st Unit Distribution	Urban	00:07:10	00:06:03	00:04:57	00:07:00
	Travel Time ERF Concentration	Urban	00:15:27	00:12:23	00:12:00	00:14:47
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:10:07	00:12:09	00:07:51	00:09:47
			n=84	n=27	n=21	n=36
	Total Response Time ERF Concentration	Urban	00:18:33	00:14:40	00:14:48	00:18:14
			n=30	n=11	n=10	n=9



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 10:07 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #2 – Lynnmour fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 18:33 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in Fire Station #2 – Lynnmour fire response area.

Fire Station #2 Response Area Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	81%	85%	65%	89%
Turnout Time	00:01:30	41%	38%	41%	44%
Travel Time	00:04:00	31%	25%	48%	26%
Total Response Time	00:06:30	37%	36%	52%	26%
Travel Time ERF	00:08:00	57%	56%	60%	55%
Total Response Time ERF	00:10:30	60%	67%	50%	64%



Technical Rescue (High Risk) Performance Statement Excerpt

This section represents data analytics for Technical Rescue – High Risk calculated as a total for Fire Station #2 Response Area – Lynnmour for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. Note: ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel.**

Fire Station #2 Response Area

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:03:31	00:02:15	00:02:28	00:03:59
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:37	00:02:25	00:02:50	00:01:40
Travel Time	Travel Time 1st Unit Distribution	Urban	00:14:33	00:08:53	00:06:31	00:14:37
	Travel Time ERF Concentration	Urban	00:00:00	N/A	00:00:00	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:17:15	00:13:33	00:13:17	00:20:09
			n=20	n=6	n=7	n=7
	Total Response Time ERF Concentration	Urban	00:00:00	N/A	00:00:00	N/A
		Urban	n=1	n=0	n=1	n=0



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 17:15 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #2 – Lynnmour fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 00:00 minutes in Fire Station #2 – Lynnmour fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #2 – Lynnmour fire response area.

Fire Station #2 Response Area Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	40%	57%	29%	33%
Turnout Time	00:01:30	55%	43%	57%	67%
Travel Time	00:04:00	20%	0%	43%	17%
Total Response Time	00:06:30	15%	14%	29%	0%
Travel Time ERF	00:08:00	100%	N/A	100%	N/A
Total Response Time ERF	00:10:30	0%	N/A	0%	N/A



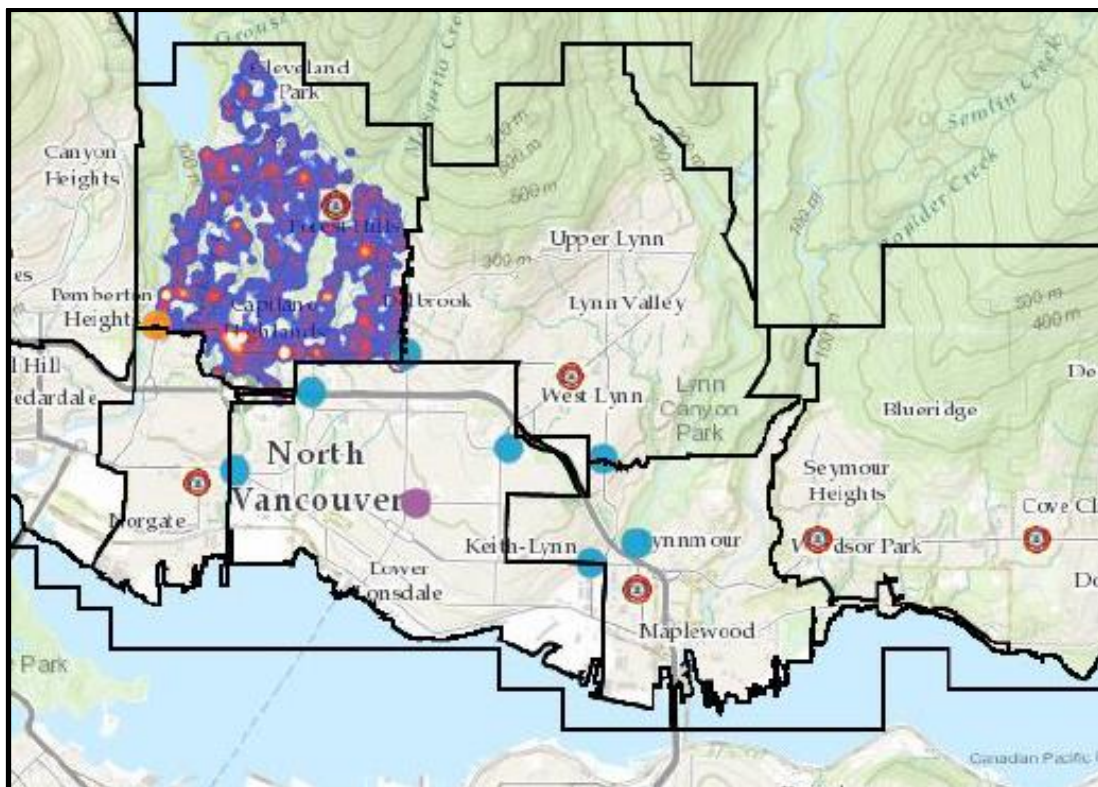
FIRE STATION #3 – MONTROYAL BASELINE/BENCHMARK PERFORMANCE

Incident Volume Breakdown - DNV Fire Station 3 Response Area

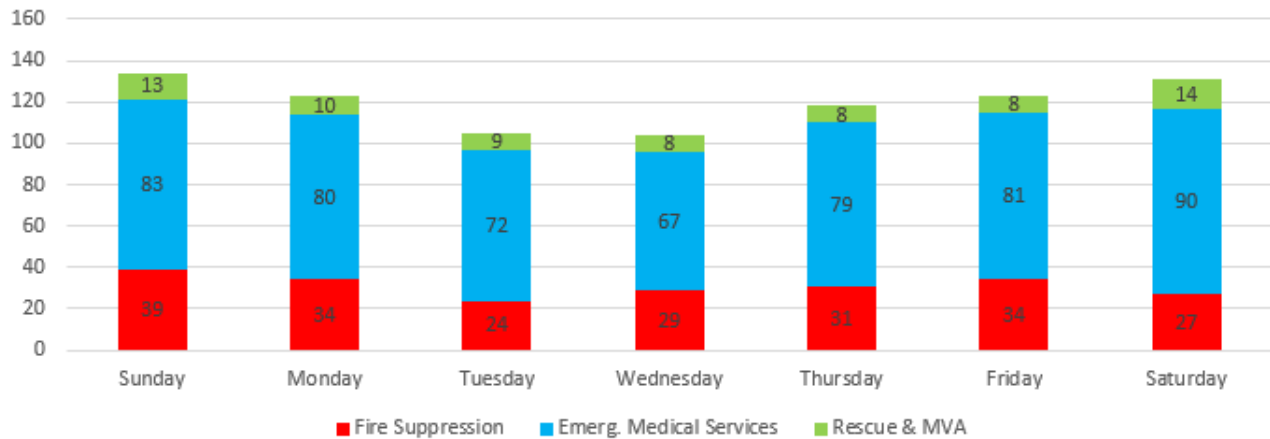
<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	220	195	238
Rescue and MVA	62	57	72
Emergency Medical Services	521	350	391
Non-Emergency	89	66	98
Hazardous Materials	18	9	10
Standbys	0	0	0
TOTALS	910	677	809

NOTE: There are no physical standby locations in the Fire Station #3 Response Area.

All Incidents within Fire Station #3 Response Area 2017-2019

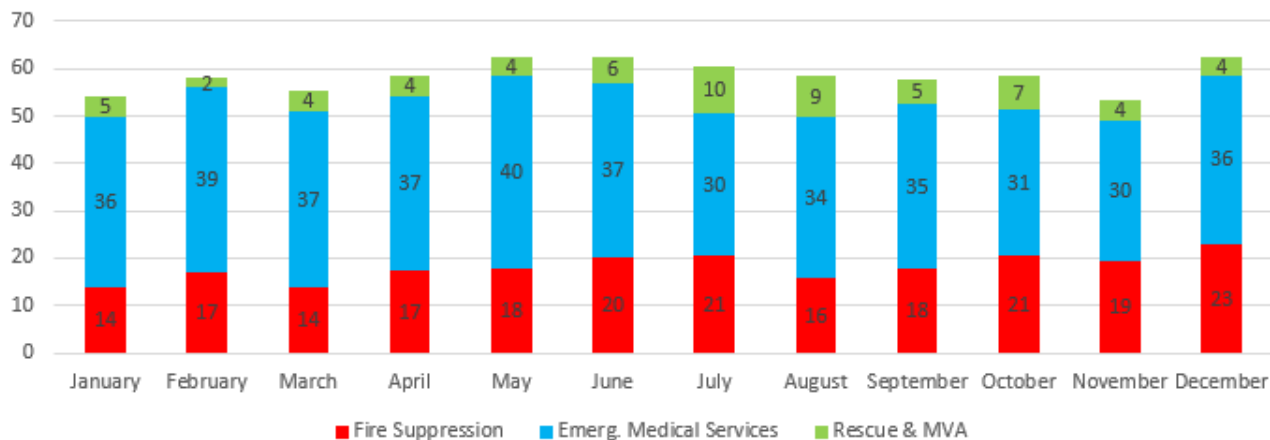


Incident Volume (Avg) by Day of Week - Fire Station #4 Response Area



For Fire Station #3 – Montroyal, during the three year period 2017-2019 call volume was fairly consistent for MESA calls, also aligning with All Stations, there was a peak in May and a decline in July through November. Fire suppression calls are also lower early in the year, with a consistent peak in June and July. Rescue calls are the highest in July and August.

Incident Volume (Avg) by Month of Year - Fire Station #3 Response Area



Fire Suppression Performance Statement Excerpt

This section represents data analytics for Fire Suppression – Moderate Risk calculated for Fire Station #3 Response Area – Montroyal for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by total apparatus by type (3 Engine/Quint + 1 Tower) and must be 15 personnel.**

Fire Station #3 Response Area

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:56	00:00:58	00:00:51	00:00:53
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:35	00:02:31	00:02:35	00:02:33
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:26	00:06:21	00:06:33	00:07:01
	Travel Time ERF Concentration	Urban	00:11:42	00:09:06	N/A	00:11:42
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:54	00:08:38	00:09:16	00:08:39
			n=311	n=126	n=87	n=98
	Total Response Time ERF Concentration	Urban	00:16:53	00:11:44	N/A	00:16:53
			n=7	n=3	n=0	n=4



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:54 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #3 – Montroyal fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 16:53 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #3 – Montroyal fire response area.

Fire Station #3 Response Area Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	91%	91%	93%	90%
Turnout Time	00:01:30	28%	30%	23%	29%
Travel Time	00:04:00	47%	53%	41%	47%
Total Response Time	00:06:30	50%	58%	44%	48%
Travel Time ERF	00:08:00	29%	25%	N/A	33%
Total Response Time ERF	00:10:30	29%	25%	N/A	33%



Emergency Medical Services (MESA) Performance Statement Excerpt

This section represents data analytics for MESA – Moderate Risk calculated as a total for Fire Station #3 Response Area – Montroyal for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. 1st Unit on Scene has the potential to be any apparatus.**

Fire Station #3 Response Area

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:29	00:00:32	00:00:26	00:00:23
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:38	00:02:25	00:02:42	00:02:37
Travel Time	Travel Time 1st Unit Distribution	Urban	00:05:51	00:05:34	00:05:31	00:06:18
	Travel Time ERF Concentration	Urban	00:05:51	00:05:34	00:05:31	00:06:18
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:07	00:07:43	00:07:46	00:08:31
			n=810	n=269	n=241	n=300
	Total Response Time ERF Concentration	Urban	00:08:08	00:07:43	00:07:46	00:08:31
			n=807	n=268	n=241	n=298



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:07 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #3 – Montroyal fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 08:08 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #3 – Montroyal fire response area.

Fire Station #3 Response Area Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	97%	97%	98%	96%
Turnout Time	00:01:00	17%	18%	15%	19%
Travel Time	00:04:00	58%	54%	62%	60%
Total Response Time	00:06:00	58%	54%	60%	62%
Travel Time ERF	00:04:00	59%	54%	62%	60%
Total Response Time ERF	00:06:00	58%	54%	60%	62%



Rescue MVA (Moderate Risk) Performance Statement Excerpt

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for Fire Station #3 Response Area – Montroyal for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel.**

Fire Station #3 Response Area

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:30	00:00:15	00:00:20	00:00:00
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:24	00:02:18	00:01:54	N/A
Travel Time	Travel Time 1st Unit Distribution	Urban	00:04:39	00:04:27	00:04:32	N/A
	Travel Time ERF Concentration	Urban	00:00:00	00:00:00	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:07:18	00:06:57	00:07:12	N/A
			n=5	n=3	n=13	n=0
	Total Response Time ERF Concentration	Urban	00:00:00	00:00:00	N/A	N/A
			n=1	n=1	n=0	n=0



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 07:18 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #3 – Montroyal fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 00:00 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in Fire Station #3 – Montroyal fire response area.

Fire Station #3 Response Area Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	100%	100%	100%	100%
Turnout Time	00:01:30	0%	N/A	0%	0%
Travel Time	00:04:00	20%	N/A	0%	33%
Total Response Time	00:06:30	20%	N/A	0%	33%
Travel Time ERF	00:08:00	100%	N/A	N/A	100%
Total Response Time ERF	00:10:30	100%	N/A	N/A	100%



Technical Rescue (High Risk) Performance Statement Excerpt

This section represents data analytics for Technical Rescue – High Risk calculated as a total for Fire Station #3 Response Area – Montroyal for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. Note: ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel.**

Fire Station #3 Response Area

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:01:41	00:01:39	00:04:51	00:01:36
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:42	00:02:44	00:02:03	00:01:59
Travel Time	Travel Time 1st Unit Distribution	Urban	00:08:27	00:07:16	00:05:41	00:08:41
	Travel Time ERF Concentration	Urban	00:21:58	00:13:32	00:12:40	00:16:34
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:10:54	00:09:48	00:11:25	00:10:51
			n=38	n=16	n=7	n=15
	Total Response Time ERF Concentration	Urban	00:25:52	00:21:47	00:18:44	00:19:47
			n=10	n=3	n=2	n=5



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 10:54 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #3 – Montroyal fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters, four (4) officers is: 25:52 minutes in Fire Station #3 – Montroyal fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters, four (4) officers shall be: 10:30 minutes in Fire Station #3 – Montroyal fire response area.

Fire Station #3 Response Area Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	50%	53%	29%	56%
Turnout Time	00:01:30	29%	47%	14%	19%
Travel Time	00:04:00	47%	47%	29%	56%
Total Response Time	00:06:30	26%	33%	0%	31%
Travel Time ERF	00:08:00	30%	40%	0%	33%
Total Response Time ERF	00:10:30	0%	0%	0%	0%

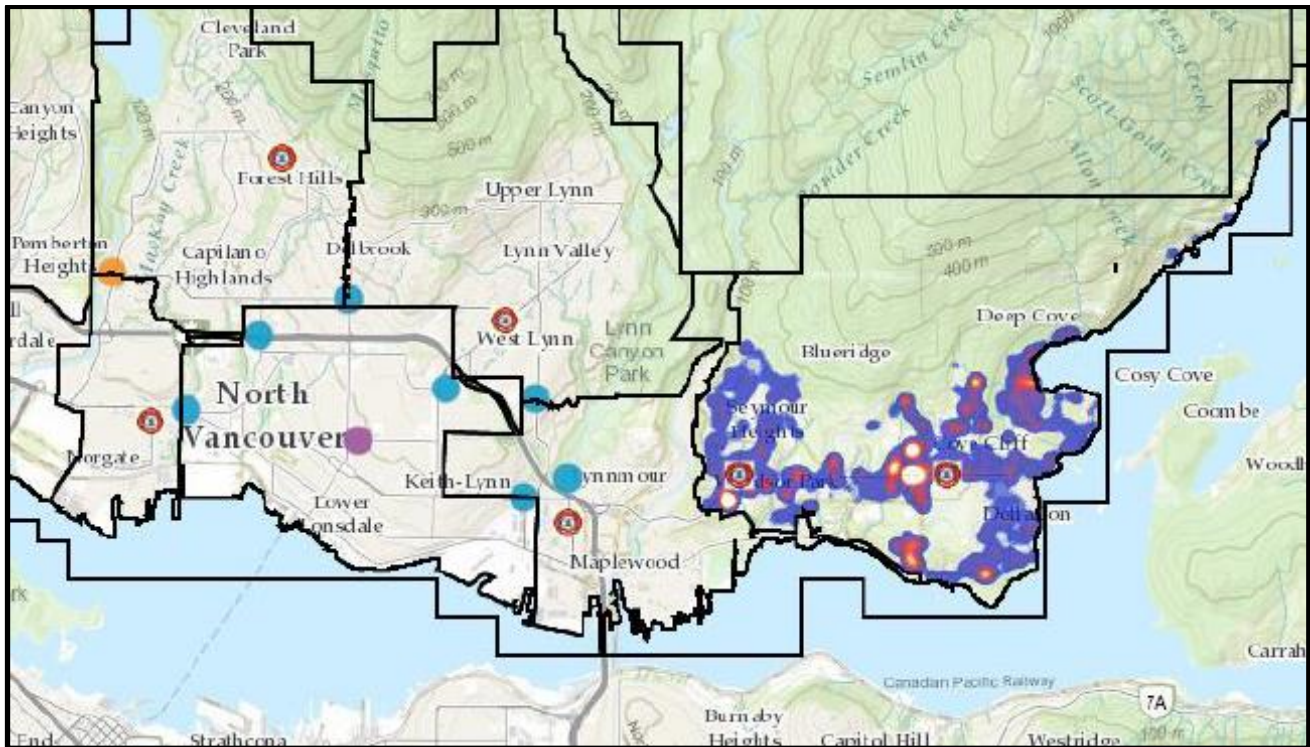


FIRE STATION #4 – SEYMOUR/DEEP COVE BASELINE/BENCHMARK PERFORMANCE

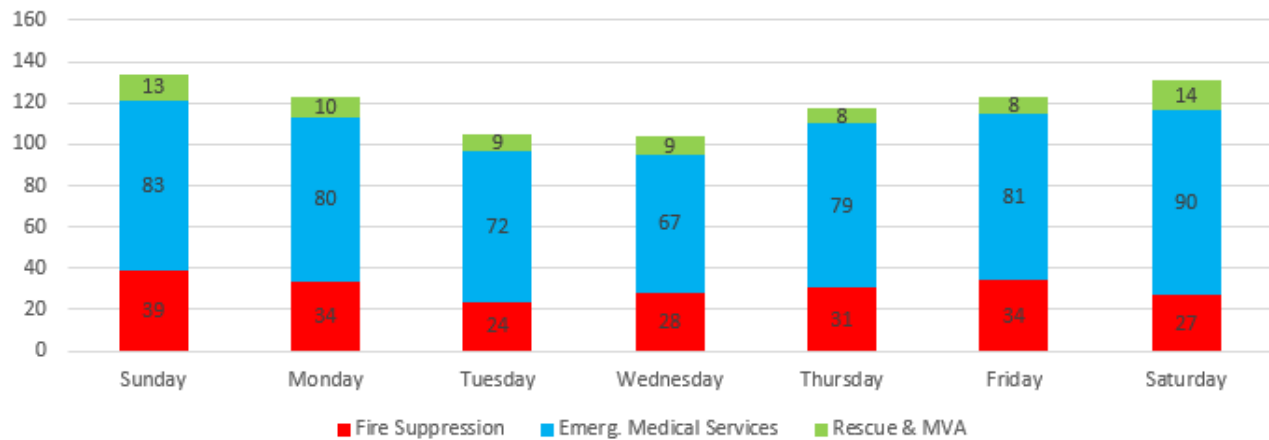
Incident Volume Breakdown - DNV Fire Station 4 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	250	220	182
Rescue and MVA	70	72	67
Emergency Medical Services	616	507	531
Non-Emergency	109	106	121
Hazardous Materials	19	18	9
Standbys	47	68	67
TOTALS	1111	991	977

All Incidents within Fire Station #4 Response Area 2017-2019

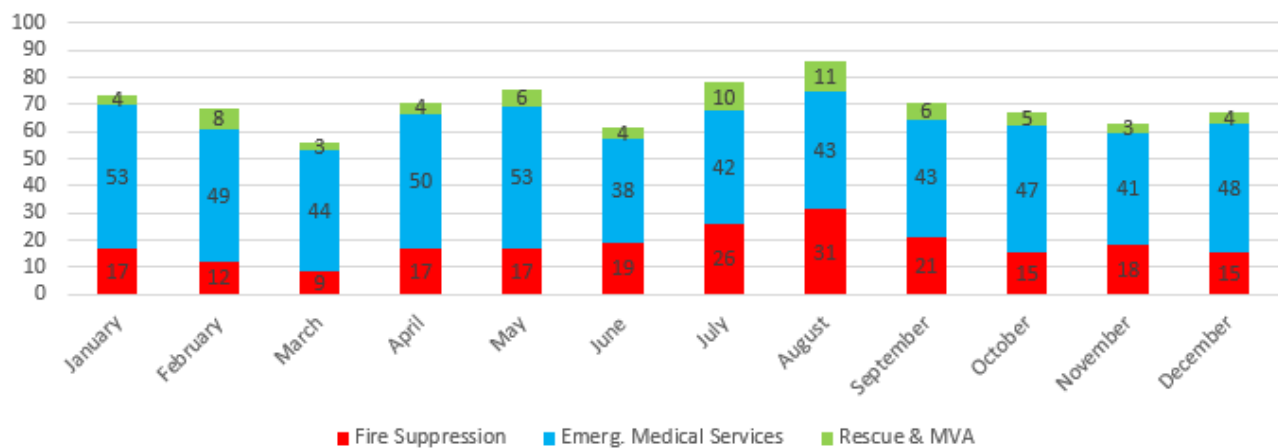


Incident Volume (Avg) by Day of Week - Fire Station #4 Response Area



For Fire Station #4 – Seymour/Deep Cove, during the three year period 2017-2019 call volume was highest for MESA calls during January, April and May. Fire suppression calls are also lower early in the year, with a consistent peak in July and August. Rescue calls are the highest in July and August.

