

LNG Canada Community Level Infrastructure and Services Management Plan 2021 Annual Report



July 28, 2022



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Authorship

Megan Macdonald B.Sc. (Stantec Consulting Ltd.)	Author
Susan Ferner B.Sc., M.Sc. (Stantec Consulting Ltd.)	Author
Isobel O’Connell , B.A., MPA (LNG Canada)	Author
Morganne von Schleinitz , B.Pl. (LNG Canada)	Author
Frank Bohlken B.Sc., MRM (Stantec Consulting Ltd.)	Reviewer



Executive Summary

LNG Canada is committed to managing socio-economic effects associated with the construction and operation of its liquefied natural gas (LNG) facility and marine terminal (the Project). LNG Canada began implementation of its Community Level Infrastructure & Services Management Plan (CLISMP, or the Plan) on April 1, 2019. The CLISMP includes Social Management Plans (SMPs) that outline actions to mitigate the Project's direct effects on community-level infrastructure and services and identifies Project and community metrics for monitoring change. The CLISMP will be in effect throughout the construction and first two years of operation of the LNG Canada project. The CLISMP scope focuses on communities near the LNG Plant footprint, including the District of Kitimat (DOK or Kitimat), City of Terrace (COT or Terrace), Regional District of Kitimat-Stikine (RDKS), Haisla First Nation, Kitselas First Nation and Kitsumkalum First Nation.

This 2021 Annual Report is intended to inform the First Nations and Indigenous groups, stakeholders, BC Environmental Assessment Office (BC EAO), and BC Ministry of Municipal Affairs (MUNI) about Project updates, CLISMP reporting metrics, mitigation effectiveness and adaptive mitigation measures during the CLISMP's implementation from January 1–December 31, 2021. SMP monitoring data and highlights from Social Management Roundtable (SMR) meetings are captured in quarterly updates and provide information for this annual report. Following the completion of Project construction and two years of Project operations, a final report will be issued to summarize the effectiveness in achieving the CLISMP's socio-economic objectives as well as a summary of each Annual Report submitted during construction (LNG Canada 2019).

Project Activities

LNG Canada, together with its prime contractor JGC Fluor BC LNG JV (JFJV), began to implement the CLISMP in April 2019 to reduce potential direct adverse effects from Project activities on community infrastructure and services.

Kitimat, Terrace, Kitimaat Village, and surrounding communities have a long history intertwined with industrial development and cycles of boom and bust. During the development of the CLISMP in 2015, consultation and engagement efforts by LNG Canada incorporated learnings from pertinent experience into the design of mitigation strategies and the monitoring metrics captured in SMPs. An overarching mitigation has been an emphasis on preferential hiring of qualified local residents to reduce the number of non-local workers mobilized to Kitimat and the surrounding area. Several strategies are actively deployed to minimize potential impacts to the community arising from the non-local workforce, including accommodating non-local workers in dedicated workforce accommodation centers and the policy of not paying Living Out Allowances (LOAs), thereby limiting direct demand on local housing markets and overall community infrastructure and services.

Project activities in Kitimat over the course of January to December 2021 included marine activities (completion of Rio Tinto wharf extension, salt marsh activities), completion of river water pipeline, completion of bund wall around the Project site, completion of Moore Creek Utility Crossing, hauling of aggregate, beginning of heavy lift program (main cryogenic heat exchanger, precoolers, and absorber), delivery of road



and marine shipments, and construction activities to progress work at the Material Offload Facility, LNG tank, module haul road, and LNG berth, among others.

During 2021, the Project provided accommodation for non-local workers on site at Cedar Valley Lodge (CVL). In November 2021, a peak of 2,569 non-local workers were accommodated at the dedicated on-site workforce accommodations. The Project employed a peak of 743 workers from local communities in August who did not require accommodation on-site. LOAs were not paid to workers at any time in 2021.

COVID-19 prevention and care protocols, focused on the safety of the workforce and surrounding communities, were developed, and continued to evolve over the course of 2020 and 2021. Throughout 2021, many of the COVID-19 restrictions implemented in 2020 remained in place and other COVID-19 restrictions were added. The Project continued to follow Public Health Orders and guidance provided by the BC Provincial Health Officer (PHO) and Northern Health Authority, which affected some Project activities. For example, workers residing in CVL were required to remain on site for the duration of their work rotation.

Summary of Project Effects

Despite the COVID-19 pandemic, an overall increase in economic activity and regional population changes continue to affect infrastructure and services such as housing, accommodations, and emergency response services, while direct impacts continued to be minimal in 2021. Housing market impacts are occurring in both Kitimat and Terrace and have been evident as early as 2018. Feedback from some service providers suggests ongoing attrition of staff to higher paying construction and industrial opportunities (see Section **Error! Reference source not found.** Regional Development) with challenges attracting and backfilling positions due to high housing costs. Demand for emergency response services in both Kitimat and Terrace has increased from 2018 to 2021. Feedback from some service providers suggests the increase in demand is due to the changes in the regional population and population demographics.

Table ES-1 Summary of Direct Project Effects January–December 2021

Social Impact Category	Measurable Project Related Changes	Effectiveness of Mitigations
Housing & Accommodations	In November 2021, a peak of 2,569 non-local workers were accommodated on site at Cedar Valley Lodge. In September 2021, a peak of 67 Project employees accompanied by 29 partners/spouses and 33 children had been relocated to Kitimat and provided with company housing.	The Project limited the demand on market housing ¹ by prioritizing hiring from the local area; providing housing for non-local workers at Cedar Valley Lodge; providing company housing for relocated Project employees with families; and not paying LOAs to the workforce.

¹ Market Housing is “Housing that is privately owned by an individual (or company) who generally does not receive direct subsidies to purchase or maintain it. Prices are set by the private market.” British Columbia. 2018. Housing Glossary. Accessed June 2022.



Table ES-1 Summary of Direct Project Effects January–December 2021

Social Impact Category	Measurable Project Related Changes	Effectiveness of Mitigations
Community Health ²	A total of 10,986 visits to Project-provided medical clinics on site to address non-occupational injury or illness. 30 Project-related occupational injuries and illnesses and 123 non-occupational injuries and illnesses required treatment ³ in local hospitals in 2021.	LNG Canada provides a full range of medical services on site and at the workforce accommodation lodge. Access to medical services on site reduces direct demand on local medical services.
Air Traffic	Approximately 6.7% of commercial passengers through Northwest Regional Airport were directly attributable to the Project in 2021. An average of 643 Project personnel per month travelled via commercial flights through the airport in 2021 and an average of 3,814 Project personnel per month travelled via privately chartered flights.	In 2021, approximately 83% of the workforce traveled by charter flights, which operate from a hangar separate from the Northwest Regional Airport main terminal. By providing chartered flights, Project direct effects on the Northwest Regional Airport main terminal were minimal.
Road Traffic	Approximately 20.7% increase in overall road traffic on Highway 37 north of Kitimat (estimated from Ministry of Transportation and Infrastructure Traffic Data) was directly attributed to the Project (i.e., the movement of workers and the delivery of materials and equipment).	LNG Canada limits the use of personal vehicles on local roads by: transporting workers between the airport and the Project site on company-provided shuttles; using Park & Ride lots (Kitimat and Terrace); and enforcing shuttle transit for local workers.
Emergency Response Services	49 incidents required ambulance service calls. 31 incidents required RCMP response at the Project site. No incidents required a fire department service call. No medical evacuations were required. Approximately 2.6% of Kitimat Fire and Ambulance Service calls and 0.8% of Kitimat RCMP calls for service were directly attributed to the Project.	The Project has reduced direct demand for local emergency services by implementing Emergency Response Plans and LNG Canada Project's SAFER Together program; regularly engaging with RCMP and First Responders; and requiring all workers to complete worker's code of conduct and cultural awareness training.
Community Amenities	There were no known adverse changes in the available service capacity of community amenities providers attributed to the Project.	Cedar Valley Lodge provides recreational facilities to limit direct demand on community recreational amenities. In addition, open lodges also provide recreational amenities. Movement of the workforce off-site was also restricted during 2021 due to Public Health Orders ⁴ .

² Throughout 2021, the Project continued to adapt its activities and enhance procedures and protocols to reduce the risk of COVID-19 infection in the workplace and to support the needs of surrounding communities.

³ Treatment in local hospitals includes emergency room visits, x-ray visits, and diagnostics.

⁴ <https://www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/current-health-topics/covid-19-novel-coronavirus>

Joint venture companies



Table ES-1 Summary of Direct Project Effects January–December 2021

Social Impact Category	Measurable Project Related Changes	Effectiveness of Mitigations
Education	In October 2021, a peak of 35 children relocated to the area accompanying Project employees, with no notable impact on educational enrollment rates.	The Project's direct effect on childcare facilities and education services were minimal.
Utilities	The Project's disposal of construction and demolition waste, garbage and sludge cake has contributed to the decline in available landfill capacity at the Forceman Ridge facility. As a result of increased waste received in 2019 and 2020 from out-of-service area users including the Project, RDKS has increased out-of-service area fees. Out-of-service area users at RDKS Forceman Ridge WMF contributed 5,485 tonnes, or 28% of the total materials received in 2021, an increase of 166.2% from 2018. No waste from the Project site was disposed at the Kitimat municipal landfill in 2021.	LNG Canada's Waste Management Plan was executed in 2021. The Project provides self-sufficient water and wastewater treatment facilities on site. It does not use the District of Kitimat landfill. LNG Canada has controlled waste permits to dispose of non-hazardous solid waste at Regional District of Kitimat-Stikine Forceman Ridge. The Project continues to work directly with RDKS to plan for future anticipated waste disposal to minimize unintended strain on regional landfills. Through mitigations and adaptive management practices, the Project created limited direct demand on municipal utilities in 2021.



Available socio-economic data for 2021 and community monitoring data indicates that the mitigations implemented by the LNG Canada Project have effectively limited its direct effects on community infrastructure and services in the Kitimat and Terrace area, for most infrastructure and service areas covered by the CLISMP apart from the Utilities SMP. The two-year trend of increased disposal at the RDKS Forceman Ridge WMF indicated both direct and indirect effects of the Project on the regional landfill and resulted in adaptive management mitigation measures, which began in early 2021. The Project and the RDKS worked together in 2021 to assess and plan for future waste disposal.

It is also evident that the general economic activity occurring in the Kitimat and Terrace region, associated with the Project and other projects, has affected both the supply and demand for some services. Community monitoring efforts by the Project in 2021 included quantitative data and qualitative feedback, which enabled a meaningful level of awareness and discussion with communities and government. At the same time, quarterly data collection has proven to be a resource-intensive process and some data providers have been challenged to provide timely, accurate and complete data.

CLISMP Activity Summary

CLISMP activities from January to December 2021 included:

- Implementation of SMPs by LNG Canada and JFJV. These plans outline mitigation strategies to limit direct adverse effects that could result from Project activities interacting with the following areas of community level infrastructure and services: Housing & Accommodation, Community Health, Traffic, Emergency Response, Community Amenities, Education and Utilities. The SMPs also identify Project and community metrics use to monitoring changes in demand or supply of infrastructure and services
- Internal monthly Project monitoring to support SMP implementation
- Ongoing stakeholder and Indigenous engagement efforts pertaining to the CLISMP, including a community feedback process
- External community monitoring of ongoing data collection and analysis (with data available quarterly or less frequently)
- Quarterly summary reports capturing SMR actions and highlights, including information on mitigation implementation and adaptive management
- Annual Report submitted to BC Environmental Office (EAO) and the Ministry of Municipal Affairs (MUNI) and shared with SMR participants, including Project updates, reporting metrics, a summary of mitigations, and adjustments or changes made to mitigation measures based on their efficacy

Region

Employment

- General attrition of staff by service providers affected the capacity to deliver services
- High housing costs and lack of available and affordable rental housing negatively affected the ability to hire and retain service staff

Joint venture companies



Housing & Accommodation (and Childcare)

- In the ongoing response to COVID-19, Capacity Expansion Shelters (CES) operating at reduced capacities with operations extended to provide year-round service in 2021
- Regional hotel and motel occupancy rates remained unchanged from 2018 (49% in 2018 and 2021, respectively)
- 10% increase in regional hotel and motel average daily rates once COVID-19 restrictions were lifted

Traffic

- 21% decrease in commercial passengers transiting through Northwest Regional Airport (YXT)

Education

- 4% decrease in K-12 student enrollment

Utilities

- 47% increase in total materials received at the RDKS Forceman Ridge WMF
- 69% increase in total landfilled waste (i.e., air-space consuming) at RDKS Forceman Ridge WMF
- 5% increase in diverted materials (i.e., non-air-space consuming) at RDKS Forceman Ridge WMF

Kitimat

Housing & Accommodations (and Childcare)

- Average rental vacancy rate of 29.2%
- Average rent rate was \$1,468
- Residential housing prices have increased 37% from \$283,415 in 2018 to \$388,295 in 2021
- Continual demand for social housing and support services. Social housing operators unable to reach full capacity (e.g., due to COVID-19 restrictions)
- The Kitimat Emergency Weather Response (EWR) Shelter operated 24/7 for the full year of 2021 as a CES in response to the pandemic
- 47% increase in nights full at the Tamitik Status of Women's Dunmore Place Transition House
- Demand for licensed childcare spots substantially exceeds availability. Childcare centres operating below capacity due to inability to attract, retain and train qualified staff

Emergency Response

- 54% increase in total calls for service to Kitimat Fire and Ambulance Service (KFAS)
- 10% increase in calls for service to the Kitimat RCMP detachment

Community Health

- 12% decrease in Emergency Room (ER) visits at Kitimat General Hospital (KGH)
- 20% decrease in calls relating to overdose and poisoning events to the BC Emergency Health Services (BCEHS)

Joint venture companies



Community Amenities

- Large decline in utilization of community amenities (i.e., Riverlodge Recreation Centre and Tamitik Jubilee Sports Complex⁵)

Terrace

Housing & Accommodation (and Childcare)

- Average rental vacancy rate increased from 4.4% in 2020 to 10.9% in 2021
- Average rental rate increased 10% from \$928 in 2020 to \$1,019 in 2021
- Residential housing prices increased 37%, from \$339,155 in 2018 to \$464,778 in 2021
- Continual demand for social housing and support services. Social housing operators unable to reach full capacity (e.g., due to COVID-19 restrictions and due to staffing shortages)
- The Ksan Extreme Weather Response Shelter operated from January to March 2021
- The Ksan Capacity Expansion Shelter operated 24/7 for the full year of 2021 in response to the pandemic
- 48% decrease in days full or overfull at the Ksan Transition House
- 7% increase in days full or overfull at the Ksan Residence and Shelter
- 553% increase in individuals accessing non-resident support services at the Ksan Residence and Shelter
- Demand for licensed childcare spots substantially exceeds availability. Childcare centres operating below capacity due to inability to attract, retain and train qualified staff

Emergency Response

- 37% increase in Terrace Fire Department (TFD) calls
- 17% increase in the number of calls to Terrace BCEHS and the number of transfers in and out of the region
- 5% decrease in call for service to the Terrace RCMP detachment

Community Health

- 28% decrease in ER visits at Mills Memorial Hospital (MMH)
- 115% increase in calls relating to overdose and poisoning events to the BCEHS

Community Amenities

- Large decline in attendance to some community amenities (i.e., Terrace Sportsplex Complex)

Utilities

- 13% decrease in average potable water daily demand and 8% decrease in average daily wastewater flow

⁵ Tamitik Jubilee Sports Complex consists of the Sam Lindsay Aquatic Centre, Kitimat Ice Rink, and Tamitik Arena



Social Management Roundtable

The SMR serves as a quarterly engagement forum convened by LNG Canada and JFJV to evaluate the effectiveness of mitigation measures outlined in the CLISMP. The SMR follows a shared responsibility framework and participants include subject matter experts from the Project team, local government, regional and provincial agencies, nearby Indigenous communities, and local service providers. To support CLISMP implementation efforts for 2021, LNG Canada and JFJV convened four virtual SMR sessions:

- 2021 Q1 meeting (May 4, 2021)
- 2021 Q2 meeting (August 10-11, 2021)
- 2021 Q3 meeting (November 24, 2021)
- 2021 Q4 meeting (February 22-23, 2022)

The SMR meetings pulled together four working groups to review Project metrics and community monitoring trends, and to gather feedback and better understand the experiences of the community. Working groups entailed:

1. Housing & Accommodations (and Childcare) (quarterly)
2. Community Health (quarterly)
3. Traffic & Emergency Response (quarterly)
4. Community Amenities, Utilities & Education (semi-annually)

Action items were identified for the Project team and other SMR participants, along with more complex items for follow up discussion by BC Government. A quarterly summary report evaluating mitigation effectiveness and capturing meeting highlights was prepared and published online after each session.



Abbreviations

BC	British Columbia
BC EAO	BC Environmental Assessment Office
BCEHS	BC Emergency Health Services
BCNREB	BC Northern Real Estate Board
BRA	Big River Analytics
BCREA	BC Real Estate Association
CDC	Community Development Centre
CES	Capacity Expansion Shelter
CGL	Coastal GasLink
CLISMP	Community-Level Infrastructure and Services Management Plan
CMHC	Canadian Mortgage and Housing Corporation
CMSD	Coast Mountain School District
COT	City of Terrace
COVID-19	Coronavirus
CVL	Cedar Valley Lodge
DM	District Municipality
DOK	District of Kitimat
EAC	Environmental Assessment Certificate
ECE	Early Childcare Educator
ER	Emergency Room
EWR	Extreme Weather Response
FID	Final Investment Decision
FNHA	First Nations Health Authority

Joint venture companies



ha	Hectare
HAI	Housing Affordability Index
HSDA	Health Service Delivery Area
HTC	Haisla Town Centre
ICBC	Insurance Corporation of BC
IVMS	In-Vehicle Monitoring System
JFJV	JGC-Fluor BC LNG JV (Prime Contractor)
KFAS	Kitimat Fire and Ambulance Service
KGH	Kitimat General Hospital
KRS	Ksan Residence and Shelter
KVES	Kitimaat Valley Education Society
LNG	Liquefied Natural Gas
LNGC	LNG Canada; the Proponent
LOA	Living Out Allowance
MARSEC	Maritime Security
MMH	Mills Memorial Hospital
MOTI	Ministry of Transportation and Infrastructure
MUNI	Ministry of Municipal Affairs
MVI	Motor Vehicle Incident
NHA	Northern Health Authority
NRS	Non-Resident Support
PHO	Provincial Health Officer
PIT	Point-In-Time
PPE	Personal Protective Equipment
PRC	Project Resource Centre
RCMP	Royal Canadian Mounted Police

Joint venture companies



RDKS	Regional District of Kitimat-Stikine
SMP	Social Management Plan
SMR	Social Management Roundtable
TFD	Terrace Fire Department
TH	Transition House (Terrace)
TIA	Traffic Impact Assessment
TSW	Tamitik Status of Women
UNBC	University of Northern BC
US	United States
WHO	World Health Organization
WMF	Waste Management Facility
YOY	year-over-year
YXT	Northwest Regional Airport



1. Introduction

LNG Canada is building a liquefied natural gas (LNG) export facility (the Project) located in northwest British Columbia (BC), in the District of Kitimat and the traditional territory of the Haisla Nation. The Project is comprised of an LNG facility and supporting infrastructure, including LNG storage and marine loading facilities, and temporary construction-related infrastructure and facilities. Project-related marine shipping passes through the traditional territories of Haisla Nation, Gitga'at First Nation, Gitxaala Nation, Kitselas First Nation, Kitsumkalum First Nation, Lax Kw'alaams Band and Metlakatla First Nation.

The Project is located on approximately 400 hectares (ha) of land within the District of Kitimat (DOK), on land zoned for industrial use. A large portion of the LNG Plant site is located on a former industrial site previously occupied by Methanex. At full build out, the LNG Canada facility will be comprised of a variety of buildings and equipment used to process and store LNG. Supporting infrastructure will also be in place, including power supply, water supply, and wastewater collection and treatment facilities.

LNG Canada is committed to planning, constructing, and operating the Project in a manner that respects surrounding communities and the environment. The final investment decision (FID) for the Project was announced on October 1, 2018. On April 1, 2019, LNG Canada, together with its Prime Contractor JGC-Fluor BC LNG JV (JFJV), began implementation of its Community Level Infrastructure & Services Management Plan (CLISMP).

The CLISMP addresses the requirements of Condition #14 (Community Services and Infrastructure) of LNG Canada's Environmental Assessment Certificate (EAC) and the concerns raised by Indigenous groups, local governments, community groups, and stakeholders over potential adverse socio-economic effects resulting from a sudden large population influx associated with the construction of a large project near lightly populated communities in BC (LNG Canada 2014). The CLISMP includes social management plans (SMPs) that outline actions to mitigate the Project's adverse direct effects on community level infrastructure and services, community engagement mechanisms, socio-economic monitoring and reporting requirements over the duration of construction and two years into operations.

The objectives of the CLISMP, as defined by LNG Canada (2016, revised 2019), are to:

- Fulfill the regulatory requirements and standards relevant to implementing the plan
- Identify relevant plans and/or initiatives that will prevent, manage or mitigate the potential direct adverse community-level infrastructure and service effects of the Project
- Outline an engagement framework, including reporting and monitoring, for sharing information about project effects and status of mitigation plans with relevant stakeholders and Indigenous groups
- Outline the adaptive management approach whereby mitigation measures can be adjusted, and new measures developed to address the project effects as necessary

This Annual 2021 CLISMP Report is intended to inform the First Nations and Indigenous groups, stakeholders, BC Environmental Assessment Office (BC EAO), and BC Ministry of Municipal Affairs (MUNI) about Project updates, reporting metrics, mitigation effectiveness and adaptive management measures during implementation. In addition to this annual report, quarterly updates were prepared and published summarizing CLISMP implementation and SMR highlights for 2021.



The report is organized into the following sections:

Methods	A description of data collection and analysis, role of the social management roundtable, means for assessing the effectiveness of mitigation measures, and reporting requirements.
Project Updates	Summarizes construction activities taken place to date, workforce numbers, strategic local investments by LNG Canada and local partnerships, and economic benefits associated with employment, workforce development, contracting and procurement and municipal contributions.
Regional Overview	Overview of the regions socio-economic conditions and changes in population.
Social Monitoring Plans Report Updates	updates on the community level infrastructure and service areas addressed by the SMPs (housing and accommodation, traffic, emergency response, community health, community amenities, education and utilities), summary of project reporting and community reporting, Social Management Roundtable (SMR) feedback on the effectiveness of the SMP and the need for new or modified mitigation measures.

In addition to this annual report, quarterly updates are prepared and published summarizing SMP implementation and SMR highlights. A final report will be provided following completion of Project construction and two years of operations, which will include a summary of the Plan's overall effectiveness in achieving socio-economic objectives, and a summary of each annual report submitted during construction. Additional contextual information to support the ongoing reporting efforts of the CLISMP's implementation can be found in the previous 2019 and 2020 CLISMP Annual Reports (LNG Canada 2020 and LNG Canada 2021a).

This report was prepared by LNG Canada and Stantec Consulting Ltd. with Project data input and review provided by JFJV. LNG Canada wishes to acknowledge and thank the organizations who provided data for this report and participated in SMR meetings. Participating organizations are identified in Appendix A.

1.1. CLISMP Scope Area

The CLISMP scope focuses on the following communities and Indigenous groups that have greater potential to experience Project related effects on infrastructure and services activities: District of Kitimat (DOK), City of Terrace (COT), Regional District of Kitimat-Stikine (RDKS), Haisla Nation, Kitselas First Nation and Kitsumkalum First Nation. For effects on health services and infrastructure, the following additional Indigenous communities are included in the spatial scope: Gitxaala Nation and Gitga'at First Nation. Throughout this document, communities within the CLISMP scope area will be referred to as the Kitimat-Terrace area.

1.2. Engagement

LNG Canada's stakeholder and Indigenous engagement program is designed to support CLIMSP implementation and aims to:

- Improve awareness and understanding of the Project and its potential direct effects
- Minimize potential direct adverse effects and enhance Project benefits by identifying areas that need improvement



- Develop and maintain relationships
- Address concerns, where possible

Table 1.1 outlines a range of CLISMP-related engagement activities carried out by LNG Canada and JFJV during 2021. These activities are complemented by routine and frequent engagement with regulators, Indigenous groups, community organizations and local governments, including key authorities and planning focal points. LNG Canada reviews its engagement mechanisms on an ongoing basis and revises its approach as needed. Additional engagement and consultation activities beyond the scope of the CLISMP are not included below.

Table 1.1 Project Community Engagement in 2021

Engagement Type	Activities During 2021
Regulatory	<p>Several meetings were held with the Government of BC where CLISMP was a focus area. Meetings included:</p> <ul style="list-style-type: none"> • March – Housing Policy Branch - Attorney General Ministry, MUNI, LNGIS to discuss regional housing trends and Project mitigation efforts • April – MUNI regarding feedback received from engagements with local governments • May – MUNI, LNGIS, and ENV to discuss project waste management, including waste disposal activities • August – EAO, MUNI, and LNGIS to review 2020 CLISMP Annual Report submission, effectiveness of mitigation efforts and adaptive management • November – MUNI and LNGIS regarding feedback received from engagement with Indigenous communities
Community Feedback Process	<p>3,098 Project related inquiries related were received from community members and addressed by JFJV and LNG Canada between January 1 and December 31, 2021. Of these, 33 were concerns and complaints and 18 were related to infrastructure and services impacts.</p>
Project Website and Facebook page	<p>www.jfvkitimat.com provides online construction updates, employment and contract opportunities. Follow JFJV Kitimat on Facebook (4,451 followers) www.lngcanada.ca provides online Project information. Follow LNG Canada on Facebook (32,695 followers)</p>
Project Resource Centre	<p>A walk-in Project Resource Centre (PRC) located in Kitimat is usually open Monday through Friday; however, the PRC was closed to the public due to the COVID-19 pandemic from January to February 2021. It re-opened to the public on March 1, 2021. The community is also able to reach the Project via email through Community Feedback at info@jfvkitimat.com and phone 250-632-5358 or 1-888-499-5358.</p>



Table 1.1 Project Community Engagement in 2021

Engagement Type	Activities During 2021
<p>Social Management Roundtable</p>	<p>Q1 SMR meeting, May 4, 2021: 3 working groups with 75 participants, representing a total of 32 service organizations, Indigenous groups, government agencies and stakeholder groups joined the session.</p> <p>Q2 SMR meeting, August 10-11, 2021: 4 working groups with 68 participants, representing a total of 35 service organizations, Indigenous groups, government agencies and stakeholder groups joined the session.</p> <p>Q3 SMR meeting, November 24, 2021: 3 working groups with 67 participants, representing a total of 32 service organizations, Indigenous groups, government agencies and stakeholder groups joined the session.</p> <p>Q4 SMR meeting, February 22-23, 2022: 4 working groups with 62 participants, representing a total of 33 service organizations, Indigenous groups, government agencies and stakeholder groups joined the session.</p> <p>All meetings held virtually via Microsoft Teams platforms due to COVID-19 restrictions and concerns.</p>
<p>Open Houses</p>	<p>Due to COVID-19 restrictions, no in-person Open House events were held in 2021. Depending on Public Health Orders at the time, LNG Canada is seeking to host Open Houses in September 2022.</p>
<p>Municipal Government Engagements</p>	<p>Project Updates are provided multiple times per year to local municipalities with an opportunity for municipal leaders to ask the Project questions and provide feedback. The following formal meetings took place with municipal elected officials in 2021:</p> <ul style="list-style-type: none"> • March 11 – Joint LNG Canada-CGL Project Update for DOK Mayor and Council • March 17 – Joint LNG Canada-CGL Project Update for COT Mayor and Council • November 3 – LNG Canada Project Update and Site Tour for DOK Mayor and Council • November 4 – LNG Canada Project Update and Site Tour for COT Mayor and Council
<p>Social Management Roundtable Participant Survey</p>	<p>Survey sent to participants in April 2021 regarding CLISMP reporting and data collection.</p>



2. Methods

2.1. Data Collection and Analysis

Community monitoring data is collected to determine changes in the demand for infrastructure and services at the community level. Most of the community data is gathered from government agencies, service providers and web-based information sources. Appendix B Table B-1 lists each SMP topic with the corresponding data provider and project metrics. Appendix B Table B-2 lists the SMP, data provider and frequency of information collection. Frequency depends on each information provider and sources, with some data available on a monthly basis, and other information less frequently. In some cases, data providers were unable to provide data in time for it to be included in SMR reporting materials for 2021. There is often a small window of time between the end of the quarter and the deadline to submit data to be included in SMR reporting materials and data provider are constrained by responsibilities outside of the CLISMP process.

Community data is analysed using a year-over-year (YOY) comparison method where 2021 data is compared to the same annual data from 2018-2020, when available. This technique removes seasonality effects and enables the identification of changes in community indicators. YOY comparisons were not made in cases where particular data sets are not available from 2018 to 2020, such as some emergency room data (see Section 8.4). Also, YOY comparisons are not made when there was a known change in data measurement procedures, such as in the case of the data provided by the RCMP (see Section 7.4). Changes from 2020 to 2021 are also compared to appropriate longer-term data, presented on an annualized basis, in order to contextualize changes with respect to longer-term trends. Data on the rental housing market is supplemented with quarterly estimates of rental vacancy rates based on telephone surveys of rental accommodations providers and an analysis of rental listings available on websites (such as Craglist.ca and Kijiji.ca).

2.2. Social Management Roundtable

The Social Management Roundtable (SMR) is a forum that facilitates discussion of direct Project effects on infrastructure and services between the LNG Canada Project team, provincial and federal agencies, local and regional governments, and Indigenous communities. The SMR is guided by a Terms of Reference that identifies each SMP's background; roles and responsibilities of SMR members; and SMR activities. Based on a shared responsibility framework, SMR working groups meet quarterly or semi-annually to receive Project updates; review Project and community data; discuss trends, issues and concerns; and identify actions for the Project Team and other SMR participants to implement as the Project moves forward. Appendix A, lists organizations that participated at 2021 SMR meetings.

