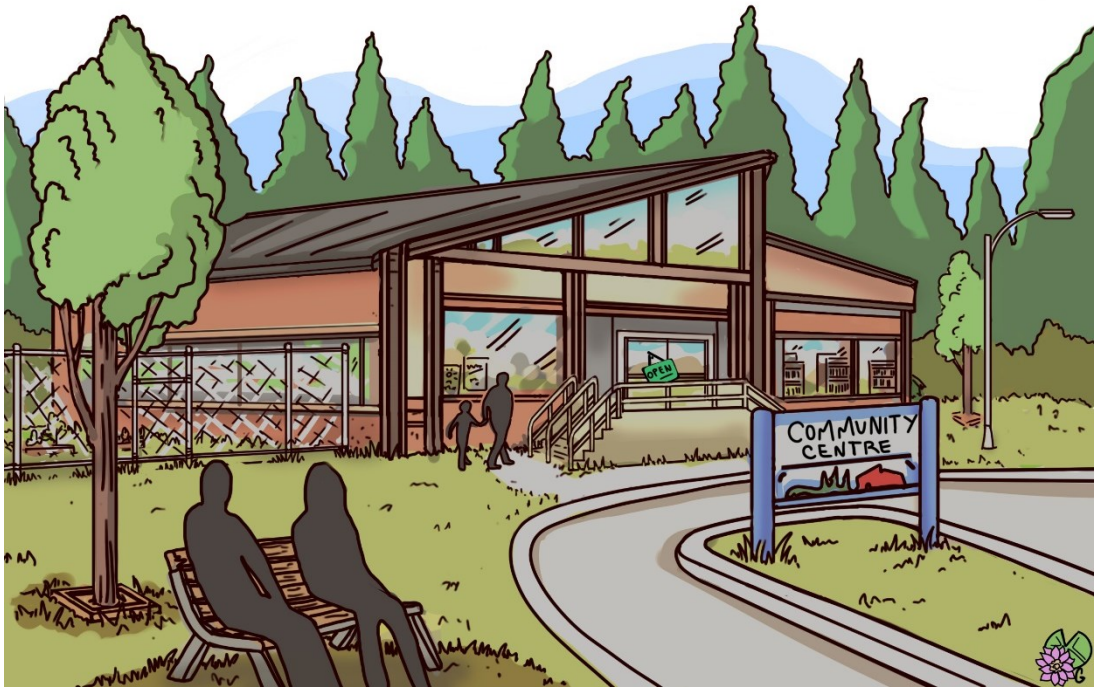
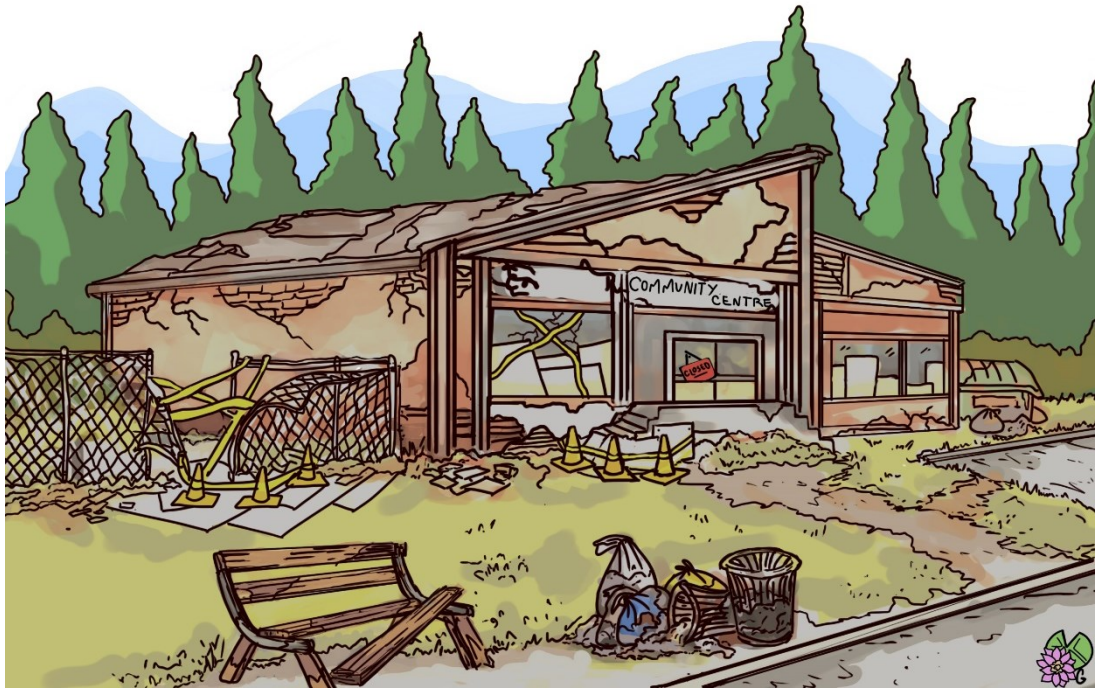