Incident Volume (Avg) by Month of Year - Fire Station #4 Response Area



Fire Suppression Performance Statement Excerpt

This section represents data analytics for Fire Suppression – Moderate Risk calculated for Fire Station #4 Response Area – Seymour/Deep Cove for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by total apparatus by type (3 Engine/Quint + 1 Tower) and must be 15 personnel.**

Fire Station #4 Response Area

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:53	00:00:47	00:00:58	00:00:51
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:37	00:02:21	00:02:39	00:02:41
Travel Time	Travel Time 1st Unit Distribution	Urban	00:08:10	00:08:15	00:07:34	00:07:49
	Travel Time ERF Concentration	Urban	00:20:17	00:17:47	00:20:17	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:10:38	00:10:11	00:10:38	00:10:54
			n=253	n=78	n=88	n=87
	Total Response Time ERF Concentration	Urban	00:23:09	00:20:44	00:23:09	N/A
			n=12	n=4	n=8	n=0



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 10:38 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 23:09 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

Fire Station #4 Response Area Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	94%	95%	90%	97%
Turnout Time	00:01:30	25%	26%	19%	29%
Travel Time	00:04:00	42%	41%	42%	41%
Total Response Time	00:06:30	43%	43%	39%	50%
Travel Time ERF	00:08:00	8%	N/A	12%	0%
Total Response Time ERF	00:10:30	8%	N/A	12%	0%



Emergency Medical Services (MESA) Performance Statement Excerpt

This section represents data analytics for MESA – Moderate Risk calculated as a total for Fire Station #4 Response Area – Seymour/Deep Cove for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. 1st Unit on Scene has the potential to be any apparatus.**

Fire Station #4 Response Area

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:35	00:00:38	00:00:39	00:00:28
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:30	00:02:21	00:02:33	00:02:35
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:25	00:06:05	00:06:24	00:06:43
	Travel Time ERF Concentration	Urban	00:06:19	00:05:54	00:06:16	00:06:43
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:38	00:08:10	00:08:42	00:08:55
			n=1,392	n=449	n=438	n=505
	Total Response Time ERF Concentration	Urban	00:08:30	00:07:56	00:08:33	00:08:55
			n=1,377	n=444	n=429	n=504



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:38 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 08:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

Fire Station #4 Response Area Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	96%	97%	95%	95%
Turnout Time	00:01:00	18%	17%	18%	20%
Travel Time	00:04:00	62%	59%	62%	65%
Total Response Time	00:06:00	61%	58%	61%	65%
Travel Time ERF	00:04:00	62%	59%	62%	66%
Total Response Time ERF	00:06:00	62%	58%	62%	66%



Rescue MVA (Moderate Risk) Performance Statement Excerpt

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for Fire Station #4 Response Area – Seymour/Deep Cove for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel.**

Fire Station #4 Response Area

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:42	00:00:38	00:00:39	00:00:40
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:45	00:02:41	00:01:50	00:02:45
Travel Time	Travel Time 1st Unit Distribution	Urban	00:10:22	00:10:22	00:04:39	00:08:21
	Travel Time ERF Concentration	Urban	00:10:31	N/A	00:00:00	00:00:00
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:13:00	00:13:00	00:06:39	00:11:46
			n=14	n=4	n=5	n=5
	Total Response Time ERF Concentration	Urban	00:12:16	N/A	00:00:00	00:00:00
			n=2	n=0	n=1	n=1



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 13:00 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 12:16 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

Fire Station #4 Response Area Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	93%	80%	100%	100%
Turnout Time	00:01:30	14%	0%	20%	25%
Travel Time	00:04:00	29%	20%	60%	34%
Total Response Time	00:06:30	36%	20%	60%	25%
Travel Time ERF	00:08:00	0%	0%	0%	N/A
Total Response Time ERF	00:10:30	0%	0%	0%	N/A



Technical Rescue (High Risk) Performance Statement Excerpt

This section represents data analytics for Technical Rescue – High Risk calculated as a total for Fire Station #4 Response Area – Seymour/Deep Cove for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. Note: ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel.**

Fire Station #4 Response Area

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:05:22	00:05:20	00:04:58	00:04:54
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:03:00	00:02:34	00:03:05	00:02:34
Travel Time	Travel Time 1st Unit Distribution	Urban	00:15:45	00:15:54	00:13:31	00:15:45
	Travel Time ERF Concentration	Urban	00:13:04	00:00:00	00:00:00	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:19:08	00:18:09	00:18:56	00:20:03
			n=114	n=35	n=37	n=42
	Total Response Time ERF Concentration	Urban	00:14:48	00:00:00	00:00:00	N/A
			n=2	n=1	n=1	n=0



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 19:08 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 14:48 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #4 – Seymour/Deep Cove fire response area.

Fire Station #4 Response Area Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	37%	31%	30%	50%
Turnout Time	00:01:30	51%	57%	49%	47%
Travel Time	00:04:00	25%	19%	22%	34%
Total Response Time	00:06:30	12%	10%	8%	20%
Travel Time ERF	00:08:00	0%	N/A	0%	0%
Total Response Time ERF	00:10:30	0%	N/A	0%	0%

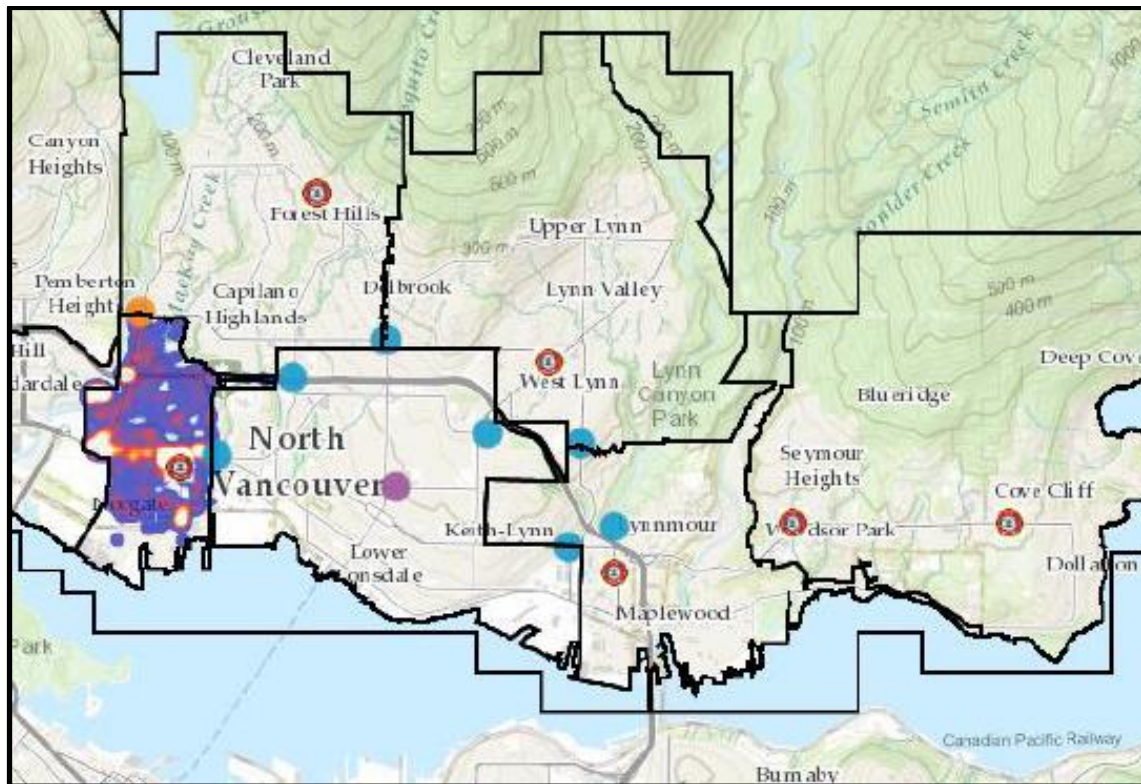


FIRE STATION #5 – NORGATE BASELINE/BENCHMARK PERFORMANCE

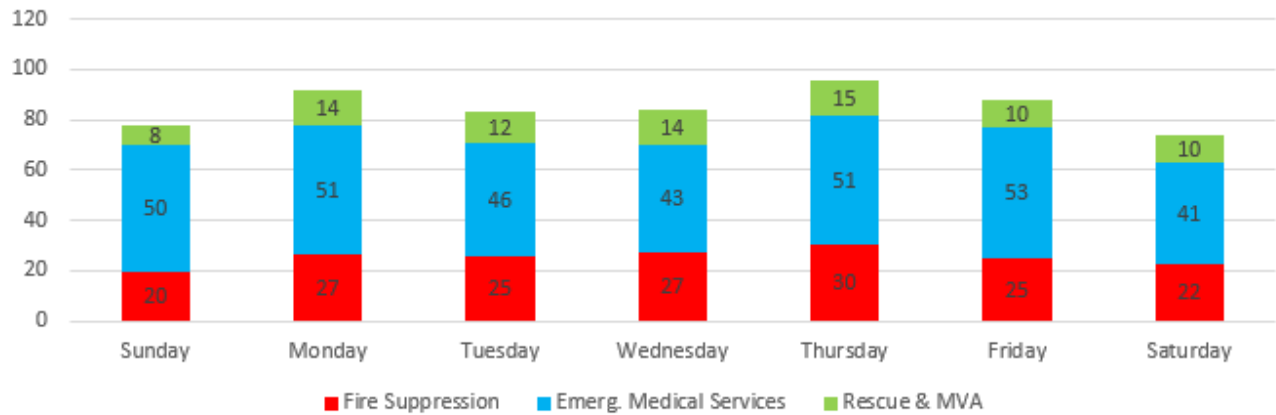
Incident Volume Breakdown - DNV Fire Station 5 Response Area

<u>Incident Type</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Fire Suppression	161	169	199
Rescue and MVA	74	78	97
Emergency Medical Services	407	302	295
Non-Emergency	68	71	71
Hazardous Materials	11	8	15
Standbys	15	10	10
TOTALS	736	638	687

All Incidents within Fire Station #5 Response Area 2017-2019

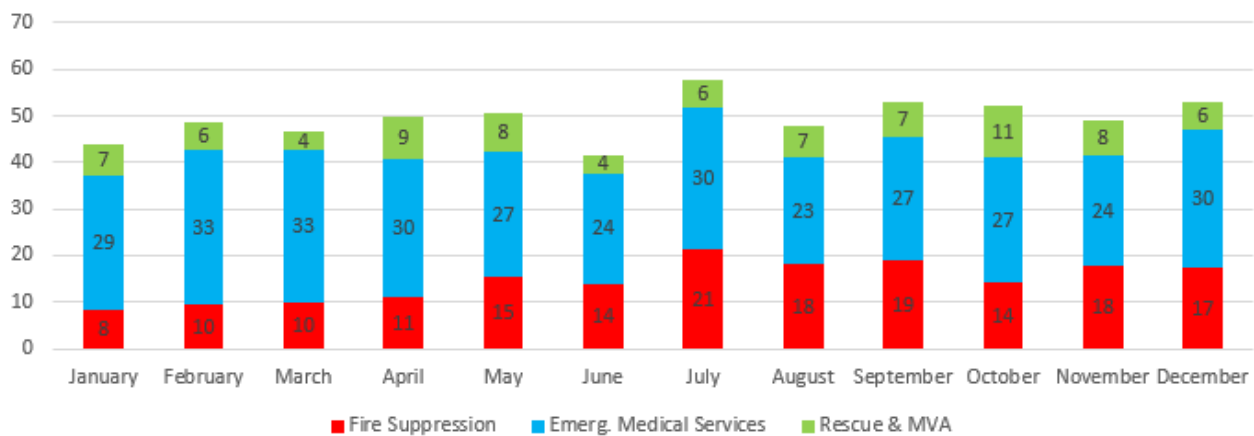


Incident Volume (Avg) by Day of Week - Fire Station #5 Response Area



For Fire Station #5 – Norgate, during the three year period 2017-2019 call volume was highest for MESA calls during February and March. Fire suppression calls are also lower early in the year, with a peak in July. Rescue calls are the highest in October.

Incident Volume (Avg) by Month of Year - Fire Station #5 Response Area



Fire Suppression Performance Statement Excerpt

This section represents data analytics for Fire Suppression – Moderate Risk calculated for Fire Station #5 Response Area – Norgate for the three-year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by total apparatus by type (3 Engine/Quint + 1 Tower) and must be 15 personnel.**

Fire Station #5 Response Area

(Moderate Risk) Fire Suppression 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:54	00:00:44	00:01:01	00:00:55
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:40	00:02:19	00:02:47	00:02:45
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:14	00:06:01	00:05:43	00:06:17
	Travel Time ERF Concentration	Urban	00:18:41	00:03:52	00:18:41	00:00:00
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:43	00:08:12	00:08:42	00:09:27
			n=289	n=120	n=92	n=77
Total Response Time	Total Response Time ERF Concentration	Urban	00:21:51	00:08:56	00:21:51	00:00:00
			n=8	n=2	n=5	n=1



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:43 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #5 – Norgate fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 21:51 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Fire suppression – Moderate Risk fires, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #5 – Norgate fire response area.

Fire Station #5 Response Area Fire Suppression Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	92%	94%	88%	95%
Turnout Time	00:01:30	24%	18%	23%	30%
Travel Time	00:04:00	65%	56%	66%	71%
Total Response Time	00:06:30	65%	57%	59%	74%
Travel Time ERF	00:08:00	12%	0%	0%	50%
Total Response Time ERF	00:10:30	12%	0%	0%	50%



Emergency Medical Services (MESA) Performance Statement Excerpt

This section represents data analytics for MESA – Moderate Risk calculated as a total for Fire Station #5 Response Area – Norgate for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. 1st Unit on Scene may differ from ERF as ERF is triggered by apparatus type (1 engine/quint) and 4 personnel. 1st Unit on Scene has the potential to be any apparatus.**

Fire Station #5 Response Area

(Moderate Risk) Emergency Medical Services (MESA) 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:29	00:00:41	00:00:24	00:00:22
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:20	00:02:14	00:02:30	00:02:17
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:06	00:05:51	00:05:33	00:06:28
	Travel Time ERF Concentration	Urban	00:06:07	00:05:51	00:05:40	00:06:28
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:15	00:08:07	00:07:53	00:08:24
			n=603	n=195	n=172	n=236
	Total Response Time ERF Concentration	Urban	00:08:15	00:08:07	00:07:53	00:08:24
			n=602	n=195	n=172	n=235



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:15 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #5 – Norgate fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters, one (1) officer is: 08:15 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all MESA – moderate risk, the total response time for the arrival of the ERF, staffed with three (3) fire fighters and one (1) officer shall be: 06:00 minutes in Fire Station #5 – Norgate fire response area.

Fire Station #5 Response Area Emergency Medical Services (MESA) Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	97%	98%	98%	95%
Turnout Time	00:01:00	23%	26%	20%	21%
Travel Time	00:04:00	58%	61%	56%	56%
Total Response Time	00:06:00	63%	62%	65%	62%
Travel Time ERF	00:04:00	58%	60%	56%	56%
Total Response Time ERF	00:06:00	63%	62%	65%	62%



Rescue MVA (Moderate Risk) Performance Statement Excerpt

This section represents data analytics for Rescue MVA – Moderate Risk calculated as a total for Fire Station #5 Response Area – Norgate for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. ERF is triggered by apparatus type (2 engine/quint + 1 rescue) and 11 personnel.**

Fire Station #5 Response Area

(Moderate Risk) Rescue MVA 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:00:52	00:00:48	00:00:53	00:00:47
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:23	00:01:57	00:02:48	00:02:09
Travel Time	Travel Time 1st Unit Distribution	Urban	00:06:09	00:05:00	00:04:56	00:07:31
	Travel Time ERF Concentration	Urban	00:10:21	00:10:21	00:08:00	00:08:39
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:07:57	00:07:31	00:07:46	00:09:09
			n=59	n=26	n=17	n=16
	Total Response Time ERF Concentration	Urban	00:11:40	00:11:40	00:11:05	00:10:45
			n=34	n=15	n=9	n=10



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 07:57 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #5 – Norgate fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers is: 11:40 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – Moderate Risk, the total response time for the arrival of the ERF, staffed with eight (8) fire fighters, three (3) officers shall be: 10:30 minutes in Fire Station #5 – Norgate fire response area.

Fire Station #5 Response Area Rescue MVA - Moderate Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	91%	94%	88%	94%
Turnout Time	00:01:30	36%	44%	12%	47%
Travel Time	00:04:00	26%	12%	41%	43%
Total Response Time	00:06:30	41%	19%	59%	56%
Travel Time ERF	00:08:00	74%	70%	78%	76%
Total Response Time ERF	00:10:30	79%	80%	78%	76%



Technical Rescue (High Risk) Performance Statement Excerpt

This section represents data analytics for Technical Rescue – High Risk calculated as a total for Fire Station #5 Response Area – Norgate for the three year period 2017-2019. **NOTE: Baseline Performance Tables are for the Fire Station Response Area, not specifically the apparatus stationed at those Fire Stations. Response time and (n=) for incidents may include apparatus from any DNVFRS Fire Station, the City of North Vancouver, and/or the District of West Vancouver. Note: ERF is triggered by apparatus type (3 engine/quint + 1 rescue) and 15 personnel.**

Fire Station #5 Response Area

(High Risk) Technical Rescue 90th Percentile Times- Baseline Performance			2017-2019	2019	2018	2017
Alarm Handling	Pick up to Dispatch	Urban	00:01:40	00:00:35	N/A	00:01:40
Turnout Time	Turnout Time 1st Unit Distribution	Urban	00:02:57	00:01:26	N/A	00:02:35
Travel Time	Travel Time 1st Unit Distribution	Urban	00:05:48	00:00:09	N/A	00:04:08
	Travel Time ERF Concentration	Urban	00:06:28	N/A	N/A	00:06:28
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	00:08:05	00:06:21	N/A	00:08:05
			n=8	n=2	n=0	n=6
	Total Response Time ERF Concentration	Urban	00:11:17	N/A	N/A	00:11:17
			n=2	n=0	n=0	n=2



Details of capability as it aligns with critical tasking is also detailed in previous section. Only the baseline and benchmark performance statement *excerpts* are included below with the performance tables for the individual fire stations.

BASELINE (ACTUAL) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer is: 08:05 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) FIRST-DUE Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the first-due unit, staffed with three (3) fire fighters and one (1) officer shall be: 06:30 minutes in Fire Station #5 – Norgate fire response area.

BASELINE (ACTUAL) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers is: 11:17 minutes in Fire Station #5 – Norgate fire response area.

BENCHMARK (TARGET) EFFECTIVE RESPONSE FORCE (ERF) Performance Statement: For 90 percent of all Rescue – High Risk, the total response time for the arrival of the ERF, staffed with eleven (11) fire fighters and four (4) officers shall be: 10:30 minutes in Fire Station #5 – Norgate fire response area.

Fire Station #5 Response Area Technical Rescue - High Risk	Benchmark Time Target	2017-2019	2017	2018	2019
Alarm Handling Time	00:01:00	44%	43%	N/A	50%
Turnout Time	00:01:30	56%	57%	N/A	50%
Travel Time	00:04:00	62%	67%	N/A	50%
Total Response Time	00:06:30	50%	50%	N/A	50%
Travel Time ERF	00:08:00	50%	50%	N/A	N/A
Total Response Time ERF	00:10:30	0%	0%	N/A	N/A



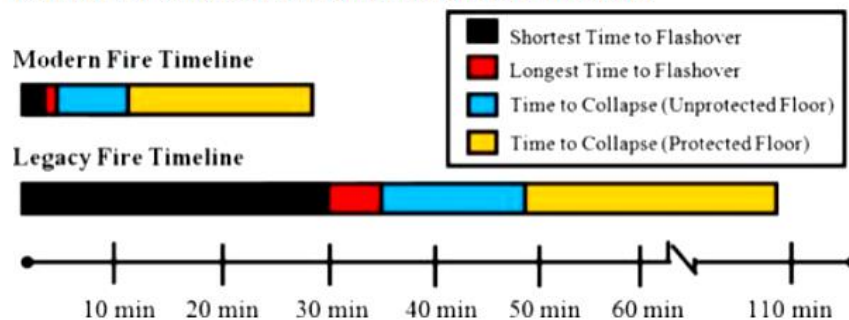
THREE-YEAR RESPONSE DATA ANALYTICS SUMMARY

Why does time matter?

There are two (2) time-critical response needs for the first fire apparatus to arrive at an incident. For a fire it is the time-critical need to stop progression towards flashover. For a cardiac arrest patient it is the point of brain death.

Flashover is a threat to life and property. There is little opportunity for the first arriving apparatus to save lives and property once flashover occurs in an occupancy. Public Safety staff can mitigate this threat through public education, outreach, and inspections on inspectable properties. Occupants can mitigate this threat through good fire safety practices and housekeeping, practicing escape planning, as well as having sprinkler systems, working smoke alarms and fire alarm devices, or potentially through protecting in a safe area and awaiting rescue. Regardless, fires happen and when they do they burn quicker and hotter as new building construction materials and the composition of home furnishings are drastically different than 40+ years ago. Today's home contents contain large quantities of petroleum-based products and synthetics that burn faster and hotter versus traditional, more natural materials such as wood and cotton. Legacy construction as occurred before the mid-80s could typically sustain until flashover for around 30 minutes. However, science is showing that this time frame is now outdated. Due to the modern fire environment, building construction and fuel load, fire is accelerating faster and times to collapse and flashover may occur as quickly as 3-4 minutes.

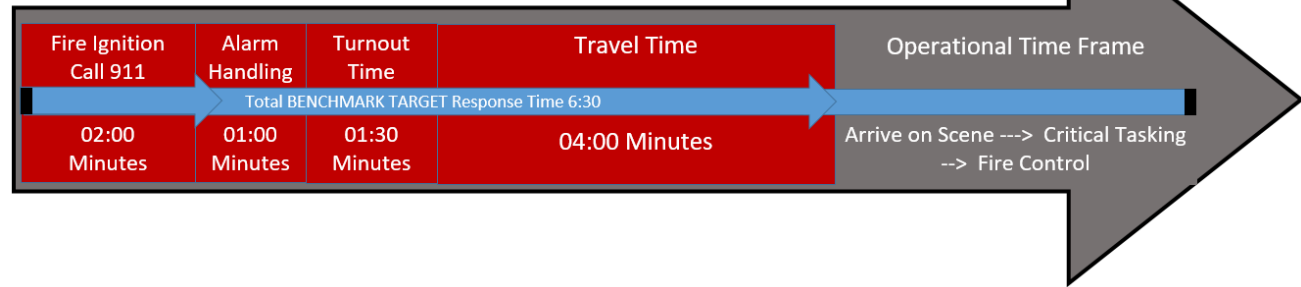
IMPACT OF CONSTRUCTION TYPE ON FIRE TIMELINE



Newer occupancies while being built to current code are likely built with light weight construction methods that are less resilient under fire conditions, and include furnishings made of hydrocarbons which are highly flammable. This gives occupants less time to evacuate. This means that the total response time for a fire suppression response matters!



FIRE RESPONSE TIMELINE (Based on Benchmark Targets) from Fire Ignition to Fire Control



When we consider time as it relates to emergency medical services we consider that irreversible brain death can occur within six (6) minutes when oxygen is not circulating to the brain. Bystander CPR and early defibrillation, as well as community CPR type programs can be a mitigating measure. Regardless, the greatest chance for survivability is within the first 10 minutes of the event occurring. This means that total response time for emergency medical service calls matter too!

Reflecting on the 90th percentile performance tables of all four reportable categories, there is a historical pattern of response performance that can be improved. Addressing performance may consider changes on multiple levels:

- What changes are controlled by personnel related to behavior and readiness?
- What support do personnel need to make those changes?
- What changes are controlled by management, and what are the barriers to those changes?