During the 2021 reporting period, LNG Canada and JFJV convened four virtual quarterly SMR meetings to review Project data and socio-economic monitoring trends and gather feedback to better understand the communities' experiences. Due to the COVID-19 pandemic, meetings were conducted virtually over Microsoft Teams. Meetings took place on May 4, 2021 (to review Q1 2021); August 10-11, 2021 (to review Q2 2021); November 24, 2021 (to review Q3 2021); and February 22-23, 2022 (to review Q4 2021). The working groups discussed the following:

- Housing & Accommodations (quarterly)
- Community Health (quarterly)
- Traffic and Emergency Response (quarterly)



- Community Amenities, Education and Utilities (semi-annually)

Monthly internal Project data from SMPs was provided, along with Project construction and workforce updates. To complement this process, community monitoring data was collected from external parties and analyzed. A pre-read package with available internal and external data and was shared with participants ahead of each SMR meeting. A summary of metrics monitored for the CLISMP are included as Appendix B.

Working group feedback and available monitoring data were used by the Project to help understand if its efforts to mitigate direct effects on infrastructure and services were effective and if adaptive management methods were required. At each working group, several actions and discussion items were identified and assigned to participants for follow-up. Feedback from the SMR meetings was captured and presented in the quarterly reports, along with actions items and summary of data trends. Quarterly summary reports were sent to all participants and posted on the LNG Canada website. A summary of SMR action items and their status can be found in Appendix C SMR Action Items of this report.

2.3. Mitigation Effectiveness and Adaptive Management

Mitigation effectiveness is evaluated in several ways. First, where applicable, Project reporting data is compared with community reporting data to estimate the Project's direct contribution to the change in value of a community metric. For example, the percentage of commercial flight passengers directly attributed to the Project is estimated by dividing the number of Project workers on commercial flights at Northwest Regional Airport (YXT) within a quarter year with the total number of commercial flight passengers at YXT for that same quarter. If, through this calculation, it is determined that the Project had no effect or is contributing a very small proportion to a change in a community indicator, the mitigation measures are likely effective.

The Project team also considered feedback received during the SMR meetings and community feedback process to identify potential Project impacts and suggested new mitigation measures. Adaptive management⁶ measures implemented by the Project are identified within each SMP report.

2.4. Reporting

Quarterly CLISMP summary reports are prepared after each SMR meeting. These summaries provide an overview of Project activities during the reporting period and include an update of: construction activities; workforce data; a summary of community engagements; and Project-specific metrics from across all SMPs. Quarterly reports also include community monitoring data, measured trends and feedback to help the Project assess the effectiveness of the SMPs. These reports summarize the discussions from SMR working group meetings and include follow-up actions and completion status, along with follow-up items for BC Government discussion to capture complex topics raised during the meeting that go beyond the Project's direct influence.

LNG Canada distributes the quarterly reports to SMR participants and provides the reports on its website at: <https://www.lngcanada.ca/about-lng-canada/environmental-compliance-reporting>.

This annual report is based on the findings of the quarterly reports and is prepared in accordance with requirements of Condition #14 of LNG Canada's EAC and the LNG Canada CLISMP (June 2016).

⁶ Adaptive management is a cycle in which the effectiveness of mitigation measures is evaluated based on monitoring results, and adjusted if needed, to achieve desired objectives (LNG Canada 2019).

Joint venture companies



3. Project Information

Phase 1 of the Project entails the construction of two LNG trains and the marine terminal. It began in 2019 and will be complete in approximately 2024. Between 2019 and 2021, construction activities focused on site preparation, the construction of the Cedar Valley Lodge (CVL) and the marine terminal. Major construction of the LNG plant commenced in 2022 and involves the assembly of the LNG facility and associated components.

In 2021 the Project undertook the following construction activities:

Completed Scopes of Work in 2021

- Marine dredging completed
- Material Offloading Facility (MOF) operation ready, MARSEC (Maritime Security) gates installed
- Concrete foundation: over 92,000 m³ poured since start of construction
- Arrival of main cryogenic heat exchangers
- LNG tank: 13 wall lifts and 34 roof sections completed
- Field fabricated tanks: completed the welding of compression ring to dome roof of RAW water tank
- River water intake: completed the scope of work and demobilized in October
- Berth: offshore dolphin mobilization of barge completed
- Cooling tower: completed stocking coil return header piping at Tower 1
- Marine office building: completed all structural steel installation
- Main absorber lift and placement
- First substation delivered

Notable 2021 Construction Progress Milestones

- Main piling program complete: 6,483 piles driven
- CVL: 4,500 beds and recreational amenities completed
- Tank roof raise successfully completed August 7, 2021
- LNG storage tank: completed pouring of tank roof concrete rings

Ongoing Scopes of Work continuing into 2022

- Receiving first pre-assembled unit (inlet gas module)
- Completing the marine berth and marine buildings
- Finishing all the non-process buildings
- Completing the field fabrication tanks
- Installing rail tracks
- Completing OSBL foundation and ISBL equipment foundation complete
- Tank modules set

See photos below in **Error! Reference source not found.** to Figure 3.5.

Joint venture companies



MAJOR CONSTRUCTION MILESTONE:

In August 2021, LNG Canada's team raised the storage tank roof, weighing 1,540 tonnes. The distance from the tank's reinforced concrete floor to the top of its domed ceiling is 56 metres, or about 180 feet, making the entire structure taller than Rogers Place arena in Edmonton, and just six meters shorter than B.C. Place stadium in Vancouver.

The roof was lifted from ground level using light air pressure from fans, at just 22 millibars, or about 0.32 pounds per square inch (psi). This is a very low pressure, less than one-one hundredth of a regular car tire, but sufficient because the roof covers a lot of area: its diameter is 92 metres.

Additional information on LNG Canada's 2021 construction activities is available at:

<https://www.lngcanada.ca/construction/construction-updates/>.

Construction updates by JFJV are available at: <https://jfvkitimat.com/category/construction/> and

www.jfvkitimat.com/videos.



Figure 3.1 LNG Tank (Q3 2021)

Joint venture companies



Figure 3.2 Cedar Valley Lodge outdoor playing surfaces (Q4 2021)



Figure 3.3 Pre-cooler on a self-propelled modular transporter (Q2 2021)

Joint venture companies



Figure 3.4 View looking south to the material offloading facility and terminal (Q3 2021)



Figure 3.5 LNG Canada Project site (Q2 2021)



3.1. Workforce

The assessment of the direct effects of the workforce on community infrastructure and services focuses on the temporary increase in population due to non-local workers lodged in the Kitimat-Terrace area. LNG Canada, JFJV and subcontractors are required to follow a ‘Local Hire First’ policy that evaluates qualified applicants and prioritizes the hiring of Haisla members and their spouses, followed by residents from the Kitimat-Terrace area and members of nearby Kitselas, Kitsumkalum, Gitga’at, Gitxaala, Metlakatla and Lax Kw’alaams First Nations. The next hiring priority is given to BC residents and then Canadians more broadly, both categorized as ‘non-local’. Relocated workers are LNG Canada employees (and some contractors’ senior management) who have been relocated to Kitimat with partners/spouses and children and are accommodated in company-provided housing for the duration of their contracts.

Non-local workers are accommodated in CVL. Local workers commute daily from their homes. A limited number of relocated workers, including senior management of contractors and subcontractors, and their accompanying families, live in Kitimat in LNG Canada company-provided housing units that are under long-term lease.

The total employed workforce represents total persons employed to support work activities in Kitimat reported by LNG Canada, its contractors, subcontractors and sub-subcontractors, and is composed of local workers and non-local workers both on and off rotation as well as newly hired workers.

The total employed workforce is higher than the total number of workers at the job site each day because it includes local and non-local workers on rotation in Kitimat, along with workers currently off rotation and newly hired workers mobilizing to site. The total number of workers employed for the Project in 2021 (monthly peak) was 5,112 workers (November 2021). The total non-local workers on-site in 2021 (monthly peak) was 2,569 workers (November 2021) and the total local workers in 2021 (monthly peak) was 743 workers (August 2021). The total number of re-located employees (monthly peak) was 67 workers, accompanied by 29 partners/spouses and 33 children (September 2021).

Figure 3.6 presents a visual representation of the peak mobilized workforce in 2021.

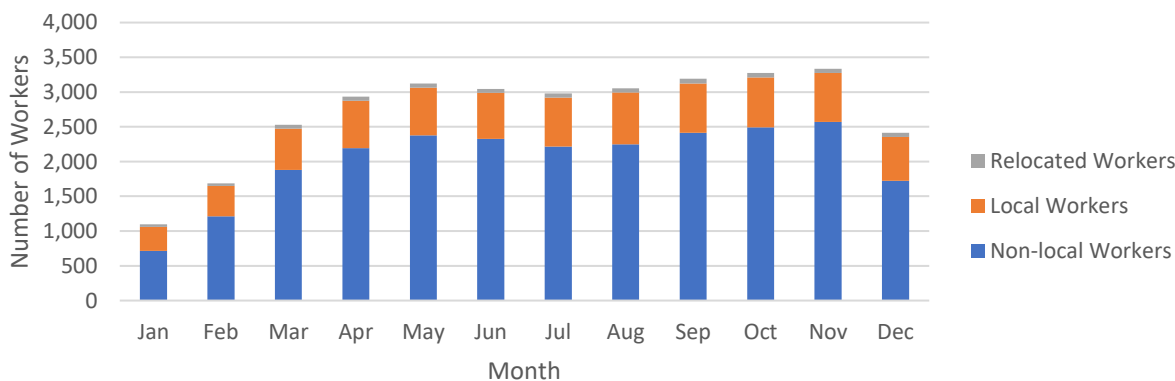


Figure 3.6 Peak Mobilized Project Workforce, 2021



3.2. Project COVID-19 Response

LNG Canada and JFJV are committed to protecting our workers, the community, and our project from COVID-19. This includes reducing the risk of infection in all areas of our operations and activities. Our focus will always be on keeping our project safe and healthy. The project will continue to minimize impacts on local medical services while providing our workforce with medical and health services in line with our ambition of being the Safest Project on Earth

On December 29, 2020, the Provincial Health Officer issued an Industrial Projects Restart Order, requiring five major industrial Projects in Northern British Columbia, including the LNG Canada Project, to increase activities slowly over the month of January to reduce the risk of further COVID-19 cases in the Northern Health region (the order was updated with minor adjustments to workforce numbers on January 12, 2021). The LNG Canada Project subsequently submitted a plan to Northern Health and the Provincial Health Officer to outline the safety measures that the Project would take to increase the workforce beyond the numbers identified in the order. LNG Canada received provincial approval in early February 2021 to proceed with a staged and cautious restart.

In response to the COVID-19 pandemic and the situation in BC and Canada, the Project's efforts in 2021 included:

- Adherence to [Orders from the Provincial Health Officer](#)
- Adherence to [Communicable Disease Prevention](#) (WorkSafeBC)
- Adherence to Provincial Health Officer's [Order on Face Coverings](#)
- Continuous enhancement of COVID-19 protocols on site and at workforce accommodations
- COVID-19 rapid screening program at charter hubs in Calgary, Edmonton, Vancouver, Nanaimo, Kelowna and at the Kitimat site
- Mandatory post-arrival secondary antigen test for all workers who stayed at CVL (all workers were required to take a second test three days after arrival)
- Implementation of Northern Health vaccine programs at the Kitimat site (COVID-19 and Flu)
- Additional resources and equipment to manage COVID-19 prevention and care, including increased staffing of medical professionals and greater supplies of medical grade oxygen
- Frequent communication with regulators, Northern Health and community Indigenous groups and stakeholders
- Workers residing in the CVL were required to remain on site for the duration of their work rotation, with exception of a medical or business appointment
- Workers planning to leave site were required to register their departure with their contractor's communicable disease coordinator and daily logs were maintained
- LNG Canada offered its own COVID-19 vaccine clinics in March 2021 and vaccines were available to all workers on-site and at CVL on a voluntary basis. In October 2021, LNG Canada announced a mandatory vaccination program in line with the BC PHO's recommendation that all workers were required to demonstrate proof of vaccination (LNG Canada 2021b). LNG Canada required all LNG Canada staff to confirm their full COVID-19 vaccination status by November 30, 2021 in-line with Transport Canada travel requirements (LNG Canada 2021b).



A COVID-19 outbreak occurred at the LNG Canada Project site December 16, 2020, to January 11, 2021, which falls inside the Q1 2021 reporting period. This was discussed at the Q4 2020 SMR meeting and captured in related reporting (i.e., Q4 2020 SMR Summary Report and LNG Canada CLISMP 2020 Annual Report). There were no other instances of COVID-19 outbreaks at the Project site after January 11, 2021.

3.3. Strategic Social Investments

LNG Canada works closely with local municipalities, Indigenous communities, and non-profit groups to partner on sustainable programs that aim to strengthen community and complement CLISMP-related Project mitigation efforts (where possible). Over \$4 million was contributed between 2013 and 2021, and efforts continue on an annual basis to align with community needs. Some examples of strategic investments and commitments are shown in Table 3.1 below.

Table 3.1 LNG Canada Community Investments, 2021

Investment Area	Commitments
Housing and Accommodation	<ul style="list-style-type: none"> \$250,000 funding commitment over 2019-2024 to Tamitik Status of Women and Kitimat Community Development Centre towards operational funds to support delivery of services to vulnerable groups. \$90,000 to support food security and homelessness prevention in Terrace (2020-2021) \$10,000 towards childcare administration and management training \$300,000 over 2013-2021 to Kitimat and Terrace community foundations
Community Health	<ul style="list-style-type: none"> \$90,000 in 2020 towards Indigenous food security and mental health programs as part of COVID-19 response. \$90,000 in 2021 towards City of Terrace social development coordinator and community grant writing programs \$550,000 commitment over 2019-2021 to the Kitimat Valley Housing Society to support the construction of the Kitimat Pilot Dementia Home and to increase community awareness for dementia
Traffic	<ul style="list-style-type: none"> \$100,000 in 2018-2019 towards community driver safety training, road safety awareness and school bus safety initiatives \$150,000 in 2021 towards traffic light upgrades for the DOK at Lahakas and Haisla Blvd intersection. \$1.2 Million in 2021 towards snow removal equipment at NW Regional Airport (YXT)
Emergency Response	<ul style="list-style-type: none"> \$160,000 in 2019 - 2021 to support search & rescue organizations in both Kitimat and Terrace \$150,000 since 2013 to support Kitimat Fire Department



Table 3.1 LNG Canada Community Investments, 2021

Investment Area	Commitments
	<ul style="list-style-type: none"> • \$150,000 towards emergency response training and equipment in Terrace (regional training on auto extrication)
Community Amenities	<ul style="list-style-type: none"> • \$300,000 contribution towards RDKS perimeter fence at Forceman Ridge • \$75,000 in 2020 towards enhanced and accessible recreational ski facilities in Terrace • \$150,000 contribution and in-kind donation of Baily Bridges (\$212,000 value) in 2019 to support DOK Phase 1 Waterfront Access Park • \$25,000 contribution towards Pine Creek Bridge in 2021
Education	<ul style="list-style-type: none"> • \$505,000 in 2019-2021 towards a range of educational programs including science enrichment through Ocean Wise / Aquavan outreach in Kitimat and Terrace schools and communities and subsidized access to summer camps for children in Kitimat. • \$210,000 since 2013-2021 in annual trades/STEM scholarships for Kitimat and Terrace high school graduates. • \$300,000 funding commitment over 2019-2021 towards Indigenous educational bursaries and professional development programs. • \$350,000 towards Power Engineering Readiness at Coast Mountain College
Utilities	<ul style="list-style-type: none"> • \$10,000 in 2020 towards cardboard recycling storage capacity expansion in Kitimat

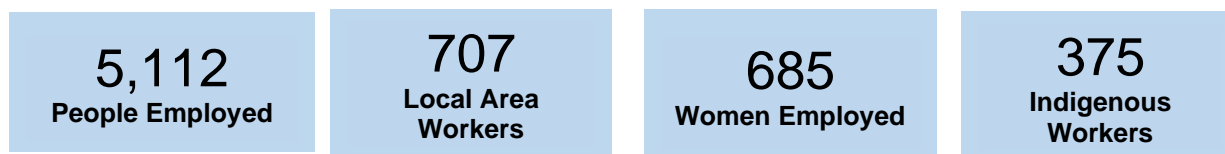


3.4. Economic Benefits

The Project provided economic benefits through employment and workforce development, discussed in the sections below.

Employment in Kitimat

In 2021, a peak of 5,112 people were employed to work on the LNG Canada Project in Kitimat in November. The November 2021 workforce included 375 Indigenous workers (~43% of whom were from the local area), 685 women, and 707 workers from the local area. In 2021, a peak number of local residents employed occurred during August when 743 local workers were employed.



Workforce Development

LNG Canada **invested over \$4M in workforce development programs** trades training and development programs designed to increase the participation of local area residents, Indigenous communities and British Columbians in the Project. LNG Canada partnerships supported training and applied work opportunities for BC residents, including:

- over 1,500 BC apprentices trained through the Trades Training Fund in connection with 612 employers (BC Construction Association)
- 368 local area residents placed on construction jobs in NW BC through the Connect Program (BC Construction Association)
- 20 graduates from two JFJV Boot Camps held from May 26-June 22, 2021 and October 20-November 17, 2021
- \$200,000 contributed towards removing barriers to employment by funding tools, training, clothing and gear essential for those entering the construction industry through the Gear Up Fund (BC Construction Association)
- 102 women completed trades training through the YOUR PLACE Program
- 43 women hired onto the LNG Canada Project or into other employment opportunities after receiving introductory trades training through the YOUR PLACE program (Women Building Futures)

Attracting more women to the construction trades in BC is an important part of LNG Canada’s comprehensive workforce development strategy and commitment to hiring local first, provincial second. LNG Canada’s YOUR PLACE program is a four-week workplace readiness training program with employment supports designed to help women enter the skilled trades. Graduates have a direct line to employment as apprentices with JFJV or one of its subcontractors on the Project site in Kitimat, BC. Training is delivered in the local area which increases training accessibility for Indigenous



groups and women in northern BC and introduces participants from other parts of the province to the realities of a fly-in-fly-out worksite. YOUR PLACE is only available to women residing in BC.

Many LNG Canada workforce development programs were paused during Q2 2020 due to COVID-19 restrictions that limited travel, group gatherings and use of classroom facilities. Programs have resumed in 2021 in line with COVID-19 measures.

Contracting & Procurement

The Project places a priority on contracting and procurement with Haisla and other Indigenous-owned businesses and non-Indigenous local businesses. At the end of 2021, the Project had awarded contracts and procurement totalling approximately \$3.6 billion CAD in contracts and procurement to businesses in BC. Of this amount, over \$2.8 billion CAD was awarded to Indigenous-owned businesses and local area businesses.

CAD \$3.6 billion
BC Contracts

CAD \$2.8 billion
Local & Indigenous Contracts

Municipal Contributions

In June 2021, LNG Canada paid **\$4,553,799 million in municipal property taxes** to the District of Kitimat (2021 tax year). Municipal property taxes are paid annually. LNG Canada entered into a Revitalization Tax Exemption agreement with the DOK which commenced in 2019 with a schedule of increasing payments over a 10-year term (the LNG Canada plant site is located on a former industrial site previously occupied by Methanex). The defined schedule will help the DOK plan for longer term needs as the payments are known ahead of time.

In 2021, LNG Canada also contributed \$150,000 to the Lahakas Intersection upgrade and \$25,000 to support the transfer of ownership of Pine Creek Bridge.

Working together with the DOK, in 2019 LNG Canada was successful in obtaining a \$55 million infrastructure investment from the Canadian Ministry of Finance to support the replacement of the aging Haisla Bridge in Kitimat. Construction began in 2021 with expected completion in 2023.

Additionally, workforce accommodation lodge operators in Kitimat, including JFJV, paid a one-time contribution of \$500 per unit towards the DOK Affordable and Accessible Housing Fund, resulting in over \$2.5 million in cumulative contributions to the DOK by the end of 2020, primarily attributed to LNG Canada Project activities.

4. Regional Overview

This section provides an overview of trends that were observed for the Kitimat-Terrace region during 2021, including discussion surrounding the impact of the COVID-19 pandemic and the Project's response. This section provides a high-level overview of economic development occurring in the region and changes in population.



4.1. COVID-19 Impact

March 2021 marked one year since the COVID-19 pandemic was announced by the World Health Organization (WHO) and pushed BC into a state of emergency under the *Emergency Program Act* and *Public Health Act*. Various province-wide restrictions were implemented throughout 2021, with most restrictions being lifted in early 2022. For example, the proof of vaccination (i.e., vaccine passport system), which was implemented in September 2021, ended in March 2022.

Various BC Provincial Health Officer (PHO) Orders were issued throughout 2021, including orders that restricted the activities of many businesses and individuals (e.g., guidance and restrictions on industrial camps, accommodations and food and liquor serving premises) and maintained limits on the travel (GoBC 2022a). Travel restrictions that prohibited foreign nationals from entering Canada for non-essential purposes remained in place until September 2021. On September 7, 2021, fully vaccinated foreign nationals were once again allowed to travel to Canada for discretionary purposes (GOC 2021a). On October 30, 2021, Transport Canada implemented a mandatory vaccine mandate for the purposes of Canadian domestic travel and international travel departing from Canada (GOC 2021b). Any passenger that planned on taking a domestic or international flight or train within Canada (i.e., VIA Rail and Rocky Mountaineer) was required to be fully vaccinated (GOC 2021b).

COVID-19 vaccines approved by Health Canada were first available in late 2020 and early 2021. At-risk groups and racialized and marginalized populations, including Indigenous groups, were prioritized to receive the vaccines during the initial roll-out (FNHA 2021). Mills Memorial Hospital (MMH) in Terrace received its first shipment of vaccines in January 2021 and held vaccination clinics for high-risk health care workers and long-term care residents (Northern Health 2021a). The Northern Health Authority (NHA) established COVID-19 vaccine clinics in Kitimat, Terrace and the surrounding area in March 2021 (Northern Health 2021b and Northern Health 2021c).

The number of COVID-19 cases reported in BC was approximately 205,972 (a 289.2% year-over-year increase from 2020). Of these, 17,157 cases (approximately 8.3% of total) were reported to the NHA. 41.4% of the cases reported to the NHA were from the Northern Interior Health Service Delivery Area (HSDA). Approximately 30.0% of the cases reported to the NHA were from the Northwest HSDA, which is where the Project is located. On November 26, 2021, the WHO designated the variant B.1.1.529 (Omicron variant) a variant of concern (GOC 2021d). The Omicron variant proved to be more transmissible than previous variants and caused a spike in cases in BC and Canada (GOC 2021d).

4.2. Regional Development

Economic development and employment in the Northwest region are largely focused on industrial and resource extraction sectors, including forestry, mining, transportation and construction, with the latter related to major infrastructure projects. This includes the LNG Canada Project, which is the largest project in both the region and province (Northern Development 2022).

In 2020, during the beginning of the COVID-19 pandemic, there was a significant decline in employment in the region as the PHO directed employers to take all necessary precautions to minimize the risks of COVID-19 transmission and illness to themselves and employees (GoBC 2020). Unemployment rates in BC increased from 4.7% in 2019 to 8.7%

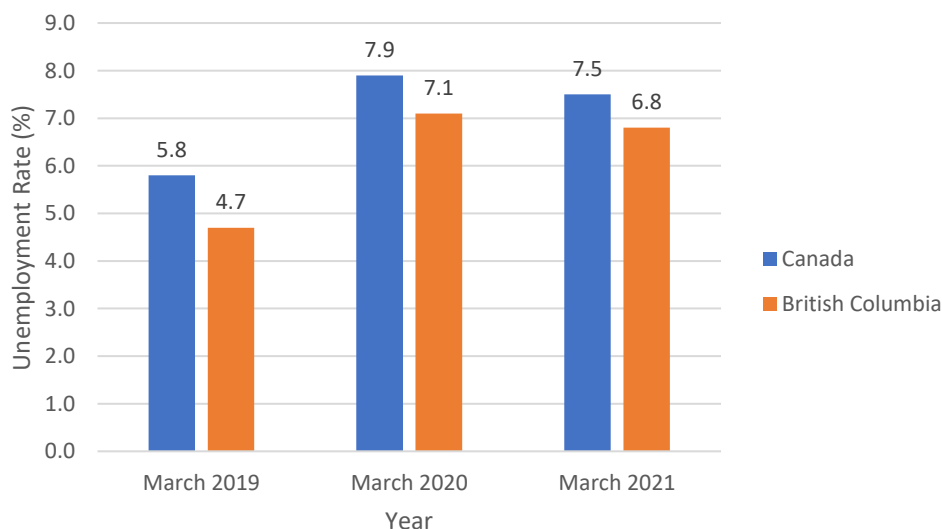


in 2020 (see **Error! Reference source not found.**; Northern Development 2022). As restrictions lifted in the latter half of 2020 and into 2021, employment levels in construction and manufacturing returned to pre-pandemic levels (Northern Development 2022). Employment in other industries, such as the accommodation and food service industry, remained below pre-pandemic levels (Northern Development 2022). In addition, provincial employment levels were also affected by disruptions in transportation due to supply chain shortages and natural disasters (i.e., wildfires and floods) which delayed the arrival of materials to construction sites (Northern Development 2022). The emergence of the Omicron variant in November 2021 also affected the labour supply, and labour shortages throughout the province limited the ability of businesses to increase their staffing capacity (Northern Development 2022). Unemployment rates in BC decreased to 6.0% in 2021 (**Error! Reference source not found.**).

Table 4.1 Unemployment Rate in Northern BC by Region

Region	2019	2020	2021
North Central	5.6	9.4	5.5
Northeast	6.3	6.5	4.6
Northwest	4.3	9.8	7.5
Northern BC	5.8	8.7	6.0
BC	4.7	8.7	6.0

SOURCE: Northern Development 2022



SOURCE: Northern Development 2022



Figure 4.1 Unemployment Rates in BC and Canada from 2019-2021

The effects of the COVID-19 pandemic and its related restrictions across BC influenced the demand for infrastructure and services in the Kitimat-Terrace area throughout 2021. Many facilities and workplaces operated at reduced capacities which suppressed the demand for both services and employment. The negative effects that the COVID-19 pandemic had on the provincial and national economies continued throughout 2021.

In contrast to the province overall, and despite COVID-19, economic growth in Kitimat was reported by the DOK as ongoing, primarily due to the presence of LNG Canada and other industries (DOK 2022a). Major projects recently completed or currently underway in Kitimat include the LNG Canada Project, LNG Canada’s Cedar Valley Lodge, Rio Tinto Kemano T2 Project and the Coastal GasLink (CGL) Project. Future proposed developments include the Kitimat Clean Oil Refinery, Kitimat LNG, Cedar LNG, Pacific Trail Pipeline and Pacific Traverse Energy projects (DOK 2022a and GoBC 2022b).

In Terrace, major projects recently completed or currently underway, include the Coast Mountain College Student Housing Project and the MMH Replacement Project (GoBC 2022b). Proposed projects include the industrial development park, Skeena Industrial Development Park and the Lakelse geothermal power plant (GoBC 2022b).

4.3. Population

Kitimat

In 2021, the population of the Kitimat region⁷ was 8,743, an increase of 1% over the 2016 population of 8,656 (**Error! Reference source not found.**). Over the 2016 to 2021 period, the Terrace area⁸ population experienced a 2.3% increase, from 19,763 to 20,212 (Figure 4.2).

The Census records the permanent resident population of an area. However, the overall populations of Terrace, Kitimat, and surrounding communities are comprised of permanent residents, visitors and individuals who are temporarily residing in the area for employment. Because the capacity of community infrastructure and service providers is typically sized and funded to match the permanent residential population, a substantial increase in the non-permanent population of an area can result in a strain on such providers and infrastructure.

In 2021, the DOK commissioned a household survey to estimate the current population of Kitimat. The results of the DOK’s household survey indicate that, as of September 2021, the population of Kitimat is 9,978, of which 8,595 individuals (86.1%) were permanent residents and 1,383 (13.9%) were non-permanent or “shadow”⁹ residents. The shadow residents draw on local services, impact the local labour market and influence housing affordability (DOK 2022b).

⁷ Kitimat Area Permanent Population (2021 Census) includes Census subdivisions: DM of Kitimat and Kitimaat IR No. 2 (Statistics Canada 2022).

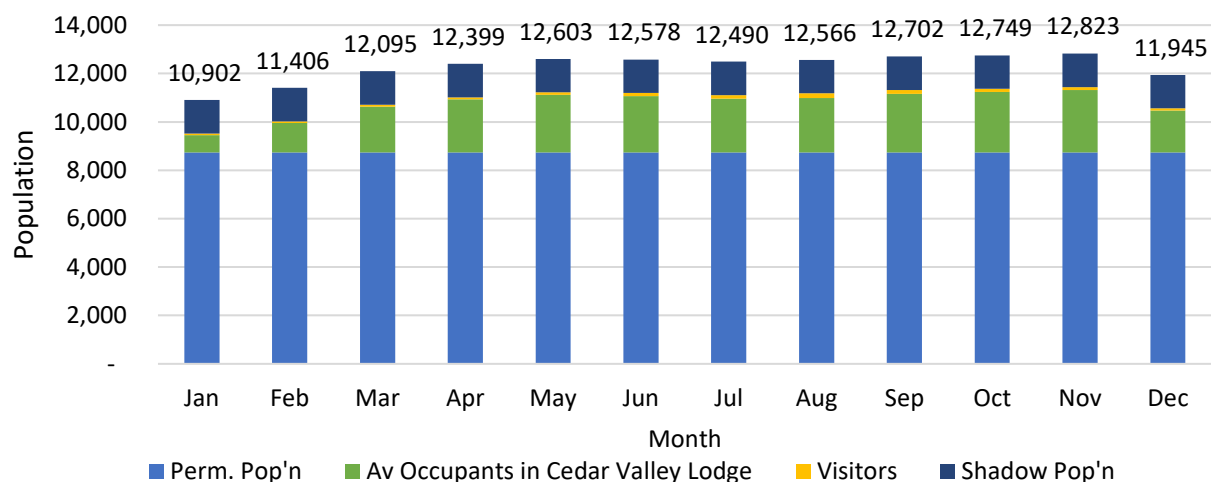
⁸ Terrace Area Permanent Population (2021 Census) includes Terrace Census Agglomeration Area (Kulspai IR No. 6, Kitimat-Stikine E, and City of Terrace), Kitselas IR No. 1, and Kitsumkaylum IR No. 1 (Statistics Canada 2022). Kitimat-Stikine E includes the community of Thornhill.

⁹ Shadow population (as defined in the DOK Household Survey) are people who currently live or stay in Kitimat, but for whom Kitimat is not their permanent place of residence (i.e., the address on their identity card is not in Kitimat, their mail goes to a different household not located in Kitimat) (DOK 2022b).



Figure 4.2 shows the estimated temporary and permanent population for Kitimat¹⁰ in 2021. The permanent population is based on the 2021 Census. The temporary shadow population is based on the 2021 DOK Household Survey (DOK 2022b). CVL occupants are tabulated separately. Visitors are those staying temporarily in hotels, motels and Airbnb accommodations¹¹.

- Kitimat’s estimated population peaked in November 2021 at 12,823 persons with 4,080 temporary persons
- CVL accommodated a low of 714 workers in January to a peak of 2,569 in November



NOTES: Permanent Population (2021 Census) includes Census subdivisions: DM (District Municipality) of Kitimat and Kitamaat IR No. 2.
 *Visitors includes hotels, motels, and Airbnb occupants (BRA and Stantec 2022a).
 *Shadow¹² population from 2021 District of Kitimat Household Survey (DOK 2022b). Includes both “Soft Shadow”¹³ and “Hard Shadow”¹⁴ population as of September 2021.
 SOURCES: Statistics Canada 2022; STR Global 2022; BRA and Stantec 2022a; DOK 2022b

Figure 4.2 Kitimat & Area Population Estimate, Q1-Q4 2021

¹⁰ Kitimat communities include DM of Kitimat and Kitamaat IR No. 2 (Kitamaat Village).
¹¹ Hovering the cursor over the bars in the table provides the numbers for each category in the columns.
¹³ “Soft Shadow” population consists of people in a household for whom Kitimat is not their permanent place of residence (people in the shadow population) and have not worked for at least 30 days during the past year in Kitimat or the surrounding area, as of September 2021 (DOK 2022b).
¹⁴ “Hard Shadow” population consists of people for whom Kitimat is not their permanent place of residence (people in the shadow population) and have worked for at least 30 days during the past year in Kitimat or the surrounding areas, as of September 2021 (DOK 2022b).

Joint venture companies

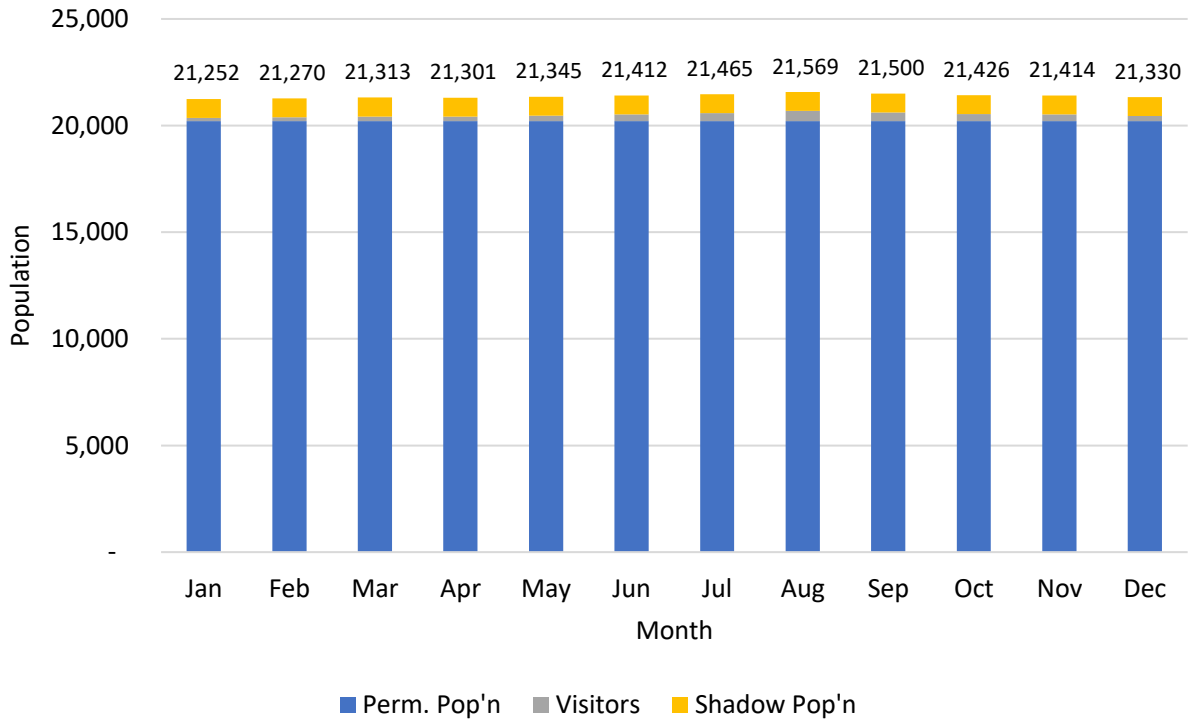


Terrace

Figure 4.3 shows the estimated temporary and permanent population for the City of Terrace and surrounding communities¹⁵ in 2021. The estimated population in the Terrace area was relatively stable, with monthly fluctuations resulting from changes in the visitor populations. Due to the nature of industry jobs in the region and its position as the major service provider, Terrace receives the spill-over jobs created in Kitimat, Prince Rupert and mines located north of Terrace (BRA 2015). Terrace's shadow population is assumed to remain in the area only during the construction phases of various industrial development; however, the shadow population may temporarily contribute to growth indicators such as availability and cost of rental accommodations.

- Terrace area permanent population was 20,212 in 2021
- The estimated population including permanent and shadow population and visitors was 20,968 persons (on average)
- The estimated population peaked at 21,569 persons in August 2021 (1,357 temporary persons, approximately 4% of total population)
- The shadow population in Terrace was previously estimated at 471 persons (based on the 2020 Terrace population survey (BRA 2020) and 2021 DOK household survey (DOK 2022b). When considering Greater Terrace (includes RDKS Electoral areas C and E), the shadow population estimate increased to 886 persons during 2021

¹⁵ Terrace communities include Terrace Census Agglomeration Area (Kulspai IR No. 6, Kitimat-Stikine E, City of Terrace), Kitimat-Stikine C, and Kitselas IR No. 1 and Kitsumkaylum IR No. 1.



NOTES: Terrace Area Permanent Population (2021 Census) includes Terrace Census Agglomeration Area (Kulspai IR No. 6, Kitimat-Stikine E, and City of Terrace), Kitselas IR No. 1, and Kitsumkaylum IR No. 1 (Statistics Canada 2022).

*Shadow¹⁶ population from 2020 City of Terrace Population Survey for the City of Terrace and RDKS Electoral Areas C and E (BRA 2020). Includes both “Soft Shadow”¹⁷ and “Hard Shadow”¹⁸ population as of May 1, 2020.

*Visitors include hotels, motels, and Airbnb occupants (BRA and Stantec 2022a).

SOURCES: Statistics Canada 2022; STR Global 2022; BRA and Stantec 2022a; BRA 2020; DOK 2022b

Figure 4.3 Terrace & Area Population Estimate, Q1-Q4 2021

¹⁶ Shadow population (as defined in the COT Population Survey) is assumed to only be in Terrace and the RDKS for the duration of their employment and as such, a single person is added to Terrace’s population per job. In 2020, there was an estimated additional 886 shadow population in Terrace and the RDKS (Mean Confidence Limit) as of May 1, 2020, of which, 231 have worked 30 or more days in Terrace and the RDKS area in the past year (BRA 2020).

¹⁷ “Soft Shadow” population consists of people who are living or staying in Terrace and the RDKS, who have a usual residence elsewhere who have not worked 30 or more days in the greater City of Terrace area in the past year (BRA 2020).

¹⁸ “Hard Shadow” population consists of people who are living or staying in Terrace and the RDKS, who have a usual residence elsewhere, and who have worked 30 or more days in the greater City of Terrace area in the past year (BRA 2020).

5. SMP - Housing, Accommodations and Childcare

5.1. Introduction

The Housing and Accommodations SMP, which also addresses childcare, identifies actions to manage Project-related direct effects on the availability and affordability of housing in the Kitimat, Terrace and nearby Indigenous communities. The plan also identifies actions to manage the potential for increased demand for temporary accommodations such as hotels, motels and campsites caused by the in-migration of Project workers. The objectives of the Housing and Accommodation SMP are to:

- Reduce the potential for the LNG Canada Project workforce to displace local residents and visitors from using temporary accommodations, or accessing rental opportunities and home ownership
- Minimize Project-related effects on individuals and families who depend on affordable housing
- Engage with stakeholders and Indigenous groups to provide a responsive framework in which they can raise concerns with LNG Canada

Appendix A provides a list of stakeholders who participated in the Housing and Accommodations working group meetings.

5.2. Context

The DOK is home to several major projects including the LNG Canada export facility, Rio Tinto T2 project, terminal section of the Coastal GasLink pipeline project, and proposed Cedar LNG project. Combined, these large projects have contributed to the rapid economic and population growth in Kitimat (see Section 4.2 and Section 4.3). Major projects attract individuals who want to relocate either permanently or temporarily for employment, which can directly and indirectly affect rental housing, market housing¹⁹ and social and subsidized housing²⁰ (DOK 2022b).

Social Housing

During the COVID-19 pandemic, restrictions and requirements for physical distancing and self-isolation directly affected social housing capacity in the province because there were fewer programs and reduced space. People seeking social housing were subsequently turned away.

From March 31, 2021, to December 31, 2021, BC Housing subsidized nearly 19,000 shelter spaces, housing units and rent supplements for those who were at risk of experiencing or were experiencing homelessness in the province (BC Housing 2021). This includes more than 12,800 supportive and transitional housing units; 2,200 permanent shelter spaces; and 1,140 temporary shelters spaces in 2020 – 2021(BC Housing 2021). The Provincial government funded

¹⁹ Market housing is “housing that is privately owned by an individual (or a company) who generally does not receive direct subsidies to purchase or maintain it. Prices are set by the private market” (Government of BC, 2022).

²⁰ “Social housing is owned by a not-for-profit organization, a co-op or a government. Rents are subsidized (usually by the government) making it possible for people with lower incomes to find housing they can afford. Household income must be below certain limits to be eligible.

Subsidized housing encompasses all types of housing for which a subsidy or rent assistance is provided (usually by government), including public, non-profit and co-operative housing, as well as rent assistance for people living in private market housing. It also includes emergency housing and short-term shelters” (Government of BC, 2022).

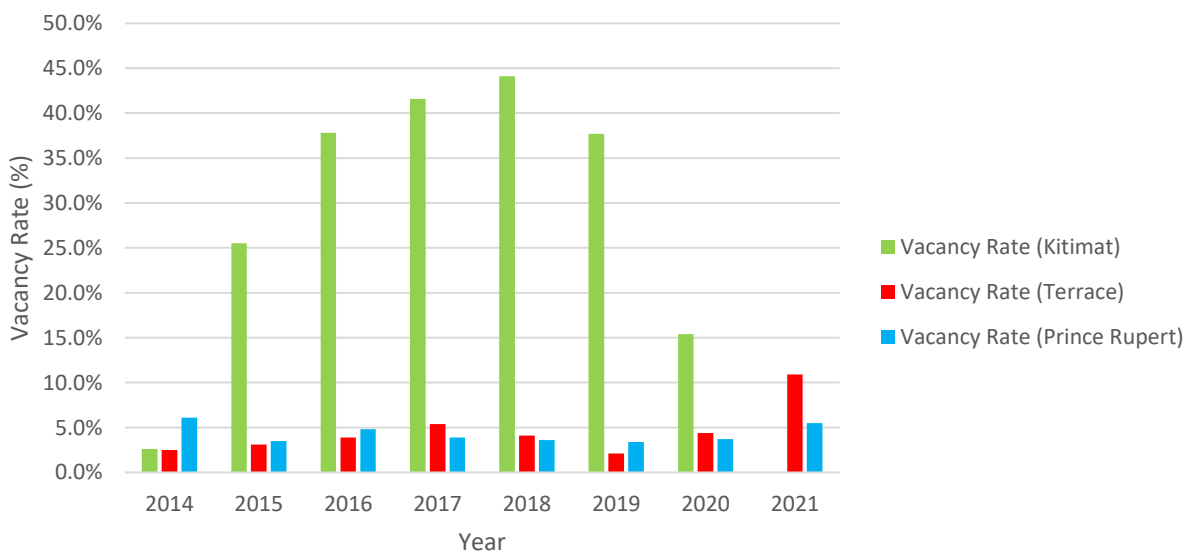


approximately 400 Emergency Weather (EWR) Shelter spaces across the province from November 1, 2020, to March 31, 2021 (BC Housing 2021) (BC Housing 2022a). Building on initiatives developed in 2020 to respond to the COVID-19 pandemic, BC Housing continued to support non-profit shelter and housing providers throughout 2021 by identifying locations where vulnerable individuals were able to recover and self-isolate (BC Housing 2022a). One site (with two spaces) was secured in Kitimat.

Rental Housing

Vacancies in Kitimat peaked in 2018 at 44.1% and have been on a steady downward trend since. In 2020, Kitimat’s surveyed vacancy rate dropped below 35% for the first time since 2016, reported at 15.0% in October 2020 (CMHC 2021). This is thought to be because a substantial proportion of the rental stock had previously been taken off the market (including some units that were suitable for renting and some undergoing renovations), while others were being reserved or possibly supply-managed by landlords, resulting in an effective vacancy rate that was much lower than estimated by the CMHC survey.

Terrace’s vacancy rates have been relatively low over the past years and have been influenced by patterns of regional development activity (LNG Canada 2020). Rental vacancy rates in Terrace reached 5.4% in 2017, before dropping to 2.1% in 2019, correlating with the recent industrial development activity occurring in the region (LNG Canada 2021a). Rental vacancy rates in Terrace have increased from 4.4% in 2020 to 10.9% in 2021, which marks the highest rental vacancy rate Terrace has seen in the last 10 years (CMHC 2022).



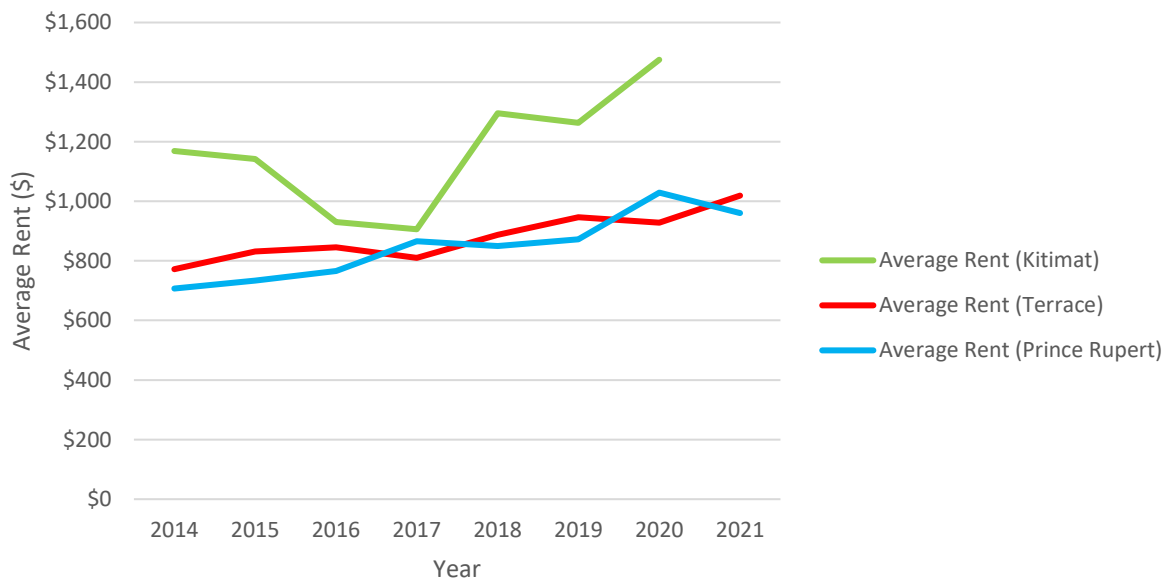
NOTES: CMHC’s 2021 Rural Rental Market Survey, which contains rental market data for Kitimat, was not available at the time of this report.
 SOURCE: CMHC 2022

Figure 5.1 Vacancy Rate for North Coast Communities, 2014-2021



The Canadian Mortgage and Housing Corporation (CMHC) 2021 Urban Rental Market Survey reported a continual increase in the estimated average rent rates for Terrace. Between 2020 and 2021, there was a 10% increase, from \$928 in 2020 to \$1,019 in 2021 (Figure 5.2).

The average cost of rental accommodation in Kitimat over time is also correlated with periods of actual or anticipated periods of industrial development (LNG Canada 2020). Some employers outside of the LNG Canada Project may choose to pay LOAs, resulting in higher competition for rental housing and contributing to the “renoviction” phenomenon. “Renovictions” are when tenants are evicted from their homes to enable landlords to refurbish and then rent the unit at substantially higher rates (LNG Canada 2020). Overall fluctuations in Terrace’s rental housing market in terms of price and vacancy rates have been fewer compared to Kitimat, possibly because of Terrace’s more stable permanent population, and because temporary construction workforces likely comprise a smaller proportion of its population as indicated in the recent shadow population study. Recent increases in vacancy rates and average rent rates for Terrace may be due to an increase in construction activity in the area, beginning in July 2021.



NOTES: CMHC’s 2021 Rural Rental Market Survey, which contains rental market data for Kitimat, was not available at the time of this report.
 SOURCE: CMHC 2022

Figure 5.2 Average Rent for North Coast Communities, 2014-2021

The DOK’s household survey found that shadow residents in Kitimat pay rent that is approximately 72% higher than rent paid by permanent residents. It also found that “hard” shadow residents (i.e., individuals in the shadow population who worked at least 30 days during the past year in Kitimat or the surrounding area) have average annual employment earnings that are almost twice that of permanent residents (DOK 2022b).

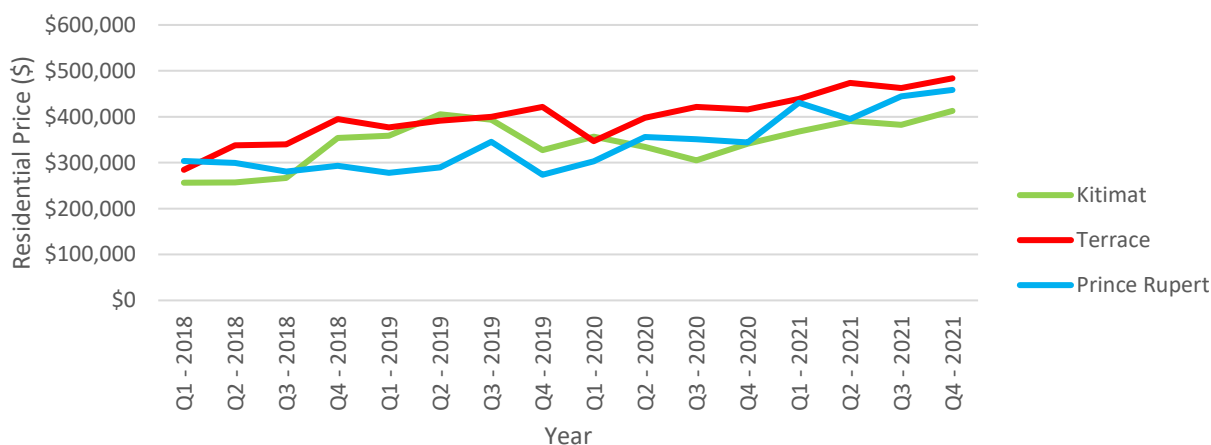


Multiple, affordable housing development projects are being developed in Terrace in response to high rental costs and low rental supplies (BRA and Stantec 2022a). In 2021, Kitimat started several mixed-use housing development projects (BRA and Stantec 2022a).

Market Housing

The BC Real Estate Association (BCREA)'s Market Intelligence Report found that despite a severe recession and border closures during COVID-19, the demand for market (privately owned) homes surged across BC (BCREA 2021). As a result of the pandemic and its associated lockdown measures, homebuyers prioritized square footage with a backyard over characteristics such as proximity to the urban core. This resulted in a significant relocation demand because larger homes are more readily available and affordable in smaller, less densely populated regions (BCREA 2021). Smaller urban and rural areas with a limited housing supply experienced a sudden and significant increase in demand, causing housing prices to increase (BCREA 2021). BC Housing market activity peaked in March 2021, with an estimated 67,000 buyers searching for homes with only 24,000 listings available at that time (BCREA 2021). In Northern BC, monthly housing sales hit an all-time high in May 2021 due to the surge of new buyers (BCREA 2021). The trend of record-high sales and a sharp decline in active listings resulted in a 28% increase in average residential housing prices in the Northern BC region (BCREA 2021). The combination of major economic developments in Northern BC (including LNG Canada) and the COVID-19-induced movement out of major cities into more remote smaller communities fuelled housing market growth in the Project region.

Between 2018 and 2021, residential housing prices in both Kitimat and Terrace experienced an increase of 37%, from \$283,415 to \$388,295 in Kitimat and \$339,155 to \$464,778 in Terrace (Figure 5.3). In 2021, residential housing prices in Terrace, driven by a low inventory of available houses and continued heightened demand, became more expensive than anywhere else in Northern BC (Figure 5.3).

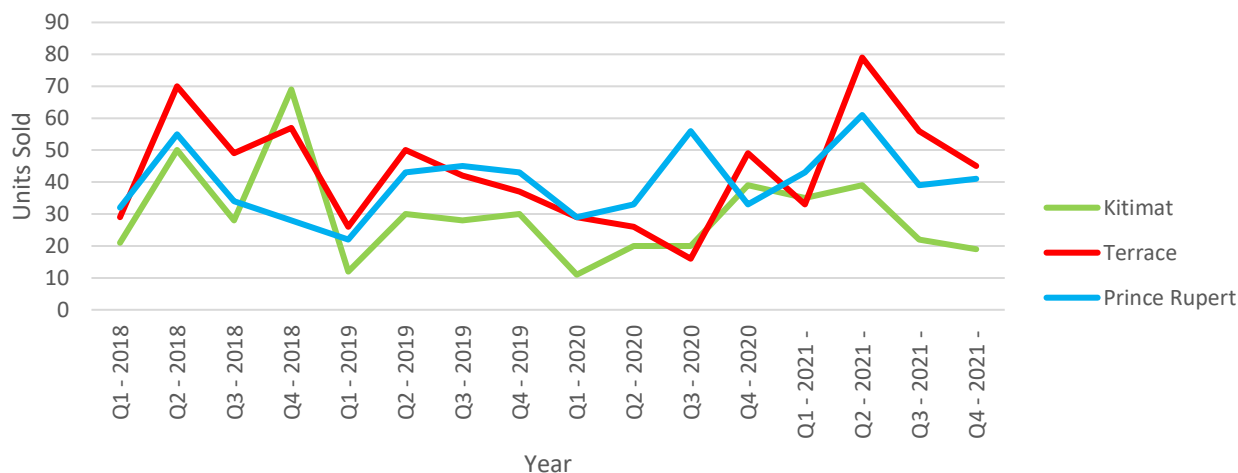


SOURCE: BCNREB 2022a

Figure 5.3 Average House Price for North Coast Communities, 2018-2021



Rising house prices do not necessarily correlate to more homes on the market as seen in Kitimat, where housing sales in Kitimat decreased 32% between 2018 and 2021. In Terrace, housing sales increased by 4% between 2018 and 2021 (Figure 5.4).



SOURCE: BCNREB 2022a

Figure 5.4 Average Units Sold for North Coast Communities

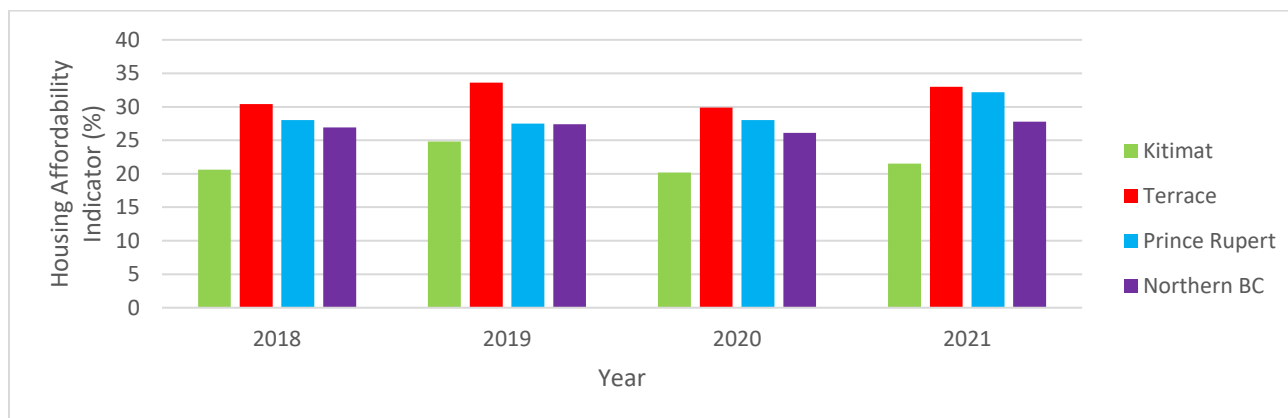
Housing Affordability Index

In Kitimat and Terrace, the Housing Affordability Indicator^{21,22} (HAI) has remained above the 2018 level, with the exception of the year 2020. HAI calculations consider both income and cost. The BC Northern Real Estate Board (BCNREB) HAI estimates the proportion of median household income required to cover costs associated with home ownership for homes purchased in a particular year (BCNREB 2022b). Communities with a high median family income, such as Kitimat, reflect a lower, more affordable HAI (BCNREB 2022b) which can mask affordability challenges faced by residents earning below the median family income.

In Kitimat, the HAI was 21.5% as of 2021, which was similar to what was reported in 2018. In Terrace, the HAI was 33%, an increase of 3.0 percentage points over the same period (BCNREB 2022b). The 2021 HAI in Kitimat was 6.3% lower than for all Northern BC (21.5% and 27.8%, respectively) while the HAI in Terrace was 5.2% higher than for all Northern BC (Figure 5.5).

²¹ The BC Northern Real Estate Board (BCNREB) Housing Affordability Indicator estimates the proportion of median household income required to cover the major costs associated with home ownership (BCNREB 2022b). These include mortgage costs, municipal taxes and fees, and utilities for the average single-family home (BCNREB 2022b). The higher the measure, the more difficult it is to afford a home (BCNREB 2022b).

²² 2021 Indicator: Percent of median household income needed to finance home ownership (BCNREB 2022b).



SOURCE: BCNREB 2022b

Figure 5.5 Northern BC Housing Affordability Indicator, 2018-2021

Cost of Living

Error! Reference source not found. provides a summary of the monthly cost of living in Kitimat, Terrace, and Prince Rupert. Estimates were taken from the province of BC’s online Cost of Living Calculator from WorkBC with the following variables:

- Annual household income of \$95,000 – the average household income in 2015 for communities included in **Error! Reference source not found.** (Kitimat = \$107,834; Terrace = \$90,737; Prince Rupert = \$87,489) (Statistics Canada 2017)
- Average household size of three persons (two adults and one dependent) – the average household composition in 2016 for these communities was 2.4 (Kitimat: 2.3 persons; Terrace: 2.5 persons; Prince Rupert: 2.4 persons) (Statistics Canada 2017)
- Housing – own/rent an average size house (2,000 sq. ft.)
- Transportation – one car; daily commute of 14.5 km (5,292.5 km/year)

Table 5.1 Cost-of-Living Calculator for Kitimat, Terrace, and Prince Rupert

Variables	Kitimat		Terrace		Prince Rupert	
	Own	Rent	Own	Rent	Own	Rent
Housing	2,080	2,110	2,796	2,166	2,445	2,039
Transportation	272	272	269	269	276	276
Consumables	2,827	2,827	2,843	2,843	2,857	2,857
Health	219	219	218	218	219	219
Taxes	1,940	1,940	1,940	1,940	1,940	1,940
Total Cost-of-Living	7,338	7,368	8,066	7,436	7,737	7,331



Variables	Kitimat		Terrace		Prince Rupert	
	Own	Rent	Own	Rent	Own	Rent
SOURCE: WorkBC 2021						

Between these three communities, on average, for home owners, housing costs account for 31.5% of the monthly estimated cost of living, transportation costs account for 3.5%, consumables costs account for 36.9%, health costs account for 2.8%, and taxes account for 25.2% (WorkBC 2021; Statistics Canada 2017). For renters, housing costs account for 28.5% of the monthly estimated cost of living, transportation costs account for 3.7%, consumables costs account for 28.5%, health costs account for 3.0%, and taxes account for 26.3% (WorkBC 2021; Statistics Canada 2017).

Terrace Homeless Count

Since 2014, Terrace has undertaken an annual count of its homeless population. The count, which is done over a single 24-hour period in the spring, focuses on the visibly homeless and includes individuals who are currently sheltered (i.e., in social housing, hospitals or jail), as well as those who have no shelter (COT 2021). However, Terrace did not undertake an annual count in 2020 due to COVID-19 (COT 2021). The 2021 City of Terrace Homeless Point-in-Time Count was led by the Ksan Society (COT 2021). A total of 85 people were found to be experiencing homeless in Terrace in 2021, a 11.5% decrease over 2018 but a 19.7% increase over 2019 (COT 2021).