Assessing the need, identifying the changes, initiating change, and monitoring and providing feedback on success and challenges are part of a process that began in 2019 related to turnout times. In mid-2020 DNVFRS began reporting turnout times on a monthly basis, to department personnel based on average response. Data reporting to personnel has been realigned from average to 90th percentile.



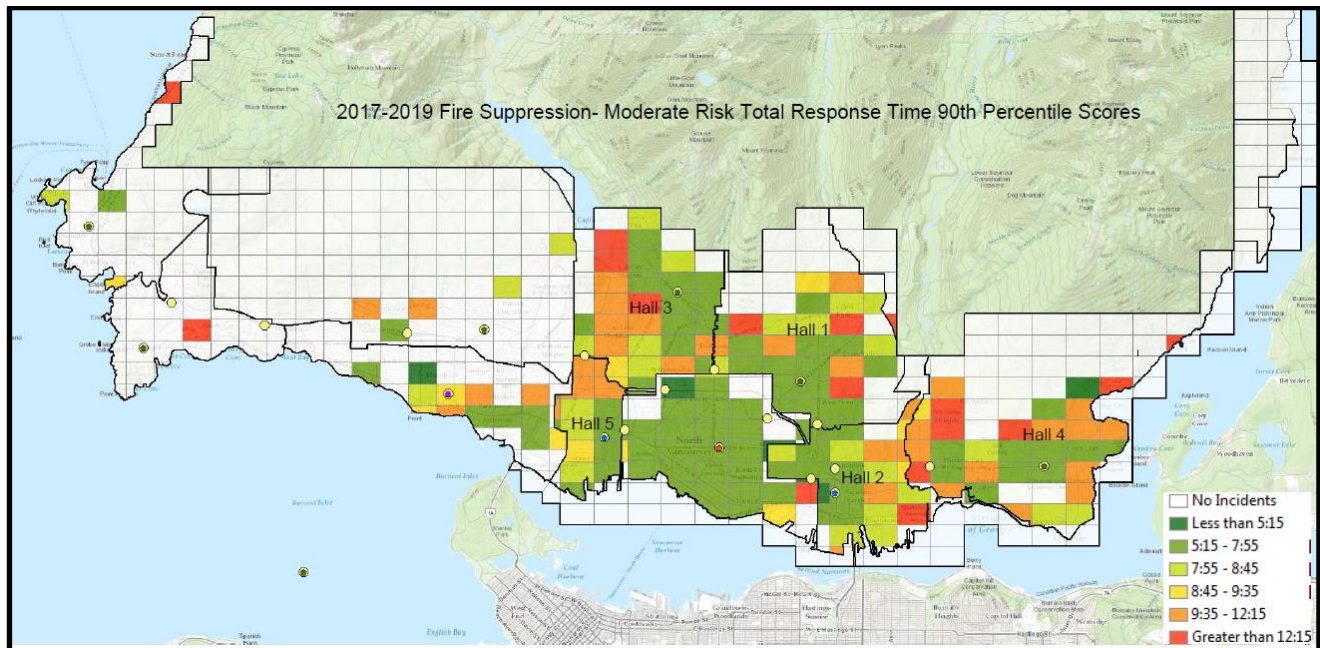
Fire Suppression

As supported by three (3) years of cumulative data, DNVFRS meets its goal of 00:06:30 minutes for first due for total response time to fire suppression calls 64% of the time. The 90th percentile performance for the period for total response time was 00:08:45.

**1st Due Target Benchmark - Based on 90th Percentile
Three Year Period 2017-2019**

Fire Suppression - Moderate Risk	Alarm Handling (1 Min)		Turnout Time (1.5 Min)		Travel Time (4 Min)		Total Response Time	
	%	Time	%	Time	%	Time	%	Time
All Fire Stations	89%	00:00:58	34%	00:02:25	62%	00:06:21	64%	00:08:45
Fire Station #1 - Lynn Valley	91%	00:00:58	29%	00:02:36	69%	00:05:49	71%	00:08:25
Fire Station #2 - Lynnmour	89%	00:01:00	38%	00:02:23	49%	00:06:26	55%	00:08:40
Fire Station #3 - Montroyal	91%	00:00:56	28%	00:02:35	47%	00:06:26	50%	00:08:54
Fire Station #4 - Seymour/Deep Cove	94%	00:00:53	25%	00:02:37	42%	00:08:10	43%	00:10:38
Fire Station #5 - Norgate	92%	00:00:54	24%	00:02:40	65%	00:06:14	65%	00:08:43

Performance would be positively effected by decreasing turnout time and travel time. There is the greatest opportunity for improvement with turnout time, as the benchmarks are consistently not being achieved; targets set by DNVFRS personnel are being achieved 34% of the time. The best response performance is Fire Station #2 – Lynnmour. Alternately, travel times are significantly longer in Fire Station #4 – Seymour/Deep Cove which has the largest area of coverage at 10.81 km2 of urban area, and 56.72 km2 of wildland.



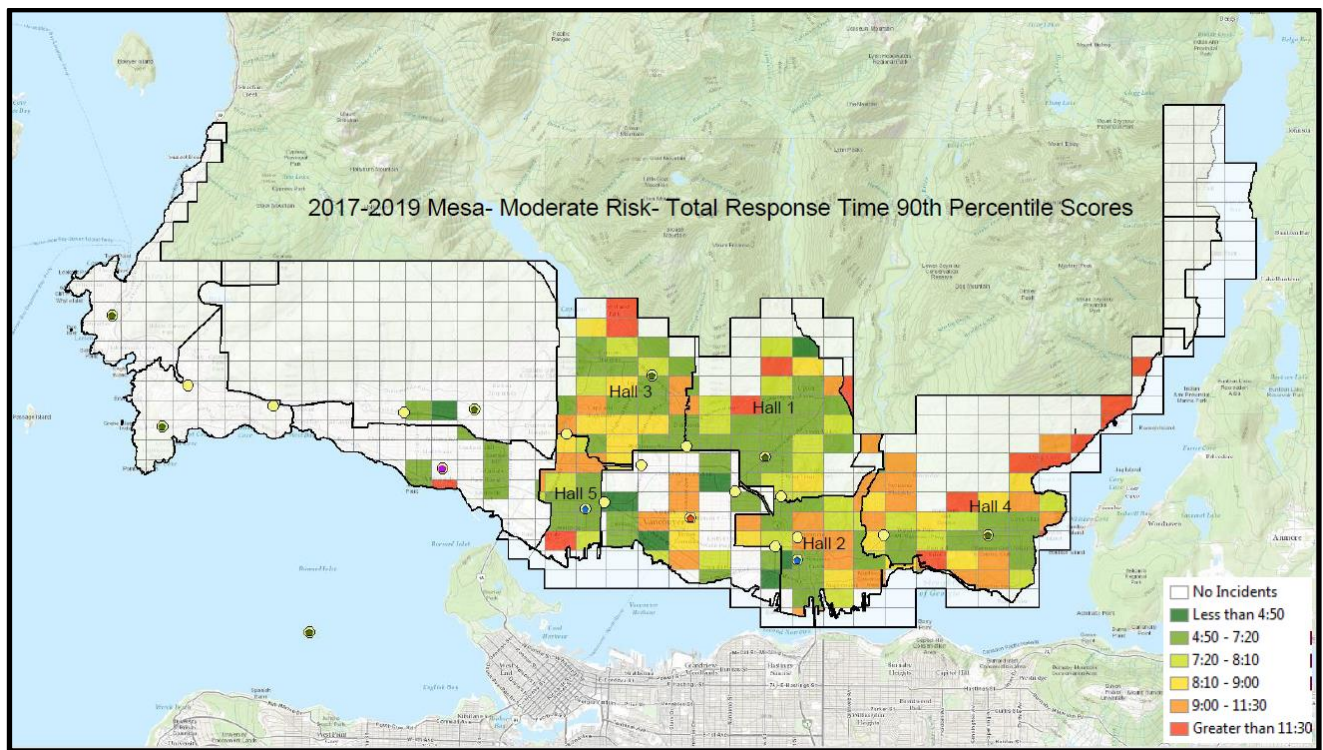
Emergency Medical Services (MESA)

The three (3) years of cumulative data 2017-2019 show the DNVFRS meets its goal of 06:00 minutes for first due total response time to MESA calls 65% of the time. The 90th percentile performance for the period for total response time was 00:08:10.

**1st Due Target Benchmark - Based on 90th Percentile
Three Year Period 2017-2019**

Emergency Medical Services (MESA) - Moderate	Alarm Handling (1 Min)		Turnout Time (1.0 Min)		Travel Time (4 Min)		Total Response Time	
All Fire Stations	95%	00:00:38	21%	00:02:27	64%	00:06:02	65%	00:08:10
Fire Station #1 - Lynn Valley	93%	00:00:45	21%	00:02:24	78%	00:05:04	77%	00:07:22
Fire Station #2 - Lynnmour	93%	00:00:41	26%	00:02:22	53%	00:06:23	57%	00:08:25
Fire Station #3 - Montroyal	97%	00:00:29	17%	00:02:38	58%	00:05:51	58%	00:08:07
Fire Station #4 - Seymour/Deep Cove	96%	00:00:35	18%	00:02:30	62%	00:06:25	61%	00:08:38
Fire Station #5 - Norgate	97%	00:00:29	23%	00:02:20	58%	00:06:06	63%	00:08:15

Changes that are made to reduce turnout time and travel time for fire suppression should also have a positive effect on MESA as changes in behaviour, readiness, fire station design, etc. will have overall effects. DNVFRS personnel do not typically turn out for MESA incidents in full PPE (turnout/bunker gear). Appropriate MESA PPE is available in the apparatus and may be donned on route while seat-belted or upon arrival, i.e. masks, gowns, face shield, as the situation dictates. Updates regarding level of MESA PPE required may be noted in the incident notes, or may be updated on route by dispatch.

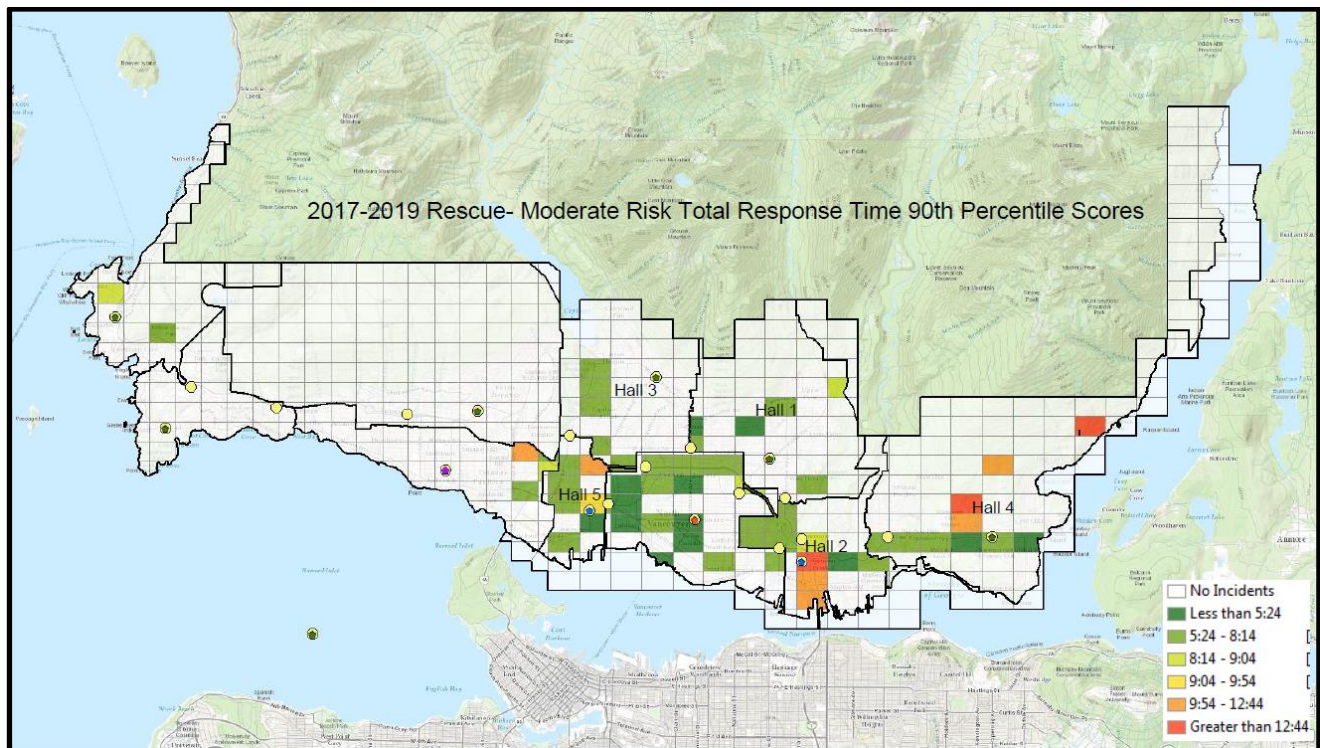


Rescue Motor Vehicle Accident (MVA) (Moderate Risk)

DNVFRS responded to an annual average of 540 rescue calls for all risk levels, from 2017-2019. Based on 2-axis risk analysis and critical tasking that aligns with O.G. #2.03.04, rescues have been divided into low risk, moderate risk, and high risk. Over the three (3) year period, DNVFRS responded to an average of 211 moderate risk rescues. Moderate risk rescues are MVA Rescue Required, including MVA Highway. The first due for a moderate risk rescue met the goal of 06:30 for total response time 40% of the time. The 90th percentile time was 00:09:04.

**1st Due Target Benchmark - Based on 90th Percentile
Three Year Period 2017-2019**

Rescue MVA - Moderate Risk	Alarm Handling (1 Min)	Turnout Time (1.5 Min)	Travel Time (4 Min)	Total Response Time
All Fire Stations	78% 00:01:27	40% 00:02:37	35% 00:06:45	40% 00:09:04
Fire Station #1 - Lynn Valley	88% 00:00:43	25% 00:02:09	75% 00:05:04	62% 00:07:01
Fire Station #2 - Lynnmour	81% 00:01:13	41% 00:02:42	31% 00:07:10	37% 00:10:07
Fire Station #3 - Montroyal	100% 00:00:30	0% 00:02:24	20% 00:04:39	20% 00:07:18
Fire Station #4 - Seymour/Deep Cove	93% 00:00:42	14% 00:02:45	29% 00:10:22	36% 00:13:00
Fire Station #5 - Norgate	91% 00:00:52	36% 00:02:23	26% 00:06:09	41% 00:07:57



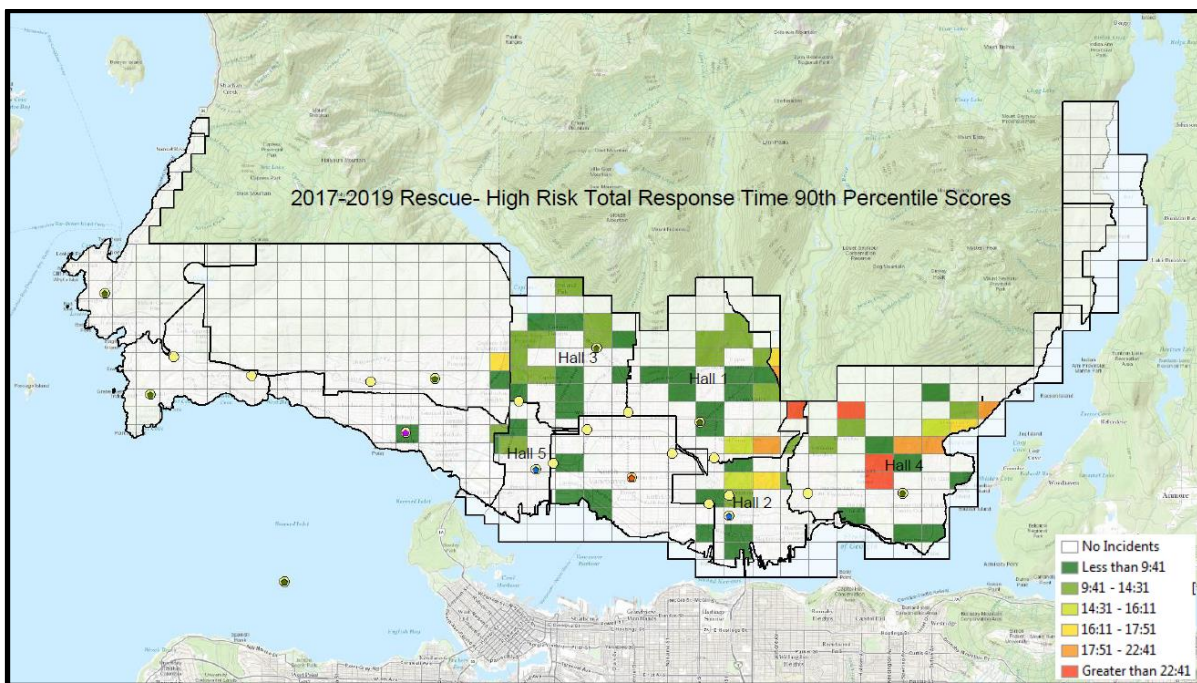
Technical Rescue (High Risk)

DNVFRS responded to an annual average of 100 high risk rescues (technical rescues) during the three year period. High risk rescues are technical rescues of water, high angle, trench, confined space, and trail. For high risk technical rescues the 06:30 total response time was achieved 26% of the time. The 90th percentile total response time was 00:16:11. Changes that are made to reduce turnout time and travel time should also have a positive effect on all calls, as changes in behaviour, readiness, station design and layout, will have overall effects.

**1st Due Target Benchmark - Based on 90th Percentile
Three Year Period 2017-2019**

Technical Rescue - High Risk	Alarm Handling (1 Min)		Turnout Time (1.5 Min)		Travel Time (4 Min)		Total Response Time	
All Fire Stations	49%	00:04:27	43%	00:02:50	33%	00:11:45	26%	00:16:11
Fire Station #1 - Lynn Valley	60%	00:02:05	34%	00:02:47	37%	00:08:19	37%	00:11:14
Fire Station #2 - Lynnmour	40%	00:03:31	55%	00:02:37	20%	00:14:33	15%	00:17:15
Fire Station #3 - Montroyal	50%	00:01:41	29%	00:02:42	47%	00:08:27	26%	00:10:54
Fire Station #4 - Seymour/Deep Cove	37%	00:05:22	51%	00:03:00	25%	00:15:45	12%	00:19:08
Fire Station #5 - Norgate	44%	00:01:40	56%	00:02:57	62%	00:05:48	50%	00:08:05

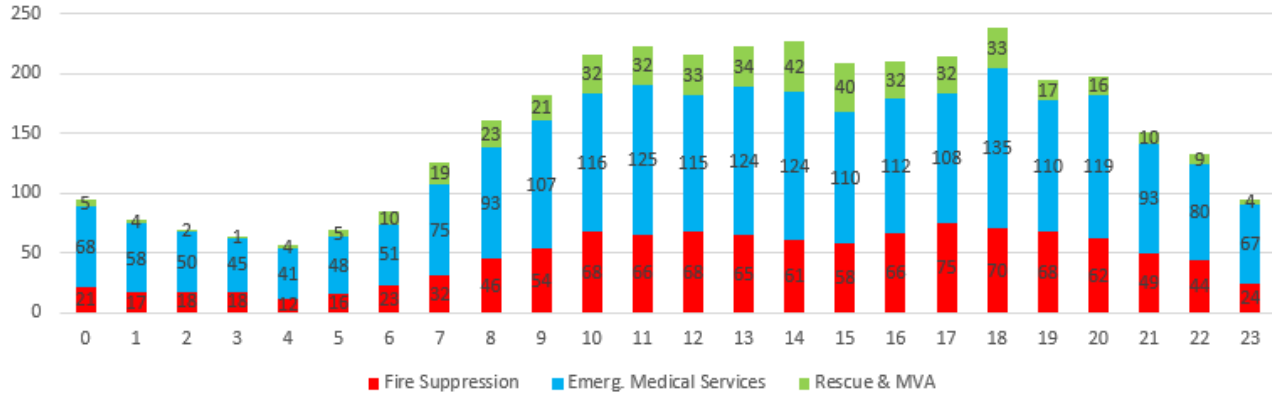
Notably alarm handling time for rescue calls is increased. Additional information is taken by the dispatch call taker, information is often verified, additional questions asked, etc. Turnout time does not appear to be measurably affected by the added complexity of these call types. Travel time is measurably longer which could be as a result of location in the wildland, additional PPE or information required at a staging point, or may include travel time to the patient/incident.



Time of Day

There are predictable times during a 24-hour period that are busier. As noted in the below chart the hours between 1000 and 1800 are three (3) to four (4) times busier than the hours between midnight and 0600.

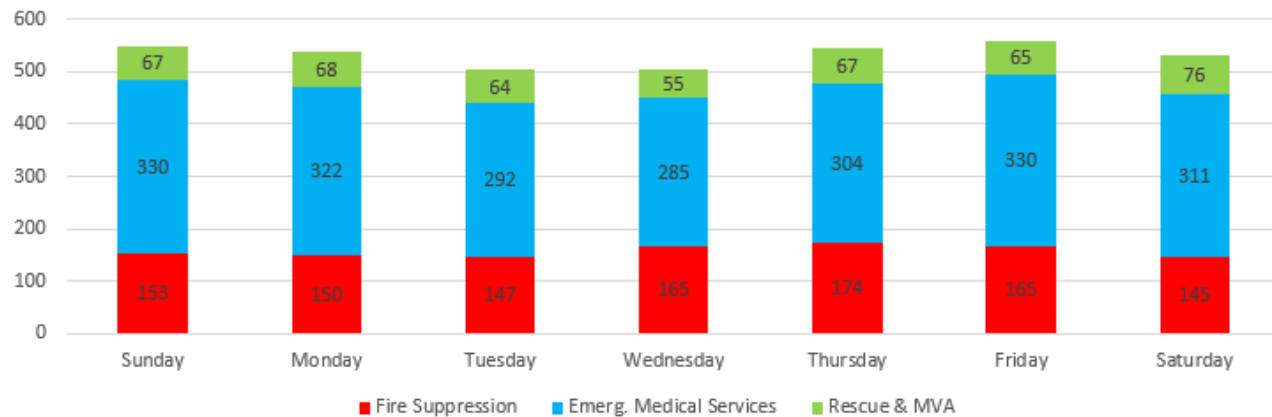
Incident Volume Average by Time of Day - All DNV Fire Station Response Areas



Day of Week

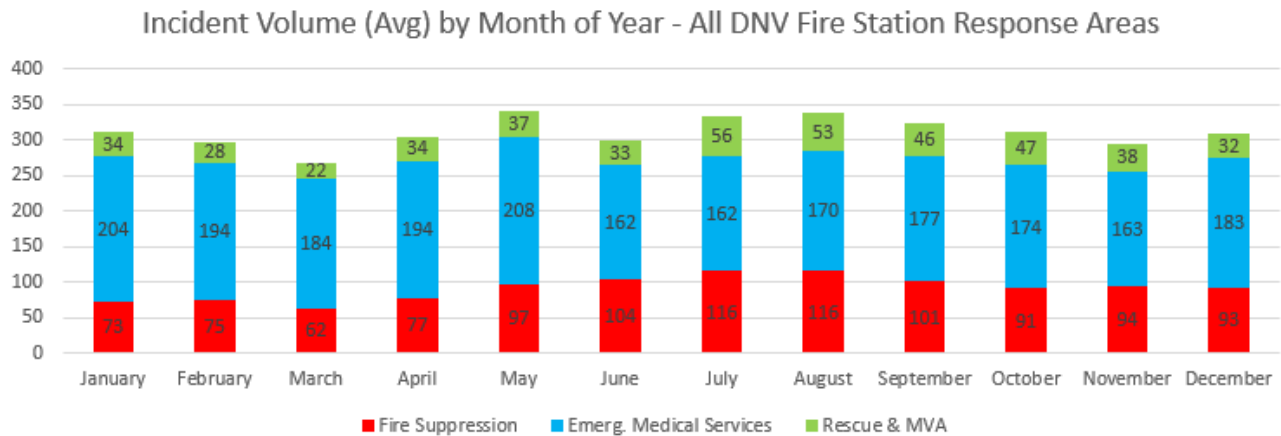
Call volume across all fire stations is relatively consistent regardless with Wednesday's being predominately the least busy, and Friday's marginally the most busy.