Childcare

Since 2018, the BC Government has invested \$2.7 billion in ChildCareBC to provide affordable, quality and inclusive childcare throughout the province (GoBC 2022c). During 2021, the capacity restraints on childcare centres due to COVID-19 were lifted, but the restrictions related to COVID-19 did not affect childcare providers nearly as much as the lack of qualified staff. However, COVID-19 affected childcare providers financially due to the cost of buying additional cleaning supplies and personal protection equipment (e.g., hand sanitizer, masks), as well as the financial costs associated with staff taking paid sick time.

From 2019 to 2021, the change in the number of licensed daycare spaces in Kitimat rose from 156 in 2019 to 203 in 2021. Kitimaat Village had an increase from 28 in 2019 to 64 in 2020 and remained at that capacity in 2021 (Table 5.2). There was a loss of one licensed facility between 2019 and 2021 and a loss of 80 licensed spaces (Table 5.2). Daycare spaces in Terrace declined in 2019 – 2020 and lost three licensed facilities but added a new facility in 2021. Spaces increased from 530 in 2020 to 579 in 2021, surpassing the 2019 number of 570.

Table 5.2 Licensed Childcare Spaces

Community	2019		2020		2021	
	Licensed Facilities	Total Spaces	Licensed Facilities	Total Spaces	Licensed Facilities	Total Spaces
Kitimat [% YOY Change, compared to 2019]	7 [-]	156 [-]	8 [14%]	195 [25%]	9 [29%]	203 [30%]



Community	2019		2020		2021	
	Licensed Facilities	Total Spaces	Licensed Facilities	Total Spaces	Licensed Facilities	Total Spaces
Kitamaat Village [% YOY Change, compared to 2019]	1 [-]	28 [-]	1 [0%]	64 [129%]	1 [0%]	64 [129%]
Terrace [% YOY Change, compared to 2019]	23 [-]	570 [-]	20 [-13%]	530 [-7%]	21 [-9%]	579 [2%]
Thornhill [% YOY Change, compared to 2019]	4 [-]	105 [-]	4 [0%]	105 [0%]	3 [-25%]	93 [9%]
Total [% YOY Change, compared to 2019]	35 [-]	859 [-]	33 [-6%]	894 [4%]	34 [-3%]	939 [9%]
NOTE: - = not reported SOURCE: NHPHP 2022						

In the fall of 2021, the BC Government began taking applications from childcare providers to offer \$10-a-day services, which resulted in agreements with 84 childcare providers (GoBC 2022c). Since the Universal Childcare Prototype Site program began in 2018, the province converted more than 130 sites to \$10-a-day daycare services, which created an additional 6,500 spaces (GoBC 2022c). In 2021/2022, fee reductions were approved through the Childcare Fee Reduction Initiative for more than 68,800 childcare spaces at more than 3,600 childcare facilities (GoBC 2022c).

Despite provincial and federal efforts to make childcare more accessible and more affordable, there is still a notable shortage of qualified early childhood educators (ECEs), particularly those who specialize in working with infants and toddlers (GOC 2020). The Childcare Licensing Regulation specifies the minimum number of educators required to work in licensed childcare settings and deficient staffing levels result in spaces that may not be operational (GOC 2020). A shortage of qualified ECEs has resulted in the closure of some facilities and programs due to lack of specialized staff (GOC 2020). The imbalance between the demand for licensed childcare spaces in BC has surpassed the existing supply, resulting in significant shortages across the province (GOC 2020).

Developments are underway to address the inadequate childcare services in Kitimat. Currently, there are two planned childcare developments for the Kitimat and Kitamaat Village area. On June 1, 2021, a ground-breaking ceremony for the development of a new Haisla Youth Centre was held in Kitamaat Village (Lubberts 2021). The Haisla Youth Centre will have spaces for recreational activities (e.g., pool tables); a change room for sports; and supportive spaces for counselling, tutoring and mental health programs (Lubberts 2021). The Haisla Youth Centre will also have a kitchen where youth can learn about harvesting and preparing and serving food, especially traditional foods (Lubberts 2021).



5.3. Project Reporting

In 2021, the Project implemented the following measures, or continued the following measures, to manage its effects on housing and accommodations:

- The Project continued to operate Cedar Valley Lodge (CVL) to house the non-local Project workforce on site
- Non-local workers followed a job rotation system (primarily 14 days on and seven days off) to encourage workers to return to their home base after their rotation
- The Project actively discouraged non-local job seekers from relocating to Kitimat or Terrace
- The Project maintained its policy of not providing Living Out Allowances (LOAs) with the aim of mitigating potential effects on the local rental housing market. This policy was broadly communicated. Costs associated with transportation, meals and housing for the non-local workforce are covered directly by the Project
- The Project limited the number of employees (including senior management of contractors and subcontractors) and their accompanying families who could relocate to Kitimat. For those who did, LNG Canada provided company-managed housing units that are already under long-term lease and were secured in consultation with DOK
- LNG Canada and JFJV worked closely with DOK to consider any housing stock to support relocated direct employees and supervisors
- The Project shared its housing plans with the DOK

The Project's on site workforce accommodation centre, CVL, began operations in July 2020. All non-local Project workers have been accommodated at CVL since December 2020. In June 2021, the final dorms were completed and there is now a total of 4,500 beds plus recreational amenities.

In Q4 2021, a peak of 2,569 workers were accommodated in CVL. A very small proportion (1.3%) of the workforce is represented by relocated staff of LNG Canada, JFJV, contractors and subcontractors who are provided with temporary housing in the Kitimat community for several months or several years. A peak of 67 Project staff had relocated to Kitimat during Q3 in the company-provided housing at Haisla Town Centre (HTC) apartments and Cedar Ridge homes (Table 5.3). Both HTC and single-family dwelling units are owned and operated by third parties and LNG Canada has had long-term lease agreements since 2017. There are 49 one and two-bedroom apartments at HTC and 29 two to five-bedroom single and multi-family dwelling units. The leases on most of the units do not expire before 2025.

Table 5.3 Housing and Accommodations Project Reporting

Housing & Accommodations Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Project local (resident) workforce	592	688	743	722
Project non-local workforce—temporarily housed at Cedar Valley Lodge (average beds)	1,882	2,377	2,413	2,569
Project non-local workforce temporarily staying at Kitimat hotels or lodges	0	0	0	0
Project non-local workforce temporarily staying at Terrace hotels or lodges	0	0	0	0
Project staff re-located to Kitimat, presently staying in company provided housing	56	59	67	64
Accompanying partners and spouses of relocated Project staff	0	27	29	30
Accompanying children of relocated Project staff	27	27	33	35
Number of housing related concerns or complaints	0	2	0	1
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data				

5.2 Community Reporting

Community data reporting for housing, accommodation and childcare was provided by primary and secondary sources, as follows:

- Hotels and motels from STR Global
- Airbnb postings
- BC Northern Board of Real Estate (BCNREB)
- Multiple Listing Services and Realtors
- Kitimat apartment landlords (Hillcrest, Kitimat Apartments, Oceanview, Kuldo Suites, Midtown Apartments)
- Facebook & Kijiji postings for rental accommodation
- Tamitik Status of Women (TSW)
- Ksan Housing Society
- BC Housing
- M'akola Housing Society

Social Housing

Social housing for low-income families and emergency shelters for individuals fleeing abusive domestic situations or experiencing homelessness are provided in Kitimat and Terrace by the Kitimat Community Development Centre (CDC), Tamitik Status of Women (TSW), Ksan Society, M'akola Housing Society, and BC Housing.



Transition House usage increased at TSW’s Dunmore Place in Kitimat but decreased at the Ksan Society Transition House in Terrace (Table 5.4). Throughout 2021, TSW’s capacity was reduced by two-thirds its original capacity and they were unable to place multiple women with families in one room, as was done before the pandemic. TSW responded to the challenges of the COVID-19 by securing two hotel rooms (funded by BC Housing) to increase its capacity and meet some of the demand for services. The monthly stays at the Dunmore Place Transition House peaked at 360 beds-stays in November, the highest number recorded since data collection began in 2019, despite it operating at only two-thirds capacity. In 2020 and 2021, women and childcare at the Dunmore Place Transition House began accessing services for a longer period of time than what was seen pre-pandemic, which resulted in an increase in the number of women and children being turned away. The Ksan Residence and Shelter (KRS) saw an increase of 7% in days full and overfull between 2018 and 2021 (Table 5.4).

Tamitik Status of Women (TSW) noted that it continues to observe the effect of large industrial projects on the community’s socio-economic landscape, especially as it relates to the cost of living and TSW clients (Martins and Velho 2021). TSW stated that the local economy is changing quickly, and some members of the community are not able to keep up with the change (e.g., seniors who have exited the workforce, parents who do not have access to adequate and affordable childcare, those with substance abuse issues or low literacy skills are unable to enter the workforce) (Martins and Velho 2021). The Ksan Society also noted the changes in the local economy and their effects on its clients as well as staff. It noted that staffing was challenge over 2021, causing the Ksan Society to reduce hours for some of its programming. These challenges are due to various factors including COVID-19, lack of available and affordable housing, and competition with industrial wages. The M’akola Housing Society’s applicants expressed their concern relating to the availability of affordable housing in Terrace, particularly for larger units (Labbey-Krejci 2021).

Table 5.4 Housing and Accommodations Community Reporting

Indicator	2018	2019	2020	2021
Dunmore Place Nights Full (%) ¹	61% [-]	82% [21%]	21% [-40%]	108% [47%]
Ksan Residence and Shelter (KRS) % Days Full / Overfull [YOY% Change] ²	99% [-]	94% [-5%]	57% [-41%]	105% [7%]
Individuals Accessing Non-Resident Support (NRS) Services [%YOY Change] ²	473 [-]	1,145 [142%]	1,094 [131%]	7,469 [553%]
Ksan Transition House % Days Full / Overfull [YOY% Change, compared to 2019] ²	[-]	60% [-]	15% [-45%]	12% [-48%]
Kitimat Vacancy Rate [%YOY Change] ³	44% [-]	38% [-6.4]	15% [-28.7]	-
Kitimat Average Rent [%YOY Change] ³	\$1,295 [-]	\$1,263 [-2%]	\$1,475 [14%]	-
Kitimat Residential House Price [YOY% Change] ⁴	\$283,415 [-]	\$ 371,357 [31%]	\$ 334,441 [18%]	\$388,295 [37%]



Indicator	2018	2019	2020	2021
Terrace Vacancy Rate [%YOY Change] ⁵	4.1% [-]	2.1% [-2.0]	4.4% [0.3]	10.9% [6.8]
Terrace Average Rent [%YOY Change] ⁵	\$887 [-]	\$ 946 [7%]	\$ 928 [5%]	\$1,019 [15%]
Terrace Residential House Price [%YOY Change] ⁴	\$339,155 [-]	\$ 397,485 [17%]	\$ 395,458 [17%]	\$464,778 [37%]
Regional Hotel and Motel Occupancy Rates [%YOY Change] ⁶	49% [-]	60% [11%]	39% [-10%]	49% [0%]
Regional Hotel and Motel Daily Rates [%YOY change] ⁶	\$121 [-]	\$139 [15%]	\$129 [6%]	\$133 [10%]
NOTE: - = not reported SOURCES: ¹ TSW 2022, ² Ksan Society 2022, ³ CMHC 2021, ⁴ BCNREB 2021a, ⁵ CMHC 2022, ⁶ STR Global 2022				

As of December 2021, there were 62 emergency housing units for those experiencing homelessness in Terrace and 12 emergency housing units in Kitimat. In Kitimat, the number of monthly emergency housing bed-stays for 2021 was high most months, except for January, June, July and September, relative to 2020. In Terrace, the monthly number of bed-stays for the first half of 2021 were consistently lower than in the first half of 2020 at the Terrace EWR Shelter and the Terrace Transition House. However, in the second half of 2021, the monthly number of bed-stays was higher relative to the same period in 2020, but lower relative to the same period in 2019

Rental Housing

In Kitimat and Terrace, information on vacancy and average rent for rental properties was collected via phone and email correspondence (BRA and Stantec 2022). In January 2022, four out of five property managers in Kitimat were contacted. Of the 561 units, 164 units were available, a vacancy rate of 29.2%, an increase of 15% from mid-2021 when the vacancy rate was estimated at 14.2% (BRA and Stantec 2022). The average rent across all unit types (i.e., bachelor, one, two, and three-bedroom apartments) was \$1,468, which was similar to the average rent estimated in mid-2021 (\$1,460) (BRA and Stantec 2022). In January, five out of six property managers in Terrace were contacted. Of the 338 units, only 6 were available, a vacancy rate of 1.8%, which remained unchanged from mid-2021 (BRA and Stantec 2022). The average rent across all unit types (i.e., bachelor, one, two-, and three-bedroom apartments, three-bedroom townhouses) was \$1,140, which increased slightly from the average rent estimated in mid-2021 (\$1,007) (BRA and Stantec 2022).

Market Housing

As previously discussed, the average residential price in Kitimat and Terrace has increased 54.6% and 41.8%, respectively, relative to the positive FID announcement by LNG Canada. Housing affordability has also affected the ability for communities in the region to recruit and retain social support workers and other health-related human resources, such as front-line ambulance staff (LNG Canada 2020 and LNG Canada 2021a).



In Kitimat, the total value of all building permits in 2021 was \$121.5 million, with most of the activity being industrial (BRA and Stantec 2022a). In Terrace, the total value of all building permits in 2021 was \$377.3 million (BRA and Stantec 2022a). An all-time high of monthly building permits of \$255 million was reached in October 2021 in Terrace due to the construction of the new MMH (BRA and Stantec 2022a).

Hotels and Motels

The annual regional hotel and motel occupancy rate was 49% in 2021, unchanged from 2018. The annual average daily rate was \$133, a 10% increase between 2018 and 2021 (STR Global 2022). The construction of the new MMH began in July 2021, which is believed to have attracted an influx of temporary workers into the region, influencing hotel and motel occupancy rates and average daily rates to reach all-time highs (BRA and Stantec 2022a). In 2021, the Project's non-local workers were housed entirely on-site at CVL. No local area hotels were used to accommodate non-local workers in 2021.

Childcare Services

The 2021 Kitimat and Kitimaat Village Child Care Supply and Demand Study (prepared for LNG Canada) found that affordable and available childcare are critical needs in Kitimat and Kitimaat Village, as well as northwest BC as a whole. Regional growth is quickly increasing the demand for childcare and creating a strain on supply, with demand outstripping supply. As of December 2021, of the maximum spaces that could be offered, only 76% (172 of 226) of all licensed childcare spaces in Kitimat and Kitimaat Village are available to the community (BRA and Stantec 2022b). The remaining 24% of needed childcare spaces are not available, largely attributed to staff shortages (BRA and Stantec 2022b). Factors found to impact childcare providers in Kitimat and Kitimaat Village include the cost of living and housing affordability in the area; competition with higher paying positions in other sectors; staff burnout; and lack of qualified applicants (BRA and Stantec 2022b).

The Kitimat CDC continues to be affected by the shortage of ECEs in the region. Its waitlist for programs for infants and toddlers had over 50 children in 2021 (Hemmy 2021). Some programs for *Group Childcare (under 36 months and 30 months to school age)* are no longer taking families' information for waitlists (Hemmy 2021).

Tamitik Status of Women is preparing to break ground on its mixed-use housing project in Kitimat, which will also house a 24-hour childcare centre, in 2022 (TSW n.d.). TSW engaged with major local employers, including DOK, LNG Canada, Rio Tinto, NHA and RCMP, which highlighted the need to increase the number of women in the workforce (TSW n.d.). A major barrier to women entering the workforce is a lack of childcare options (TSW n.d.). The proposed 24-hour childcare centre will offer 60 spaces, including 36 daytime spaces and 24 overnight spaces and will be largely funded through the DOK, which has contributed over \$700K to date, and the Ministry of Children and Family Development's Childcare BC New Daycare Spaces Fund (TSW n.d.). Of these spaces, there will be 12 infant and toddler spaces, 16 school-age spaces, and 32 multi-age spaces (TSW n.d.).



In Terrace and Thornhill²³, there has been a notable increase in demand for all childcare services. Some childcare centres reported having waitlists expected to take until 2023 for placement and others currently have waitlists of 30 to 100 children (Harris 2021, Cooper 2021, and Dumais 2021). One childcare provider in Thornhill noted it has seen an increase in interest from families that have relocated to the area from elsewhere in the province (Harris 2021). In 2021, the P.A.C.E.S. childcare centre stated that it would not be running one of its programs in the fall due to a lack of qualified staff for the first time in 25 years (Dumais 2021).

Childcare providers in the Kitimat-Terrace area have indicated that barriers to hiring and retaining staff include:

- Cost of living and housing affordability
- Competition with higher wages in other sectors
- Fatigue and burnout
- Lack of qualified applicants

5.3 Social Management Roundtable Feedback

The Housing and Accommodations Working Group met virtually in May, August and November 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions.

The following topics, questions and issues were discussed during these meetings:

- Project housing mitigation strategy (i.e., to provide non-local workers with accommodation in CVL and logistics including flights, shuttle transfers and meals)
- Project policy of not paying LOA to workers
- Project-secured long-term leases on newly built market units to house temporarily relocated staff and their families
- Availability of affordable housing in Kitimat and Terrace
- Affordable housing availability as a barrier to hiring and retention of workers for service organizations and businesses
- Limitations of Canadian Housing Mortgage Corporation (CMHC) data for rural communities
- Trend of high rental prices and high rental vacancies in Kitimat
- Support of childcare by the Ministry of Children and Family Development, including a \$3.25 billion agreement signed with the Federal government
- Assessment of current childcare capabilities and capacity challenges in Kitimat
- Shortage of early childcare educators in Kitimat and Terrace

²³ The community of Thornhill is an unincorporated settlement on the east side of the [Skeena River](#) across from the City of [Terrace](#).

Joint venture companies



During SMR meetings, the LNG Canada Project team answered questions related to the Project's policies and mitigation measures with respect to management of impacts to housing, accommodation and childcare. The LNG Canada Project team answered questions related to policies and management of workforce accommodations, including clarification as follows:

- The Project remains committed to a hire local first policy
- Clarified that no LOAs are provided to workers associated with the LNG Canada Project
- All non-local workers mobilized to the Project site are accommodated at the CVL (including LNGC and JFJV staff, contractors, subcontractors and sub-subcontractors)
- Discouragement of job seekers from moving to the region prior to securing employment
- Consistent communications that there is no 'spot' hiring in Kitimat and on site, and that all jobs must be applied for online, directly through the website

Regarding social housing, TSW presented its findings at the Q1 SMR Meeting based on their Homeless Prevention Program. TSW explained that while homelessness does not appear to be a problem in Kitimat, 18% of its clients have reported hidden homelessness (e.g., couch surfing), which makes the issue more difficult to gauge.

In the first half of 2021, TSW reduced its capacity at the Dunmore Place Transition house by half due to the COVID-19 pandemic. After June 2021, its capacity increased to two-thirds capacity. COVID-19 restrictions require more space per client (only single individual or one household per room) which resulted in a dramatic increase in turnaways in 2020 and 2021. Clients also stayed for longer periods of time due to lack of available resources and lack of affordable housing. Ksan Society indicated that its Capacity Expansion Shelter (CES) has been highly utilized with an average of 50 people per 24-hour period and clarified that the numbers are not comparable to other years because BC Housing expanded the capacity of emergency shelters due to COVID-19, resulting in the CES being open for the entire year. Ksan Society expressed the need for a new shelter location as the CES shelter is at full capacity or is over capacity. Ksan Society also indicated that the lower number of bed-stays occurring at the Ksan Society Transition House in H1 2021 (as compared to 2019 and 2020) may be attributed to the reluctance of female clients to leave their partners during a pandemic. This trend continued throughout the year as Ksan Society indicated that the number of individuals accessing the Extreme Weather and Capacity Expansion Shelters has increased.

At the Q2 SMR Meeting, Ksan Society presented their findings from the 2021 City of Terrace Point-In-Time (PIT) Homeless Count, which was conducted from April 19-20, 2021. The 2021 City of Terrace PIT Homeless Count indicated that there was an increase in observed homeless individuals across a range of ages.

Regarding childcare, the Ministry of Children and Family Development provided continual updates about its efforts to support the childcare sector. The Ministry of Children and Family Development provided an informal update at the Q1



SMR Meeting and a formal update at the Q4 SMR Meeting. Since 2018, the province has invested \$2.4 billion in funding and funded the creation of 26,000 spaces, some of which are in Kitimat and Kitamaat Village.

Following the Q4 2020 SMR, LNG Canada hosted a facilitated discussion on March 3, 2022, to discuss childcare facility challenges with stakeholders. The discussion was targeted to better understand childcare staffing shortages, awareness of availability supports, and ways to support skills development. Sixteen participants attended the session, including representatives from Kitimat CDC, TSW, MCFD, Skeena CCRR, Haisla Nation, Coast Mountain College, ECE Registry, CMCS and P.A.C.E.S. In the facilitated discussion, LNG Canada noted that it leveraged Social Investment funding to support 17 individuals to take the 'Administration & Management for Childcare' course hosted by the West Coast Childcare Resource Centre in June 2021.

The DOK commissioned a household survey to estimate the current population of Kitimat (including the permanent and non-permanent or shadow population) and have a better understanding of the current cost of living and cost of temporary accommodations (e.g., rental units) in Kitimat (see Section 4.3 for the results of the survey). The 2021 Kitimat Population Study was distributed to the Housing & Accommodations Working Group members following the Q4 2021 SMR Meeting.

The SMR meetings identified a number of suggestions to help track and/or manage changes in housing and accommodations and childcare in the region. Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings as well as data points or additional information that the LNG Canada project team was able to source and share with SMR participants.

No additional mitigation measures were identified for LNG Canada within the housing and accommodations SMR meetings.

5.6 Discussion

The Project has managed its direct impact on the housing market since the implementation of the CLISMP in 2019 by implementing policies regarding housing, monitoring community feedback to understand what is felt in community and understanding workforce make-up to align with any potential increase in demands of childcare. Housing non-local workforce in dedicated workforce accommodation centres and are not paid LOAs. All of the Project's non-local workers were housed at CVL in 2021. The Project did not use any local hotels, motels or open lodges to accommodate their non-local workers. The increase in demand for local area hotel and motels in 2021 is likely attributed to the start of the construction of the MMH, which is believed to have attracted an influx of temporary workers into the region (BRA and Stantec 2022). Construction of the new MMH officially began in July 2021 (Link 2021).

The number of LNG Canada project workers who moved to the local area with families was intentionally kept low. The total number of workers (quarterly peak) re-located to Kitimat and staying in company housing was 67 workers (Q3) (Table 5.2). Spouses peaked at 30 in Q4 with 35 school aged children during the same period. The low number of family members did not put undue strain on childcare facilities as evidenced by the Kitimat and Kitamaat Village Childcare Survey. The Kitimat and Kitamaat Village Childcare Survey found that almost all of the children for whom



childcare providers (those who participated in the survey) provided care for are local. Three complaints about housing were received through the community feedback line in 2021.

While the Project successfully limited its direct demand on the housing market, it is evident that the region's housing market has been influenced by the cumulative effects of economic activity, similar to what occurred during the period of industrial development in the region in the early 2010s. This is evidenced by lower rental vacancy, increased average rent and increased demand for social housing. A regional dynamic exists between Kitimat and Terrace whereby those unable to secure or maintain affordable housing in Kitimat may find housing options in Terrace or vice versa.

LNG Canada cannot confirm any causal links with the Project and the rise in demand for social housing during 2021. Rather, the increased demand for social and emergency housing was experienced across the country and caused by the ongoing COVID-19 pandemic and associated restrictions impacting ability to share rooms, increased spousal abuse, mental health issues and the opioid crisis (Christie 2020). Additionally, due to the COVID-19 pandemic, many experienced a loss of income, either due to a loss of employment or due to a decrease in hours (Christie 2020). There was also an increase in houses that were once rented or vacant being purchased by those from out of the area (Christie 2020). This trend was experienced in the region and demand for social housing increased. In 2020 and 2021, women and childcare at the Dunmore Place Transition House began accessing services for longer periods of time than was seen pre-pandemic, which resulted in a greater number of women and children needing service being turned away.

6 SMP Report - Traffic

6.1 Introduction

The Traffic SMP identifies actions to manage direct Project-related effects on local road traffic and airport infrastructure. This SMP summarizes how mitigations identified in the Application will be implemented, monitored and measured for effectiveness. Objectives of the Traffic SMP are to:

- Minimize the volume of and congestion caused by Project-related road traffic
- Reduce the risk of Project-related vehicle collisions
- Reduce demand on airport infrastructure and congestion caused by the transport of workers
- Facilitate collaboration with stakeholders and Indigenous groups and provide a responsive framework where concerns can be raised with the LNG Canada project team

Appendix A provides a list of stakeholders who participated in the Traffic working group meetings.

6.2 Context

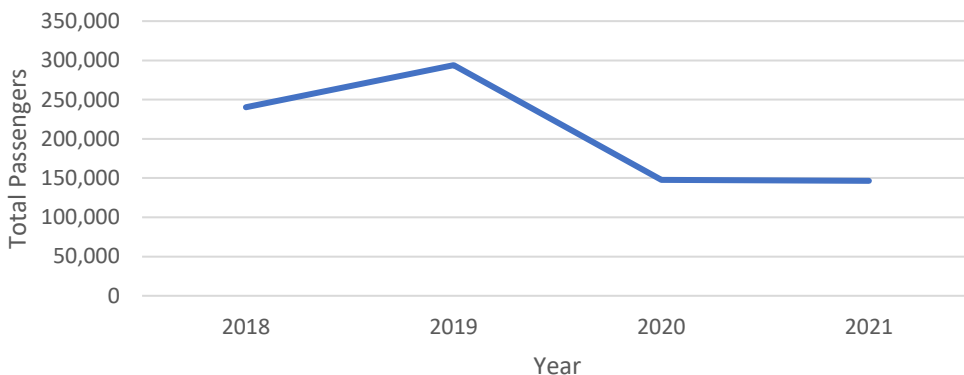
Air Travel

In 2020, many travel-related restrictions were implemented in response to the COVID-19 pandemic, including domestic and international travel restrictions, most of which continued into 2021 (GOC 2021c). The Provincial Health Officer's Orders restricted domestic and international travel and also temporarily suspended major projects in the region which had a significant impact on air traffic (Kitimat Chamber of Commerce 2021). On March 18, 2020, the federal government implemented a ban on all foreign nationals, excluding United States (US) citizens and those travelling for essential



reasons (GOC 2021a). On March 21, 2020, the federal government updated the Order to include a ban on non-essential travel between the US and Canada. The Order banning non-essential travel between the US and Canada was reinstated on a near-monthly until September 7, 2021, when the Order was rescinded (GOC 2021a). The border remained open to non-essential travel until the end of the year. The Northwest Regional Airport (YXT) reacted to the COVID-19 pandemic by suspending capital projects; minimizing and deferring operational expenses; and reducing staffing hours to align with the remaining air traffic levels (Kitimat Chamber of Commerce 2021). YXT was selected as a regional hub for the remaining scheduled airlines that maintained operations in Northwest BC in 2020 (Kitimat Chamber of Commerce 2021).

In 2021, YXT saw an increase in passenger traffic throughout the year as COVID-19 restrictions eased and major projects increased their workforce numbers; however, passenger traffic did not return to pre-pandemic levels (Kitimat Chamber of Commerce 2021). The peak volume of approximately 300,000 passengers in 2019 fell by half in 2020 and flattened in 2021 with approximately 150,000 passengers (Figure 6.1).



SOURCE: YXT 2022

Figure 6.1 Annual YXT Commercial Traffic Volume, 2018-2021

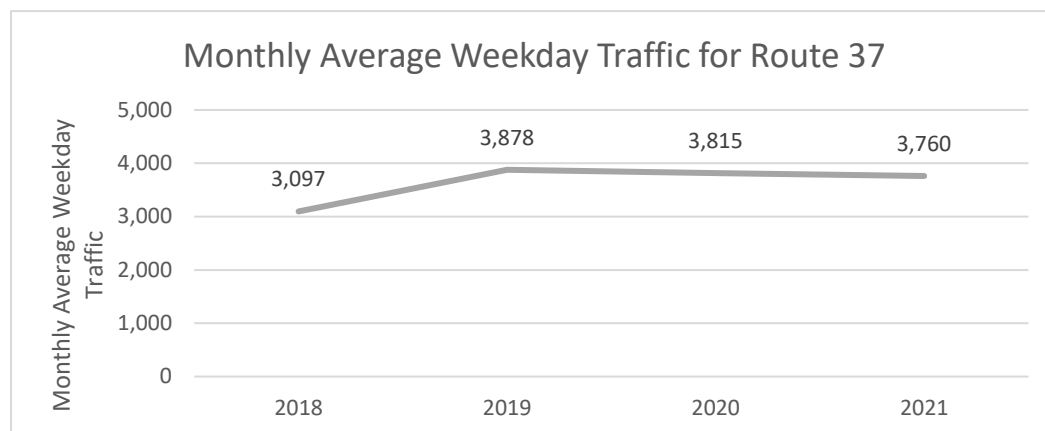
YXT began an apron expansion to accommodate the expected increase in Charter aircraft traffic attributed to the LNG Canada Project in 2020, which was completed in 2021 (Kitimat Chamber of Commerce 2021). YXT also purchased a new runway snowplough and sweeper, which was delivered in 2021. The runway snowplough and sweeper will reduce the time it takes to clear surfaces and increase reliability, safety and availability of the runway to accept traffic (Kitimat Chamber of Commerce 2021).

Road Travel

The Monthly Average Weekday Traffic for Route 37 is recorded by MOTI at their Kitimat North monitoring site, located 0.8 km south of Oolichan Avenue in Kitimat. Weekly traffic has increased since the Project began construction in 2019 to 2021, peaking at 3,878 in 2019 down to 3,815 in 2020 and 3,760 in 2021 (Figure 6.2). The Kitimat North site provides



some information; however, MOTI's vehicle count data is incomplete at monitoring stations in Kitimat, Terrace and along Highway 37 which makes it difficult to correlate Project development activities and highway vehicle volumes (LNG Canada 2020).



SOURCE: MOTI 2022

Figure 6.2 Monthly Average Weekday Traffic for Route 37 (0.8 km South of Oolichan Avenue, Kitimat), 2018-2021

6.3 Project Reporting

In 2021, the Project implemented, or continued to implement, the following measures to limit its effects on transportation infrastructure:

- The Traffic Management Plan (developed in consultation with DOK and MOTI) was implemented, which includes the consideration of off-site motor vehicle incidents (MVIS)
- The majority of heavy, oversized equipment and materials was delivered by marine transport to minimize truck volume
- Shuttle services were provided to and from site, with local pick-up points in Kitimat and Terrace (e.g., Park 'n Rides), including the Northwest Regional Airport and CVL
- Local workers were required to park their personal vehicles at specific Park 'n Ride locations in Kitimat, Kitamaat Village and Terrace and take shuttles to and from the worksite.
- The Project continued to work with DOK to minimize local traffic impacts
- In-vehicle monitoring systems (IVMS) were utilized on Project vehicles
- Road transportation was coordinated with MOTI and DOK and included permits, forecast deliveries and scheduling
- Actual Project traffic volumes were tracked and assessed against forecast and impact models
- Community monitoring of changes to Highway 37 use (MOTI) and DOK studies were undertaken to better understand traffic needs on Nalabila Blvd and Highway 37



- Planning efforts continued with multiple agencies to assess potential Highway 37 MVI scenarios
- Charter flight services that have been in place since Q4 2019 were maintained, with charter hubs in Vancouver, Kelowna, Nanaimo, Prince George, Calgary, and Edmonton
- Ongoing logistics planning and coordination with Northwest Regional Airport, MOTI and DOK were continued

In 2021, the Project continued to limit its impact on roadway traffic volumes by transporting local and non-local workers by shuttle. There were increases in the number of workers being transported between Project construction sites and local Park 'n Ride lots in Kitimat and Terrace (**Error! Reference source not found.**). By enforcing shuttles for workers, the Project limited the use of personal vehicles on local roads, and only a small proportion of the increased traffic measured at MOTI's Kitimat North monitoring site was directly attributable to the transportation of Project workers.

The Project reported 88 transport-related incidents or near misses in 2021, of which only one occurred off the Project site. The reported events involved project vehicles on site backing into or hitting jersey barriers or signs. There were no serious incidents, and all events occurred within the Project site (Table 6-1). Seven traffic related concerns and complaints from the public were reported for the year. All concerns and complaints raised were addressed by JFJV within 10 business days

The Project directly accounted for approximately 6.7% of commercial passengers transiting through the airport in 2021 (Table 6.1). Approximately 63% of the workforce traveled by charter flights, which operate from a separate hangar from the Northwest Regional Airport main terminal. By transporting the majority of workers on charter flights, Project direct effects on Northwest Regional Airport were reduced.

The Project increased its use of charter flights over the course of 2021, using charter flight hubs in Vancouver, Kelowna, Nanaimo, Calgary and Edmonton. Charter flights deplaned and boarded from YXT in a separate hangar facility approximately 500 meters away from the main terminal, limiting interactions with the main terminal amenities, security gate and baggage area. Charter planes land, refuel, taxi and take off using shared runway and apron infrastructure.

Table 6.1 Traffic Project Reporting

Traffic Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Number of daily Project bus trips from Northwest Regional Airport (YXT) to Kitimat (avg. passengers/day) ²⁴	5 (19)	8 (148)	9 (166)	9 (155)
Number of daily Project bus trips from Terrace Park & Ride to Kitimat (avg. passengers/day) ²⁴	9 (47)	10 (86)	10 (76)	14 (67)
Number of daily Project bus trips from Kitimat and Kitimaat Village Park & Ride to Site (avg. passengers / day) ²⁴	43 (79)	63 (149)	54 (144)	29 (167)
Total number of road transport-related incidents and near misses	17	25	21	25

²⁴ Avg. passengers per day rounded up to whole numbers



Table 6.1 Traffic Project Reporting

Traffic Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Number of Project personnel on commercial flights through airport	1,689	2,312	2,537	1,370
Number of Project personnel on charter flights	7,573	12,902	13,553	12,869
Provision of Project transportation plans to transportation authorities	0	1	1	0
Notifications to service providers and the public regarding scheduling of transportation equipment	0	0	0	0
Number of meetings with transportation authorities on traffic management, congestion, and road safety	3	3	3	3
Number of traffic related concerns or complaints	2	2	1	2
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data				

6.4 Community Reporting

Community data reporting for traffic was provided by primary and secondary sources, as follows:

- Northwest Regional Airport (YXT)
- MOTI

YXT saw a continued decrease in commercial passenger activity due to COVID-19 restrictions in 2021, with a 39% decrease in commercial air traffic through YXT in 2021 compared to 2018 (Table 6.2). Transiting Project workers accounted for 6.7% of total commercial flight passenger volume in 2021.

Table 6.2 Traffic Community Reporting

Indicator	2018	2019	2020	2021
YXT Air Passengers, [%YOY change] ¹	240,253 [-]	293,895 [22%]	147,642 [-39%]	146,509 [-39%]
Highway Road Traffic, [%YOY change] ²	3,097 [-]	3,878 [25%]	3,815 [23%]	3,760 [21%]
NOTE: - = not reported SOURCES: ¹ YXT 2022, ² MOTI 2022				



Road traffic²⁵ along Highway 37 at the MOTI Traffic Monitoring Site P-47-8NS²⁶ increased 21% between 2018 and 2021 (MOTI 2022). Project-related shuttle traffic accounted for 20.7% of traffic along Highway 37 in 2021 and other Project traffic, including truck movements, contributed to the increased roadway volume.

6.5 Social Monitoring Roundtable Feedback

The Traffic and Emergency Response Working Group met virtually in May, August, November 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following road and air traffic issues and topics were discussed during these meetings:

- Use of shuttle buses to transfer local and non-local workers
- Use of in-vehicle monitoring systems in Project vehicles
- Use of charter flights to transport the majority of the workforce

During SMR meetings, the LNG Canada Project team answered questions related to the Project's policies and mitigation measures with respect to impact management. During the Q1 SMR Meeting, the LNG Canada project team shared updates about the Traffic Management Plan that were made to address any relevant changes (e.g., Project waste being temporarily diverted to Princeton, BC). The Project maintained its standard safety practices such as routes, driver certifications and equipment quality reviews in 2021.

WorkSafeBC provided an update regarding efforts to address the serious problem of emergency responders being struck by motor vehicles when responding to accidents or incidents. Changes to regulations were rolled out in September 2021, which was followed by an educational campaign.

ICBC said it received funding through the ICBC Road Improvement Program, which allows them to work with RCMP in Terrace to install a new speed reader board²⁷ which was not operational for 10 to 15 years.

MOTI said that a permanent traffic counter was recommissioned and operational at the roundabout on Highway 16 (east). MOTI is also potentially installing a new permanent traffic counter, likely between YXT and Kitimat.

At the Q3 SMR Meeting, Terrace Fire Department spoke to the training received through LNG Canada's Social Investment fund to enable additional auto-extrication training and equipment. In the first of the three-year agreement, the training was offered to first responders in Kitimat, Terrace, and Prince Rupert to enhance response capability of larger, complex incidents along Highway 16 and 37.

²⁵ MAWDT (Monthly Average Weekday Traffic): Refers to the average daily traffic calculated from Monday to Thursday over a one-month period. Fridays are excluded from the calculation as they tend to have traffic patterns that do not match other weekdays (MOTI 2014).

²⁶ MOTI Traffic Monitoring Site P-47-8NS located 0.8 km south of Oolichan Ave, Kitimat.

²⁷ Speed reader boards are electronic signs that use radar to detect the speed of motorists, and then display that information. They let drivers know how fast they are going, and the actual speed limit – which is usually posted underneath or just before the speed reader sign (Tran BC 2022).

Joint venture companies



During the Q4 SMR Meeting, it was shared that LNG Canada worked with YXT and funded the purchase of the airport's new Snow Wolf SB-1050, a professional-grade snow removal machine, which improved efficiency in runway clearing. Improved efficiency in runway clearing will reduce airport traffic congestion at YXT due to weather-induced flight delays.

The SMR meetings identified a number of suggestions to help track and manage changes in traffic in the region. Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings and additional data points that were provided throughout the year following stakeholder requests.

No additional mitigation measures were identified for LNG Canada within the traffic SMR meetings.

6.6 Discussion

Air traffic remained lower than pre-pandemic levels in the Kitimat-Terrace area due to COVID-19 travel limitations and restrictions. The Project limited its direct effects on Northwest Regional Airport by using charter flights for most of its workforce, monitoring community feedback, and through discussion with YXT. There were 146,509 commercial air passengers in 2021 and the Project directly accounted for 6.7% of commercial passengers transiting through the airport.

The volume of road traffic in 2021 remained higher than the volume recorded in 2018, partly due to increased Project-shuttle buses and other vehicles. The Project limited the use of personal vehicles on local roads through the use of shuttles that transported workers to and from the airport, CVL and Project site. The Project also enforced shuttles for local workers and established Park & Ride lots in Kitimat, Kitimaat Village and Terrace. The LNG Canada Project moved the Kitimat Park n Ride from City Centre to Service Centre in the fall of 2020 due to it becoming too small for the needs of the Project and to receiving some community concerns. Since the transition, concerns regarding the Park n Ride and parking issues have stopped.

7 SMP Report - Emergency Response

7.1 Introduction

The Emergency Response SMP identifies actions to manage Project-related demands on emergency services. The SMP summarizes how mitigations identified in the Application will be implemented, monitored and measured for effectiveness. The plan also outlines the objectives of mitigation measures and provides a timeframe during which mitigation measures are implemented. Stakeholders and Indigenous groups who are interested in participating in the implementation of components of the plan are also identified in the SMP.

The Emergency Response SMP objectives are to:

- Implement a framework to manage emergencies and spills within the Project site
- Minimize Project-related demands on emergency and protective services
- Develop positive workforce behaviours and respect for local communities, and avoid incidents that would require the use of community protection services
- Support emergency and protective service providers plan for potential changes in service demands



Appendix A provides a list of stakeholders who participated in the Emergency Response working group meetings.

7.2 Context

In 2021, BC emergency service providers received an increase of calls for service due to multiple factors such as COVID-19, opioid poisonings, extreme heat events, and fires (BC Office of the Fire Commissioner 2022). The BC Office of the Fire Commissioner’s Annual Report states that in 2021, there were 9,166 fires in BC, which resulted in 180 injuries and 59 deaths. Of these, 4,384 (48%) were outdoor fires, 3,504 (38%) were structure fires, 1,255 (14%) were vehicles fires, and 23 (0.03%) were person fires (BC Office of the Fire Commissioner 2022). Most of the fires were located in the Lower Mainland region (57.8%) and 8% were located in the Northern BC region (BC Office of the Fire Commissioner 2022). From 2019 to 2021, fire-related deaths in BC rose from 27% to 56% (BC Office of the Fire Commissioner 2022).

The BC Emergency Health Service (BCEHS)’s call volume data for the province shows an upward trend since 2018, with BC ambulance paramedics responding to 17.6% more calls in 2021 than they did in 2018 (APBC 2022; Figure 7.1). Calls recorded do not count responses from multiple ambulances and resources who do not get their own response identifier and therefore the actual number is likely higher (APBC 2022). The increase in call volume was influenced not only by the ongoing COVID-19 pandemic, but by severe weather events as well, including the unprecedented July heat dome, forest fires and floods (APBC 2022). The overwhelming pressure on first responders highlighted the need to support their mental health and wellness; increase wages and benefits; and improve recruitment and retention methods (APBC 2022).

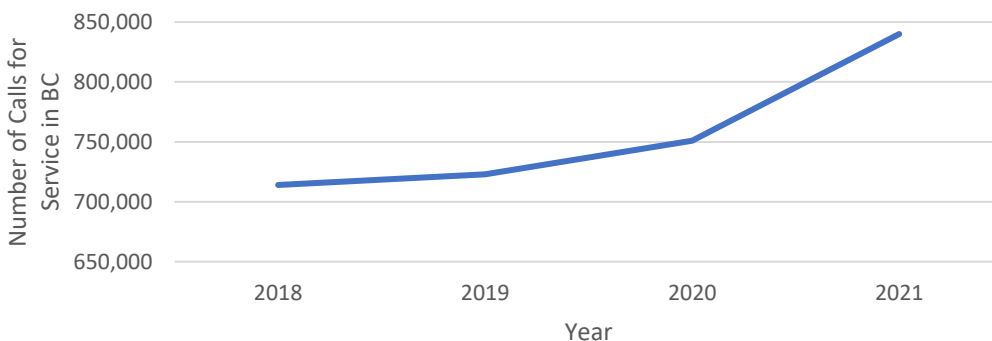


Figure 7.1 Number of Calls for Service to BC Emergency Health Services, Provincial Statistics, 2018 to 2021

Calls recorded do not count responses from multiple ambulances and resources who do not get their own response identifier and therefore the actual number is likely higher (APBC 2022). The increase in call volume was influenced not only by the ongoing COVID-19 pandemic, but by severe weather events as well, including the unprecedented July heat dome, forest fires and floods (APBC 2022). The overwhelming pressure on first responders highlighted the need to support their mental health and wellness; increase wages and benefits; and improve recruitment and retention methods (APBC 2022).

Joint venture companies



In 2020 and 2021, many shifts in crime trends could be attributable to the COVID-19 pandemic (Ministry of Public Safety and Solicitor General 2021). Overall, the volume of police-reported crime in the early months of the pandemic was low, compared to the previous year, driven by a decrease in property crime, as the shift to the work-from-home model and restrictions on businesses and travel led to an increase in guardianship and reduced opportunities for certain property crimes (Ministry of Public Safety and Solicitor General 2021). Restrictions relating to the pandemic may have also impacted and presented new barriers to reporting and detection of crimes, such as family violence and sexual assaults (Ministry of Public Safety and Solicitor General 2021).

7.3 Project Reporting

In 2021, the Project implemented the following measures, or continued the following measures, to limit its effects on emergency response services:

- Site Emergency Response Plans remained in place, having been developed with inputs from Kitimat Fire and Ambulance Service (KFAS)
- Primary on-site emergency response was managed with on-site personnel and equipment
- Safer Together Program continued to reinforce a safety mindset based on four pillars with a strong foundation of caring for people
- Worker Code of Conduct and Cultural Awareness Training was completed by all site personnel
- Regular Project engagement continued with RCMP and First Responders
- Scenario planning (i.e., environment – spill response, fire and rescue) was executed
- Medical services were provided at Project site (ISOS) and CVL. ISOS Medical provides support for critical emergencies. All non-emergencies are directed to the Project site clinic.

In 2021, the Project recorded 49 incidents requiring ambulance service calls and 31 RCMP service calls to meet Project workforce needs (

Joint venture companies



Table 7.1). The Project did not record any fire department service calls. The Project directly accounted for a small proportion of the direct demand on local area emergency service providers. In 2021, the Project accounted for 2.6% of ambulance calls received, 0.8% of calls to the Kitimat RCMP and 0.0% of fire-related calls. There were 10,986 recordable non-occupational visits to the Project's on-site medical clinics during the year.



Table 7.1 Emergency Response Project Reporting

Emergency Response & Health Indicators ²⁸	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Sum
Number of ambulance service calls to site	8	10	20	11	49
Number of fire department service calls to site	0	0	0	0	0
Number of RCMP service calls to site	2	9	9	11	31
Number of meetings held to coordinate and plan emergency response	3	5	3	4	15
Number of emergency response related concerns or complaints	0	0	0	0	0
Number of workplace occupational injuries and illnesses requiring treatment at local hospitals	11	9	10	4	34
Number of workplace non-occupational injuries and illnesses requiring treatment at local hospitals	23	25	40	45	133
Number of workplace injuries or illnesses requiring medevac	0	0	0	0	0
Number of recordable occupational injuries	8	7	7	2	24
Number of recordable non-occupational visits to on-site medical clinics	1,751	2,539	3,354	3,703	11,347
Number of notifications to health authorities for occurrence of communicable illnesses/diseases	12	29	22	26	89
Percentage of worked who have signed the Worker Code of Conduct	100%	100%	100%	100%	100%
Percentage of workers who have completed Cultural Awareness Training ²⁹	100%	100%	100%	100%	100%
Number of community health related concerns or complaints	1	0	0	3	4

SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data

²⁸ Health and Emergency Response metrics are compiled from 5 sources: JFJV site (including Cedar Valley Lodge); LNG Canada (CPI contractors); Sitka Lodge medical services provider, Sitka Annex 2 medical services provider, and Crossroads Lodge medical services provider

²⁹ Cultural Awareness Training can be complete within 30 days of attending orientation. In order to teach in a meaningful way JFJV has capped the class size at 30 people. A process is in place to ensure all workers complete this training.



7.4 Community Reporting

Community data reporting on emergency response was provided by primary and secondary sources, as follows:

- RCMP North District
- Kitimat Fire and Ambulance Services (KFAS)
- Terrace Fire Department
- Thornhill Fire Department
- BC Emergency Health Services (BCEHS)
- Statistics Canada

In early 2021, emergency service providers noted a return to pre-pandemic call volumes. Later in 2021, call volumes surpassed what was experienced pre-pandemic. The Kitimat Fire and Ambulance Service (KFAS) calls for service increased by 54% between 2018 and 2021 (Table 7.2). Medical-related calls for service to the KFAS continually increased throughout the year, while fire- and rescue-related calls remained consistent year-over-year (Bossence 2021). The Terrace Fire Department (TFD) calls for service increased by 37% between 2018 and 2021 (Table 7.2). From 2019 to 2020 there was a change in how some types of calls were routed to the TFD, resulting in a reduction in non-emergency and medical related calls (Jephson 2020). The TFD noted that in 2021, it focused on training for emergency responders (Jephson 2021). These training opportunities included heavy rescues training and tower crane response training (Jephson 2021). These training opportunities were developed in response to the increase in construction and commercial traffic in the region (Jephson 2021). Between 2018 and 2021, the Thornhill Fire Department's calls for service remained the same (Table 7.2). Between 2018 and 2021, the Terrace BCEHS received a 17% increase in calls for service (Table 7.2).

The Kitimat RCMP experienced a 10% increase in calls for service from 2018 to 2021 and the Terrace RCMP experienced a 5% decrease in calls for service over the same period (Table 7.2). In early 2021, the Kitimat RCMP experienced a decrease in calls for service, which may have been attributed to reduced industrial activity, the ongoing COVID-19 restrictions (e.g., no dine-in services at restaurants and bars, restricted opening and closing hours), and a prolonged winter (Morgan 2021). However, as COVID-19-related restrictions eased and activity within the community increased throughout the year, call volumes returned to pre-pandemic levels (Morgan 2021). The Terrace RCMP noted an increase in traffic volumes and calls for service related to drug-use and mental health (Cloutier 2021).

The KFAS experienced a notable increase in medical-related calls over 2021. It speculated that the increase in call volume was due to an increase in activity in the community as well as an increase in population and a change in population demographics. The KFAS noted that maintaining staffing levels was challenging in 2021, relying on an increased need of having off-duty staff be on-call, which increases the risk of staff burnout and fatigue (Bossence 2021).

In 2021, various initiatives were launched in the Kitimat-Terrace area to support integration and collaboration among first responders and health care providers. For example, in July 2021, it was announced that a Northwest Specialized Response Team (SRT), which consists of two registered nurses accompanying RCMP and other first responders on mental health and substance-use-related calls, had been deployed in Terrace (Paul 2021a). In August 2021, it was announced by the Ministry of Public Safety and Solicitor General that the province would be provided \$45,000 of funding



to support the set-up of a Situation Table in Kitimat (Paul 2021b). The Situation Table consists of a community-based team of representatives from health, public safety and social service agencies that work together to identify vulnerable individuals or families who have a significant probability of criminal offending or experiencing harm or victimization (Paul 2021b). Once individuals are identified, the community-based team connects those individuals to services before they experience a negative or traumatic event (Paul 2021b). There are currently 12 operational situation tables in BC, including one in Terrace (Paul 2021b).

Table 7.2 Emergency Response Community Reporting

Indicator	2018	2019	2020	2021
KFAS Total Calls for Service, [%YOY change] ¹	1,987 [-]	2,039 [3%]	2,148 [8%]	3,060 [54%]
KFAS Fire Related Calls, [%YOY change] ¹	189 [-]	153 [-19%]	200 [6%]	185 [-2%]
KFAS Medical Related Calls, [%YOY change] ¹	1,289 [-]	1,137 [-12%]	1,311 [2%]	1,865 [45%]
Terrace Fire Department Calls for Service, [%YOY change] ²	1,346 [-]	1,506 [12%]	603 [-60%]	825 [37%]
Thornhill Fire Department Calls for Service, [%YOY change] ³	336 [-]	359 [7%]	253 [-25%]	335 [0%]
Terrace BCEHS Calls for Service, [%YOY change] ⁴	2,888 [-]	3,044 [5%]	3,134 [9%]	3,383 [17%]
Kitimat Policing Calls for Service, [%YOY change] ⁵	3,529 [-]	3,746 [6%]	3,930 [11%]	3,880 [10%]
Terrace Policing Calls for Service, [%YOY change] ⁵	12,230 [-]	13,815 [13%]	12,255 [0%]	11,676 [-5%]
NOTE: - = not reported SOURCES: ¹ KFAS 2022, ² TFD 2022, ³ Thornhill Fire Department 2022, ⁴ BCEHS 2022b, ⁵ RCMP 2022				

7.5 Social Monitoring Roundtable Feedback

The Emergency Response Working Group met virtually in May, August, November 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following issues and topics were discussed during these meetings:

- Increase in overdoses in Kitimat and Terrace
- Communities' need for emergency management preparedness plans and regional preparedness (in alignment with industrial projects' emergency management preparedness plans)

During SMR meetings, the LNG Canada Project team answered questions related to the Project's policies and mitigation measures with respect to management of impacts to emergency service providers.



The KFAS experienced a substantial increase in call volume over 2021 (compared to 2019 and 2020). KFAS indicated that this could be due to an increase in population, demographics of the community, COVID-19, and what is occurring in the community overall. It also indicated that mental health calls, overdose calls and cardiac arrest-related calls had been of particular concern. KFAS took more cross coverage and transfer calls in 2021 than they would typically take in previous years.

Emergency service organizations emphasized the importance of aligning community emergency preparedness plans with various industrial projects' plans, including LNG Canada, so they can prepare for all emergency scenarios. The emphasis in discussion pertained to regional preparedness and understanding cumulative effects of multiple projects in region impacting evacuation plans.

The SMR meetings identified a number of suggestions to help track and/or manage changes in emergency response in the region. Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings and additional data points that were provided throughout the year following stakeholder requests.

No additional mitigation measures were identified for LNG Canada within the emergency response SMR meetings.

7.6 Discussion

Through the implementation of mitigation measures, the Project limited its direct demands on emergency service providers, with Project-related calls and incidents accounting for a small proportion of calls attended to by ambulance and police services.

In 2021, the Project accounted for 2.6% of ambulance calls received, 0.8% of calls to the Kitimat RCMP and 0.0% of fire-related calls. There were 10,986 recordable non-occupational visits to the Project's on-site medical clinics during the year.

Data shared by emergency service providers shows that demands for fire, ambulance, and police increased in 2021 in Kitimat and Terrace, when compared to 2018, with the exception of the Terrace RCMP detachment, which experienced a 5% decrease in calls for service. The overall increase in calls for service to emergency service providers have been speculated to have occurred due to changes in population demographics and increases in population (Bossence 2021 and Morgan 2021) and COVID-19. In early 2021, the Terrace RCMP noted an increase in calls relating to substance-use and mental health (Cloutier 2021).

No additional mitigation measures were identified for LNG Canada regarding its management of direct demand on emergency services.



8 SMP Report — Community Health

8.1 Introduction

The Community Health SMP identifies actions to manage Project-related demands on health infrastructure and services within the Northwest HSDA of NHA, as well as community cohesion and resilience. Community Health is a broad area, covering aspects that include health services and health determinants, risks, behaviours, and outcomes. Other SMP areas including housing, education and emergency services are also health determinants and relate to health conditions within the study area (see those sections). There is a linkage between community health and crime; therefore, crime rate data is provided in this section.

The Community Health SMP summarizes how mitigations identified in the Application will be implemented, monitored and measured for effectiveness. The plan also outlines objectives of mitigation measures and provides a timeframe during which mitigation measures will be implemented. Stakeholders and Indigenous groups who may be interested in participating in the implementation of components of the plan are also identified in the SMP.

The Community Health SMP's objectives are to:

- Manage potential demand on local and regional health care infrastructure and services
- Manage workforce activities and behaviours to promote healthy living and working environments, and support community cohesion
- Engage and share information on temporary workforce numbers with services providers and Indigenous groups to help them plan for additional demands

Appendix A provides a list of stakeholders who participated in the Community Health working group meetings.

8.2 Context

The social determinants of health are the economic and social conditions that influence the health outcomes of populations (GOC 2019). The determinants of health monitored within the scope of the CLISMP include indicators that relate directly or indirectly to social determinants, including housing, emergency service delivery, health and social services delivery, and crime rates (GOC 2019). Sections 5 and 7 provide insights into housing and emergency response trends. This section provides context for health and social services delivery and crime rates. Section 4.1 summarizes developments regarding the COVID-19 pandemic.

Health and Social Services

In June 2021, the NHA began construction on the MMH Replacement Project. The new hospital will more than double the size of the existing hospital (Northern Health Authority n.d.). Mills Memorial will offer acute and integrated services with a new trauma unit, orthopedic surgery, pathology, radiology, clinic support and pharmacy services, as well as a training site for medical students in the Northern Medical Program (Northern Health Authority n.d.). The facility is being built to address current and future needs of the community and surrounding communities (Northern Health Authority 2022a). Construction is anticipated to be completed in July 2026 (Northern Health Authority 2022a).



Opioid Crisis

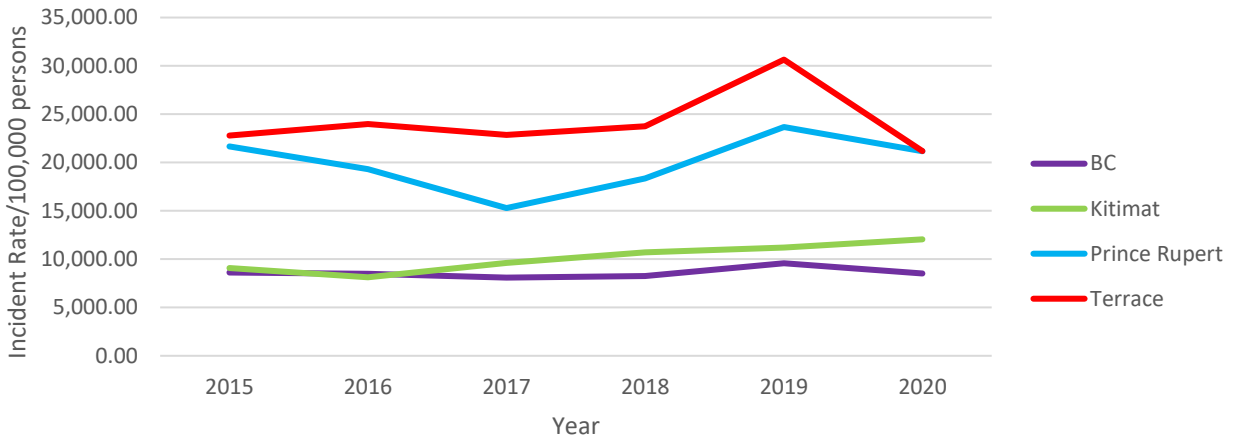
In 2016, the BC Government declared the opioid crisis as a public health emergency. In 2020, the BC Government declared another public health emergency, the COVID-19 pandemic (Palis *et al.* 2021). Since the onset of the COVID-19 pandemic, there has been a significant increase in overdose deaths as well as a change in the demographic profile of people experiencing overdose deaths (Palis *et al.* 2021). Pre-pandemic, people aged 30-39 were consistently overrepresented among overdose deaths in BC, but post-pandemic, the trend has shifted towards older adults (Palis *et al.* 2021). The pandemic created significant barriers, especially for older adults, to access medical services and medication assisted treatments (Palis *et al.* 2021). In combination with social isolation, the pandemic increased the vulnerability of individuals to relapse and overdose (Palis *et al.* 2021). Overdoses in BC were up 12% between 2019 and 2020 and up 31% between 2020 and 2021 (BCEHS 2022a). Every health authority in the province experienced an increase in overdose calls in 2021 and the NHA experienced the smallest increase in the province at 16% (BCEHS 2022a).

Crime Rate

From 2017 to 2019, the RCMP implemented changes in how incidents are defined, generally to reflect a victim-centered approach to crime reporting (Ministry of Public Safety and Solicitor General 2021). This has resulted in the elimination of the “unsubstantiated” incidents category, and a broader definition of what constitutes a “founded” incident (Ministry of Public Safety and Solicitor General 2021). As a result of these changes, the number of “founded” incidents for some types of crime, including sexual assault, increased and the clearance rate for these crimes decreased (Ministry of Public Safety and Solicitor General 2021). Due to these reporting changes, it is not possible to compare crime incident levels with years prior to 2019 (Ministry of Public Safety and Solicitor General 2021).

Statistical information illustrates the profound impact that the COVID-19 pandemic has had on Canada’s economy, health care system, and society in general. Public Health Orders and other restrictions meant more people were at home for longer periods of time, while fewer people were out publicly, reducing the opportunity for many types of crime (Statistics Canada 2021a). Overall, crime levels in Canada were lower than the previous year throughout the pandemic period from March to December 2020 (Statistics Canada 2021a). In the first year of the pandemic, there were 718 more police-reported hate crimes, a 37% year-over-year increase (Statistics Canada 2021a). The 2,669 police-reported hate crimes in 2020 were the largest number recorded since comparable data became available in 2009 (Statistics Canada 2021a). In 2020, there were 5,142 opioid-related offences in Canada, a 34% year-over-year increase (Statistics Canada 2021a). Opioid-related offences were the only specific drug type to increase in 2020 compared to 2019 (Statistics Canada 2021a). Statistics Canada crime statistics for 2021 were not available at the time of reporting.