Incident Volume (Avg) by Day of Week - All DNV Fire Station Response Areas



Month of Year

Overall the busiest month over the three year period of 2017-2019 was May and the slowest month was March. March was also the slowest month for rescues and fire suppression incidents. The busiest month for rescues was July. The busiest month for fire suppression was August with July following closely.



Cooperative Fire/Rescue Service – DNV Response

The Cooperative Fire/Rescue Service Letter of Understanding supports the provision of the best service for all residents and visitors to the North Shore. While DNVFRS predominantly responds within the DNV, service is also provided to the City of North Vancouver and the District of West Vancouver to support their primary service provision. On average during the three year period 2017-2019, 86.6% of DNVFRS calls for service were located in the DNV. DNVFRS personnel responded into the City of North Vancouver 10.2%, and 3.2% in the District of West Vancouver.

When resources in the any municipality are anticipated to be tied up for greater than 10 minutes, LiveMUM anticipates whether due to the time of day/day of week, there is a historical need for a coverage move-up. This computer-aided move-up anticipates service gaps, and allows all three (3) municipalities the benefit of additional resources for simultaneous calls without having to be concerned with habitual draw-down of resources.



Response to City of North Vancouver (CNV)

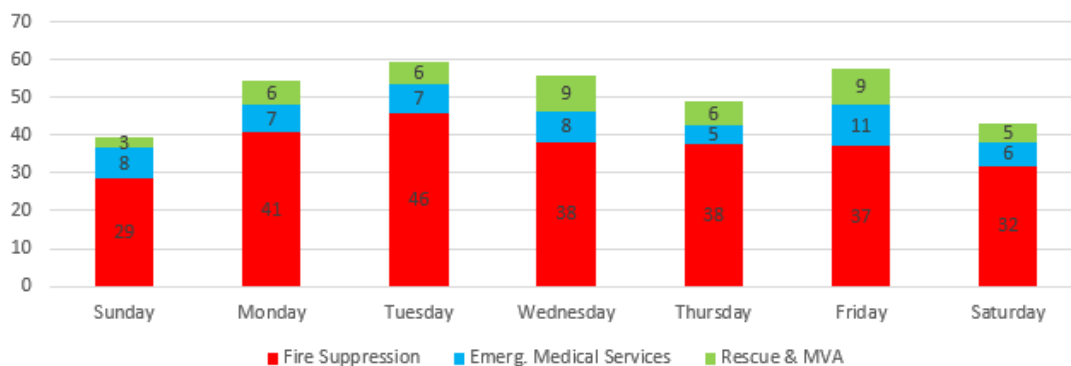
DNVFRS predominantly responds into the CNV as a component of ERF as noted in the Fire suppression moderate risk averages in the following table. Calls for service tend to occur more frequently on Tuesdays and less frequently on Sundays.

DNVFRS Response into the City of North Vancouver

Incident Volume Breakdown - CNV Fire Station Response Area

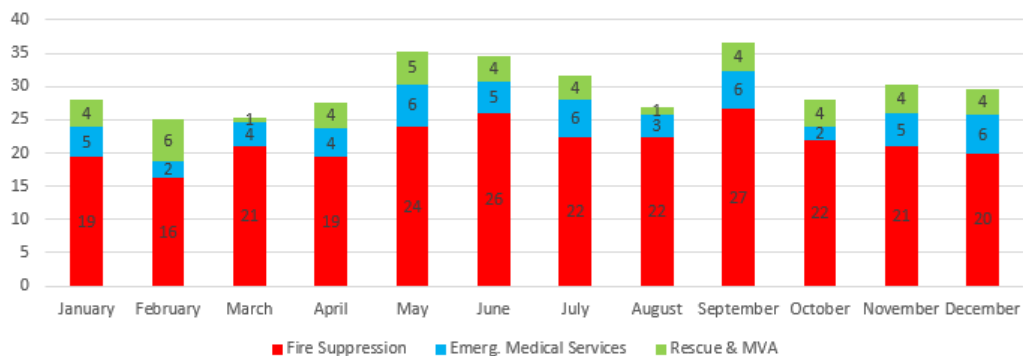
Incident Type	2017	2018	2019
Fire Suppression	268	258	255
Rescue and MVA	39	47	51
Emergency Medical Services	70	43	47
Non-Emergency	10	10	14
Hazardous Materials	8	7	5
Standbys	146	175	117
TOTALS	541	540	489

Incident Volume (Avg) by Day of Week - CNV Response Area



September can be a busy month for response into the City of North Vancouver, overall, as well, for fire suppression response services.

Incident Volume (Avg) by Month of Year - CNV Response Area



Response to District of West Vancouver (DWV)

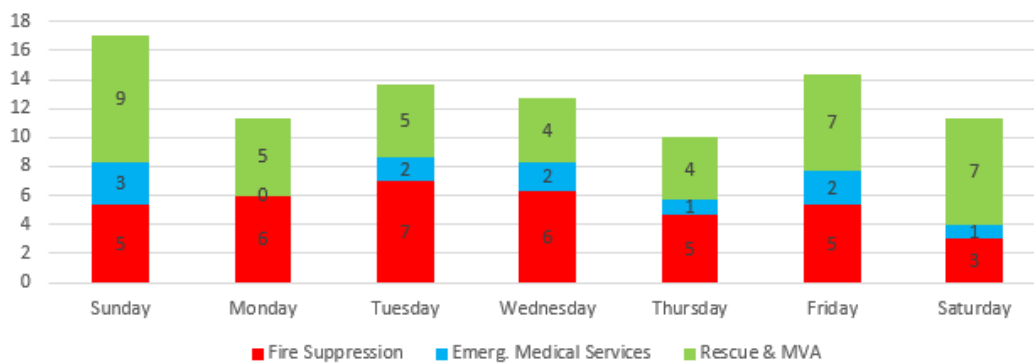
DNVFRS personnel most frequently respond into the DWV as a component of ERF. MESA support services are infrequent. Fire suppression support occurs most frequently on Tuesday and Wednesdays with Friday following closely. Rescue calls are most likely to occur on a Friday, Saturday or Sunday.

DNVFRS Response into the District of West Vancouver

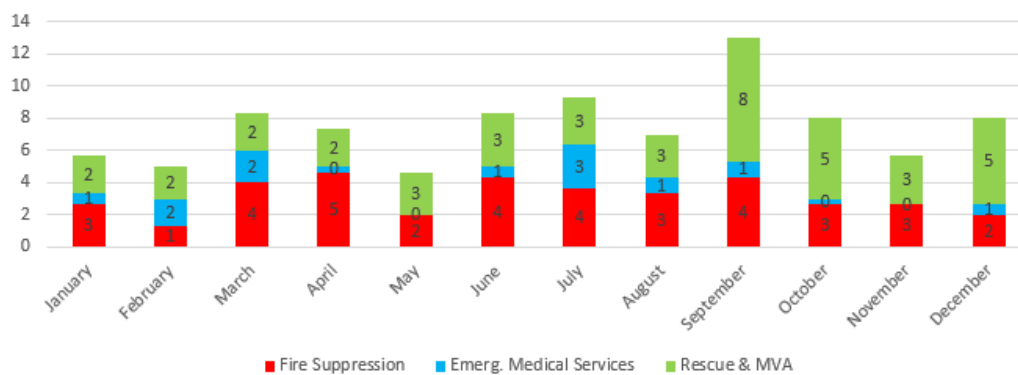
Incident Volume Breakdown - DWV Fire Station Response Areas

Incident Type	2017	2018	2019
Fire Suppression	48	32	33
Rescue and MVA	50	49	25
Emergency Medical Services	10	16	7
Non-Emergency	0	5	0
Hazardous Materials	1	2	2
Standbys	99	78	26
TOTALS	208	182	93

Incident Volume (Avg) by Day of Week - DWV Response Areas



Incident Volume (Avg) by Month of Year - DWV Response Areas



Over the three-year period 2017-2019 September had the highest numbers of calls for support in both for Fire Suppression and Rescue.



PERFORMANCE IMPROVEMENT – GOALS, OBJECTIVES AND ACTIONS

GOAL #1 – Meet total response time 90th percentile benchmark targets by Q4, 2025.

DNVFRS has identified a need to monitor and improve response performance. When fire department response times and effective response force assembly times are low, it is more likely that sufficient resources have been deployed, which is associated with more positive outcomes from risk events.

Performance objectives to meet Goal #1 are related to: total response time targets, location of apparatus, access to remote locations, and traffic congestion. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025.

1.1 Total Response Time Targets

Improving response time can be affected in a number of ways. Personnel have the capacity to influence turnout time and travel time, thereby impacting overall response time. Turnout time can be influenced by operational readiness, physical location, and fire station physical layout. Travel time can be influenced by operational readiness and area street location familiarity. Travel time is also impacted by traffic congestion, construction, and fluctuates with time of day, day of week, time of year, and weather conditions. Anticipated actions include:

- Review turnout time and travel time benchmark targets to determine whether they are achievable, realistic and safe.
- Encourage personnel to be ready to respond to incidents with PPE checked and staged in an appropriate location to ensure timeliness in turnout time can be met and improved upon.
- Promote familiarity with streets and routes and/or reliance on digital routing information so as to eliminate time spent at the map.
- Encourage consistency for Fire Officers to select “on route” when the apparatus roles the tires to an incident, and to select “on scene” when the apparatus stops its tires/arrives at the incident.
- Explore efficiencies in fire station layout and design to reduce/remove barriers to timely turnout time.
- Evaluate locations of new fire stations in consideration of data analytics aligned with 90th percentile as opposed to average times.
- Undertake a program of regular reviews of performance aligned with annual reporting of 90th percentile.

1.2 Location of Apparatus

DNVFRS apparatus are strategically located in the community. The location of the closest fire station can influence the travel time(s) of apparatus and affect the outcomes of fire suppression or a patient that is in need of critical intervention. DNVFRS has been working with Deccan International and its predictive analysis model to plan for a regional model of response across the North Shore by “closest fire station”. DNVFRS is working with Fire Dispatch to prepare a test environment where scenarios for response in all three (3) North Shore municipalities can be tested and demonstrated to support the data analytics that have been prepared. Anticipated actions include:



- Collaborate across the North Shore on the “closest fire station” response model.
- Report analytics to reflect 90th percentile as opposed to average times.
- Investigate the impact that staffing a 4th on the Tower/Rescue would have on apparatus availability, standby’s, and overall response time in DNV.
- Investigate time of day and day of year predictive analytics to determine best locations (including standby locations) for responses that would improve response time targets.
- Investigate options to improve response to the road access areas of the homes in the wildland using predictive analytics, such as pre-deployment to a staging area during times where risk is escalated.
- Collaborate with internal and external stakeholders (Planning Division, Metro Vancouver migration numbers, predictive analytics, etc.) on data research for projected densification and population growth and its impact on future operational capabilities.

1.3 Access to Remote Locations

DNVFRS responds to structures outside of the Metro Vancouver Urban Containment Boundary. There are also a number of residential structures adjacent to the Wildland Urban Interface (WUI), some of which are accessed by road and some are by boat/water access only. These response locations could be considered rural, although the DNVFRS does not currently have the capacity to track response to those locations, i.e. “arrive at patient”. To obtain a comprehensive total response time into the wildland intermix areas DNVFRS would need to begin tracking response time to the patient or point of concern. Anticipated actions include:

- Evaluate the number of responses that would be affected and determine the value that would be received from tracking this information.
- Conduct annual analysis of response data to determine best location for resources for responding to the wildland urban interface, and wildland intermix areas.
- Assess if predictive analysis could result in location assignments or move-ups of apparatus during various time periods that could reduce travel times to these areas.

1.4 Traffic Congestion

DNVFRS has been collaborating with the DNV Traffic Division regarding building a comprehensive Traffic Pre-emption Program. As of 2020 two (2) traffic signals have been upgraded with GTT Opticom 2.4 GHz pre-emption equipment. An additional five (5) are planned for 2021. Traffic pre-emption signals can alleviate delays with traffic congestion and increase Fire Fighter and civilian safety when responding in an emergency situation. Anticipated actions include:

- Develop a comprehensive plan in partnership with DNV Traffic Division for prioritizing key intersections for implementation of Traffic Pre-emption Program.
- Collaborate with NVCFD and DWVFRS to align the Traffic Pre-emption Program across the North Shore.
- Proactively work to ensure capital funding and ongoing operational funding for the GTT transmitter equipment for frontline apparatus is in place to support the Traffic Pre-emption Program.



GOAL #2 – Collaborate with internal and external stakeholders to build a comprehensive community risk assessment (CRA) by Q2, 2022.

DNVFRS has performed a Community Risk Assessment (CRA) based on population, Fire Station Response Area, occupancy type/use, and response type. Additional data sets could be combined to provide a more comprehensive CRA. The resulting analytics may then be used to inform all programs in the fire service—both proactive and reactive programs—and potentially public safety programs that are under the jurisdiction of other service providers. In 2020 DNVFRS filled the temporary full time position of Captain – Community Risk Reduction and Pre-Incident Fire Planning. This three-year annually renewable position is planned to work with the Assistant Fire Chief Public Safety on a comprehensive CRA, and build a comprehensive pre-planning program. Data analytics on the productivity and effectiveness of this position will need to be tracked to determine community impacts and value.

Performance objectives to meet Goal #2 are related to: availability of data sets, data analytics, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Investigate industry best practices for inclusion of a wide range of data to support a comprehensive and evergreen CRA.
- Review and revise programs to ensure messaging and content is appropriate and applicable for intended target audiences, and monitor community impact of these programs.
- Share data analytics with other stakeholders and service providers to gain maximum benefits towards Community Risk Reduction (CRR).
- Dedicate time and resources to develop a comprehensive Pre-Incident Fire Planning Program.
- Utilize evidence-based decision making and data analytics to support the business plan facilitating transition of the Captain – Public Safety (Community Risk Reduction and Pre-Incident Fire Planning) from a temporary full-time position to a full-time position with DNVFRS.
- Build out a Diversity and Inclusion Program (in coordination with Training Division).

GOAL #3 – Investigate current capability and capacity of DNVFRS Training Division to meet organizational needs and expectations. Complete a gap analysis with regards to training delivery and staffing needs by Q1, 2022.

DNVFRS Training Division provides mandated support services to personnel. A pool of Acting Captains are utilized to provide the depth of training and lesson plan development that is required to maintain personnel proficiencies. The pending Maplewood Fire Rescue Centre will have enhanced training facilities to support robust internal delivery of programs, offer increased interagency opportunities, and may provide for revenue generation options through external program delivery. Relocation of the Training Centre to the new location will require a great deal of planning and implementation.



Performance objectives to meet Goal #3 are related to: data analytics, stakeholder engagement, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Incorporate data analytics to support mid-range and long-range functional capacity needs of the Training Division through creation of a five-year staffing plan.
- Assess and identify staffing strategies to enhance the internal focus on diversity and inclusion within recruitment and outreach efforts.
- Seek ways to embed best practices with regard to diversity and inclusion throughout the DNVFRS.

GOAL #4 – Implement a comprehensive risk-based inspection program based on data analytics by Q1, 2022.

Performance objectives to meet Goal #4 are related to: availability of data sets, data analytics, internal/external collaboration, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Participate in a proof of concept program with OPTA/FUS for the use of predictive analysis within a risk-based inspection program.
- Through partnership with DNV GIS and IT Services, seek to incorporate leading edge technology that supports use of data analytics within evident-based decision making for the DNVFRS.
- Identify a mobile inspection application that will meet the needs of DNVFRS.
- Utilize data analytics to support a pilot project focused on low risk occupancies undertaking a self-inspection or third-party inspection program.

GOAL #5 – Develop a regular review program for all Fire Department related bylaws and operating guidelines by Q4, 2021.

DNVFRS and the DNV legal department have been working on an updated Fire Bylaw. The current Fire Bylaw was created in 2009 and does not reflect all current services. A revised DNV Fire Bylaw is expected to be ready for presentation to DNV Council in 2021. The Radio Communications Bylaw is also under review. The Fees and Charges Bylaw is updated annually and was thoroughly reviewed by DNVFRS in 2020.

Performance objectives to meet Goal #5 are related to: internal and external stakeholder collaboration, community risk reduction, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Collaborate with DNV legal to update the Fire Bylaw to reflect current business practices.
- Work with DNV staff on updates to the Fireworks Bylaw to reflect the wants/needs of Council and the community.
- Review bylaws to include relevant components of accreditation documents.



- Advocate with NVCFD and WVFRS to align all fire bylaws amongst the Cooperate Fire/Rescue Services partners across the North Shore.
- Ensure a rigorous review and revision process is completed annually for all department operating guidelines.

GOAL #6 – Collaborate with DNV Utilities Division to support further enhancement of the water distribution system in the DNV by Q2, 2022.

DNV has been rated by the Fire Underwriters Survey 2016 (FUS) as having a high performance for water distribution. Areas that have been noted in the past that have limited access to the water distribution network include the highway, and the remote/wildland areas on Indian River Drive. DNV has a network of water tank/reservoirs strategically located throughout the DNV (page 187). One of these tanks has been decommissioned but is still in place along Indian River Drive.

Performance objectives to meet Goal #6 are related to: internal and external stakeholder collaboration, community risk reduction, predictive analytics, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Implement colour coding of fire hydrants in the DNV in accordance with NFPA 291 and in alignment with FUS recommendation #10.
- Work collaboratively with DNV Utilities Division to address potential gaps in water distribution system (i.e. Highway Right-of-Way) and placement of fire hydrants in the DNV.
- Undertake a thorough needs assessment and identify options for water distribution in remote residential areas such as the Woodland/Sunshine Falls/Cascade areas.
- Collaborate with DNV Utilities Division on a long-term plan to ensure back-up power for the water distribution pumping stations.
- Identify any potential use that DNVFRS could recommend for the water tank/reservoir that has been decommissioned in the Indian River Drive area.

GOAL #7 – Develop and implement a five-year comprehensive stakeholder engagement program by Q2, 2022.

DNVFRS does not have a formal stakeholder engagement program. In the fall of 2020, DNVFRS staff commenced collaboration with the Communications Division to establish a robust stakeholder engagement program.

Performance objectives to meet Goal #7 are related to: community risk reduction, collaboration with internal/external stakeholders, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Engage with the Communications Division to regularly identify internal and external stakeholders with potential interest in the fire service for follow up consultation.



- Implement a pilot project to establish a stakeholder working group in the form of a Fire Service Advisory Group. Establish terms of reference that ensure expectations, and length of service are clear for all participants.
- Consider what the best format would be for information sharing and gathering.
- Empower the Fire Service Advisory Group to examine and report on opportunities regarding DNVFRS recruitment, outreach, diversity, and inclusion.

GOAL #8 – Initiate a comprehensive and collaborative review process for the Cooperative Fire/Rescue Services Letter of Understanding by Q1, 2022.

The current Letter of Understanding for the three North Shore Fire Departments has an end of term date of December 31, 2022.

Performance objectives to meet Goal #8 are related to: collaboration, data analytics, stakeholder engagement, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Seek and support active participation of all three participating North Shore Fire Services (DNVFRS, NVCFD, and WVFRS) in the review/revision process.
- Conduct a review of service provision and performance using data analytics.
- Conduct a gap analysis of service provision in comparison with industry best practices.
- Engage internal/external stakeholders in a review of the current LOU.

GOAL #9 – Identify opportunities to align fire rescue service provision that supports and empowers Indigenous peoples by Q2, 2021.

DNVFRS supports reconciliation efforts and sustaining a mutually respectful relationship with all Indigenous peoples. Aligning services and promoting fire safety will build a more resilient community for all. The current service agreement with the Tsleil Waututh Nation (TWN) expired on December 31, 2020. The TWN has a Fire Bylaw but does not have its own fire department. The Squamish Nation agreement does not have an established expiration date.

Performance objectives to meet Goal #9 are related to: community risk reduction, collaboration, internal/external stakeholder engagement, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Utilize data analytics to conduct a performance review of services provided to Indigenous peoples on their lands.
- Perform a review of fire service operational agreement(s) to identify gaps with service provision and identify areas to align services across the North Shore.
- Collaborate with internal and external stakeholders from the TWN and the Squamish Nation, inter-agency partners and the North Shore Fire Departments to identify opportunities to align services.



- Support cultural safety and humility across the DNV in partnership with Indigenous peoples and in alignment with the Truth and Reconciliation Commission of Canada (TRC) and United Nations Declaration on the Rights of Indigenous Peoples in Canada (UNDRIP)
- Capitalize on innovation solutions to empower DNVFRS partnership with the Indigenous peoples of the North Shore, i.e. community risk reduction, public education, inspections, training, etc.

GOAL #10 – Create a process to annually monitor, evaluate, and report on progress with: CRA/SOC goals, Strategic Plan priorities, Community Wildfire Protection Plan recommendations, Fire Underwriters’ Survey recommendations, and CFAI Commissioners’ recommendations by Q3, 2021.

Performance objectives to meet Goal #10 are related to: administration, internal/external stakeholder collaboration, professional development, data analytics, and communications. Actions are required to meet objectives, and are expected to align with the DNVFRS Strategic Plan 2020-2025. Anticipated actions include:

- Report annual performance to internal and external stakeholders via DNVFRS Annual Report
- Ensure annual reporting process aligns with CFAI Accreditation Model for reporting methodology.
- Annually assign a DNVFRS Accreditation Manager to oversee CRA/SOC Goal #10.
- Support QITA and Peer Assessor Training of interested personnel.
- Support Peer Assessors for accreditation reviews of other fire service agencies.
- Develop and implement a DNVFRS Operating Guideline for Annual Compliance Monitoring.

CONCLUSION

As an innovative and progressive fire service, DNVFRS is committed to building a process for continuous improvement across all divisions of the department. While components of the process have been in place for some time, formally recognizing methodologies, and aligning with CFAI have resulted in a consistent approach across the organization. It is recognized that the path to accreditation involves the work of many internal and external stakeholders to achieve success in both the short-term working towards accreditation, and the long-term of building a sustainable process that will be achievable into the future.