The overall crime rate in north coast BC communities from 2015 to 2018 was higher than the BC average, a trend that continued from 2019 to 2020. For example, in 2017, Terrace’s crime rate was 2.8 times the provincial average and Kitimat’s crime rate was nearly 1.2 times the provincial average. In 2020, Terrace’s crime rate is 2.5 times and Kitimat’s crime rate is 1.4 times the provincial average (Figure 8.1).

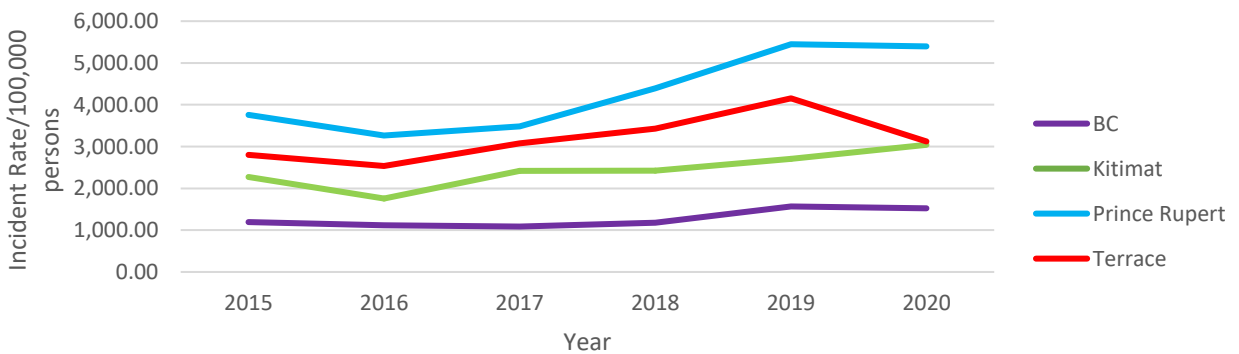


NOTE: Crime statistics for 2021 have not yet been released.

SOURCE: Statistics Canada 2021b

Figure 8.1 Total Criminal Code Incident Rate 2015–2020

Statistics Canada reporting on Criminal Code violations for 2021 was not available at the time of this reporting; however, information for NW BC from 2015 through 2018 and 2019 – 2020 provides some indication of crime incident rate trends in the region. Between 2019 and 2020, the rate of violent crime increased 9.9% in Kitimat and decreased 24.1% in Terrace, compared to the 11.0% decrease in Prince Rupert and 3.2% decrease in BC during this period (Figure 8.2).



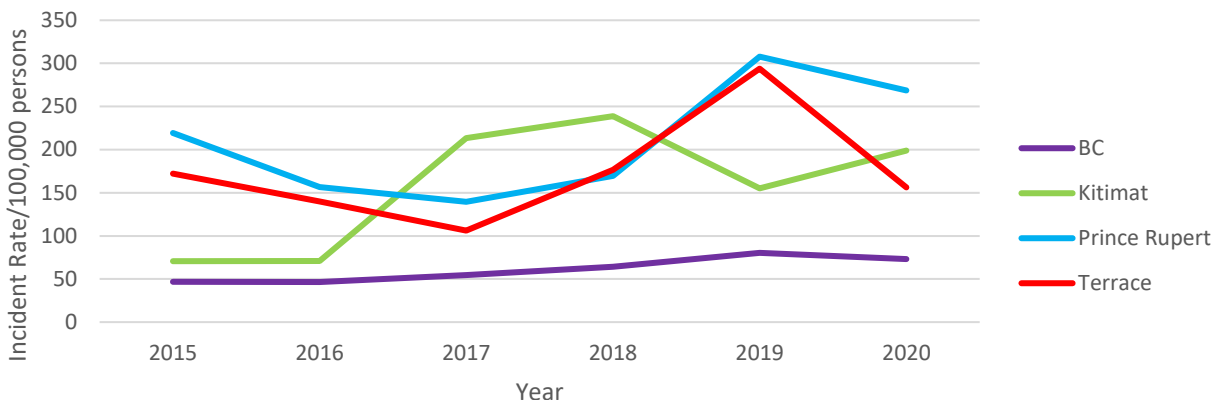
NOTE: Crime statistics for 2021 have not yet been released.



Source: Statistics Canada 2021b

Figure 8.2 Violent Crime Incident Rate 2015–2020

Between 2019 and 2020, the sexual assault incident rate increased 25.4% in Kitimat and decreased 40.4% in Terrace, compared to the 14.5% decrease in Prince Rupert and 8.9% decrease in BC during this period (Figure 8.3).



NOTE: Crime statistics for 2021 have not yet been released.

Source: Statistics Canada 2021b

Figure 8.3 Sexual Assault Incident Rate 2015–2020

8.3 Project Reporting

The Project strives to have no impact to regional healthcare services and infrastructure, except in the case of emergencies which cannot be predicted or avoided, such as cardiac arrest. Managing direct effects on community health also considers workforce activities and behaviours to promote healthy living and working environments, and community cohesion.

In 2021, the Project implemented the following measures to limit its effects on community health services:

- Medical services provided at Project site (ISOS) and CVL. ISOS Medical supports critical emergencies. All non-emergencies are directed to the Project site clinic.
- Communication and coordination with Kitimat General Hospital
- Regular check-ins with Mills Memorial Hospital.
- Workers at-site receive training and must sign a Workers Code of Conduct and complete Cultural Awareness Training. Consequence management is enforced.
- Implementation of Health & Medical Services Management Plans, including health promotion, worker wellness (including mental health), infectious disease prevention and outbreak controls.

Joint venture companies



- COVID-19: regular check-ins with Northern Health, Ministry of Health, WorkSafeBC, BC CDC to discuss efficacy of control.
- COVID-19 management:
 - Adherence to [Orders from Provincial Health Officer](#), Dr. Bonnie Henry
 - Adherence to [Communicable Disease Prevention](#) (WorkSafeBC)
 - Frequent communication with regulators, Northern Health Authority, and community stakeholders
 - In line with Provincial Health Officer's [Order on Face Coverings](#)
 - Continuous enhancement of COVID-19 protocols on site and at workforce accommodations
 - COVID-19 rapid screening program at charter hubs in Calgary, Edmonton, Vancouver, Nanaimo, and Kelowna and at the Kitimat site
 - Introduction of mandatory post-arrival secondary antigen test – all workers staying at CVL were required to take a second test three days after arrival and local workers were required to test every seven days
 - Implementation of Northern Health Authority vaccine programs at the Kitimat site, including COVID-19 and annual flu shot
 - Additional resources and equipment to manage COVID-19 prevention and care, increased staffing of medical professionals and increased supplies of medical grade oxygen
 - In 2021, workers residing in CVL are required to remain on-site for the duration of their work rotation
 - Workers could only leave site for specific medical or business reasons and had to register their departure with their Contractor's Communicable Disease Coordinator and daily logs were maintained
 - Workers leaving site were strongly encouraged to wear face-coverings in line with Provincial guidance and to follow physical distancing and hand-sanitizing / hygiene precautions (e.g., wearing face coverings in the Canadian transportation system³⁰)

In 2021, the Project recorded 30 workplace occupational injuries and illnesses and 133 non-occupational injuries and illnesses requiring treatment at local hospitals (Table 8.1). The Project also notified health authorities 89 times of occurrences of communicable diseases related to its workforce, the majority of which were related to COVID-19. A total of 11,347 visits to Project-provided medical clinics occurred in 2021 to address non-occupational injury or illness. Project-provided healthcare services accessed by workers limited the demand on local area health services.

During 2021, 100% of workers signed off on the Worker Code of Conduct and 100% of workers were reported to have completed Cultural Awareness Training. Newly onboarded workers have 30 days to complete cultural awareness training, hence the percent completion of this training reported for any given month may be less than 100%.

³⁰ <https://www.canada.ca/en/transport-canada/news/2020/04/use-of-non-medical-masks-or-face-coverings-in-the-canadian-transportation-system.html>



Table 8.1 Project Reporting on Community Health

Emergency Response & Health Indicators ³¹	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Sum
Number of ambulance service calls to site	8	10	20	11	49
Number of fire department service calls to site	0	0	0	0	0
Number of RCMP service calls to site	2	9	9	11	31
Number of meetings held to coordinate and plan emergency response	3	5	3	4	15
Number of emergency response related concerns or complaints	0	0	0	0	0
Number of workplace occupational injuries and illnesses requiring treatment at local hospitals	8	8	10	4	30
Number of workplace non-occupational injuries and illnesses requiring treatment at local hospitals	23	25	40	45	133
Number of workplace injuries or illnesses requiring medevac	0	0	0	0	0
Number of recordable occupational injuries	8	7	7	2	24
Number of recordable non-occupational visits to on-site medical clinics	1,751	2,539	3,354	3,703	11,347
Number of notifications to health authorities for occurrence of communicable illnesses/diseases	12	29	22	26	89
Percentage of worked who have signed the Worker Code of Conduct	100%	100%	100%	100%	100%
Percentage of workers who have completed Cultural Awareness Training ³²	100%	100%	100%	100%	100%
Number of community health related concerns or complaints	1	0	0	3	4

³¹ Health and Emergency Response metrics are compiled from 5 sources: JFJV site (including Cedar Valley Lodge); LNG Canada (CPI contractors); Sitka Lodge medical services provider, Sitka Annex 2 medical services provider, and Crossroads Lodge medical services provider

³² Cultural Awareness Training can be complete within 30 days of attending orientation. In order to teach in a meaningful way JFJV has capped the class size at 30 people. A process is in place to ensure all workers complete this training.

Table 8.1 Project Reporting on Community Health

Emergency Response & Health Indicators ³¹	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Sum
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data					

8.4 Community Reporting

Community data reporting for community health was provided by primary and secondary sources, as follows:

- Northern Health Authority (NHA)
- BC Emergency Health Services (BCEHS)
- Statistics Canada

Health Services

There was an average 12% decrease in ER visits to Kitimat General Hospital (KGH) and 28% decrease to MMH in Terrace in 2021 compared to 2018 (Table 8.2). The decrease in ER visits at both hospitals is likely attributable to the COVID-19 pandemic (Northern Health Authority 2022b). These findings match the pattern seen across the NHA region at other facilities, as well as reports from BC and other provinces that saw a decrease in emergency use due to COVID-19 (Northern Health Authority 2022b). The change in unscheduled visits at both KGH and MMH between 2019 and 2021 was minimal. There was a 5% increase in unscheduled visits to KGH between 2019 and 2021 and a 4% increase in unscheduled visits to MMH between 2019 and 2021. There was a 12% decrease in the proportion of KGH ER patients from outside of the NHA in 2021 compared to 2019 (Table 8.2). There was an 11% decrease in the proportion of MMH ER patients from outside of the NHA between 2019 and 2021 (Table 8.2). Approximately 17% of medical imaging patients at KGH were non-local residents in 2021, a 6% increase from 2018 (Table 8.2). 22% of medical imaging patients at MMH were non-local residents in 2021, a 17% increase from 2018 (Table 8.2).

Table 8.2 Community Health Community Reporting

Indicator	2018	2019	2020	2021
Kitimat General Hospital (KGH) Emergency Room (ER) Visits, [%YOY change]	12,661 [-]	13,774 [9%]	12,191 [-4%]	11,096 [-12%]
Mills Memorial Hospital (MMH) ER Visits, [%YOY change]	28,477 [-]	24,156 [-15%]	19,929 [-30%]	20,372 [-28%]
KGH Unscheduled ER Visits / % Unscheduled ER visits [%YOY change, compared to 2019]	[-]	9,019 / 66% [-]	8,203 or 67% [3%]	7,630 or 69% [5%]
MMH Unscheduled ER Visits / MMH % Unscheduled ER visits [%YOY change, compared to 2019]	[-]	19,995 / 83% [-]	16,633 or 83% [1%]	17,60 or 86% [4%]

Joint venture companies



Table 8.2 Community Health Community Reporting

Indicator	2018	2019	2020	2021
KGH Unscheduled ER Visits Linked to WCB Claims / KGH % of Unscheduled ER Visits Linked to WCB Claims [%YOY change, compared to 2019]	[-]	419 / 5% [-]	316 / 5% [11%]	408 / 5% [14%]
MMH Unscheduled ER Visits Linked to WCB Claims / MMH % of Unscheduled ER Visits Linked to WCB Claims [%YOY change, compared to 2019]	[-]	689 / 3% [-]	583 / 3% [1%]	714 / 4% [17%]
KGH Patient Home HSDA Outside the Northern Health Authority (NHA) Visits / KGH % of Patient Home HSDA Outside the NHA [%YOY change, compared to 2019]	[-]	700 / 9% [-]	867 / 10% [7%]	814 / 8% [-12%]
MMH Patient Home HSDA Outside the NHA Visits / MMH % of Patient Home HSDA Outside the NHA [%YOY change, compared to 2019]	[-]	1,041 / 7% [-]	927 / 5% [-20%]	1,139 / 6% [-11%]
KGH Non-Local Medical Imaging Patients / KGH % of Non-Local Medical Imaging Patients [%YOY change]	3,968 / 18% [-]	5,020 / 20% [8%]	3,620 / 19% [4%]	3,956 / 17% [6%]
MMH Non-Local Medical Imaging Patients / MMH % of Non-Local Medical Imaging Patients [%YOY change]	12,750 / 19% [-]	15,702 / 21% [12%]	11,634 / 20% [6%]	14,010 / 22% [17%]
NOTE: - = not reported SOURCES: Northern Health Authority 2022				

Opioid Crisis

Kitimat BCEHS overdose and poisoning (ingestion) events decreased 20% between 2019 and 2021 (Table 8.3). The spike in 2020 may be attributed to the COVID-19 pandemic (Palis *et al.* 2021).

Table 8.3 Overdose / Poisoning (Ingestion) Events in Kitimat

Indicator	2019	2020	2021
Overdose / Poisoning (Ingestion) Events [% YOY Change, compared to 2019]	41 [-]	238 [+22%]	33 [-20%]
NOTE: -: not reported SOURCE: BCEHS 20221			

Joint venture companies



Terrace BCEHS overdose and poisoning (ingestion) events increased 114% between 2019 and 2021 (Table 8.4).

Table 8.4 Overdose and Poisoning (Ingestion) Events in Terrace

Indicator	2019	2020	2021
Overdose / Poisoning (Ingestion) Events [% YOY Change, compared to 2019]	121 [-]	238 [97%]	259 [114%]
NOTE: -: not reported SOURCE: BCEHS 2022			

Joint venture companies



Crime Rates

Table 8-5 and Table 8-6 present the number of quarterly changes in founded crime incidents under the Canadian Criminal Code and other federal statutes in 2021 for Kitimat and Terrace, respectively. In Kitimat and Terrace, the overall incidences of crime increased in Q2 over Q1, and Q3 over Q2, and then declined between Q3 and Q4, which was the trend seen in 2019 and 2020. This reflects a seasonal pattern of crime incidences, which has also been evident over recent years.

Table 8.5 Crime Incidents Under Canadian Criminal Code & other Federal Statutes (Number of Incidents), Kitimat, 2021

	Q1	Q2	Q3	Q4
Violent Criminal Code	56	70	81	98
Criminal Code Property	88	90	131	78
Other Criminal Code	83	63	96	67
<i>Controlled Drugs & Substances Act</i>	7	7	4	7
Federal Statutes	5	16	5	1
Provincial Statutes	21	48	44	24
Other Occurrences	427	667	636	497
Criminal Code Traffic	7	23	24	19
Total Founded Occurrences	694	984	1,021	791
SOURCE: RCMP 2022				

Table 8.6 Crime incidents under Canadian Criminal Code & other Federal Statutes (Number of Incidents), Terrace, 2021

	Q1	Q2	Q3	Q4
Violent Criminal Code	219	118	120	108
Criminal Code Property	505	301	308	299
Other Criminal Code	630	325	298	245
<i>Controlled Drugs & Substances Act</i>	29	11	13	11
Federal Statutes	16	8	2	1
Provincial Statutes	236	137	119	65
Other Occurrences	3,481	1,929	2,197	1,807
Criminal Code Traffic	47	28	23	19
Total Founded Occurrences	2,306	2,857	3,080	2,555
SOURCE: RCMP 2022				



8.5 Social Monitoring Roundtable Feedback

The Community Health Working Group met virtually in May, August, November 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following issues and topics were discussed during these meetings:

- Community grants
- NHA's MMH replacement project
- COVID-19 response, protocols and additional considerations for protecting and supporting the Project workforce and the community
- Mental health programming for Project workers
- COVID-19 resources within region
- Available mental health services in Kitimat and Terrace
- Increase in overdoses in Kitimat and Terrace

During SMR meetings, the LNG Canada Project team answered questions related to the Project's policies and programs with respect to management of impacts to community health and health services.

During the Q1 SMR Meeting, the City of Terrace commented that the Community Grant Writing Program, which was funded with support from LNG Canada, had been successful in securing the community with over \$1 million in grant funding since the program began in 2020.

Northern Health Authority provided an update regarding the MMH replacement project, including some background on the project. PCL Construction was awarded the construction contract for the hospital and the project is supported by a local and non-local workforce that is being housed in a small workforce accommodation lodge. The workforce is between 80 and 120 workers with construction seven days a week. A representative from NHA added that the new facility will allow for better treatment of trauma cases and will be operational in approximately four years, dependent on the current challenges of the pandemic and supply chain issues.

There was discussion surrounding communities' available resources to support COVID-19 response (e.g., funding, isolation locations). BC Housing secured some hotel rooms in support of isolation for those sick with COVID-19 as well as to support the reduced capacities of social housing organizations (e.g., Tamitik Status of Women and Ksan Society). COVID-19 has highlighted the extent of the gap in available mental health services. The First Nations Health Authority said it had some capacity to support individuals with the COVID-19 pandemic (e.g., cultural and mental health support, or whatever support necessary, which was evaluated on a case-by-case basis). It also has a crisis advisor for the region who works in conjunction with NHA.

Some concerns were raised regarding the increase in overdoses in Kitimat and Terrace and questions regarding the Project's policies and programs concerning drug and alcohol use. The LNG Canada Project team informed participants that workers must pass a drug and alcohol screening prior to receiving access to site and that worker baggage is screened for drugs and alcohol prior to boarding charter flights. Any drugs or alcohol found are confiscated. The Project's security conducts vehicle checks and personnel checks and tries to intervene as people come to site, as much as possible.

Joint venture companies



The Kitimat RCMP added that they are developing a crime reduction unit focused on drug dealers within the community. NHA indicated that it would follow up with the Project to discuss harm reduction. It was noted that there is no detox facility available for the region; the nearest facility is located in Prince George. Ksan Society shared that it had applied for the Community Action Team grant to provide action-oriented strategies to address the opioid crisis and is hiring a coordinator, funded by NHA. Ksan Society received a Northern Development Initiative Trust grant to hire a mental health outreach clinician to help clients connect with the appropriate supports in the community.

The Kitselas Community Wellness Group shared information about a safety initiative focused on the Highway of Tears, in which young people are taught to be safe on the highway, with strategies to reduce hitchhiking, reduce the number of people travelling alone, and increase education about how to report issues.

The SMR meetings identified a number of suggestions to help track and manage changes in community health in the region. Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings, including information sharing and inviting presenters to future SMR meetings.

No additional mitigation measures were identified for LNG Canada within the community health SMR meetings.

8.6 Discussion

The LNG Canada Project did not experience any new instances of COVID-19 outbreaks at the Project site in 2021³³.

With the implementation of mitigation measures, the Project's direct demand on local health facilities in 2021 was limited, with workplace related medical incidents accounting for less than 1% of the ER visits at Kitimat General Hospital. In the same timeframe, medical clinics provided by the Project were visited by the workforce 10,986 times to address non-occupational injuries or illnesses. ER visits to MMH declined in 2021, compared to 2018, attributed to the COVID-19 pandemic. The overall decline in ER visits at KGH and MMH are likely attributable to the ongoing COVID-19 pandemic.

³³ A COVID-19 outbreak occurred at the LNG Canada Project site December 16, 2020 to January 11, 2021, which falls inside the Q1 2021 reporting period. This was discussed at the Q4 2020 SMR meeting and captured in related reporting (i.e., Q4 2020 SMR Summary Report and LNG Canada CLISMP 2020 Annual Report).



9 SMP Report—Community Amenities

9.1 Introduction

The Community Amenities SMP identifies actions to manage potential Project-related demands on community and land-based recreation resources and facilities. The plan summarizes how mitigation measures will be implemented, monitored and measured for effectiveness. The plan also outlines objectives of mitigation measures, identifies parties responsible for mitigations, and the timeframes during which the mitigation measures will be implemented.

Objectives of the Community Amenities SMP are to:

- Minimize Project-related demand on community and land-based recreation resources
- Encourage the responsible use of existing community and land-based recreation resources by the Project-related workforce
- Engage with Indigenous groups, the general public, recreation providers and external organizations, to assess and monitor potential change in demand on recreation resources

Appendix A provides a list of stakeholders who participated in the Community Amenities working group meetings.

9.2 Context

In March 2020, fitness and recreation centres across the province experienced closures due to the COVID-19 pandemic. Most fitness and recreation centres re-opened on June 1, 2020 (Government of BC 2021). Fitness and recreation centres within the NHA region closed when ordered to do so and operated when restrictions eased, following enhanced sanitary and physical distancing measures (Government of BC 2021). For example, recreational facilities such as gyms were ordered to close on December 22, 2021, in response to the Omicron variant (Government of BC 2021). WorkSafeBC provided guidelines for employers at fitness and recreational facilities, including gyms, yoga and dance studios, and recreation centres. Restrictions on indoor high intensity group exercise (e.g., hot yoga, spin classes, aerobics), indoor low intensity group exercise (e.g., yoga, Pilates, Tai-Chi), adult indoor and outdoor team sports, and youth indoor and outdoor team sports were implemented by the provincial government (Government of BC 2021).

9.3 Project Reporting

In 2021, the Project implemented the following measures, or continued the following measures, to limit its impacts on community amenities:

- Recreational facilities are included in all workforce accommodation centres
- COVID-19 protocols restricted non-local workers from using community resources
- Limited the number of employees relocated to Kitimat with accompanying family
- Non-local workforce are hired on an unaccompanied basis and provided accommodation at workforce accommodation centres
- No Living Out Allowances (LOAs) are paid



- All workers are required to complete Code of Conduct and Cultural Awareness Training
- Stakeholders are provided with information on anticipated changes in resident populations attributable to the Project, to facilitate planning for incremental demand for community amenities

In 2021, the non-resident workforce stayed on site, at CVL, which operates its own recreational amenities.

By the end of 2021, a peak of 67 Project staff had relocated to Kitimat, accounting for approximately 1.3% of the total workforce (**Error! Reference source not found.**). This number of individuals (plus dependents) had a peak in Q3 2021 of 129 relocated individuals, of whom 33 were children. As a result of the aforementioned measures in place, there were no adverse effects on community amenities in Kitimat.

Table 9.1 Amenities Project Reporting

Amenities Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Project local (resident) workforce	592	688	743	722
Project non-local workforce—temporarily housed at Cedar Valley Lodge (average beds)	1,882	2,377	2,413	2,569
Project non-local workforce temporarily staying at Kitimat hotels or lodges	0	0	0	0
Project non-local workforce temporarily staying at Terrace hotels or lodges	0	0	0	0
Project staff re-located to Kitimat, presently staying in company provided housing	56	59	67	64
Accompanying partners and spouses of relocated Project staff	0	27	29	30
Accompanying school-aged children of relocated Project staff	27	27	33	35
Number of amenities related concerns or complaints	0	0	0	0
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data				

9.4 Community Reporting

Community data reporting for community amenities was provided by primary and secondary sources:

- District of Kitimat
- City of Terrace

In 2021, Q3/Q4 data was unavailable for the Kitimat recreational facilities (i.e., Riverlodge Centre and Tamitik Jubilee Sports Complex³⁴); however, there was increased use in recreational facility in Kitimat when compared to 2020. The number of fitness program users in Terrace decreased between 2020 and 2021, due to COVID-19 related facility closures and restrictions.

³⁴ The Tamitik Jubilee Sports Complex consists of the Sam Lindsay Aquatic Centre, Kitimat Ice Rink, and Tamitik Arena



The number of total campers using Ferry Island (Terrace) has generally increased compared to 2018 (Table 9.2). However, in the number of total campers using Ferry Island in 2021 decreased 17% compared to 2018 (Table 9.2). Radley Park experienced a 38% increase in the number of total campers for 2021 when compared to 2018 (Table 9.2). The increase in the number of total campers using Radley Park from 2020 to 2021 was minimal (Table 9.2).

Table 9.2 Amenities Community Reporting

Indicator	2018	2019	2020	2021
Riverlodge Community Program Attendance, [%YOY change] ¹	11,149* [-]	11,562 [4%]	5,295 [-53%]	5,527 [-50%]
Tamitik Jubilee Sport Complex Attendance, [%YOY change] ²	66,178* [-]	106,547 [61%]	45,852 [-31%]	5,472** [-92%]
Tamitik Jubilee Sport Complex Hours, [%YOY change] ³	3,950* [-]	7,327 [86%]	3,714 [-6%]	2,174** [-45%]
Terrace Sportsplex Fitness Classes Attendance, [%YOY change] ⁴	3,005*** [-]	6,941 [131%]	1,963 [-35%]	529 [-82%]
Radley Park Total Campers, [%YOY change] ⁵	5,355 [-]	7,288 [36%]	7,313 [37%]	7,403**** [38%]
Ferry Island Total Campers, [%YOY change] ⁶	4,289**** [-]	6,330 [48%]	4,898 [14%]	3,572 [-17%]
<p>NOTES:</p> <p>*: does not include Q1 data</p> <p>** : does not include Q3/Q4 data</p> <p>***: does not include Q1/Q2 data</p> <p>****: does not include Q2 data</p> <p>• = not reported</p> <p>SOURCES: ^{1,2,3,5}DOK 2022c, ^{4,6}COT 2022a</p>				

9.5 Social Monitoring Roundtable Feedback

Community Amenities is included in the Community Amenities, Utilities, and Education Working Group, which met in August 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following issues and topics were discussed during these meetings:

- Recreation facilities at CVL
- Movement of workers into the community once restrictions eased

During SMR meetings, the LNG Canada Project team answered questions related to the Project's impact on community amenities. The availability of recreation facilities at CVL, where non-local Project workers were accommodated throughout 2021, minimized Project-related demand for community fitness facilities.

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Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings as well as providing additional reports as requested by SMR participants, where available.

No additional mitigation measures were identified for LNG Canada within the Community Amenities, Utilities, and Education SMR meetings.

9.6 Discussion

The decline in the usage of community amenities in the region has continued and has not returned to pre-pandemic levels. The trends in lower community amenities usage rates can be attributed to facility closures and restrictions due to the COVID-19 pandemic, which only begun to ease early 2022.

The availability of recreation facilities at CVL, where non-local Project workers were housed during 2021, resulted in limited Project-related demand for community fitness facilities.

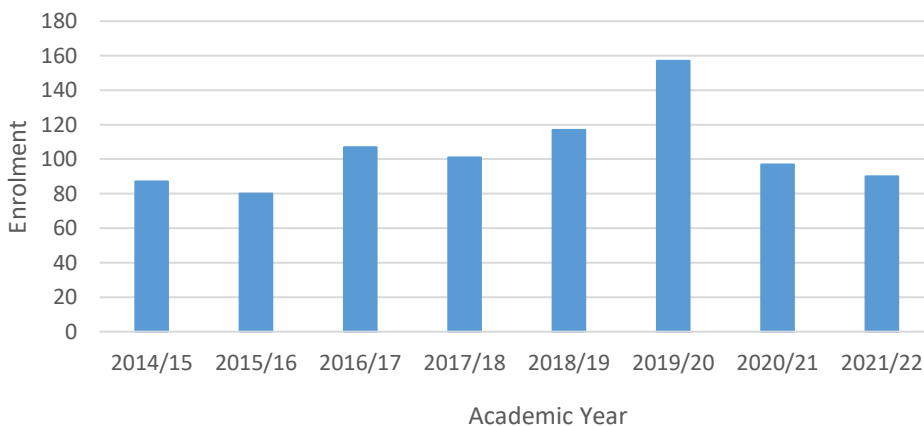
10 SMP Report—Education

10.1 Introduction

The Education SMP identifies actions that manage effects on educational services (elementary, middle and high school). These actions consist of engaging with educational organizations to plan for increased demand related to the project workforce. The Education SMP summarizes how mitigations identified in the EAC application will be implemented, monitored and measured for effectiveness. The plan also outlines objectives of mitigation measures, identifies parties responsible for implementing mitigation measures, and the timeframes during which the mitigation measures will be implemented. The objective of the Education SMP is to provide information regarding potential increase in demand for local educational services. Appendix A provides a list of stakeholders who participated in the education working group meetings.

10.2 Context

The impact of COVID-19 on postsecondary institutions has been significant. Institutions were forced to quickly adapt, shifting from in-person to virtual programming in 2020. For example, prior to COVID-19, the Kitamaat Valley Education Society (KVES) delivered its programs on site; however, following the announcement of the COVID-19 pandemic, it shifted its program delivery to deliver courses and programs remotely via an online platform (i.e., Microsoft Teams) (McKay 2022). The University of Northern British Columbia (UNBC) also shifted its program delivery from in-person classes to online classes. UNBC began the 2021 - 2022 semesters with back to class, in-person instruction as per the BC Government’s COVID-19 re-start plan (UNBC 2021).



SOURCE: UNBC 2022

Figure 10.1 UNBC Fall Enrolment (Undergraduate and Graduate Programs)

K-12 enrolment from 2010/2011 to 2021/2022 in the Coast Mountain School District (CMSD) has been in decline, with no correlation to major project construction activity in the region (Ministry of Education 2022, LNG Canada 2020).