DNVFRS values its people and the relationship its people have with the community and stakeholders. The organization continues to move forward and build its capacity and resiliency with its emergency and non-emergency services, to support its shared services partners, and, to be a leader towards collaboration and innovation beyond the borders of the DNV.

Sharing the CRA/SOC and its companion documents of fire service accreditation is the DNVFRS story of service to the community. Both the Executive Version and the full CRA/SOC are available on [DNV.org/FireAccreditation](https://dnv.org/FireAccreditation). Feedback and questions about these documents and fire service accreditation is welcome and encouraged at FireAccreditation@dnv.org.

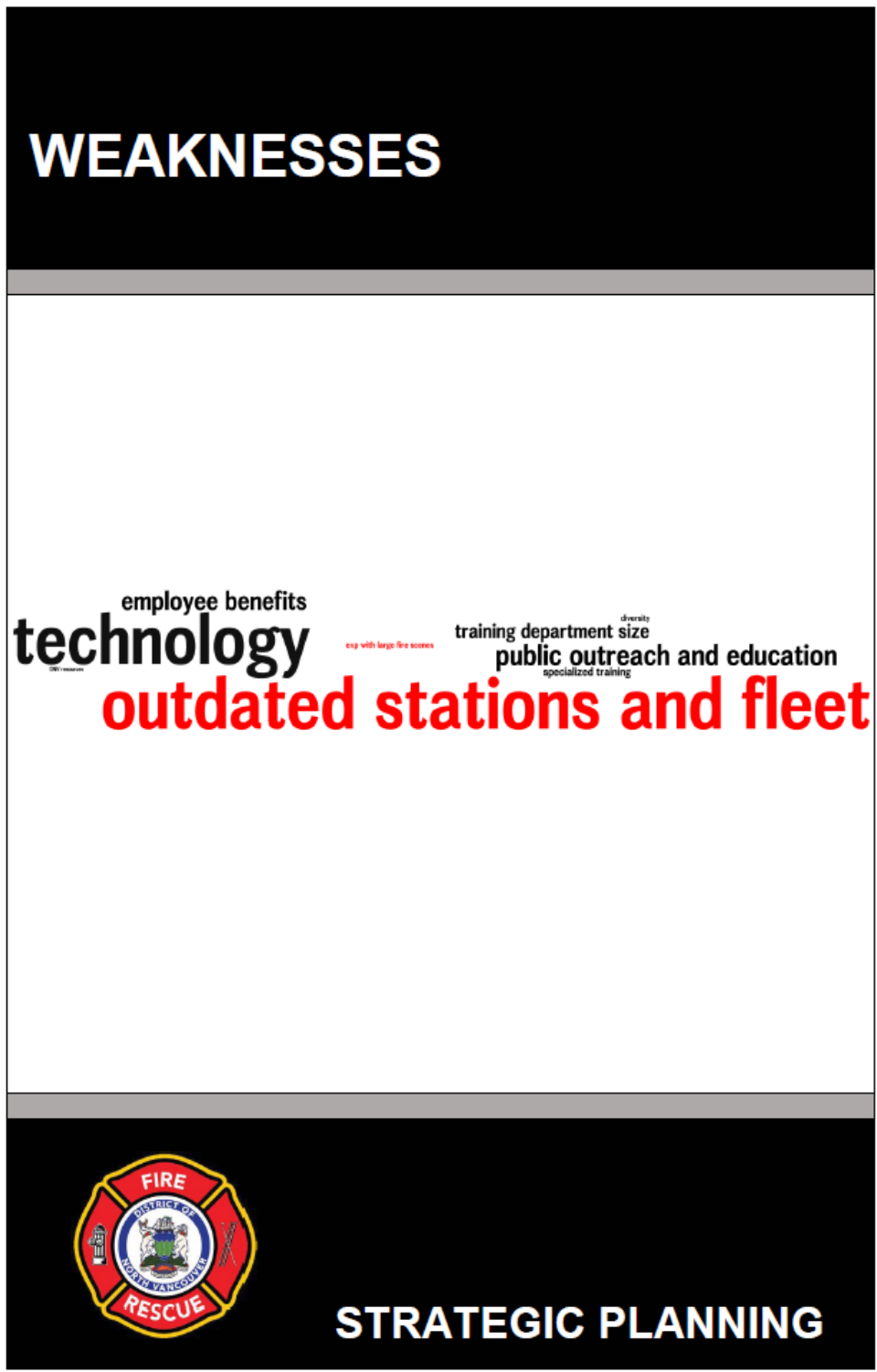


APPENDICES

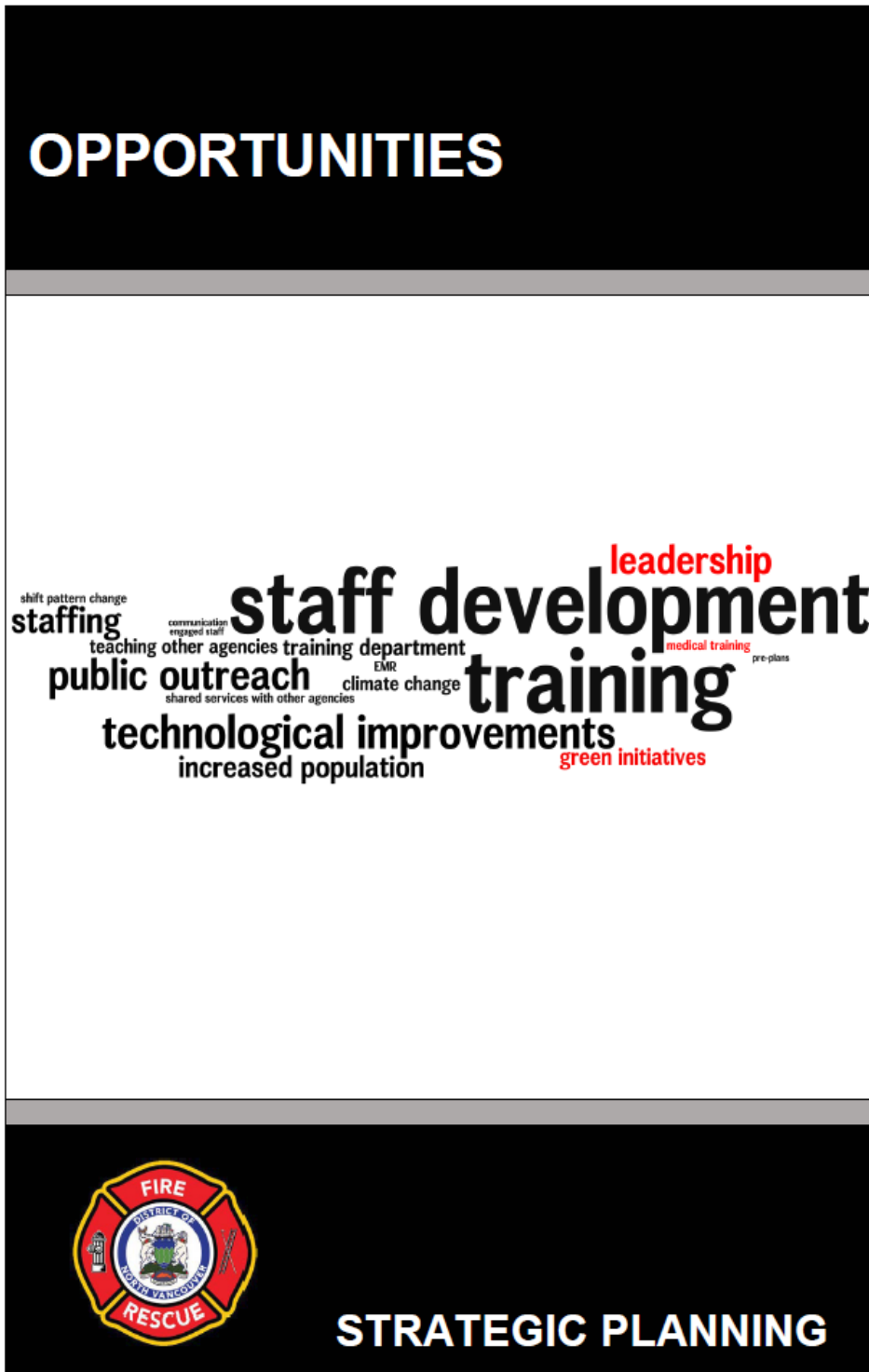
Appendix 1A – Strategic Planning Gap Analysis



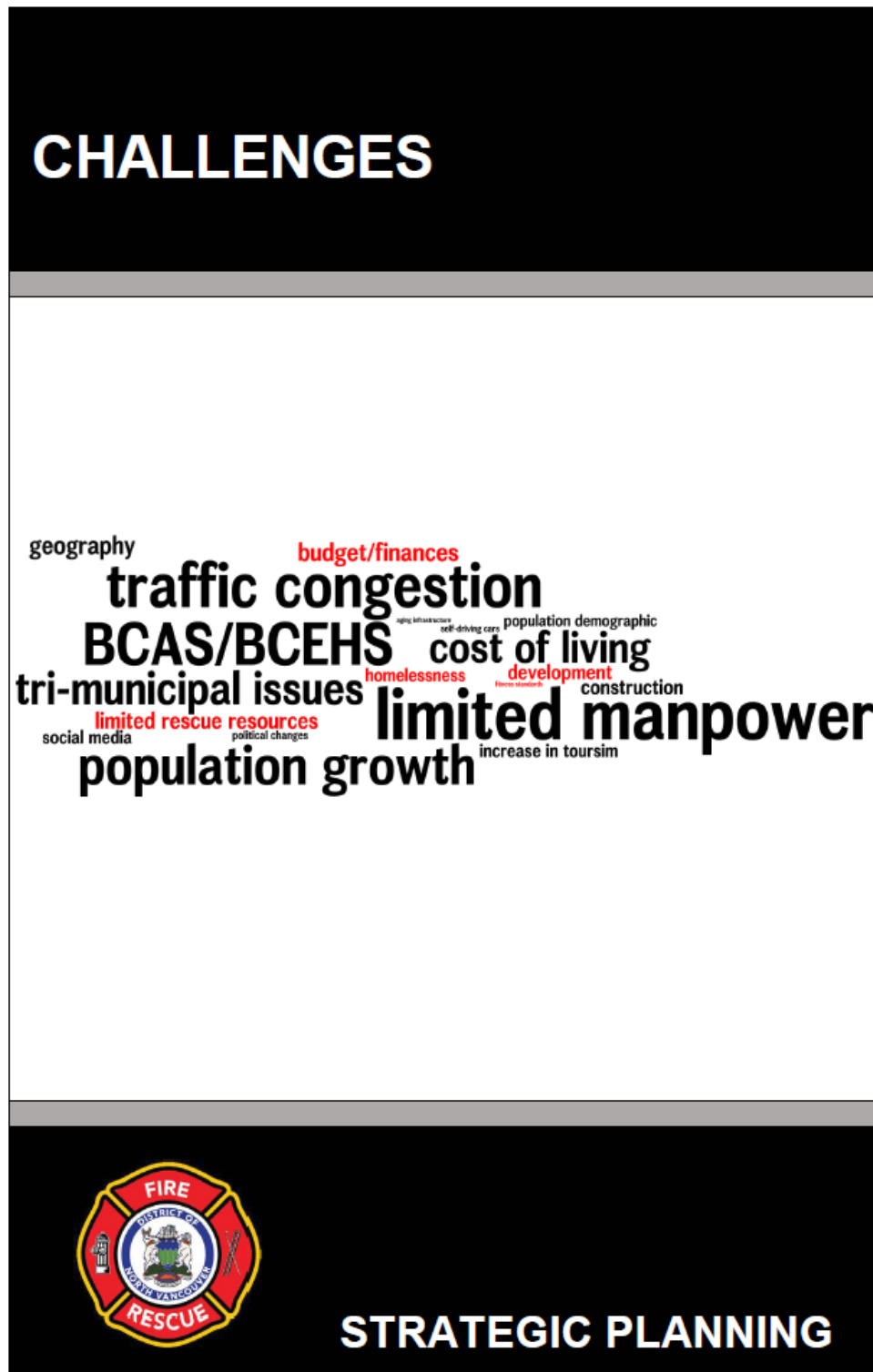
Appendix 1B – Strategic Planning Gap Analysis



Appendix 1C – Strategic Planning Gap Analysis



Appendix 1D – Strategic Planning Gap Analysis



Appendix 2 – Water Tank/Reservoirs in DNV

Skyline Reservoir

The Skyline Reservoir consists of two water tanks--South and North. Skyline is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tanks are pumped from the Sarita Pump Station. A back-up power supply is planned for the Sarita Pump Station for 2022. The total volume of the Skyline Reservoir is 3,310 m³.

Skyline South has a total storage volume of 310,000 imperial gallons. The inlet and discharge are a 350mm steel pipe.

Skyline North has a total storage volume of 418,000 imperial gallons. The inlet and discharge are a 300mm steel pipe.

Prospect Reservoir

The Prospect Reservoir consists of two water tanks--South and North. Prospect is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tanks are pumped from the Skyline Pump Station. The Skyline Pump Station does not have back-up power, and upgrades are not planned at this time. The total volume of the Prospect Reservoir is 2,273 m³.

Prospect South has a total storage volume of 250,000 imperial gallons. The inlet and discharge are a 300mm steel pipe.

Prospect North has a total storage volume of 250,000 imperial gallons. The inlet and discharge are a 300mm steel pipe.

Braemar Reservoir

The Braemar Reservoir consists of two water tanks--East and West. Braemar is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tanks are pumped from a combination of the Skyline and Ramsay Pump Stations. These Pump Station do not have back-up power, and upgrades are not planned at this time. The total volume of the Braemar Reservoir is 4,546 m³.

Braemar East has a total storage volume of 500,000 imperial gallons. The inlet and discharge are a 250mm steel pipe.

Braemar West has a total storage volume of 500,000 imperial gallons. The inlet and discharge are a 250mm steel pipe.



Mountain Highway Reservoir

The Mountain Highway Reservoir consists of two water tanks--South and North. Mountain Highway is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tanks are pumped from the Ramsay Pump Station. The Ramsay Pump Station does not have back-up power, and upgrades are not planned at this time. The total volume of the Mountain Highway Reservoir is 2,273 m³.

Mountain Highway South has a total storage volume of 250,000 imperial gallons. The inlet and discharge are a 200mm steel pipe.

Mountain Highway North has a total storage volume of 250,000 imperial gallons. The inlet and discharge are a 200mm steel pipe.

Ramsay Reservoir

The Ramsay Reservoir consists of one water tank. Ramsay is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tank is pumped from the Marion Pump Station. The Marion Pump Station does not have back-up power, and upgrades are not planned at this time. The total volume of the Ramsay Reservoir is 1,900 m³.

Ramsay reservoir has a total storage volume of 418,000 imperial gallons. The inlet and discharge are a 300mm steel pipe.

Hyannis Reservoir

The Hyannis Reservoir consists of two water tanks--South and North. Hyannis is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tanks are pumped from the Hyannis Pump Station. This Pump Station does not have back-up power, and upgrades are not planned at this time. The total volume of the Hyannis Reservoir is 1,091 m³.

Hyannis South has a total storage volume of 120,000 imperial gallons. The inlet and discharge are a 200mm steel pipe.

Hyannis North has a total storage volume of 120,000 imperial gallons. The inlet and discharge are a 200mm steel pipe.

Woodlands Reservoir

The Woodlands Reservoir consists of one water tank. Woodlands is owned and operated by the District of North Vancouver (DNV) Utilities Division. The tank is pumped from the woodlands Pump Station. The Woodlands Pump Station does not have back-up power, and upgrades are not planned at this time. The total volume of the Woodlands Reservoir is 576 m³.

Woodlands reservoir has a total storage volume of 126,600 imperial gallons. The inlet is 200mm diameter steel and the discharge is 300mm.



Indian River Reservoir

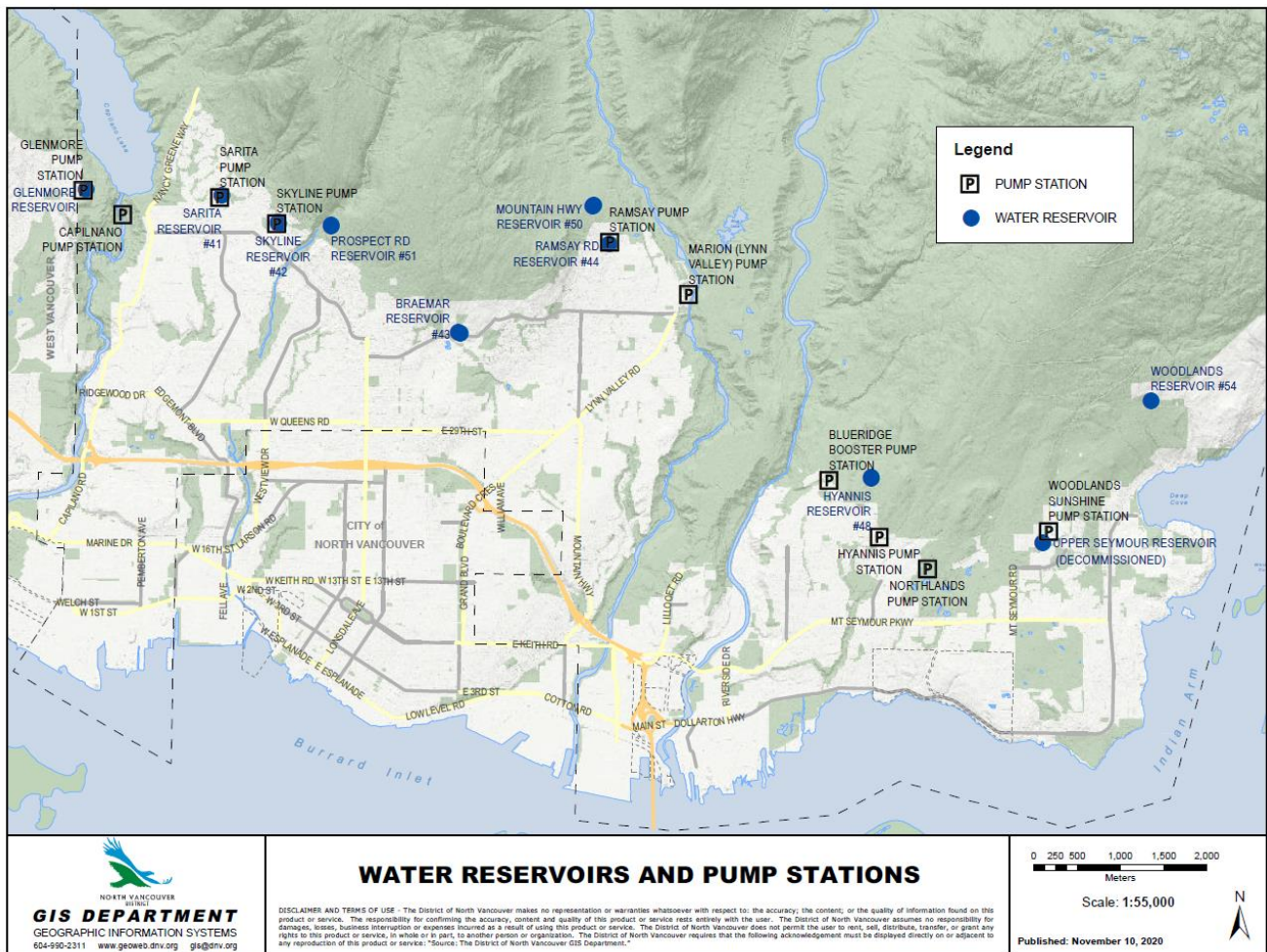
The Indian River Reservoir has been disconnected from the DNV water distribution network. Indian River is owned and operated by the District of North Vancouver (DNV) Utilities Division. The total volume of the Indian River Reservoir was 2,273 m³.

Indian River reservoir has a total storage volume of 500,000 imperial gallons.

Sarita Reservoir (aka Prospect Reservoir)

The Sarita Reservoir consists of one water tank. Sarita is owned and operated by the Metro Vancouver. The tank is pumped from the Cleveland Pump House. The turbine pumps of the Cleveland Pump House are driven off the Capilano Lake head pressure. The total volume of the Sarita Reservoir is 4,546 m³.

Sarita reservoir has a total storage volume of 1,000,000 imperial gallons. The inlet and discharge are both 450mm diameter steel.



Appendix 3 – Community Wildfire Protection Program Update (Executive Summary)



B.A. Blackwell & Associates Ltd.

EXECUTIVE SUMMARY/ SUMMARY OF CWPP RECOMMENDATIONS

The Community Wildfire Protection Plan (CWPP) process was created in British Columbia (BC) as a response to the devastating 2003 wildfire in Kelowna. As an integral part of the Strategic Wildfire Prevention Initiative (SWPI), managed and funded through the Strategic Wildfire Prevention Working Group, CWPPs aim to develop strategic recommendations to assist in improving safety and to reduce the risk of damage to property from wildfires.

This CWPP Update will provide the District of North Vancouver (DNV) with a framework that can be used to review and assess areas of identified moderate and high fire risk within the DNV. Additionally, the information contained in this report should help to guide the development of emergency plans, emergency response, evacuation plans, communication and education programs (including FireSmart), bylaw development in areas of fire risk, and the management of potentially hazardous forest lands adjacent to the community.

Since the development of the last CWPP in 2007, the District of North Vancouver has implemented all the recommendations from the CWPP, with the exception of one (Recommendation 25). The most notable actions include implementation of the following¹:

- Establishment of a Wildfire Development Permit Area, that requires new buildings to comply with FireSmart, National Fire Protection Association (NFPA), and District-developed standards for non-flammable building envelope materials (Recommendations 10 and 11);
- Prescription development for approximately 72.4 ha and fuel treatment on approximately 57 ha of land surrounding the community (Recommendations 27-29);
- Provision of specialized training to local fire department and DNV staff for Interface Fire Response (Recommendation 26); and
- Development of a forest health strategy to address issues associated with dwarf mistletoe infected western hemlock (Recommendation 32).

Wildfire management requires a multi-faceted approach for greatest efficacy and risk reduction outcomes. A total of 52 strategic recommendations are summarized in Table 1 below. In addition, these recommendations are included and more thoroughly discussed in their appropriate sections within the document. Ultimately, the recommendations within this plan should be considered a toolbox of options to help reduce the wildfire threat to the community. There is not one course of action or combination of actions that provides the answer to the challenge of wildfire risk in communities; the DNV must further prioritize based on resources, strengths, constraints, and availability of funding, regularly updating priorities and its course of action, as variables and circumstances change through time.

¹ A full enumeration of recommendations from the 2007 CWPP can be found in Appendix L – Summary of 2007 Community Wildfire Protection Plan Recommendations.





Table 1. Summary of CWPP Recommendations by Document Section.