10.3 Project Reporting

In 2021, the Project implemented, or continued to implement, the following measures to limit its effects on education facilities:

- Limited the number of employees relocated to Kitimat with accompanying family
- Provided non-local workforce with accommodation in CVL
- No Living Out Allowances (LOAs) paid
- Required all workers to complete Code of Conduct and Cultural Awareness Training
- Provided stakeholders and Indigenous groups with information about anticipated changes in resident populations attributable to the Project to facilitate planning for the incremental demand for education services

In 2021, most of the Project workforce was either hired locally or working on an unaccompanied, rotational basis and provided with temporary housing at workforce accommodation centres. A very small proportion (1.3%) of the workforce is represented by relocated staff of LNG Canada, JFJV, contractors and subcontractors who are provided with temporary housing the Kitimat community for several months or several years.

By the end of 2021, a peak of 67 Project staff had relocated to Kitimat, along with their 29 partners or spouses and 33 children. The children accounted for approximately 0.8% of total K-12 enrollment at the CMSD (Table 10.1). The Project did not receive any education-related concerns or complaints and this low number of children did not affect local educational services.

Table 10.1 Education Project Reporting

Education Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021
Project local (resident) workforce	592	688	743	722
Project non-local workforce—temporarily housed at Cedar Valley Lodge (average beds)	1,882	2,377	2,413	2,569
Project non-local workforce temporarily staying at Kitimat hotels or lodges	0	0	0	0
Project non-local workforce temporarily staying at Terrace hotels or lodges	0	0	0	0
Project staff re-located to Kitimat, presently staying in company provided housing	56	59	67	64
Accompanying partners and spouses of relocated Project staff	0	27	29	30
Accompanying children of relocated Project staff	27	27	33	35
Number of education-related concerns or complaints	0	0	0	0
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data				



10.4 Community Reporting

Community data reporting for education was provided by primary and secondary sources, as follows:

- Kitimat Community Development Centre (CDC)
- Haisla Nation Council
- Coast Mountain School District #82 (CMSD)
- Independent Schools
- University of Northern British Columbia (UNBC)
- Coast Mountain College (CMTN)
- Kitamaat Valley Education Society (non-profit, KVES)

In 2020, the CMSD reported a 10% YOY decrease in student enrolment, with enrolment changes reflecting natural population change (Bath 2020) and potential impact from the COVID-19 pandemic. In 2021, there was a 5% YOY increase in student enrolment (Ministry of Education 2022). The CMSD forecasts a total 3% decrease in K-12 student enrolment over the next 8 years (Ministry of Education 2022).

KVES offers over 180 different courses ranging from health and safety training to computer training as well as personal and professional workshops (McKay 2022). KVES employs two full-time instructors, one part-time instructor, and a number of sessional instructors (McKay 2022). The number of registrants enrolled in programs at KVES decreased 62.4% between 2019 and 2020 but increased 126.4% between 2020 and 2021 (Table 10.2). As program instruction moved to an online platform, KVES began to support participant access to online learning by having an accessible instructional team proficient in troubleshooting (McKay 2022). It also opened a Contact North centre in September 2021 which houses 25 workstations and provides administrative support (McKay 2022). Contact North is a non-profit corporation, funding by the Government of Ontario, that assists underserved residents, in small, rural, remote, Indigenous and Francophone communities, providing them access education and training without requiring them to leave their communities (McKay 2022).

Between 2018 and 2021, enrolment in UNBC Terrace Campus programs for the Fall Semester (September-December) decreased 23% (includes Bachelor/Grad programs) (UNBC 2021). This trend reflects changes in some program offerings (e.g., summer field courses, condensed courses) (UNBC 2021). It also reflects attrition from cohort-based education programs, including certificates and diplomas in education (Indigenous languages), and degree programs. For each program, cohorts of students transfer into UNBC from community colleges, approximately every two years (Bahr 2021).



Table 10.2 Education Community Reporting

Indicator	2018	2019	2020	2021
K-12 CMSD Student Enrolment, [%YOY change] ¹	4,327 [-]	4,378 [1%]	3,956 [-9%]	4,154 [-4%]
CMTN Enrolment – Terrace Campus, [%YOY change] ²	1,961 [-]	2,091 [7%]	1,939 [-1%]	[-]
KVES Enrolment (Registrants), [%YOY change] ³	[-]	1,116 [-]	420 [-]	951 [-]
UNBC Enrolment, [%YOY change] ⁴	310 [-]	361 [16%]	226 [-27%]	153* [-]
NOTE: - = not reported *Missing data for the Winter 2021 semester SOURCES: ¹ Ministry of Education 2022, ² CMTN 2021, ³ KVES 2022, ⁴ UNBC 2021				

10.5 Social Monitoring Roundtable Feedback

Education is included in the Community Amenities, Utilities, and Education SMR Working Group, which met in August 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following issues and topics were discussed during these meetings:

- Training and education requirements anticipated by LNG Canada for operational employment opportunities
- Shifts to distributed learning models and virtual programming due to COVID-19
- Reduction in educational program attendance when compared to years before COVID-19
- Vaccination programs for the Project and in Kitimat and Terrace and surrounding communities

During SMR working group meetings, the LNG Canada Project team answered queries regarding the number of children that would enter the education system due to relocating staff, as well as Project-funded training programs.

Kitimaat Valley Education Society (KVES) spoke about a virtual reality program being developed to advance its ability to deliver training. KVES indicated that it is making changes at the Kitimat Valley Institute (KVI) campus so that it can accommodate more services. KVES shared that it had successfully relocated the Haisla Education and Training, Haisla Driving School, Haisla Cultural Development, and Haisla Economic Development teams into the facility. Its safety training program was moved from its downtown location to the KVI campus.

KVES also shared that it was working with BCIT to deliver an Enhancement Bridge Watch Rating Program. The final recruitment for women and Indigenous learners, ages 16 years old and older, allowed graduates to operate within Transport Canada’s requirements and guidelines.

Appendix C SMR Action Items describes follow-up actions identified during the Community Amenities, Utilities, and Education SMR meetings.

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10.6 Discussion

In 2021, the Project limited the number of employees who relocated to Kitimat with their accompanying family members; this effectively reduces potential Project effects on K to 12 educational services. The Project will continue to monitor the number of employees and accompanied dependents relocating to Kitimat and will share this information with education providers. Community data and SMR feedback indicated little change in demand for K-12 education.

No additional Project mitigation measures were identified.



11 SMP Report—Utilities

11.1 Introduction

The Municipal Utilities SMP identifies actions to minimize Project-related demands on municipal utilities (i.e., sewage, waste and water). This plan summarizes how mitigation measures under the Plan will be implemented and monitored to confirm that the mitigations identified in the Application are effective in managing predicted effects.

Objectives of the Utilities SMP are to:

- Manage the potential increase in demand for potable water and wastewater treatment within local communities.
- Minimize the potential increase in pressure on landfills and recycling programs within the Regional District of Kitimat-Stikine.

Appendix A provides a list of stakeholders who participated in the Utilities working group meetings.

11.2 Context

Kitimat-Stikine Terrace Area Waste Management Facility Regulation Amendment Bylaw

Between July 2020 and February 2021, the RDKS progressed efforts to approve the Kitimat-Stikine Terrace Area Waste Management Facility Regulation Amendment Bylaw No. 744, 2020, which included:

- A definition for Industrial Premises
- An increase to the out-of-service area surcharge from 25% to 50%
- An increase in tipping fee rates for materials that consume airspace from out of service area sources at Forceman Ridge WMF, including refuse and demolition and construction (both increased from \$110 to \$173 per tonne) (RDKS 2021b)

The amendment bylaw was adopted on March 19, 2021 (RDKS 2021b).

The Forceman Ridge WMF has a total capacity of 1.5 million m³, with the next expansion planned for 2023 (RDKS 2021c, RDKS 2021d).

11.3 Project Reporting

In 2021, the Project implemented or continued the following measures, to manage waste and limit its effects on utilities:

- Implemented the waste management plan (solid waste and wastewater) which entailed sending waste streams to approved facilities and avoiding the use of the DOK municipal landfill
- Sent non-hazardous solid wastes to RDKS Forceman Ridge Waste Management Facility (WMF) and approved facilities outside of the region
- Transported hazardous wastes to approved facilities outside the region
- Provided potable water and wastewater treatment services for workers at CVL, which is self-sufficient (to the extent practicable) and avoided putting additional service demands on municipal water and sewer services

Joint venture companies



- Limited the number of employees relocated to Kitimat with their accompanying family members
- Hired non-local workforce and provided accommodation on-site at CVL
- No living out allowances (LOAs) paid
- Required all workers to complete Code of Conduct and Cultural Awareness Training
- Provided stakeholders with information on anticipated changes in resident populations attributable to the Project to facilitate planning for incremental demand for utilities

In early 2021, the Project became aware of a range of concerns from RDKS regarding waste disposal at the Forceman Ridge WMF. In March 2021, some Project waste streams were redirected from Forceman Ridge WMF to alternative BC facilities outside of the region. Efforts continued throughout the year to assess potential strain on regional landfills, including:

- Simplified interfaces between the Project and RDKS
- Improved Project reporting of key waste streams including those that consume landfill space
- Development of a Project inventory of waste generators (controlled waste permit holders)
- Development of robust Project waste projections to support RDKS planning needs.

The total Project generated 7,001 tonnes of solid waste in 2021, with a peak of 2,923 tonnes in Q2 (Table 11.1). The total Project generated solid waste was not reported in Q3. CVL generated 1,907 tonnes of solid waste. The Project sent 3,423 tonnes of non-hazardous solids to Forceman Ridge, with a peak of 1,204 in Q2 2021. 4,407 tonnes of non-hazardous waste solids and 794 tonnes of hazardous waste were sent to approved facilities outside of the region.

Table 11.1 Utilities Project Reporting

Utilities Indicators	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Sum
Total Project-generated waste solids (metric tonnes)	1,915	2,923	-	2,163	7,001
Recycled material disposed (metric tonnes)	616	51	1,872	3,272	5,811
# of municipal utility related concerns or complaints	4	0	0	0	4
Cedar Valley Lodge Waste and Water Treatment					
Solid waste generated at Cedar Valley Lodge (metric tonnes)	767	381	492	267	1,907
Influent flow rates from Cedar Valley Lodge wastewater treatment system (m3/day)	6,382	13,088	16,046	458	8,621
Effluent flow rates from Cedar Valley Lodge wastewater treatment system (m3/day)	9,310	14,390	15,418	501	9,905
Non-Hazardous Solids Disposed at Forceman Ridge Waste Management Facility, RDKS					
Total non-hazardous solids sent to Forceman Ridge (metric tonnes)	800	1,204	1,113	306	3,423
Total non-hazardous solids sent to landfill / airspace consuming at Forceman Ridge (metric tonnes)	589	780	691	1,086	3,146

Breakdown of Non-Hazardous Solids Disposed at Forceman Ridge					
Construction & demolition (C&D) waste sent to landfill at Forceman Ridge (metric tonnes)	301	338	437	337	1,413
Municipal solid waste (MSW) sent to landfill at Forceman Ridge (metric tonnes)	119	171	88	85	463
Sludge cake sent to landfill at Forceman Ridge (metric tonnes)	84	0	0	0	84
Treated wood sent to landfill at Forceman Ridge (metric tonnes)	85	271	250	436	1,042
Clean wood sent to Forceman Ridge (metric tonnes)	162	353	333	196	1,044
Organics sent to Forceman Ridge (metric tonnes)	41	51	84	85	261
Soil cover sent to Forceman Ridge (metric tonnes)	0	0	0	25	25
Waste Disposed at Approved Facilities Outside of the Region					
Non-hazardous solids disposal to approved facilities outside of the region (metric tonnes)	489	1,688	1,969	261	4,407
Hazardous waste disposal to approved facilities outside of the region (metric tonnes)	42	156	86	510	794
NOTES: - = not reported					
SOURCE: CIMP Reports (JFJV); LNGC-reported CLISMP data					

11.4 Community Reporting

Community data reporting for utilities was provided by primary and secondary sources, as follows:

- District of Kitimat
- City of Terrace
- Regional District of Kitimat-Stikine

Table 11.2 summarizes potable water daily consumption and wastewater flow for the City of Terrace in 2021. In Terrace between 2018 and 2021, average daily potable water consumption decreased 13%, peak water consumption decreased 8%, average daily wastewater flow decreased 2%, and peak wastewater flow increased 2% (Table 11.2). Data for the District of Kitimat for average daily potable water consumption, peak potable water demand, and daily wastewater flow for 2020 and 2021 was not available at the time of this report.

Table 11.2 also summarizes materials received at the RDKS Forceman Ridge WMF. Forceman Ridge WMF accepts multiple non-hazardous solid material streams which are either disposed as landfill (air space consuming) or diverted for other means of disposal (e.g., burning or chipping of clean wood or else used beneficially in the case of contaminated soil used as cover material on the landfill).

Materials generated from industrial sources outside of the Terrace Solid Waste Service Area are referred to as out-of-service area (RDKS 2021a, Lavoie 2021). There are several contributors to the out of the service area material volumes, but the largest contributors are industrial work camps and construction sites related to LNG projects (including LNG Canada and others) (RDKS 2021a). In 2021, Forceman Ridge WMF received 19,695 tonnes of materials in total,

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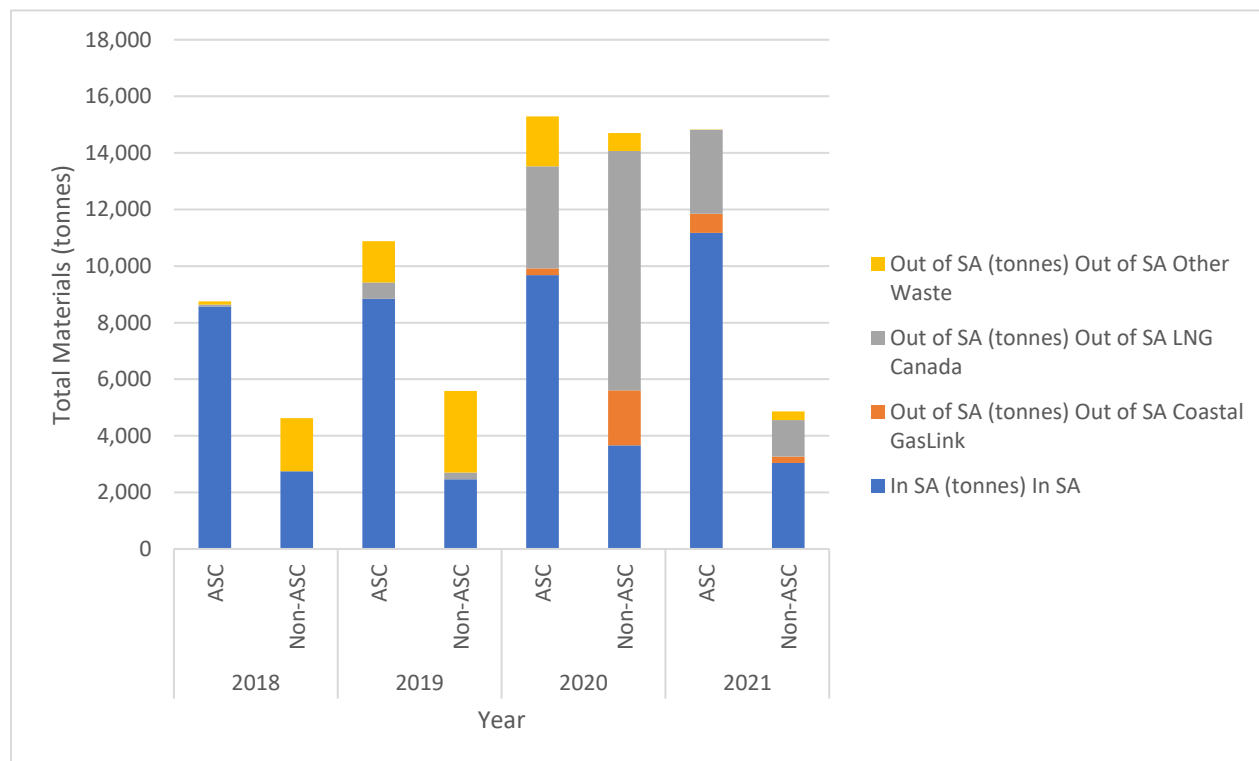
representing an approximate 47.2% increase from 2018 (RDKS 2022). Out-of-service area users contributed 5,485 tonnes, or 28% of the total materials received in 2021 at Forceman Ridge WMF, an increase of 166.2%, from 2018 (RDKS 2022). The overall increase in waste from out of the service area indicates that the Project is directly affecting waste disposal at the RDKS Forceman Ridge WMF.

Table 11.2 Utilities Community Reporting

Indicator	2018	2019	2020	2021
Kitimat potable water Average daily demand (m ² / day), [%YOY change] ¹	6,814 [-]	6,814 [0%]	- [-]	- [-]
Kitimat potable water peak day demand (m ² / day), [%YOY change] ²	11,735	13,249 [13%]	- [-]	- [-]
Kitimat daily wastewater flow (m ² / day), [%YOY change] ³	4,921 [-]	5,300 [8%]	- [-]	- [-]
Kitimat peak daily flow (m ² / day), [%YOY change] ⁴	14,385 [-]	14,385 [0%]	- [-]	- [-]
Terrace potable water average daily demand (m ² / day), [%YOY change] ²	7,788 [-]	8,087 [4%]	7,624 [-2%]	6,755 [-13%]
Terrace potable water peak day demand (m ² / day), [%YOY change] ²	15,168 [-]	13,222 [-13%]	13,664 [-10%]	13,951 [-8%]
Terrace daily wastewater flow (m ² / day), [%YOY change] ²	3,997 [-]	3,937 [-2%]	4,171 [4%]	3,924 [-2%]
Terrace peak daily wastewater flow (m ² / day), [%YOY change] ²	9,135 [-]	8,437 [-8%]	10,018 [10%]	9,353 [2%]
Total materials received by Forceman Ridge WMF (tonnes), [%YOY change] ³	13,380 [-]	16,465 [23%]	29,988 [124%]	19,695 [47%]
Total landfilled waste at Forceman Ridge WMF [% YOY change] ³	8,872 [-]	10,875 [24%]	15,290 [75%]	14,829 [69%]
Total diverted materials, excluding soil, received at Forceman Ridge WMF [%YOY change] ³	4,628 [-]	5,591 [21%]	14,698 [218%]	4,866 [5%]
Out-of-Service Area total materials received by Forceman Ridge WMF (tonnes), [% YOY change] ³	2,061 [-]	5,151 [150%]	16,643 [708%]	5,485 [166%]
Out-of-Service Area waste received for landfill at Forceman Ridge (tonnes), [% YOY change] ³	175 [-]	2,027 [1,061%]	5,611 [3,114%]	3,657 [1,995%]
Out-of-Service Area diverted materials, excluding soil, received at Forceman Ridge WMF (tonnes), [YOY change] ³	1,886 [-]	3,124 [66%]	11,032 [485%]	1,829 [-3%]
SOURCES: ¹ DOK 2020, ² COT 2022b, ³ RDKS 2022				



Figure 11.1 provides a further breakdown of the waste received at Forceman Ridge WMF from 2018-2021. Waste was either sent to the landfill or diverted from the landfill (i.e., non-air-space consuming [non-ASC]). The origin of the waste is clarified as In-Service Area (In SA) or Out-of-Service Area (Out of SA).



SOURCES: RDKS 2022

Figure 11.1 Forceman Ridge Waste Management Facility Total Materials Received 2018-2021 (tonnes)

Landfill Waste

Of the total 19,695 tonnes of materials received by Forceman Ridge WMF in 2021, 14,829 tonnes were disposed in the landfill (includes garbage, construction and demolition waste, sludge cake and other waste), representing a 69.4% increase in landfilled waste since 2018 (RDKS 2022). Out-of-service area users accounted for 3,657 tonnes of landfilled waste in 2021, a significant increase from approximately 175 tonnes landfilled in 2018 (RDKS 2022).

Diverted Waste

The remaining 4,966 tonnes of waste received by Forceman Ridge WMF in 2021 were diverted from the landfill, including concrete, clean wood, septage, organic and other waste and soil used beneficially to support landfill management (RDKS 2022). RDKS only accepted soil on an as-needed basis and did not stockpile this material (RDKS 2022). Out-of-service area users contributed 1,829 tonnes of diverted materials received by Forceman Ridge WMF in 2021 (RDKS 2022).



11.5 Social Monitoring Roundtable Feedback

Utilities are included in the Community Amenities, Utilities, and Education SMR Working Group, which met in August 2021 and February 2022 to review Project and community monitoring data, discuss emerging issues and concerns, and identify actions. The following issues and topics were discussed during these meetings:

- Impact of Project-related waste at the RDKS Forceman Ridge Waste Management Facility, including the impact of solid waste from the wastewater treatment facility at CVL
- Segregation of organics and recyclable materials from Project municipal solid waste going to landfill
- Disposal of solid waste

During the Community Amenities, Utilities and Education SMR working group, the LNG Canada Project team answered questions related to the Project's policies and programs with respect to management of impacts to utilities, particularly waste management services. The Project implemented, or continued to implement, the following adaptive management measures were taken to recognize and improve unanticipated effects on regional landfills and recycling facilities in Q1 2021:

- Disposal of all hazardous waste and the majority of recycling materials at facilities outside of the region
- Secured short-term, controlled waste permits with maximum allowances to support disposal of Project non-hazardous solid waste at the RDKS Forceman Ridge Waste Management Facility
- Monitored the volume of Project waste disposed at regional waste management facilities
- Monitored concerns and complaints regarding Project waste disposal
- During SMR meetings LNG Canada project staff answered queries regarding waste management and the Project's impact on community utilities. Three concerns or complaints were received in Q1 2021 and were followed up with

In Q1 2021, the LNG Canada Project became aware of a range of concerns from RDKS regarding waste disposal at the Forceman Ridge Waste Management Facility. In March 2021, an adaptive management approach was taken, and some Project waste streams were redirected from Forceman Ridge to alternative BC facilities outside of the region. Efforts to assess the potential strain on regional landfills were undertaken, including:

- Simplifying interfaces between the Project and RDKS
- Improving Project reporting of key waste streams, including those that consume landfill space
- Developing a Project inventory of waste generators (i.e., controlled waste permit holders)
- Developing robust Project waste projections to support RDKS planning needs

Solid waste from the wastewater treatment facility at CVL presented some challenges in Q1 2021 and the Project began working on a long-term solution. RDKS further clarified that the Forceman Ridge Waste Management Facility was not accepting sludge cake from the Project. In the short term, solid waste (i.e., sludge cake) was sent to a facility in Princeton, BC.

At CVL, municipal solid waste presented a challenge due to COVID-19 protocols that limited occupancy in dining halls, leaving workers the only option of eating in their rooms. Residents were required to bring pre-portioned and pre-packaged food back to their rooms, generating take-out containers and single-use waste. Waste segregation would



normally be done in the dining hall, but it was difficult to manage with residents eating alone in private rooms. The Project implemented several initiatives, including worker education and the provision of waste segregation bins in rooms and common areas (e.g., hallways) to increase waste segregation, including organics.

Recycling materials from the Project were not sent to the KUTE Recycling Depot, which is over capacity; however, the Project supported the KUTE Recycling Depot in 2020 by increasing capacity and worker safety at the facility through community investment. The Project also added that LNG Canada committed funding to support the RDKS with a new electric fence for the landfill cell expansion at the Forceman Ridge Waste Management Facility.

The SMR meetings identified a number of suggestions to help track and manage changes in utilities in the region. Appendix C SMR Action Items describes follow-up actions that were identified during the SMR meetings as well as providing additional information to SMR participants.

Mitigation measures regarding waste management were identified, tracked, and discussed within the Community Amenities, Utilities and Education SMR meetings. Since the implementation of the CLISMP in 2019, a two-year trend of increasing demands on the RDKS Forceman Ridge WMF has been observed and as a result, adaptive management mitigation measures began in early 2021. These mitigation measures included providing the RDKS with Project waste disposal projections to enable planning and decision-making. Throughout 2021, the Project continued to work with communities and government to understand and to help address the broader, complex challenges in the region.

11.6 Discussion

Cedar Valley Lodge is designed to be self-sufficient in both potable water supply and wastewater treatment and therefore limits Project's demands on the municipal systems. A decrease in demand for DOK services was noticeable after July 2020, when CVL opened and again in December 2020, when all of the Project's non-resident workers had moved to CVL. It is assumed that this trend continued in 2021; however, this cannot be verified due to data limitations at the time of report writing.

In Terrace, there was a slight decrease in average daily flow and peak daily demand for potable water in 2021 when compared to 2018. There was a slight decrease in daily wastewater flow between 2018 and 2021 and a slight increase in peak daily wastewater flow between 2018 and 2021, which could be attributed to population change.

Between 2018 and 2021, the RDKS Forceman Ridge Waste Management Facility experienced an overall increase in total materials received of 47.2% (a 69.4% YOY increase for air-space consuming materials and a 5.1% YOY increase for non-air-space consuming materials). Overall demand for RDKS waste management services remained elevated, due to the increase in industrial activity from outside the service area, while at the same time out-of-service area users provided RDKS with a source of soil needed to support waste management efforts. The LNG Canada Project is one of the main contributors of waste and other materials from out of the service area with approximately 77.5% of the out-of-service area waste being attributed to the Project). In 2021, the Project began to adaptively manage this situation by sending some of its waste streams for disposal at other facilities outside the region, while seeking disposal solutions within the region that are acceptable to RDKS.



12 Conclusion

Socio-economic monitoring data has shown that, in its third year of construction, the mitigation and adaptive management measures implemented by the LNG Canada project have largely limited the direct effects of Project construction on community infrastructure and services in the Kitimat and Terrace area.

Changes in demand for infrastructure and services in the Kitimat-Terrace area can be attributed to the changing socio-economic landscape in the communities due to increased economic activity in the region. For example, the high cost of housing in the Kitimat-Terrace area, which has been identified as an indirect / induced effect of the increased economic activity in the region, has created an affordability barrier. Service providers have noted that the high cost of housing has been a barrier to the hiring and retention of staff for their organizations, as well as a barrier to some of their clients. The availability of higher wage industry jobs has also reduced the pool of potentially interested candidates.

The demand for, and delivery of, infrastructure and services in the Kitimat-Terrace area continued to be affected by COVID-19 throughout 2021. Although restrictions did begin to ease over the course of the year, the impact of COVID-19 has been most notable on infrastructure and services such as traffic, community amenities, and education. COVID-19 has also had some impact on other infrastructure and services such as housing, accommodations, and childcare, emergency response, and community health.

A COVID-19 outbreak occurred at the LNG Canada Project site from December 16, 2020, to January 11, 2021. The Project took distinct actions in response to COVID-19 with dramatic reductions in the workforce on-site in late 2020 and early 2021. The workforce gradually increased throughout the year, reaching a peak of 5,112 people in November 2021, and the Project did not experience any other clusters or outbreaks.

While no adverse effects directly attributed to Project activities were observed in 2021, the increase in out-of-service area solid waste directed to the Forceman Ridge WMF was an area of concern identified by RDKS. As of 2021, the Project is adaptively managing this situation by sending some waste to other facilities, while seeking disposal solutions that are acceptable to RDKS.

Table ES-2 below summarizes the Project's direct effects and mitigation efficacy for 2021.



Table ES-2 Summary of Direct Project Effects January–December 2021

Social Impact Category	Measurable Project Related Changes	Effectiveness of Mitigations
Housing & Accommodations	In November 2021, a peak of 2,569 non-local workers were accommodated on-site at Cedar Valley Lodge. In September 2021, a peak of 67 Project employees accompanied by 29 partners or spouses and 35 children had been relocated to Kitimat and provided with company housing.	The Project limited the demand on market housing by prioritizing hiring from the local area; providing housing for non-local workers at Cedar Valley Lodge; providing company housing for relocated Project employees with families; and not paying LOAs to the workforce. From December 2020 to December 2021, the Project did not use open lodges.
Community Health ³⁵	A total of 11,315 visits to Project-provided medical clinics on site to address non-occupational injury or illness. 34 Project-related occupational injuries and illnesses and 132 non-occupational injuries and illnesses required treatment ³⁶ in local hospitals in 2021.	LNG Canada provides a full range of medical services on site and at Cedar Valley Lodge. This limits direct demand on local medical services.
Air Traffic	Approximately 6.7% of commercial passengers through YXT were directly attributable to the Project in 2021. An average of 643 Project personnel per month travelled via commercial flights through Northwest Regional Airport (YXT) in 2021 and an average of 3,814 Project personnel per month travelled via privately chartered flights through YXT airport.	In 2021, approximately 83% of the workforce traveled by charter flights which operate out of a hangar separate from the main terminal. By providing chartered flights, Project direct effects on the Northwest Regional Airport (YXT) terminal were minimal.
Road Traffic	Approximately 20.7% increase in overall road traffic on Hwy 37 north of Kitimat (estimated from Ministry of Transportation and Infrastructure traffic data) was directly attributed to the Project (i.e., the movement of workers and the delivery of materials and equipment).	LNG Canada limits the use of personal vehicles on the local roads by transporting workers between the airport and the Project site on company-provided shuttles; using Park & Ride lots; and enforcing shuttle usage for local workers.
Emergency Response Services	49 incidents required ambulance service calls and 31 incidents required RCMP response at the Project site. No incidents required a fire department service call. No medical evacuations were required. Approximately 2.6% of Kitimat Fire and Ambulance Service calls and 0.8% of Kitimat RCMP calls for service were directly attributed to the Project.	The Project has reduced direct demand for local emergency services by implementing Emergency Response Plans and the Safer Together program; regularly engaging with RCMP and First Responders; and requiring all workers to complete workers code of conduct and cultural awareness training.

³⁵ The Project response to the COVID-19 pandemic is excluded from the summary and outlined in detail in section 4.2. Throughout 2021, the Project continued to adapt its activities and enhance procedures and protocols to reduce the risk of infection in the workplace and to support the needs of surrounding communities.

³⁶ Treatment in local hospitals includes Emergency Room visits, x-ray visits, and diagnostics.

Table ES-2 Summary of Direct Project Effects January–December 2021

Social Impact Category	Measurable Project Related Changes	Effectiveness of Mitigations
Community Amenities	There were no known adverse changes in the available service capacity of community amenities providers that were attributed to the Project.	Cedar Valley Lodge provides recreational amenities and programming on-site to limit direct demand on community amenities.
Education	In October 2021, a peak of 35 children relocated to the area accompanying Project employees with no notable impact on educational enrollment rates.	The Project’s direct effect on education services were minimal.
Utilities	The Project’s disposal of construction and demolition waste, garbage and sludge cake has contributed to the decline in available landfill capacity at the Forceman Ridge facility. As a result of increased waste received in 2019 and 2020 from out-of-service area users including the Project, RDKS has increased out-of-service area fees. Out-of-service area users at RDKS Forceman Ridge WMF contributed 5,485 tonnes, or 28% of the total materials received in 2021, an increase of 166.2%, from 2018. No waste from the Project site was disposed at the Kitimat municipal landfill in 2021.	LNG Canada’s Waste Management Plan was executed in 2021. The Project provides self-sufficient water and wastewater treatment facilities on site. It does not use the District of Kitimat landfill. LNG Canada has controlled waste permits to dispose of non-hazardous solid waste at Regional District of Kitimat-Stikine Forceman Ridge. The Project continues to work directly with RDKS to plan for future anticipated waste disposal to minimize unintended strain on regional landfills. Through mitigations and adaptive management practices, the Project created limited direct demand on municipal utilities in 2021.

Joint venture companies



Looking towards the next several years of construction activities, the LNG Canada Project will continue to bring economic benefits to the region while continuing to manage its direct effects on community level infrastructure and services through implementation of effective mitigation measures and monitoring efforts, and adaptive management. Through its implementation of the CLISMP and the SMR, LNG Canada remains committed to engaging and working with community service providers, local governments, Indigenous groups, and provincial government agencies to understand how economic developments are more broadly and indirectly affecting the supply and demand for infrastructure and services in the region, and to help identify potential measures for managing such changes.



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APPENDICES



Appendix A SMR WORKING GROUP PARTICIPANTS

Organizations represented in the table below participated in SMR working group sessions over the course of 2021. A complete list of organizations invited to participate in SMR working groups is identified and updated annually in the SMR terms-of-reference.

SMR Working Group	Group	Participants
Housing and Accommodations	Project Team	LNG Canada, JFJV, support (Stantec and Earnscliffe)
	Indigenous Groups	Haisla Nation, Gitga'at First Nation, Gitxaala Nation, Kitselas First Nation, Kitsumkalum First Nation, Metlakatla First Nation
	Local and regional governments	District of Kitimat, City of Terrace, Regional District of Kitimat-Stikine
	Local service providers	Kitimat Community Services Society (Victim Services), Kitimat Community Development Centre, Kitimat Chamber of Commerce, Tamitik Status of Women, Kitamaat Valley Education Society, Ksan Society, Terrace and District Community Service Society, Terrace Chamber of Commerce
	Province of BC	LNG Canada Implementation Secretariat, Northern Health Authority, Municipal Affairs & Housing, Attorney General & Housing, Ministry of Social Development and Poverty Reduction, Ministry of Children and Family Development, BC Housing, Attorney General and Housing, Ministry of Housing and Construction Standards, Ministry of Jobs, Economic Development, and Competitiveness, Ministry of Indigenous Relations and Reconciliation, Ministry of Finance
Traffic & Emergency Response	Project Team	LNG Canada, JFJV, support (Stantec and Earnscliffe)

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SMR Working Group	Group	Participants
	Indigenous Groups	Haisla Nation, Gitxaala Nation, Kitselas First Nation, Kitsumkalum First Nation
	Local and regional governments	District of Kitimat, City of Terrace, Regional District of Kitimat-Stikine
	Local service providers	Kitimat Fire and Ambulance Services (KFAS), Kitimat Community Services Society (Victim Services), Northwest Regional Airport (YXT), Terrace Fire Department, Thornhill Fire Department, Kitimat RCMP, Terrace RCMP
	Province of BC	LNG Canada Implementation Secretariat, BC Emergency Health Services (BCEHS), ICBC, Municipal Affairs and Housing, Ministry of Health, Ministry of Public Safety and Solicitor General, MOTI, WorkSafeBC, RCMP, Ministry of Indigenous Relations and Reconciliation, Ministry of Finance, Emergency Management BC
Community Health	Project Team	LNG Canada, JFJV, support (Stantec and Earncliffe)
	Indigenous Groups	Haisla Nation, Gitga'at First Nation, Gitxaala Nation, Kitselas First Nation, Kitsumkalum First Nation, Metlakatla First Nation
	Local and regional governments	District of Kitimat, City of Terrace, Regional District of Kitimat-Stikine
	Local service providers	Kitimat Fire and Ambulance Services (KFAS), Kitimat Community Services Society (Victim Services), Kitimat Community Development Centre, Kitimat RCMP, Ksan Society, Terrace and District Community Service Society, Tamitik Status of Women
Community Amenities, Education and Utilities	Province of BC	LNG Canada Implementation Secretariat, Northern Health Authority, First Nations Health Authority, Municipal Affairs and Housing, Ministry of Housing and Construction Standards, BC Emergency Health Services (BCEHS), Ministry of Jobs, Economic Development and Competitiveness, Ministry of Health, Ministry of Indigenous Relations and Reconciliation, Ministry of Finance
	Project Team	LNG Canada, JFJV, support (Stantec and Earncliffe)
	Indigenous Groups	Haisla Nation, Kitsumkalum First Nation
	Local and regional governments	District of Kitimat, City of Terrace
	Local service providers	Kitimaat Valley Education Society, Coast Mountain School District, Terrace Chamber of Commerce, Regional District of Kitimat-Stikine Forceman Ridge Waste Management Facility
Province of BC	Province of BC	LNG Canada Implementation Secretariat, Municipal Affairs and Housing, Ministry of Jobs, Economic Recovery and Innovation, Ministry of Environment and Climate Change Canada



Appendix B CLISMP METRICS

Table B-1 Project Reporting Metrics

SMP	Data Provider	Project Metrics
Housing & Accommodations (also Childcare, Community Amenities & Education)	LNG Canada, JFJV	<ul style="list-style-type: none"> • Local (resident) workforce • Project non-local workforce – temporarily housed at Cedar Valley Lodge (average beds) • Project non-resident workforce temporarily staying at Kitimat hotels or lodges • Project non-resident workforce temporarily staying at Terrace hotels or lodges • Project staff relocated to Kitimat, presently staying in company-provided housing • Accompanying partners and spouses of relocated Project staff • Accompanying children of relocated Project staff • Number of housing related concerns or complaints
Traffic	LNG Canada, JFJV	<ul style="list-style-type: none"> • Number of daily Project bus trips from YXT to Kitimat (avg. passengers /day) • Number of daily Project bus trips from Terrace Park & Ride to Kitimat (avg. passengers /day) • Number of daily Project bus trips from Kitimat and Kitimaat Village Park & Ride to Site (avg. passengers /day) • Number of road transport-related incidents and near misses • Number of Project personnel on commercial flights through airport • Number of Project personnel on charter flights • Provision of Project transportation plans to transportation authorities • Notifications to service providers and the public regarding scheduling of transportation equipment • Number of meetings with transportation authorities on traffic management, congestion, and road safety • Number of traffic-related concerns or complaints

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SMP	Data Provider	Project Metrics
Emergency Response	LNG Canada, JFJV	<ul style="list-style-type: none"> • Number of ambulance service calls to site • Number of fire department service calls to site • Number of RCMP service calls to site • Number of meetings held to coordinate and plan emergency response • Number of emergency response related concerns or complaints • Number of workplace occupational injuries and illnesses requiring treatment at local hospitals • Number of workplace non-occupational injuries and illnesses requiring treatment at local hospitals • Number of workplace injuries or illnesses requiring medevac • Number of recordable occupational injuries • Number of recordable non-occupational injuries visits to on-site medical clinics • Notifications to health authorities for occurrence of communicable illnesses/diseases • Percentage of workers who have signed the Worker Code of Conduct (launched May 2019) • Percentage of workers who have completed Cultural Awareness Training • Number of community health-related concerns or complaints
Community Health	LNG Canada, JFJV	<ul style="list-style-type: none"> • Number of ambulance service calls to site • Number of fire department service calls to site • Number of RCMP service calls to site • Number of meetings held to coordinate and plan emergency response • Number of emergency response related concerns or complaints • Number of workplace occupational injuries and illnesses requiring treatment at local hospitals • Number of workplace non-occupational injuries and illnesses requiring treatment at local hospitals • Number of workplace injuries or illnesses requiring medevac • Number of recordable occupational injuries • Number of recordable non-occupational injuries visits to on-site medical clinics • Notifications to health authorities for occurrence of communicable illnesses/diseases • Percentage of workers who have signed the Worker Code of Conduct (launched May 2019) • Percentage of workers who have completed Cultural Awareness Training • Number of community health related concerns or complaints

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SMP	Data Provider	Project Metrics
Utilities	LNG Canada, JFJV	<ul style="list-style-type: none"> • Total Project-generated waste solids • Recycled materials disposed • Number of municipal utility related concerns or complaints • Cedar Valley Lodge waste and water treatment <ul style="list-style-type: none"> - Solid waste generated at Cedar Valley Lodge - Influent flow rates from Cedar Valley Lodge wastewater treatment system (m3/day) - Effluent flow rates from Cedar Valley Lodge wastewater treatment system (m3/day) • Non-Hazardous Solids Disposed at Forceman Ridge Waste Management Facility, RDKS <ul style="list-style-type: none"> - Total non-hazardous solids sent to Forceman Ridge - Total non-hazardous solids sent to landfill and air-space consuming materials at Forceman Ridge • Breakdown of Non-Hazardous Solids Disposed at Forceman Ridge <ul style="list-style-type: none"> - Construction & demolition (C&D) waste sent to landfill at Forceman Ridge - Municipal solid waste (MSW) sent to landfill at Forceman Ridge - Sludge cake sent to landfill at Forceman Ridge - Treated wood sent to landfill at Forceman Ridge - Clean wood sent to Forceman Ridge - Organics sent to Forceman Ridge - Soil cover sent to Forceman Ridge • Waste Disposed at Approved Facilities Outside of the Region <ul style="list-style-type: none"> - Non-hazardous solids disposal to approved facilities outside of the region - Hazardous waste disposal to approved facilities outside of the region



Table B-2 Community Reporting Metrics

SMP	Data Provider	Community Data (Frequency)
Housing & Accommodations	Hotels / motels (STR Global)	Regional hotel/ motel occupancy rates (monthly)
	Airbnb postings	Range of units available (quarterly) and occupancy rates (daily)
	BC Northern Board of Real Estate (BCNREB); Multiple Listing Service; realtors	Average Residential Real Estate Prices and Units Sold (condos, houses) (monthly)
	Kitimat apartment landlords (Hillcrest, Kitimat Apartments, Oceanview, Kuldo Suites, Midtown Apartments); Facebook & Kijiji postings	Rental accommodations vacancy rate and average rental cost (monthly)
	Tamitik Status of Women (TSW); Ksan Housing Society	% of nights full/ average shelter occupancy (monthly) # of bed-stays and # of turnaways (monthly)
	BC Housing; M'akola Housing Society.	Affordable housing units occupied (monthly) Wait lists for affordable/supportive housing (monthly) Social housing unit count (annual)
Traffic	Northwest Regional Airport (YXT)	Terminal Volume (Commercial Passengers) (monthly)
	BC MOTI	Monthly Average Weekday Traffic (MAWDT) (monthly)
	Insurance Corporation of BC (ICBC)	Traffic Collisions Reported (monthly)
Emergency Response	RCMP North District	Total calls for service (monthly) Number of founded criminal incidents by crime type (monthly)
	Kitimat Fire and Ambulance Services (KFAS); Terrace Fire Department, Thornhill Fire Department	Number of firefighter response incidents (monthly)
	KFAS; BCEHS	Number of ambulance / medical related incidents (monthly)
	Statistics Canada	Crime rate (annual) Criminal Code of Canada (CCC) offences (annual)
Community Amenities	District of Kitimat (DOK); City of Terrace (COT)	Community program attendance (monthly) Recreation facility attendance and hours of operation (monthly) Fitness program attendance (monthly)

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SMP	Data Provider	Community Data (Frequency)
Education	Kitimat Community Development Centre (CDC); Haisla Nation Council	Daycare registration, licensed spaces, and waitlist (quarterly)
	Coast Mountain School District #82 (CMSD); Independent Schools	Student enrolment (annual) Number of educators, including teachers, administrative and supporting staff (annual)
	University of Northern British Columbia (UNBC); Coast Mountain College (CMTN); Kitimaat Valley Education Society (non-profit; KVES)	Student enrolment (annual or by semester)
Utilities	DOK; COT	Potable water and sewage services average daily demand, peak day demand, and rated capacity (annual)
	Regional District of Kitimat-Stikine (RDKS)	Landfill demand, lifespan, and estimated population served (annual)

Appendix C SMR ACTION ITEMS

#	Working Group	Responsible Party	Action	Status
2020-Q3-1	-	LNG Canada Project Team	Follow up with Kermode Friendship Centre on Indigenous apprenticeship efforts and linkages to youth workforce development programs	Closed 04/27/21. Meetings held on March 8 and 11, 2021.
2020-Q4-1	-	LNG Canada Project Team	Follow up with Kitimat and Terrace Chambers of Commerce to provide additional information on local business participation in Project supply chain	Closed 04/27/21. Meeting held on April 7, 2021.
2021-Q2-1	General	LNG Canada Project Team	Share an overview of Project initiatives with Industry Training Authority (ITA) at next SMR	Open 10/01/21.
2021-Q2-2	General	LNG Canada Project Team	Consider inclusion of apprentice data in future SMR reporting	Open 10/01/21.
2021-Q2-3	General	LNG Canada Project Team	Follow up with Kitselas to review workforce and employment data	Open 10/01/21.
2021-Q3-1	General	LNG Canada Project Team	Provide contact information for Project Mental Health Coordinator	Open 01/05/22.
2021-Q4-1	General	LNG Canada Project Team	Provide additional information regarding Trades Training Fund.	Open 02/22/22.
2020-Q2-1	Housing & Accommodations	LNG Canada Project Team	Incorporate available data on demand for social housing services that do not use BC Housing Applicant registry	Closed 08/03/21. Project team has followed up with social housing providers and identified that Ksan Society maintains a waiting list. Data will be included in CSIMP reports, when available.



#	Working Group	Responsible Party	Action	Status
2020-Q3-4	Housing & Accommodations	LNG Canada Project Team	Follow up with Tamitik Status of Women (TSW), Kitimat CDC and Ksan Society for data illustrating housing affordability gap for clientele. TSW to share rental subsidy demand data for BC Housing Homelessness Prevention Program	Closed 08/03/21. TSW shared data from Homeless Prevention Program (HPP) survey. Project team followed up with Kitimat CDC and Ksan Society and identified no additional data on housing affordability gap. Most recent data on core housing need/housing affordability will be available from 2021 Census.
2020-Q3-5	Housing & Accommodations	Ministry of Child & Family Development	Working with LNG Canada, convene childcare service providers, Ministry of Advanced Education and Skills Training, Cast Mountain College to assess key drivers of childcare staffing shortages, awareness of available supports, and ways to support skills development	Closed 04/27/21. Facilitated discussion hosted by LNG Canada and MCFD on March 3, 2021, to discuss regional childcare challenges. As a next step, LNG Canada has offered to support Q2 2021 capacity building for childcare staff in the Kitimat and Terrace area.
2020-Q4-2	Housing & Accommodations	District of Kitimat	Provide available information on Kitimat Cost of Living / Living Wage	Closed 08/03/21. Cost of living information from BC Cost of Living Calculator included in 2021 Q2 pre-read document.
2020-Q4-3	Housing & Accommodations	LNG Canada Project Team	Consider broadening number of Kitimat childcare providers included in community monitoring	Closed 04/27/21. LNG Canada Project team will request data from additional childcare providers in the Kitimat and Terrace area for future reporting periods.
2021-Q2-4	Housing & Accommodations	LNG Canada Project Team	Provide breakdown of new housing developments by housing type where available	Open 01/05/22. Project team will include breakdown of new housing developments by housing type, where available, in the Q4 2021 report.
2021-Q3-2	Housing & Accommodations	LNG Canada Project Team	Province link to childcare providers for upcoming public engagement sessions hosted by BC government regarding early learning and childcare	Open 01/05/22.
2021-Q3-3	Housing & Accommodations	District of Kitimat	Share key findings from 2021 Kitimat Population Study	Closed 03/22/22. Population Study was shared with Working Group Participants.



#	Working Group	Responsible Party	Action	Status
2019-Q3-17	Community Health	Northern Health	Consider providing data from mobile unit service to support SMR monitoring needs	Closed 11/22/21. NHA has assessed data availability and, due to data suppression, service use statistics cannot be reported publicly. Internal assessment suggests that the MU service is not generally utilized by non-local residents; should a situation arise where a patient identifies with LNG Canada and is non-local, the situation will be assessed on a case-by-case basis.
2020-Q2-6	Community Health	Northern Health	Consider providing Intensive Crisis Management Team data to assess changes in service demand	Closed 11/22/21. NHA has assessed data availability and, due to data suppression, service use statistics cannot be reported publicly. Internal assessment suggests that ICMT is not generally utilized by non-local residents; should a situation arise where a patient identifies with LNG Canada operations and is non-local, the situation will be assessed on a case-by-case basis.
2020-Q3-6	Community Health	Northern Health	Provide clarification of health information flow to First Nations communities, including COVID-19 notifications protocols	Closed 11/22/21. NHA will follow up directly with First Nations separate from the LNG Canada SMR.
2020-Q4-4	Community Health	Northern Health	Follow up on secondary transmission and epidemiological data for Q4 2020 LNG Canada site outbreaks	Closed 04/27/21. NHA response provided below.
2020-Q4-5	Community Health	Northern Health	Follow up with Kitsumkalum Health Director on case and contact management capacity building engagements	Closed 11/22/21. NHA will follow up directly with First Nations separate from the LNG Canada SMR.
2020-Q4-6	Community Health	LNG Canada Project Team	Consider applying a rate perspective to CLISMP data that considers population (incidence and prevalence) https://www.mdpi.com/2075-163X/1/1/30	Closed 08/03/21. Following analysis of workforce population dynamics, it will not be possible to apply a rate perspective to CLISMP data that will yield Project metrics with adequate accuracy.
2021-Q2-5	Community Health	Northern Health	Provide update on Mills Memorial Hospital capital project at next SMR	Closed 11/22/21. NHA will present an update on Mills Memorial Hospital capital project at the next SMR.



#	Working Group	Responsible Party	Action	Status
2021-Q2-6	Community Health	LNG Canada Project Team	Share Employee Orientation Manual with Kitsumkalum	Closed 11/22/21. LNG Canada has shared the information with Kitsumkalum First Nation.
2021-Q2-7	Community Health	LNG Canada Project Team	Consider if notification to Kitsumkalum First Nation is possible for members who decline isolation support at Cedar Valley Lodge	Closed 11/22/21. Due to privacy laws, it is not possible for the Project to disclose the requested information.
2021-Q2-8	Community Health	KFAS	Provide Project team with additional overdose data sets (current data is provided by BCEHS)	Open 01/05/22. Project team is following up with KFAS. Overdose incident-type data will be included in the CLISMP reports when available.
2021-Q2-9	Community Health	LNG Canada Project Team	Provide an update on gender and cultural safety initiatives at next SMR	Closed 11/22/21. Project team will provide an update on gender and cultural safety initiatives at the Nov 24th SMR.
2021-Q2-10	Community Health	Ksan Society and Tamitik Status of Women	Provide additional gender-based data to supplement RCMP data	Open 01/05/22. Project team is waiting for information from Government of BC report.
2021-Q2-11	Community Health	LNG Canada Project Team	Provide summary of efforts to ensure community feedback process is known and accessible by communities	Closed 11/22/21. The information on how to provide Community Feedback is available on the JFJV website, as well as on the LNG Canada website. It is regularly shared with First Nations, key stakeholders, site contractors, and the public through meetings, presentations, updates, open houses, and events, including the SMR. It is also shared through all public notices and advertisements, and postcards have been distributed to many local businesses and organizations.
2021-Q3-4	Community Health	LNG Canada Project Team	Invite Terrace Strategic Response Team (Northern Health) to provide an overview at next SMR	Open 01/05/22. Project team working with Northern Health to identify available members to present at future SMR.
2021-Q3-5	Community Health	LNG Canada Project Team	Provide Kitselas First Nation an overview of community and employee grievance processes.	Open 01/05/22.

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#	Working Group	Responsible Party	Action	Status
2021-Q4-2	Community Health	LNG Canada Project Team	Provide additional social health data (e.g., mental health, emotional well-being) to supplement community health data	Open 02/22/22.
2019-Q2-5	Traffic & Emergency Response	District of Kitimat Engineering Services	Re-opened action from Q2 2019. Recommendation to DOK to assess need for traffic light at Nalabila/Hwy 37 intersection	Closed 04/27/21. The DOK traffic study has been completed spring 2021. The document will be used to prioritize infrastructure improvements and validate project traffic projections. Any priority infrastructure improvements will be communicated to District of Kitimat Mayor & Council during the 2022 Budget deliberation.
2020-Q2-9	Traffic & Emergency Response	LNG Canada Project Team	Confirm if Traffic Impact Assessment (TIA) can be distributed to Working Group participants.	Closed 04/27/21. Most recent Traffic Management Plan (including TIA) was submitted to BC EAO in February 2021 but has not been posted to BC EPIC site. LNG Canada Project team has emailed the plan to Working Group members. An overview of the TIA will be presented at the May 4 SMR.
2020-Q4-7	Traffic & Emergency Response	LNG Canada Project Team	Address issue of workers (traveling via charter hanger) entering main airport terminal despite COVID-19 restrictions	Closed 04/27/21. A site bulletin was issued in February to remind workers that they cannot go into the main airport and must stay in the charter terminal. The bulletin also restated that everyone must take the shuttle buses (no private rides to the airport), wear masks and continue to social distance. JFJV will be notified of any individuals who do not comply. The message was also conveyed to the airport restaurant that NW Regional Airport COVID-19 protocols do not allow restaurant service to people who do not have issued tickets to travel out of the commercial terminal.
2020-Q4-8	Traffic & Emergency Response	LNG Canada Project Team	Shared details from Traffic Incident Management Plan and Public Information Plan at the next SMR meeting	Closed 04/27/21. Information was presented by LNG Canada Project team at the May 4th SMR.



#	Working Group	Responsible Party	Action	Status
2020-Q4-9	Traffic & Emergency Response	WorkSafeBC	Provide an update at an upcoming SMR session on changes to emergency scene management	Closed 04/23/21. Information was presented by WorkSafe BC at the May 4th SMR.
2020-Q4-10	Traffic & Emergency Response	MOTI	Provide most recent short count data, as applicable	Closed 08/03/21. Available short count data from MOTI website will be collected as applicable.
2020-Q4-11	Traffic & Emergency Response	RCMP	Share Kitimat Resources for mental health training and supports for distribution to SMR participants	Closed 04/27/21. Resource guide emailed to SMR participants by LNG Canada Project team.
2020-Q4-12	Traffic & Emergency Response	LNG Canada Project Team	Follow up to collect available overdose response call data from ambulance services in Kitimat and Terrace	Closed 08/03/21. Available information from BCEHS has been included in the Q2 2021 report.
2021-Q2-12	Traffic & Emergency Response	LNG Canada Project Team	Provide breakdown of road transport-related incidents and near misses on site.	Closed 11/22/21. Overview of 2021 Q3 road transport related incidents and near misses will be provided at the next SMR.
2021-Q3-6	Traffic & Emergency Response	LNG Canada Project Team	Extend SMR invitations to EMBC to enable further discussion on regional preparedness	Open 02/23/22.
2021-Q3-7	Traffic & Emergency Response	LNG Canada Project Team	Shared information regarding Project emergency preparedness at next SMR	Open 02/23/22.
2021-Q4-3	Traffic & Emergency Response	LNG Canada Project Team	Provide additional traffic data for traffic east of Highway 16.	Open 02/23/22.
2021-Q4-4	Traffic & Emergency Response	YXT	Provide data on missed flights due to weather.	Open 02/23/22.
2021-Q4-5	Traffic & Emergency Response	EMBC & KFAS	Coordinate regional exercise focused on evacuation and movement of people.	Open 02/23/22.
2021-Q4-6	Traffic & Emergency Response	MOTI & DOK	Identify appropriate contact for stakeholders to express concerns regarding highway/road maintenance in winter driving conditions	Open 02/23/22.
2019-Q4-14	Community Amenities, Utilities and Education	LNG Canada Project Team	Support City of Terrace in development of municipal capacity metrics	Closed 04/27/21. Several discussions held 2020-21. City of Terrace will follow up with any recommended indicators.



#	Working Group	Responsible Party	Action	Status
2020-Q4-13	Community Amenities, Utilities and Education	LNG Canada Project Team	Provide links to Terrace Shadow Population studies 2015 and 2020	Closed 04/27/21. Links to Terrace Population studies emailed to SMR participants by LNG Canada Project team.
2020-Q4-14	Community Amenities, Utilities and Education	LNG Canada Project Team	Consider ways to improve education of site workforce and CVL residents on compliance requirements for waste segregation e.g., during site orientation	Closed 04/27/21. Project directives have been shared with contractors and workers on how to properly handle and dispose of waste. Ongoing efforts to educate the workforce will continue.
2020-Q4-15	Community Amenities, Utilities and Education	LNG Canada Project Team	Follow up with Forceman Ridge (RDKS) to verify values reported in SMR Pre-read for Q3-Q4 2020 waste volumes received from LNG Canada Project	Closed 08/03/21. Project team has followed up with RDKS to seek confirmation on how data has been interpreted.
2020-Q4-16	Community Amenities, Utilities and Education	LNG Canada Project Team	Follow up with Forceman Ridge (RDKS) to confirm all known controlled waste permits directly associated with the LNG Canada Project	Closed 08/03/21. Inventory of waste generators and permits associated with LNG Canada Project shared with RDKS and regularly reviewed.
2020-Q4-17	Community Amenities, Utilities and Education	LNG Canada Project Team	Follow up with KVES to share information on operational standards and accreditations to support KVES 5-year and 10-year plans	Closed 04/27/21. Being addressed through ongoing discussions with KVES.
2021-Q1-1	Community Amenities, Utilities and Education	LNG Canada Project Team	Provide a summary of the Project plan for waste disposal	Closed 08/03/21. Waste is disposed at permitted locations in both BC and Alberta, in conformance with regulatory requirements. Waste disposal locations are subject to change due to Project requirements and/or requirements and availability of approved waste disposal sites.
2021-Q1-2	Community Amenities, Utilities and Education	LNG Canada Project Team	Provide an overview of where recyclables are being disposed	Closed 08/03/21. Refer to summary below for an overview of where recyclables are being disposed.
2021-Q1-3	Community Amenities, Utilities and Education	LNG Canada Project Team	Include in Project waste reporting, volume of solid waste streams redirected to other BC facilities	Closed 08/03/21. Due to ongoing discussions with other waste disposal service providers, the Project team is not able to provide any information at this time.



#	Working Group	Responsible Party	Action	Status
2021-Q2-13	Community Amenities, Utilities and Education	LNG Canada Project Team	Correct terminology used in SMR materials re: organics collections to ensure it only refers to "back of house/kitchen" not "offices/lunchrooms"	Closed 11/22/21. Noted. Correct terminology regarding organics collection will be adopted.
2021-Q4-8	Community Amenities, Utilities and Education	LNG Canada Project Team	Provide a clarification on sludge cake data.	Closed 03/22/22. Data corrected in summary report and reflects being transported to approved facility out of the region.
2021-Q4-9	Community Amenities, Utilities and Education	LNG Canada Project Team	Provide a broader data regarding out of service area waste that is accepted	Open 02/23/22.

Joint venture companies



2020-Q4-4 Secondary transmission and epidemiological data for Q4 2020 LNG Canada site outbreaks:

NHA collects only surveillance data relevant to the management of non-outbreak associated COVID-19 cases. In the event of a cluster or outbreak, additional data may be collected to help prevent further transmission. NH only releases summative information on clusters and outbreaks publicly and only includes those details helpful in the management of clusters and outbreaks. In particular, directionality of transmission is rarely relevant to the management of a cluster or outbreak and unlikely to be released publicly for privacy reasons of all persons involved.

2021-Q1-2 Provide an overview of where recyclables are being disposed:

- Refundable bottles and cans go to various local organizations that accept refundables
- Office paper/cardboard/soft plastics go to Do your Party Recycling in Terrace
- Ferrous/non-ferrous metals also go to ABC Recycling in Terrace
- Waste oils can go to Norco in Terrace or Terrapure in Prince George
- Plastics with residue oil, spin-on filters, and batteries go to Tervita locations in Alberta
- Electronics (computer, printer parts, etc.) go to a Tervita location in Alberta
- NOTE: no recyclables are currently sent to the KUTE facility in Kitimat



Appendix D BC GOVERNMENT FOLLOW-UP

Working Group	Discussion Item
Housing & Accommodations	Discussion about how community-level rental housing data provided by Stantec/Big River Analytics is used by the Province to complement limited CMHC data to monitor the communities of Kitimat and Terrace (Q2 2021 SMR)
Housing & Accommodations	Discussion about the ongoing shortage of qualified early childhood educators (ECEs) and childcare staff recruitment and retention challenges in Kitimat and Terrace (Q2 2021 SMR)
Community Health	Discussion about cultural awareness training included as part of government Foreign Worker programs with respect to foreign workers that have recently moved to Terrace (unrelated to LNG Canada workforce). It was noted that this is a federal program, though BC does have a Provincial Nominee program that ties into the federal program (Q2 2021 SMR)
Traffic & Emergency Response	Provide a status update on emergency response capabilities in the region (Q3 2021 SMR)