Document Section 2: Local Area Description (2.5.3: Local Government/First Nations Policies and Recommendations)				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Review and amend the current District of North Vancouver regulatory framework to incorporate wildfire mitigation and preparedness considerations.				
1	10	Moderate	Review the Official Community Plan (OCP), Section 4.2 – Parkland Standards and Acquisition and associated documents (e.g., Parks and Open Space Strategic Plan, 2012) and consider strategic parkland acquisition and parks maintenance through a wildfire risk lens, including consideration for long-term maintenance costs and access.	Eligible for UBCM Community Resiliency Investment (CRI) Program Funding ²
2	12	High	Review the OCP Schedule B Bylaw 7900 and Wildfire Hazard DPA Guidelines section to include language regarding management of non-compliant hedging and other vegetation in proximity to homes after the post-development inspection has been signed-off by a Qualified Professional (QP). ³	Local government funding/UBCM CRI Program Funding
3	12	High	Review the OCP Schedule B Bylaw 7900 and Wildfire Hazard DPA Guidelines section and set a procedure for establishing and updating fire testing standards to ensure alternative and novel non-flammable exterior building materials are pre-approved in a timely manner for use in the WUI. ³	Local government funding/UBCM CRI Program Funding
4	13	High	Review and update the fire testing standards and materials section of the Wildfire Hazard DPA Guidelines to identify and define a list of approved building materials and review and update the approved materials list on a bi-annual basis or as new proposals come forward from builders. These materials should be reviewed by a recognized expert in the building material field, with consideration for recent and applicable research findings prior to granting approval for use in the WUI. ³	Local government funding

² UBCM Community Resiliency Investment (CRI) Program. Refer to Section 5.1 and the Union of BC Municipality's website (<https://www.ubcm.ca/EN/main/funding/lgps/community-resiliency-investment.html>) for further information.

³ Additional recommendations (15-17) related to the Wildfire Hazard DPA are provided in Section 5.2.2).





Document Section 2: Local Area Description (2.5.3: Local Government/First Nations Policies and Recommendations)				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
5	14	Moderate	Review the Solid Waste Removal Bylaw 7631 to include language specific to green waste, not just garbage, under the prohibitions section to ensure that there is a legally enforceable bylaw to prevent flammable materials to accumulate, collect or to remain on the property unless securely contained.	Local government funding
6	15	Moderate	Create incentives and/or targeted education and outreach to promote FireSmart renovations of exterior elements of existing buildings within the Wildfire Hazard DPA, recognizing that the Wildfire Hazard DPA and the Construction Bylaw pertain only to new construction and do not address the vulnerability of existing older homes. See recommendation 19 for strategy suggestion and funding opportunities.	Local government funding
7	17	Low	Update the DNV Invasive Plant Management Strategy, 2015 to target monitoring and resources to areas with known invasive species occurrences in the wildland urban interface, where new forests are being established or where stand conversion has occurred. Continue addressing invasive species management during fuel treatment implementation in the DNV wildland urban interface, in order to improve forest resilience and promote ecological restoration of degraded sites.	Local government funding
Document Section 3: Values at Risk				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Protect critical infrastructure and mitigate post wildfire impacts				
8	22	Low	The North Shore Emergency Management (NSEM) in collaboration with the three North Shore communities should lobby the Provincial government or local Medical Health Officer(s) to develop a strategy for communities to draw upon when they are exposed to smoke from wildfire for extended periods of time. This strategy may include smoke exposure risk assessments, exposure reduction measures, and a decision-key for when to evacuate a community due to wildfire smoke.	Local government funding/ North Shore Emergency Management Funding





Document Section 3: Values at Risk				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
9	23	Moderate	The use of fire-resistant construction materials, building design and landscaping should be considered for all critical infrastructure within the District boundaries when completing upgrades or establishing new infrastructure. Additionally, vegetation setbacks around critical infrastructure should be compliant with FireSmart guidelines.	Local government funding
10	23	High	It is recommended that formal FireSmart assessments (by a Qualified Professional) be completed of critical infrastructure such as the fire halls, emergency operations centre, water infrastructure, and others as identified in this CWPP (Table 3) and by the District.	Local government funding (Local FireSmart Representatives)
11	23	Moderate	The District should work with Metro Vancouver to develop a back-up water delivery plan, to be enacted in the event of an emergency. Annual testing of this plan is recommended.	Local government funding
Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Reduce Wildfire Threat through Fuel Management				
12	62	High	Proceed with detailed assessment, prescription development, and treatment of hazardous units identified and prioritized in this CWPP.	UBCM CRI Program Funding/Local Government Funding
13	70	Moderate	Treatment monitoring to be completed by a qualified professional to schedule next set of maintenance activities (5 – 10 years out). This can be completed with a CWPP update, as it was for this document, or as a stand-alone exercise.	UBCM CRI Program Funding/Local Government Funding
Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Reduce Wildfire Hazard on Private Land				
14	78	Low	The DNV should consider applying for a FireSmart demonstration grant through the CRI program. This type of fuel treatment can display the practices and principles of FireSmart activities to the public in the form of demonstration treatments.	UBCM CRI Program Funding/Local Government Funding
15	79	High	Review the DP process to assess the outcomes of DP applications and long-term compliance with DP recommendations on an ongoing basis to facilitate improvements to the process.	Local Government Funding (annual/bi-annual basis)





Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
16	79	Moderate	Develop a landscaping standard which lists flammable non-compliant vegetation and landscaping materials, non-flammable drought and pest resistant alternatives, and tips on landscape design to reduce maintenance, watering requirements, avoid wildlife attractants, and reduce wildfire hazard. Consider making it publicly available for residents and homeowners outside of the DP area (can be provided at issue of building permit and made available at the DNV Office or other strategic locations).	Local Government Funding
17	79	Low	Engage the development/building community (may include developers, builders, landscapers, and architects) in any amendments to the DP process. This can be accomplished through workshops/informational sessions and/or information packages to increase awareness of wildfire risk and to educate and inform regarding the DP process and expectations. This initiative should be a collaborative effort between the three North Shore communities to ensure similar standards apply across the North Shore area.	Local Government Funding
18	81	Moderate	Continue to maintain trained Local FireSmart Representatives (LFRs) on staff to assist and engage various neighbourhoods in complying with FireSmart principles at both the neighbourhood and individual home-level.	Local Government Funding
Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
19	83	High	The DNV should apply for funding from the UBCM CRI Program to develop a local FireSmart rebate program. This will allow homeowners to access partial rebates for FireSmart activities on their properties, if rated as high or extreme risk in a FireSmart home and property assessment. The rebate program is described in detail in Appendix 2 of the CRI Program 2020 FireSmart Community Funding and Supports – Program & Application Guide ⁴ and must adhere to the goals of FireSmart, as outlined in Section 5.2.1.	Local Government Funding

⁴ UBCM, 2019. Retrieved online at: <https://www.ubcm.ca/assets/Funding~Programs/LGPS/CRI/cri-2020-program-guide.pdf>





Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Increase Public Wildfire Awareness				
20	84	High	This report and associated maps should be made publicly available through webpage, social media, and public FireSmart meetings.	Local Government Funding
21	84	Moderate	Complete or schedule periodic updates of the CWPP to gauge progress and update the threat assessment (hazard mapping) for changes in fuels, forest health, land planning, stand structure or changes to infrastructure in the interface. The frequency of updates is highly dependent upon major changes which would impact the DNV's wildfire threat assessment or the rate at which wildfire risk reduction efforts are implemented. An evaluation of major changes (including funding program changes that may lead to new opportunities) and the potential need for a CWPP update should be initiated every 5 - 7 years.	UBCM CRI Program funding (two eligibility tiers: \$25,000 or \$150,000; eligibility is based on local wildfire risk rating)/ local government funding to supplement
22	85	Moderate	Develop a social media strategy and ensure that its full power is leveraged to communicate fire bans, high or extreme Fire Danger days, wildfire prevention initiatives and programs, easily implementable FireSmart activities, updates on current fires and associated air quality, road closures, and other real-time information in an accurate and timely manner. It is recommended that communications are coordinated via weekly fire calls. ³ This may be combined with incentive programs such as neighbourhood or community chipping days (see recommendation #51).	Local Government Funding
23	85	High	Promote FireSmart approaches for wildfire risk reduction to DNV residents through Town Hall meetings, workshops and/or presentations. Workshops should target priority neighbourhoods, and a FireSmart display set should be developed that can be transferred between community centres and libraries. Aim to conduct the engagement/promotion campaign prior and during the fire season. Continue supplying FireSmart materials to homeowners in the interface during these engagement campaigns. This initiative can be part of a North Shore-wide effort.	UBCM CRI Program Funding/Local Government Funding

³ Appendix K has general communication and social media information.





Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
24	85	Moderate	Engage in regular education initiatives targeting residential properties within the Wildfire Hazard DPA, including but not limited to door-to-door distribution of FireSmart door hangers.	UBCM CRI Program Funding/Local Government Funding
25	85	High	Use the planned Maplewood Fire and Rescue Centre (within the Wildfire Hazard DPA) to demonstrate the use of flame proof/fire resistant building materials and FireSmart landscaping with interpretive low flammable landscaping and environmental enhancement areas open to the public. Interpretive/education materials may be provided onsite and/or on the District website.	Local Government Funding
26	85	Moderate	Work towards FireSmart community recognition, at the neighbourhood level and facilitate uptake into the FireSmart Canada Community Recognition Program (FSCCRP). This will help reduce fire risk and aid in further funding applications.	FireSmart Grant
27	85	Moderate	Facilitate the FSCCRP uptake within the DNV and enhance its applications by including the following: 1) inviting BCWS crews to participate in and support the annual FireSmart events set up by participating neighbourhoods. 2) Encourage individual homeowner participants to complete the self-administered FireSmart home assessment tool. 3) Include within the FireSmart Canada Community Assessment Report the standard recommendation that participating neighbourhoods hold a home hazard assessment workshop as one of their FireSmart events.	UBCM CRI Program Funding/Local Government Funding
28	86	Low	Promote the use of the FireSmart Home Partners Program offered by the Partners in Protection Association, which facilitates voluntary FireSmart assessments on private property. Use the opportunity to educate the home or business owner about the hazards which exist on their property and provide easy improvements to reduce their risk.	Local Government Funding





Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
29	86	Low	Encourage schools to adopt and deploy existing school education programs to engage youth in wildfire management and risk reduction. There is emergency preparedness curriculum available provincially, which includes preparedness for a variety of natural hazards, including wildfire (Master of Disaster). Other options/value-added activities include consulting with Association of BC Forest Professionals (ABC FP) and British Columbia Wildfire Service (BCWS) (Fraser Fire Zone), as well as local fire department and FireSmart representatives to facilitate and recruit volunteer teachers and experts to help with curriculum development to be delivered in elementary and secondary schools (field trips, guest speakers, etc.).	Local Government Funding
30	86	High	The North Shore Emergency Management should coordinate and facilitate engagement with all key stakeholders (BCWS, BC Parks, recreational groups/representatives, DNV staff, industrial operators, City of North Vancouver, District of West Vancouver representatives, Metro Vancouver staff, and local First Nations) to formalize an Interface Steering Committee. The purpose of the steering committee would be to identify wildfire related issues in the area and to develop collaborative solutions to minimize wildfire risks.	Local Government Funding
31	86	Moderate	Work towards educating homeowners within fire limits areas (i.e., outside of the road accessible fire service area). This is particularly applicable to boat access only residents. It is common, especially in the case of second homeowners/vacation owners, for them to be unaware of the lack of fire services in their area (in the event they call 911).	Local Government Funding





Document Section 5: Risk Management and Mitigation Factors Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
32	86	High	Given the historically high proportion of preventable human-caused fire ignitions (see Section 2.3) and the high public and recreational usage of parks, trails and green spaces in the District and the backcountry beyond, the DNV should develop public education focused on increasing awareness of open burning restrictions and/or good wildfire prevention practices. This could include information on how ignitions can occur (including the range of human-related activities that can create a spark or heat source sufficient to ignite a wildfire), how easily they can occur and how they can be prevented. Public information or signage could be posted at busy parks and trailheads and/or posted on the District's website in the form of seasonal notices (similar to summer parking and access notices posted for popular destinations).	Local Government Funding
Objective: Reduce Wildfire Risk from Industrial Sources				
33	87	Moderate	Work with industrial operators such as BC Hydro and Fortis BC to ensure that high risk activities, such as grubbing/brushing and right-of-way mowing work do not occur during high fire danger times to reduce chance of ignitions as per the <i>Wildfire Act</i> . It is recommended that communications are coordinated via weekly fire calls.	Local Government Funding
34	87	High	Work with industrial operators (i.e., BC Hydro) to ensure that rights-of-way do not contain fine fuel accumulations (< 7.5 cm, easily cured) and significant regeneration of conifer vegetation prior to and during the fire season and are maintained in a low hazard state (to serve as fuel breaks).	Local Government Funding
Document Section 6: Wildfire Response Resources Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Improve Water Availability for Emergency Response				
35	91	Moderate	Conduct an assessment of diesel supply for backup generators (scenario-based - e.g. assuming bridges are blocked/inaccessible). This recommendation relates to Required Action 2.2. in the DNV's Climate Change Strategy: invest in backup power equipment for critical functions and develop a fueling strategy.	Local Government Funding





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Document Section 6: Wildfire Response Resources Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
36	91	High	Consider purchasing a tender or tank to provide additional on-site water storage for fire suppression use in the Woodlands area and the Baden Powell trail.	Local Government Funding
37	91	Moderate	Consider installing an alarm system to warn of depressurization of water lines. This recommendation relates to Required Action 1.2. in the DNV's Climate Change Strategy (Develop and implement additional technological tools to assist in situational awareness and emergency response communication).	Local Government Funding
38	92	High	Consider a variety of approaches to improve District water availability and ensure domestic water needs are not compromised in an emergency event that requires sustained use of large quantities of water (i.e., from concurrent structural and wildland firefighting events).	Local Government Funding
39	92	High	All new development outside existing District water systems should have a water system which meets or exceeds minimum standards of NFPA 1142, <i>Standard on Water Supplies for Suburban and Rural Fire Fighting</i> . The fire department should review the water supply to ensure it provides sufficient placement, flow, and reliability for suppression needs and that secondary power is available in the event of power outages.	Local Government Funding
Objective: Improve Access/Egress to Enhance Emergency Preparedness and Include Wildfire Considerations when Trail Planning				
40	93	Low	Restrict public access into work zones in the event of wildfire suppression activities in the Mt. Seymour Parkway/Seymour area to ensure public safety and reduce the risk of entrapment ⁶ .	Local Government Funding
41	94	Moderate	Devise trails or corridors with a minimum 3-4 m width, that are suitable for ATV use in remote or limited access areas (i.e., surrounding the Deep Cove and Seymour areas) in the event of an emergency.	Local Government Funding
42	94	Moderate	Acquire an ATV or off-road vehicle (i.e., Polaris side by side) and equip with fire suppression equipment. This vehicle can be used for rapid access in remote or limited access areas within the District boundaries.	Local Government Funding

⁶ Fire entrapment is a life-threatening situation that occurs when individuals are threatened by a sudden change in fire conditions and are unable to utilize escape routes to access safety zones.





Document Section 6: Wildfire Response Resources Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
43	94	Moderate	Develop an evacuation strategy for the area served by Indian River Drive.	Local Government Funding
44	94	Moderate	Complete and participate in regular testing of, and updates to, the evacuation plan.	Local Government Funding
45	94	Moderate	Develop a community wildfire pre-planning brochure to be shared with key DNV, Metro Vancouver and NSEM staff, that addresses the following: 1) locations of staging areas; 2) identifies water reservoirs, communications requirements (i.e., radio frequencies), minimum resource requirements for structure protection in the event of an interface fire, and values at risk; and 3) maps of the area of interest. Collaborate with the District of West Vancouver to ensure similar information is provided.	Local Government Funding
46	95	Low	Develop a Total Access Plan for the DNV to map and inventory trail and road network in natural areas for suppression planning, identify areas with insufficient access and to aid in strategic planning. Georeferenced maps with ground-truthed locations of potential optimal firebreaks should be developed as part of the Total Access Plan and shared with fire suppression personnel and BCWS to support emergency response in the event of a wildfire. The plan should be updated every five years, or more regularly, as needed to incorporate additions and/or changes.	Local Government Funding
47	95	Moderate	Include a qualified professional with experience in operational wildland/interface fire suppression in the planning and strategic siting of future trails and parks.	Local Government Funding
Objective: Enhance Wildfire Equipment and Training				
48	96	High	The DNVFRS should continue working with BCWS to maintain an annual structural and interface training program. It is recommended the DNVFRS engage in yearly practical wildland fire training with BCWS that covers at a minimum: pump, hose, hydrant, air tanker awareness, and employment of SPUs. Interface training should include completion of a joint wildfire simulation exercise and safety training specific to wildland fire and risks inherent with natural areas.	UBCM CRI Program Funding/Local Government Funding





Document Section 6: Wildfire Response Resources Recommendations				
Item	Page No.	Priority	Recommendation/Next Steps	Funding Source
Objective: Enhance Wildfire Equipment and Training				
49	96	High	Ensure that the DNVFRS maintains the capability to effectively suppress wildland fires, through wildfire-specific training sessions. Ensure all DNVFRS members continue to have SPP-WFF 1 at a minimum. Consider expanding the training program to maintain a high level of member education and training specific to interface and wildland fires. The Office of the Fire Commissioner (OFC) also offers SPP-115 (formerly S-115) to train structural firefighters on the use of wildfire pumps and hose, and fire service hose and hydrants in the application of structural protection units (SPUs); consider training all members to this standard.; the DNVFRS should continue the practice of staying up to date on wildfire training opportunities, and to train members in this capacity, as training resources/budgets allow.	UBCM CRI Program Funding/Local Government Funding
Objective: Encourage FireSmart Initiatives				
50	98	Low	Work with local distributors and homeowners within the District. The objective is to improve education of homeowners and remove some barriers to FireSmart action. Local distributors can include: hardware stores, garden centers, and aggregate providers	Local Government Funding
51	98	Moderate	Expand on existing programs which serve to remove barriers to action for homeowners by providing methods for them to cheaply and easily dispose of wood waste removed from their property. The current yard trimmings bin collection and North Shore Transfer Station for-fee tipping may be expanded to include scheduled community chipping opportunities, or yard waste dumpsters available by month in neighbourhoods. Programs should be available during times of greatest resident activity (likely spring and fall). Consider making community chipping programs available to interested strata properties.	UBCM CRI Program Funding/Local Government Funding
Objective: Enhance Protection of Municipal Infrastructure from Wildfire				
52	98	Moderate	Complete a vulnerability assessment of all critical infrastructure, secondary power sources, and fuel availability. Review current capability of secondary power sources, identify vulnerabilities, and prioritize needs, in the case of prolonged or extensive power outages. Upgrade or realign resources, as prioritized.	Local Government Funding



Appendix 4A – All Fire Stations BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	4	0.10
A-1	A-1 Theatre Assemblies	3	0.08
A-2	A-2 Church	41	1.07
A-2	A-2 Community Halls	16	0.42
A-2	A-2 Funeral Homes	2	0.05
A-2	A-2 Licensed Beverage Establishments	8	0.21
A-2	A-2 Public Assembly	149	3.90
A-2	A-2 Restaurants	150	3.92
A-2	A-2 Schools	118	3.09
A-3	A-3 Arena Type Assemblies	4	0.10
A-4	A-4 Outdoor Assemblies	19	0.50
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	53	1.39
C	C - Semi-Detached/Detached Townhouses	450	11.77
C-1	C-1 Single/Duplex Family Residents	88	2.30
C-2	C-2 Single Storey Apartments	8	0.21
C-3	C-3 Up to 5 Storey Apartments	207	5.41
C-4	C-4 Highrise Apartments	49	1.28
C-5	C-5 Hotels/Motels	10	0.26
D-1	D-1 Office/Service	995	26.03
E-1	E-1 Mercantile	325	8.50
F-1	F-1 High Hazard Industrial	50	1.31
F-2	F-2 Farm Buildings	10	0.26
F-2	F-2 Medium Hazard Industrial	689	18.02
F-3	F-3 Low Hazard Industrial	375	9.81
		3,823	100.00



Appendix 4B - Fire Station #1 BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	1	0.21
A-1	A-1 Theatre Assemblies	-	0.00
A-2	A-2 Church	17	3.57
A-2	A-2 Community Halls	6	1.26
A-2	A-2 Funeral Homes	-	0.00
A-2	A-2 Licensed Beverage Establishments	2	0.42
A-2	A-2 Public Assembly	14	2.94
A-2	A-2 Restaurants	22	4.62
A-2	A-2 Schools	30	6.30
A-3	A-3 Arena Type Assemblies	-	0.00
A-4	A-4 Outdoor Assemblies	2	0.42
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	22	4.62
C	C - Semi-Detached/Detached Townhouses	131	27.52
C-1	C-1 Single/Duplex Family Residents	19	3.99
C-2	C-2 Single Storey Apartments	-	0.00
C-3	C-3 Up to 5 Storey Apartments	45	9.45
C-4	C-4 Highrise Apartments	16	3.36
C-5	C-5 Hotels/Motels	-	0.00
D-1	D-1 Office/Service	90	18.91
E-1	E-1 Mercantile	52	10.92
F-1	F-1 High Hazard Industrial	-	0.00
F-2	F-2 Farm Buildings	-	0.00
F-2	F-2 Medium Hazard Industrial	4	0.84
F-3	F-3 Low Hazard Industrial	3	0.63
		476	100.00



Appendix 4C - Fire Station #2 BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	-	0.00
A-1	A-1 Theatre Assemblies	1	0.08
A-2	A-2 Church	3	0.23
A-2	A-2 Community Halls	5	0.38
A-2	A-2 Funeral Homes	2	0.15
A-2	A-2 Licensed Beverage Establishments	3	0.23
A-2	A-2 Public Assembly	28	2.13
A-2	A-2 Restaurants	37	2.82
A-2	A-2 Schools	36	2.74
A-3	A-3 Arena Type Assemblies	-	0.00
A-4	A-4 Outdoor Assemblies	8	0.61
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	6	0.46
C	C - Semi-Detached/Detached Townhouses	113	8.61
C-1	C-1 Single/Duplex Family Residents	11	0.84
C-2	C-2 Single Storey Apartments	1	0.08
C-3	C-3 Up to 5 Storey Apartments	46	3.51
C-4	C-4 Highrise Apartments	17	1.30
C-5	C-5 Hotels/Motels	1	0.08
D-1	D-1 Office/Service	254	19.36
E-1	E-1 Mercantile	49	3.73
F-1	F-1 High Hazard Industrial	45	3.43
F-2	F-2 Farm Buildings	9	0.69
F-2	F-2 Medium Hazard Industrial	424	32.32
F-3	F-3 Low Hazard Industrial	213	16.23
		1,312	100.00



Appendix 4D - Fire Station #3 BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	3	0.72
A-1	A-1 Theatre Assemblies	1	0.24
A-2	A-2 Church	8	1.92
A-2	A-2 Community Halls	-	0.00
A-2	A-2 Funeral Homes	-	0.00
A-2	A-2 Licensed Beverage Establishments	1	0.24
A-2	A-2 Public Assembly	15	3.61
A-2	A-2 Restaurants	26	6.25
A-2	A-2 Schools	19	4.57
A-3	A-3 Arena Type Assemblies	-	0.00
A-4	A-4 Outdoor Assemblies	3	0.72
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	12	2.88
C	C - Semi-Detached/Detached Townhouses	70	16.83
C-1	C-1 Single/Duplex Family Residents	28	6.73
C-2	C-2 Single Storey Apartments	1	0.24
C-3	C-3 Up to 5 Storey Apartments	29	6.97
C-4	C-4 Highrise Apartments	-	0.00
C-5	C-5 Hotels/Motels	-	0.00
D-1	D-1 Office/Service	125	30.05
E-1	E-1 Mercantile	49	11.78
F-1	F-1 High Hazard Industrial	-	0.00
F-2	F-2 Farm Buildings	-	0.00
F-2	F-2 Medium Hazard Industrial	10	2.40
F-3	F-3 Low Hazard Industrial	16	3.85
		416	100.00



Appendix 4E - Fire Station #4 BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	-	0.00
A-1	A-1 Theatre Assemblies	1	0.25
A-2	A-2 Church	7	1.74
A-2	A-2 Community Halls	4	1.00
A-2	A-2 Funeral Homes	-	0.00
A-2	A-2 Licensed Beverage Establishments	1	0.25
A-2	A-2 Public Assembly	29	7.21
A-2	A-2 Restaurants	33	8.21
A-2	A-2 Schools	21	5.22
A-3	A-3 Arena Type Assemblies	4	1.00
A-4	A-4 Outdoor Assemblies	6	1.49
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	9	2.24
C	C - Semi-Detached/Detached Townhouses	94	23.38
C-1	C-1 Single/Duplex Family Residents	21	5.22
C-2	C-2 Single Storey Apartments	-	0.00
C-3	C-3 Up to 5 Storey Apartments	47	11.69
C-4	C-4 Highrise Apartments	3	0.75
C-5	C-5 Hotels/Motels	-	0.00
D-1	D-1 Office/Service	51	12.69
E-1	E-1 Mercantile	38	9.45
F-1	F-1 High Hazard Industrial	-	0.00
F-2	F-2 Farm Buildings	-	0.00
F-2	F-2 Medium Hazard Industrial	20	4.98
F-3	F-3 Low Hazard Industrial	13	3.23
		402	100.00

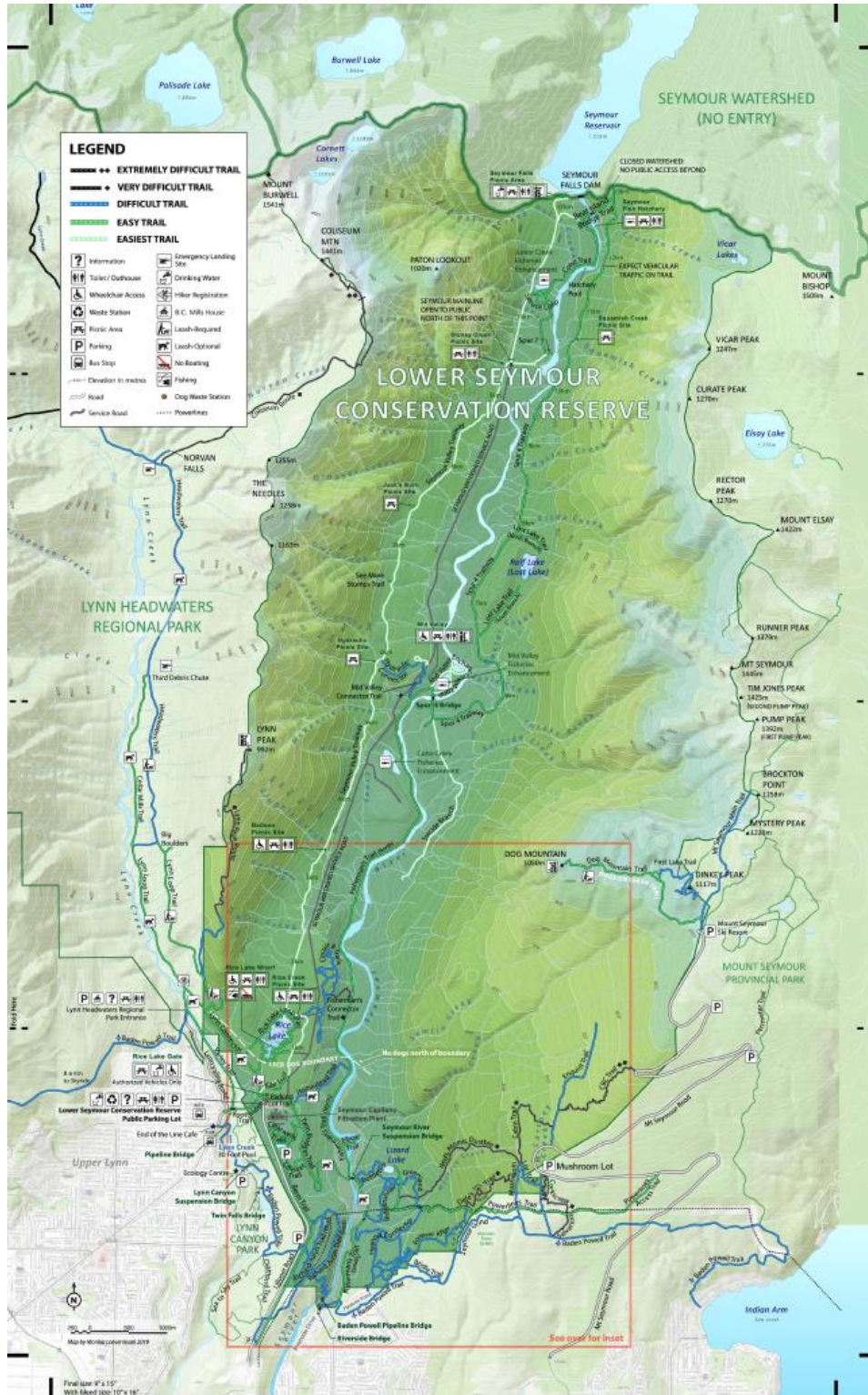


Appendix 4F - Fire Station #5 BC Building Code Occupancy Analysis

<u>Occ. Type</u>	<u>Description</u>	<u>Total</u>	<u>%</u>
A-1	A-1 New / Unclassified	-	0.00
A-1	A-1 Theatre Assemblies	-	0.00
A-2	A-2 Church	6	0.49
A-2	A-2 Community Halls	1	0.08
A-2	A-2 Funeral Homes	-	0.00
A-2	A-2 Licensed Beverage Establishments	1	0.08
A-2	A-2 Public Assembly	63	5.18
A-2	A-2 Restaurants	32	2.63
A-2	A-2 Schools	12	0.99
A-3	A-3 Arena Type Assemblies	-	0.00
A-4	A-4 Outdoor Assemblies	-	0.00
B-1	B-1 Detention Occupancies	-	0.00
B-2	B-2 Treatment Occupancies	-	0.00
B-3	B-3 Care Occupancies	4	0.33
C	C - Semi-Detached/Detached Townhouses	42	3.45
C-1	C-1 Single/Duplex Family Residents	9	0.74
C-2	C-2 Single Storey Apartments	6	0.49
C-3	C-3 Up to 5 Storey Apartments	40	3.29
C-4	C-4 Highrise Apartments	13	1.07
C-5	C-5 Hotels/Motels	9	0.74
D-1	D-1 Office/Service	475	39.03
E-1	E-1 Mercantile	137	11.26
F-1	F-1 High Hazard Industrial	5	0.41
F-2	F-2 Farm Buildings	1	0.08
F-2	F-2 Medium Hazard Industrial	231	18.98
F-3	F-3 Low Hazard Industrial	130	10.68
		1,217	100.00



Appendix 5A – Lower Seymour Conservation Reserve (LSCR)

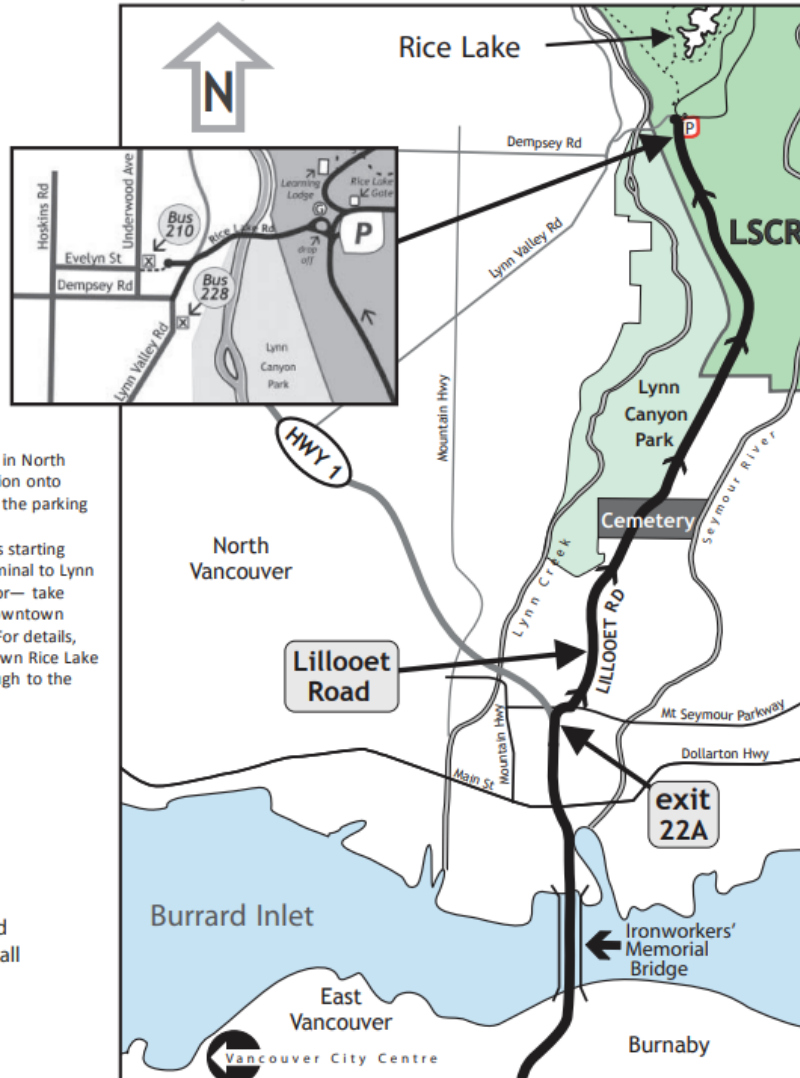


Appendix 5B – Lower Seymour Conservation Reserve (LSCR)

LSCR Watershed Tours



Lower Seymour Conservation Reserve



How to find us:

Car: Take exit #22A off Highway 1 in North Vancouver. Turn left at the intersection onto Lillooet Road and follow through to the parking lot.

Bus: Take the #228 Lynn Valley bus starting from the Lonsdale Quay Seabus terminal to Lynn Valley Road and Dempsey Road — or — take the #210 Upper Lynn Valley from downtown Vancouver to Underwood Avenue. For details, go to www.translink.bc.ca. Walk down Rice Lake Road and over the footbridge, through to the LSCR (see inset, above).

For more information visit: www.metrovancouver.org and search "Watershed Tours" or call 604-432-6430.



Appendix 6 – Recommendations Matrix 2020

Community Risk Assessment/Standards of Cover (CRA/SOC) Goals	Strategic Planning Priorities	Fire Underwriters' Survey Recommendations	Community Wildfire Protection Plan Update 2020 Recommendations
GOAL #1 – Meet total response time 90 th percentile benchmark targets by Q4, 2025.	SP #1 SP #2 SP #3 SP #4	FUS #1 FUS #2 FUS #3 FUS #4 FUS #5	CWPP #40 CWPP #42 CWPP #45 CWPP #46 CWPP #49
GOAL #2 – Collaborate with internal and external stakeholders to build a comprehensive Community Risk Assessment (CRA) by Q2, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #1 FUS #6 FUS #7 FUS #8 FUS #9	CWPP #6 CWPP #8 CWPP #10 CWPP #14 CWPP #16 CWPP #17 CWPP #18 CWPP #19 CWPP #22 CWPP #23 CWPP #24 CWPP #29 CWPP #31 CWPP #32 CWPP #33 CWPP #34 CWPP #50 CWPP #51 CWPP #52
GOAL #3 – Investigate current capability and capacity of DNVFRS Training Division to meet organizational needs and expectations. Complete a gap analysis with regards to training delivery and staffing needs by Q1, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #1 FUS #5	CWPP #18 CWPP #48 CWPP #49



Community Risk Assessment/Standards of Cover (CRA/SOC) Goals	Strategic Planning Priorities	Fire Underwriters' Survey Recommendations	Community Wildfire Protection Plan Update 2020 Recommendations
GOAL #4 – Implement a comprehensive risk-based inspection program based on data analytics by Q1, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #6 FUS #7 FUS #8 FUS #9	CWPP #6 CWPP #10 CWPP #14 CWPP #16 CWPP #19 CWPP #22 CWPP #23 CWPP #24
GOAL #5 – Develop a regular review program for all Fire Department related bylaws and operating guidelines by Q4, 2021.	SP #1 SP #2 SP #3 SP #4	FUS #1 FUS #5 FUS #6 FUS #7 FUS #8 FUS #9	CWPP #5 CWPP #6
GOAL #6 – Collaborate with DNV Utilities Division to support further enhancement of the water distribution system in the DNV by Q2, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #10 FUS #11	CWPP#11 CWPP #14 CWPP #35 CWPP #36 CWPP #37 CWPP #38 CWPP #39 CWPP #52
GOAL #7 – Develop and implement a five (5) year comprehensive stakeholder engagement program by Q2, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #1 - 11	CWPP #17 CWPP #20 CWPP #22 CWPP #23 CWPP #24 CWPP #26 CWPP #28 CWPP #29 CWPP #30
GOAL #8 – Initiate a comprehensive and collaborative review process for the Cooperative Fire/Rescue Services Letter of Understanding by Q1, 2022.	SP #1 SP #2 SP #3 SP #4	FUS #1	CWPP #17 CWPP #22 CWPP #23 CWPP #45



Community Risk Assessment/Standards of Cover (CRA/SOC) Goals	Strategic Planning Priorities	Fire Underwriters' Survey Recommendations	Community Wildfire Protection Plan Update 2020 Recommendations
GOAL #9 - Identify opportunities to align fire rescue service provision that supports and empowers Indigenous peoples by Q2, 2021.	SP #1 SP #2 SP #3 SP #4	FUS #1	CWPP #17
GOAL #10 – Create a process to annually monitor, evaluate, and report on progress with: CRA/SOC goals, Strategic Plan priorities, Community Wildfire Protection Plan recommendations, Fire Underwriters' Survey recommendations, and CFAI Commissioners' recommendations by Q3, 2021.	SP #1 SP #2 SP #3 SP #4	FUS #1-11	CWPP #1-52



Appendix 7 – Fire Underwriters Survey 2016 Recommendations

2. EXECUTIVE SUMMARY

This report covers a Fire Insurance Grading review update for the District of North Vancouver. The review covers the 4 areas of the Fire Insurance Grading assessment, i.e. Fire Department, Water Supplies, Fire Safety Control, and Emergency Communications. Recommendations concerning the items reviewed have been provided in order to improve or maintain credit. Each of the 4 areas have been assigned a relative classification which is based on a 1 to 10 scale (1 being the highest). The final Public Fire Protection Classification (PFPC) is based on the relative classifications and is also on a 1 to 10 scale (1 being the highest).

The final overall PFPC calculated for the District of North Vancouver has improved from PFPC 3 to PFPC 2. Additionally a Dwelling Protection Grade (DPG) 1 has been maintained for the District.

All items assessed during the Fire Insurance Grading review are discussed throughout the report with recommendations provided considering improving or maintaining credit within the grading. Overall the level of public fire protection provided within the District of North Vancouver has improved. The Fire Department is well administered and has put many programs in place that provide a good level of public fire protection within the community. One of the more notable areas that resulted in the improved PFPC for the District is the level of cooperative response and resource sharing being provided by the three North Shore Fire Departments.

Summary tables of credit scores have been provided in section 11. Recommendations have been provided for any areas of the Grading where notable credit is still available. A summary of recommendations is provided below.

Recommendations Summary
Recommendation 1 Formalize cooperation agreement for North Shore Departments
Recommendation 2 Assess needs of Quint apparatus
Recommendation 3 Consider 15 year replacement schedule for frontline apparatus
Recommendation 4 Maintain hose test records in the currently implemented database record management system
Recommendation 5 Emergency response facilities should be designed in accordance with NFPA 1500
Recommendation 6 Continue to develop pre-incident planning program
Recommendation 7 Continue to expand dwelling programs
Recommendation 8 Continue to develop community risk assessment program for inspection prioritizing
Recommendation 9 Meet frequency of inspections
Recommendation 10 Colour-coding system of hydrants
Recommendation 11 Implement annual hydrant maintenance program



Appendix 8 – CRA/SOC Performance Indicator Matrix

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 1 – Governance and Administration		
CC 1A.1	<u>The agency is legally established.</u>	CC 1A.1	
1A.3	The <u>governing body</u> of the agency <u>periodically reviews and approves services and programs.</u>	1A.3	
1A.5	The governing body or designated authority <u>approves</u> the organizational structure that carries out the agency's mission.	1A.5	
1A.7	A <u>communication process is in place</u> between the <u>governing body and the administrative structure</u> of the agency.	1A.7	
CC 1B.2	The <u>administrative structure and allocation of financial equipment and personnel resources</u> reflect the agency's mission, goals, objectives, size and complexity.	CC 1B.2	

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 2 – Assessment and Planning		
2A.1	<u>Service area boundaries</u> for the agency are <u>identified, documented and legally adopted</u> by the authority having jurisdiction.	2A.1	
2A.2	<u>Boundaries for other service responsibility areas, such as automatic aid, mutual aid and contract areas, are identified, documented and appropriately approved</u> by the authority having jurisdiction.	2A.2 Automatic Aid 2A.2 Mutual Aid 2A.2 North Shore	
CC 2A.3	The agency has a <u>documented and adopted methodology</u> for organizing the response area(s) into geographical planning zones.	CC 2A.3	
CC 2A.4	The agency <u>assesses</u> the community <u>by planning zone</u> and <u>considers the population density</u> within planning zones and population areas, as applicable, for the purpose of developing total response time standards.	CC 2A.4	
2A.5	Data that include <u>property, life, injury, environmental and other associated losses, as well as the human and physical assets preserved and/or saved</u> , are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	2A.5	



2A.6	The agency utilizes its <u>adopted planning zone</u> methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards, risks, and service provision capability demands.	2A.6
2A.7	<u>Significant socioeconomic and demographic characteristics</u> for the response area are identified, such as key employment types.	2A.7
2A.8	The agency <u>identifies and documents</u> all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.	2A.8 Fire Inspections 2A.8 Fire Investigations 2A.8 Loss Save Info 2A.8 PreFire Planning 2A.8 Education/Outreach 2A.8 Engineered Env
2A.9	The agency <u>defines and identifies infrastructure</u> that is considered critical within each planning zone.	2A.9 Infrastructure 2A.9 Water Supply
CC 2B.1	The agency has a <u>documented and adopted methodology</u> for identifying, assessing, categorizing and classifying all risks (fire and non-fire) throughout the community or area of responsibility.	CC 2B.1 CRR Programs CC 2B.1 2-Axis Model CC 2B.1 HRVA CC 2B.1 FireStation1 CC 2B.1 FireStation2 CC 2B.1 FireStation3 CC 2B.1 FireStation4 CC 2B.1 FireStation5
2B.2	The historical emergency and nonemergency <u>service demands frequency</u> for a minimum of three immediately previous years and the <u>future probability</u> of emergency and nonemergency service demands, by service type, have been identified and documented by planning zone.	2B.2 FireStation1 2B.2 FireStation2 2B.2 FireStation3 2B.2 FireStation4 2B.2 FireStation5
2B.3	Event <u>outputs and outcomes are assessed</u> for three (initial accrediting agencies) to five (currently accredited agencies) immediately previous years.	2B.3 2B.3 All Stations
CC 2B.4	The agency's risk identification, analysis, categorization, and classification methodology has been utilized to <u>determine and document</u> the different categories and classes of risks within each planning zone.	CC 2B.4 Methodology CC 2B.4 FireStation1 CC 2B.4 FireStation2 CC 2B.4 FireStation3 CC 2B.4 FireStation4 CC 2B.4 FireStation5
2B.5	Fire protection and detection systems are <u>incorporated into the risk analysis</u> .	2B.5



2B.6	The agency <u>assesses critical infrastructure</u> within the planning zones for capabilities and capacities to meet the demands posed by the risks.	2B.6 2B.6 FUS
2B.7	The agency engages other disciplines or groups within its community to <u>compare and contrast risk assessments</u> in order to identify gaps or future threats and risks.	2B.7
CC 2C.1	Given the levels of risks, area of responsibility, demographics, and socioeconomic factors, the agency has <u>determined, documented and adopted a methodology</u> for the consistent provision of service levels in all service program areas through response coverage strategies.	CC 2C.1 Fire Suppression CC 2C.1 MESA CC 2C.1 Rescue
CC 2C.2	The agency has a <u>documented and adopted methodology</u> for <u>monitoring</u> its quality of emergency response performance for each service type within each planning zone and the total response area.	CC 2C.2 CC 2C.2 Data Analytics CC 2C.2 NFPA1710 CC 2C.2 NFPA1121
2C.3	Fire protection systems and detection systems are <u>identified and considered</u> in the development of appropriate response strategies	2C.3
CC 2C.4	A critical task analysis of each risk category and risk class has <u>been conducted</u> to determine the first due and effective response force capabilities and a <u>process is in place to validate and document the results.</u>	CC 2C.4 Critical Tasking CC 2C.4 Fire Suppression CC 2C.4 MESA CC 2C.4 Validation
CC 2C.5	The agency has <u>identified the total response time components</u> for delivery of services in each service program area and found those services consistent and reliable within the entire response area.	CC 2C.5
2C.6	The agency <u>identifies outcomes for its programs</u> and ties them to the community risk assessment during updates and adjustments of its programs, as needed.	2C.6
2C.7	The agency has <u>identified the total response time components</u> for delivery of services in each service program area and assessed those services in each planning zone.	2C.7
CC 2C.8	The agency has <u>identified efforts to maintain and improve its performance</u> in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	CC 2C.8
2C.9	The <u>agency's resiliency has been assessed</u> through its deployment policies, procedures and practices.	2C.9
CC 2D.1	The agency has a <u>documented and adopted methodology</u> for <u>assessing</u> performance adequacy, consistency, reliability,	CC 2D.1 Fire Suppression CC 2D.1 MESA CC 2D.1 Rescue Mod



	resiliency and <u>opportunities for improvement</u> for the total response area.	CC 2D.1 Tech Rescue
2D.2	The agency <u>continuously monitors, assesses and internally reports, at least quarterly</u> , on the ability of the existing delivery system to meet expected outcomes and identifies and prioritizes remedial action.	2D.2
CC 2D.3	The performance monitoring methodology identifies, <u>at least annually</u> , future external influence, altering conditions, growth and development trends, and new or evolving risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.	CC 2D.3 Closest Station CC 2D.3
2D.4	The <u>performance monitoring methodology supports</u> the assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.	2D.4
2D.5	Impacts of incident mitigation program efforts, such as community risk reduction, public education, and community service programs, are <u>considered and assessed</u> in the monitoring process.	2D.5
CC 2D.6	<u>Performance gaps for the total response area</u> , such as inadequacies, inconsistencies, and negative trends, are <u>determined at least annually</u> .	CC 2D.6
CC 2D.7	The agency has systematically <u>developed a continuous improvement plan</u> that details actions to be taken within an identified timeframe to <u>address existing gaps and variations</u> .	CC 2D.7 Perform Plan
2D.8	The agency <u>seeks approval of its standards of cover</u> by the authority having jurisdiction (AHJ).	2D.8 Council Resolution 2D.8 Review/Updates
CC 2D.9	On at least an annual basis, the agency <u>formally notifies the AHJ</u> of any <u>gaps in current capabilities, capacity and the level of service provided within</u> its delivery system to mitigate the identified risks within its service area, <u>as identified in its community risk assessment / standards of cover</u> .	CC 2D.9
2D.10	The agency interacts with <u>external stakeholders and the AHJ</u> at least once <u>every three years</u> to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.	2D.10



PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 3 – Goals and Objectives		
CC 3A.1	The agency has a <u>current and published strategic plan</u> that has been submitted to the authority having jurisdiction.	CC 3A.1	
3A.2	The agency <u>coordinates</u> with the jurisdiction's planning component to ensure the <u>strategic plan is consistent</u> with the community master plan.	3A.2	
CC 3B.1	The <u>agency publishes</u> current, general organizational goals and S.M.A.R.T. objectives, <u>which use measurable elements of time, quantity and quality.</u> These goals and objectives directly correlate to the agency's mission, vision and values and are stated in the strategic plan.	CC 3B.1	
3B.2	The agency <u>conducts an environmental scan</u> when establishing its goals and objectives.	3B.2	
CC 3B.3	The agency <u>solicits feedback and direct participation from internal and external stakeholders</u> in the development, implementation and evaluation of the agency's goals and objectives.	CC 3B.3 CC 3B.3 Engagement	
3B.4	The agency <u>uses internal input to implement and evaluate its goals and objectives</u> and to measure progress in achieving the strategic plan.	3B.4	
3B.5	The governing body <u>reviews the agency's goals and objectives and consider</u> all budgetary and operational proposals in order to ensure success.	3B.5	
3B.6	When developing organizational values, the agency <u>seeks input from its members and is in alignment with its community.</u>	3B.6	
CC 3C.1	The agency <u>identifies personnel</u> to manage its goals and objectives and uses a defined <u>organizational management process</u> to track progress and results.	CC 3C.1	
CC 3C.2	The agency's <u>personnel receive information</u> explaining its goals and objectives.	CC 3C.2	
3C.3	The agency, when necessary, <u>identifies and engages appropriate external resources</u> to help accomplish its goals and objectives.	3C.3	
CC 3D.1	The agency <u>reviews</u> its goals and objectives <u>at least annually and modifies as needed</u> to ensure they are relevant and contemporary.	CC 3D.1	



CC 3D.2	The agency <u>reviews, at least annually</u> , its overall system performance and identifies areas in need of improvement, which should be <u>considered for inclusion</u> in the organizational goals and objectives.	CC 3D.2
3D.3	The agency provides <u>progress updates, at least annually</u> , on its goals and objection to the AHJ, its members and the community it serves.	3D.3

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 4 – Financial Resources		
CC 4A.7	The agency's budget, short and long-range financial planning, and capital project plans are <u>consistent with</u> the agency's strategic plan and <u>support</u> achievement of identified goals and objectives ¹	CC 4A.7	
CC 4C.1	Given current and <u>forecasted revenues</u> , the agency sustains the <u>level of service</u> adopted by the AHJ.	CC 4C.1	
4C.3	The agency budgets future asset maintenance and repair costs with related funding plans	4C.3	

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 5 – Community Risk Reduction Program		
CC 5A.2	The code enforcement program ensures <u>compliance with applicable fire protection law(s), local jurisdiction</u> , hazard abatement and agency objectives as defined in the community risk assessment/ standards of cover.	CC 5A.2	
5A.6	The agency sets <u>specific, targeted, and achievable annual loss reduction benchmarks</u> for fire incidents and fire casualties based upon the community risk assessment and baseline performance.	5A.6	
CC 5A.7	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk <u>based on the community risk assessment/standards of cover</u> .	CC 5A.7	
CC 5B.1	The public education program <u>targets specific risks, behaviors and audiences identified</u> through incident, demographic and <u>program data analysis</u> and the community risk assessment/standards of cover.	CC 5B.1 CRR Programs CC 5B.1 Public Ed	



5.B3	Programs are in place to identify <u>large loss potential or high-risk audiences</u> (such as low socioeconomic status, age and cultural/ethnic differences. where appropriate), forge partnerships with those who serve those constituencies, and enable specified programs to mitigate fires and other emergency incidents (such as home safety visits, smoke alarm installations, free bicycle helmet programs, fall prevention programs, etc.).	5B.3
CC 5B.4	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.	CC 5B.4
CC 5C.4	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.	CC 5C.4
CC 5D.1	The agency maintains a <u>local emergency operations/all-hazards plan</u> that defines roles and responsibilities of all participating departments and/or external agencies. The agency participates in maintaining and revising the plan with the AHJ.	CC 5D.1
5D.5	The agency <u>conducts and documents a vulnerability assessment and has operational plans to protect</u> the agency's specific critical infrastructure, including but not limited to materials, supplies, apparatus, facilities security, fuel and information systems.	5D.5
5D.6	The agency has a documented continuity of operations plan that is reviewed annually and updated at least every five years to ensure essential operations are maintained.	5D.6
CC 5D.9	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk.	CC 5D.9
CC 5E.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), pumping capacity, apparatus and equipment <u>deployment objectives</u> for each type and magnitude of <u>fire suppression incident(s)</u> .	CC 5E.1
CC 5E.3	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the impacts, outcomes, and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	CC 5E.3
CC5F.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the <u>agency meets its staffing, response time, station(s), apparatus and equipment deployment objectives</u> for each type and magnitude of <u>emergency medical incident(s)</u> .	CC 5F.1



CC 5F.2	The agency has <u>standing orders/protocols in place</u> to direct EMS response activities to meet the stated level of EMS response including determination criteria for specialty transport and receiving facility destination.	CC 5F.2
CC 5F.5	The agency creates and maintains a patient care <u>record, hard copy or electronic, for each patient</u> encountered. This report records a provider impression, patient history, data regarding treatment rendered and the patient disposition. The agency must make reasonable efforts to protect reports from public access and maintain them as per local, state/provincial and federal records retention requirements.	CC 5F.5 CC 5F.5 BCEHS Clinical Response Model
5F.7	The agency has a <u>quality improvement/quality assurance (QI/QA) program in place to improve system performance and patient outcomes</u> including provisions for the exchange of patient outcome data between the agency and receiving facilities.	5F.7
5F.8	The agency has <u>implemented or developed a plan</u> to implement a cardiopulmonary resuscitation (CPR) and public access defibrillation program for the community.	5F.8
CC 5F.9	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the impact, outcomes and effectiveness of the program and to measure its performance toward meeting the agency's goals and objectives.	CC 5F.9
CC 5G.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and level of risk of a <u>technical rescue incident(s)</u> .	CC 5G.1 CC 5G.1 Risk Matrix
CC 5G.2	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	CC 5G.2
CC 5H.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, the <u>agency meets its</u> staffing, response time, station(s), apparatus and equipment <u>deployment objectives</u> for each type and magnitude of <u>hazardous materials incident(s)</u> .	CC 5H.1
5H.2	The agency complies with all <u>aspects of applicable hazardous material regulations</u> such as annual refresher training, medical monitoring of response personnel, annual physical examinations as applicable per standards, and exposure record retention.	5H.2
CC 5H.3	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the impacts, outcomes,	CC 5H.3



	and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	
CC 5I.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, <u>the agency meets its staffing, response time, station(s), extinguishing agent requirements, apparatus and equipment deployment objectives for each type and magnitude of aviation incident.</u>	n/a
CC 5I.2	The agency conducts a <u>formal and documented program appraisal, at least annually,</u> to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	n/a
CC 5J.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, <u>the agency meets its staffing, response time, station(s), extinguishing agent requirements, apparatus and equipment deployment objectives for each type and magnitude of marine and shipboard incident.</u>	CC 5J.1
CC 5J.2	The agency conducts a <u>formal and documented program appraisal, at least annually,</u> to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	CC 5J.2
CC 5K.1	Given the agency's community risk assessment/standards of cover and emergency performance statements, <u>the agency meets its staffing, response time, station(s), extinguishing agent requirements, apparatus and equipment deployment objectives for each type and magnitude of wildland fire services incident.</u>	CC 5K.1 Wildfire
CC 5K.2	The agency <u>has developed</u> a wildland risk assessment including: a fuel management plan, a fire adapted communities plan, and an inspection and code enforcement program.	CC 5K.2 CWPP
CC 5K.3	The agency conducts a <u>formal and documented program appraisal, at least annually,</u> to determine the impacts, outcomes and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.	CC 5K.3 Risk Matrix CC 5K.3 Risk Zones CC 5K.3 FireSmart CC 5K.3 Wildfire Maximum Risk
5L	Your agency must insert appropriate performance indicators and/or core competencies in the area below when other programs are considered.	CC 5L EOU

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 6 – Physical Resources		



6A.1	The development, <u>construction or purchase of physical resources in consistent</u> with the agency's goals and strategic plan.	6A.1
CC 6A.2	The governing body, administration and staff <u>are involved in the planning for physical facilities.</u>	CC 6A.2
6B.1	Each function or program has <u>adequate facilities and storage space</u> (e.g., operations, prevention, training, support services and administration).	6B.1
CC6B.3	<u>Facilities comply</u> with federal, state/provincial and local codes and regulations at the time of construction; required upgrades for safety are identified and, where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long-term capital improvement plan (i.e. fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).	CC 6B.3 Training Centre
CC 6C.1	<u>Apparatus and vehicle types</u> are appropriate for the functions served (e.g., operations, staff support services, specialized services and administration).	CC 6C.1
6C.2	A current <u>replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial standards, vehicle condition, department needs and requirements.</u>	6C.2
CC 6D.5	The <u>inspection, testing, preventive maintenance, replacement schedule and emergency repair of all apparatus</u> are well established and meet the needs of the agency.	CC 6D.5
6E.1	<u>Tools and equipment are distributed appropriately, are in adequate quantities and meet the operational needs of the specific functional area or program</u> (e.g., fire suppression, prevention, investigations, hazmat, etc.).	6E.1
6E.2	Tool and equipment <u>replacement is scheduled, budgeted and implemented, and is adequate to meet the agency's needs.</u>	6E.2
CC 6E.3	Equipment <u>maintenance, testing and inspections are conducted by qualified personnel</u> , following manufacturer's recommended schedules.	CC 6E.3
6E.5	Supplies and materials allocation is based on established objectives and <u>appropriate to meet the operational needs of the specific functional area or program</u> (e.g., fire suppression, prevention, investigations, hazmat, etc.), and is compliant with local, state/provincial and national standards.	6E.5



6F.1	Safety equipment is identified and distributed to appropriate personnel.	6F.1
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PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA
	Category 7 – Human Resources	
7B.1	A mechanism is in place to <u>identify and announce potential entry-level, lateral and promotional positions.</u>	7B.1
7B.10	The agency <u>conducts workforce assessments</u> and has a plan to address projected personnel resource needs, including retention and attrition of tenured and experienced employees.	7B.10

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA
	Category 8 – Training and Competencies	
CC 8A.1	The organization has a <u>process in place to identify training needs</u> , including tasks, activities, knowledge, skills and abilities.	CC 8A.1 Full Service Agency
8A.2	The agency's <u>training program is consistent with the mission statement, goals and objectives</u> , and helps the agency meets those goals and objectives.	8A.2
8A.4	The agency <u>identifies minimum levels of training and education required</u> for all positions in the organization.	8A.4
8B.1	A <u>process is in place to ensure that personnel are appropriately trained.</u>	8B.1
8B.3	The agency <u>evaluates individual and crew performance through validated and documented performance-based measurements.</u>	8B.3
8B.4	The agency analyzes student evaluations to determine <u>reliability of training conducted.</u>	8B.4
CC 8B.6	The agency conducts a <u>formal and documented program appraisal, at least annually</u> , to determine the program's effectiveness and compliance with meeting the needs of the organization.	CC 8B.6



CC 8C.2	The agency has access to <u>instructional personnel</u> , within the organization or from identified external resources, with <u>teaching qualifications and expertise to meet its needs</u> .	CC 8C.2
CC 8C.8	<u>Training materials are evaluated, at least annually, to reflect current practices and meet the needs of the agency.</u>	CC 8C.8

PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA
	Category 9 – Essential Resources	
CC 9A.1	The agency <u>establishes minimum fire flow requirements</u> for new development in accordance with nationally and/or internationally recognized standards and includes this information in the fire risk evaluation and pre-incident planning process.	CC 9A.1
CC 9A.2	An <u>adequate and reliable water supply</u> is available for firefighting purposes for identified risks. The identified water supply sources are adequate in volume and pressure, based on nationally and/or internationally recognized standards, to control 9A.4 and extinguish fires.	CC 9A.2
9A.4	The agency <u>maintains copies of current water supply sources and annually reviews fire hydrant maps</u> for its service area to ensure they are accurate.	9A.4
9A.5	<u>Fire hydrant adequacy and placement</u> are based on nationally and/or internationally recognized standards and reflect the hazards of the response area.	9A.5
9A.6	Public fire hydrants are <u>inspected, tested, maintained, visible and accessible</u> in accordance with nationally and/or internationally recognized standards. The agency's fire protection-related processes are evaluated, at least annually, to ensure adequate and readily available public or private water.	9A.6
9A.7	The agency identifies, <u>plans and trains for the possibility of a water supply system failure</u> , including fire hydrants with insufficient capacity and areas where fire hydrants are unavailable or inaccessible.	9A.7
9A.8	The agency has operational procedures in place outlining the available water supply and <u>reviews those procedures as part of their documented review policy</u> .	9A.8
CC 9B.1	A <u>system is in place to ensure communication</u> with portable, mobile and fixed communications systems <u>in the field</u> . When an area is identified as not allowing for adequate emergency scene	CC 9B.1



	communication, such as inside buildings or below grade level, an operational plan is documented and tested.	
9B.3	The agency's <u>communications center(s) is/are adequately equipped and designed</u> (e.g., security, telephones, radios, equipment status, alarm devices, computers, address files, dispatching circuits, playback devices, recording systems, printers, consoles, desks, chairs, lighting and map displays).	9B.3
9B.5	<u>Adequate numbers of fire or emergency telecommunicators, supervisors and management personnel</u> are on duty to handle the anticipated call volume.	9B.5
9B.7	The agency has established <u>time-based performance objectives for alarm handling</u> . These objectives are formally communicated to communications center managers through direct report, contracts, service level agreements and/or memorandums of agreement and are reviewed at least annually to ensure time-based performance objectives are met.	9B.7
9B.9	The <u>interoperability of the communications system is documented, tested and evaluated</u> . The agency has processes in place to provide for interoperability with other public safety agencies in the field including portable, mobile and fixed communications systems, tools and equipment.	9B.9
9B.10	The dispatch process utilizes a <u>formal and recognized emergency medical dispatch (EMO) system</u> that allows for <u>pre-arrival instructions</u> and adequate triaging of medical calls for service.	9B.10
9B.11	The agency has a documented and tested system in place for the <u>notification and recall of off-duty agency personnel and telecommunicators</u> for unplanned, large-scale incidents.	9B.11
9B.12	The agency has a <u>documented plan, which is reviewed and tested annually</u> , to ensure continuity in communicating during any partial or total disruption or failure of a communications system or facility.	9B.12 Critical Infrastructure
9B.13	A formal and documented appraisal is conducted, at least annually, to determine the effectiveness of the emergency communications systems and their impact on meeting the agency's goals and objectives.	9B.13
CC 9C.1	The administrative support services <u>are appropriate for the agency's size, function, complexity, and mission, and are adequately managed</u> .	CC 9C.1 CUPE Staff
CC 9C.3	<u>Organizational documents, forms, standard operating procedures or general guidelines, and manuals are reviewed at least every three years and updated as needed for all agency programs</u> .	CC 9C.3



CC 9D.1	Hardware, software and IT personnel are <u>appropriate for the agency's size, function, complexity and mission.</u>	CC 9D.1
9D.2	<u>Software systems are integrated, and policies are in place addressing data governance, data accuracy and data analysis.</u>	9D.2
9D.3	A <u>comprehensive technology plan</u> is in-place to update, evaluate and procure hardware and software.	9D.3
9D.4	A <u>cybersecurity policy is in place</u> to protect the integrity of the infrastructure, including networks, programs and devices, from unauthorized access that could disrupt essential services.	9D.4



PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 10 – External Systems Relationships		
10 A.1	The agency <u>develops and maintains external relationships</u> that support its mission, operations and/or cost-effectiveness.	10A.1	
10A.2	The agency's <u>strategic plan identifies relationships</u> with external agencies/systems and outlines a process to identify any impact or benefit to the agency's mission, operations or cost-effectiveness.	10A.2	
10.3	The agency researches, evaluates and considers <u>all types of functional relationships</u> that may aid in the achievement of its goals and objectives.	10A.3 Stakeholder Engagement	
CC 10B.1	External agency agreements are <u>reviewed every three years</u> and revised as necessary to meet objectives.	CC 10B.1 Cooperative Fire/Rescue Service Agreement CC 10B.1 Strategic Plan	
10B.2	The agency has a <u>process to manage, review and, if needed, revise</u> agreements.	10B.2	
10B.3	The agency <u>evaluates external agency performance annually</u> to ensure that external agencies are capable and effective in supporting the agency's goals and objectives.	10B.3	



PI/ CC	Performance Indicator (PI)/Core Competency (CC) TEXT	CRA-SOC PAGE/SECTION/AREA	LOCATION
	Category 11 – Health and Safety		
11A.4	The agency has <u>established and communicated procedures and guidelines</u> for preventing the transmission of blood-borne pathogens and other infectious diseases and reducing exposure to harmful chemicals. Guidelines should include an improvement of practices process.	11A.4	
CC 11A.5	The agency's <u>occupational health and safety training program</u> instructs the workforce in general safe work practices, from point of initial employment through each job assignment and/ or whenever new substances, processes, procedures or equipment are introduced. It provides instructions on operations and hazards specific to the agency.	CC 11A.5	
11A.6	The agency uses <u>near miss reporting</u> to elevate the level of situational awareness to teach and share lessons learned from events that could have resulted in a fatality, injury or property damage.	11A.6	
11A.8	The agency incorporates <u>risk management practices</u> to increase the level of <u>decision-making</u> and the ability to identify unsafe conditions and practices during emergency operations.	11A.8	
11A.9	The agency <u>has adopted a comprehensive program to address direct- and cross-contamination</u> of clothing, personal protective equipment, other equipment, apparatus and fixed facilities.	11A.9	
11A.11	The agency has <u>established procedures to ensure effective and qualified deployment</u> of an Incident Safety Officer to all risk events.	11A.11	
11A.12	The agency <u>establishes and consistently follow procedures for maintaining accountability</u> of all personnel operating at all risk events.	11A.12	
CC 11B.6	A <u>formal and documented appraisal is conducted, at least annually</u> , to determine the effectiveness of the wellness/fitness programs and its impact on meeting the agency's goals and objectives.	CC 11B.6	



Appendix 9 – Working Relationship Agreement


WORKING RELATIONSHIP AGREEMENT


WE BELIEVE


Collaborative relations between the District of North Vancouver Fire & Rescue Services (DNVFRS) and the International Association of Fire Fighters Local 1183 can serve the long term interests of all parties.


Collaboration enables us to work together for common goals - delivering quality, best value services, satisfying customers and valuing employees. A commitment to collaborative relations in no way diminishes the right and responsibility of managers to manage in the best interests of the organization, or the right and responsibility of unions to represent the best interests of their members. This agreement does not alter our contractual or legal rights.

We agree to conduct our business in accordance with the principles listed below.


 Fire Chief


 IAFF, Local 1183 President


 Deputy Chief


 IAFF, Local 1183 Vice President

PRINCIPLES

We are committed to and accountable for:

<p>1. Recognizing & respecting each other's roles, interests & accountabilities.</p> <p><i>We will strive to:</i></p> <ul style="list-style-type: none"> • Promote harmonious relations between the parties; • Understand and be understood by the other parties; • Respect each other's legitimate roles and responsibilities; • Respect each other's decision making processes and lines of authority. <p>2. Communicating with each other in ways that promote common understanding, effective problem solving & enhanced relationships.</p> <p><i>We will communicate effectively by:</i></p> <ul style="list-style-type: none"> • Seeking to understand why before how; • Sharing information to the fullest extent possible; • Using shared information in a manner that promotes positive working relationships; • Participating in joint communication on matters of mutual interest. 	<p>3. Working to earn & sustain trust.</p> <p><i>We will achieve a high degree of trust by:</i></p> <ul style="list-style-type: none"> • Making every effort to be earnest and sincere when communicating in an effort to enhance the trust level between each party; • Living up to our commitments; • Avoiding surprises that place other parties in a compromising position. <p>4. Using a collaborative approach to problem solving, decision making & negotiation.</p> <p><i>We will:</i></p> <ul style="list-style-type: none"> • Seek out solutions that meet all of our interests to the fullest possible extent; • Consult with each other on significant matters before making decisions or taking actions that affect the other parties; • Be open to persuasion and discussion at all times; • Develop effective, efficient, collaborative problem solving processes at all levels of the organization; • Strive to deal with issues in a timely fashion and as "close to the source" as possible; • Work to resolve issues before raising them with third parties. 	<p>5. Attacking issues, not people.</p> <p><i>We will:</i></p> <ul style="list-style-type: none"> • Conduct ourselves in a respectful, courteous manner in all of our dealings. <p>6. Honouring the agreements we reach.</p> <p><i>We will:</i></p> <ul style="list-style-type: none"> • Live up to our collective agreement responsibilities; • Strive to ensure that all agreements are clear about what has been decided, what actions flow and who is accountable; • Only alter commitments on the basis of mutual agreement. <p>7. Giving each other the benefit of the doubt.</p> <p><i>We will:</i></p> <ul style="list-style-type: none"> • Give each other an opportunity to explain actions or events before reacting; • Be accepting of honest mistakes; • Recognize that agreement will not always be possible, and that there will be times when we must "disagree without being disagreeable."
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Working Relationship Agreement DNVFRS & IAFF, Local 1183
Document: 3643608





DNV.org/FireAccreditation