Analysis of regional comparability of levels of service standards to advance First Nations self-determination

Project for

Assembly of First Nations Quebec-Labrador

July 2021



Preface

The main objective of the project was to develop a methodology that will support First Nations communities, the Assembly of First Nations Quebec-Labrador (AFNQL) and Indigenous Services Canada (ISC) define the essential services subject to the transfer of responsibilities and the associated levels of service that lay the foundation for sustainable funding.

The authors of this report have worked in the field of asset management with First Nations and municipalities since the nineties:

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The support provided by the AFNQL, and the participation of its project manager – Mr. Guy Latouche, were essential contributions to the success of this project.

Staff members of First Nations and municipalities provided invaluable information on the services their organizations provide to their residents by completing the data collection questionnaire and participating in the project interviews. Their input was crucial in shaping the comparison methodology:

Bassem Abdrabou, General Manager & Government Advisor, Listuguj
Alexandre Bilodeau, conseiller à la prévention, ville de La Tuque
Samir Boumerzoug, directeur général, Kipawa
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Jody Mitchell, Director Capital & Infrastructure, Listuguj
Soter Newashish, chargé de projets spéciaux, Wemotaci
Terry Perrier, Public Works Director, Kebaowek
Serge Petiquay, coordonnateur S.G.E. Travaux publics et voirie, Wemotaci

Finally, feedback from the members of the project advisory group made it possible to refine the user guide of the methodology and the Excel tool. The contribution of the following organizations is greatly appreciated:

Assembly of First Nations
First Nations Education Commission
First Nations of Quebec and Labrador Health and Social Services Commission
Indigenous Services Canada
Tribal Councils of Quebec Region

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EXECUTIVE SUMMARY

The Government of Canada committed in July 2019 to the gradual transfer of responsibilities to Indigenous organizations and reinforced this commitment in December 2019 by asking the responsible minister to make this a priority. The department of Indigenous Services Canada (ISC) therefore suggested conducting an analysis of the regional comparability of service level standards for essential services. This study, which was managed by the Assembly of First Nations of Quebec-Labrador (AFNQL), was carried out by external subject matter experts.

The present study, intended to support stakeholders in the transfer of responsibilities define the maximum financial support for service delivery, had the following four objectives:

1) Perform an environmental scan and conduct a review of the literature and relevant documents on essential services, critical assets and levels of service definitions.
2) Determine what constitutes essential services and define service level standards.
3) Determine the criteria for selecting three First Nations (FN) communities paired with three municipalities to establish the basis for the comparison methodology and data collection.
4) Develop a methodology for comparing the levels of service identified as essential between First Nations and municipalities, and validate this methodology with an expanded working group.

LITERATURE REVIEW

Once the list of services included in the analysis was established and validated by the members of the project team, a review of the acts and regulations governing the services was carried out. Subsequently and throughout the course of the study, the project team focused on the concept of essential services in the context of the service levels provided by assets managed by the administration of a community. It proved necessary to distinguish between essential services and critical assets given that the definitions of essential services listed in the literature cover all the services offered by communities to their residents, while critical assets may vary according to the circumstances (crisis, emergency measures, evacuation, etc.). The literature review included an important component specifically devoted to First Nations' values and culture. Indeed, social and demographic contexts, and in particular values regarding nature, family and belonging to their community, contribute to the choice of services to prioritize, or even to offer to the members of the community.

LEVELS OF SERVICE AND PERFORMANCE INDICATORS

The concept of level of service is at the centre of this study and can be defined and evaluated from the point of view of the user (strategic) and from the perspective of the organization providing the service (technical). InfraGuide links the concept of levels of service to a community's social and economic goals, which are expressed through values such as safety, customer satisfaction, quality, quantity, capacity, reliability, cost, and accessibility[1].

Assessing service levels requires defining performance indicators that are clearly and directly related to the services they are intended to measure. For the purposes of this study, eight performance indicators were selected to assess services (availability, safety/security, reliability, cost of service delivery, affordability, ability to meet demand, support for community well-being and responsiveness) and five indicators were selected to evaluate assets (condition, functionality, capacity to meet demand, expected service life and sustainable life-cycle investment). It should be noted that there are no industry standards

[1] https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-developing-levels-of-service-mamp.pdf

that can be used to assess the performance of all the services and assets for an entire community which are included in this study. On the other hand, where standards exist for certain services or assets, they may be influenced by many local or regional factors.

CHARACTERISTICS OF THE COMMUNITIES SELECTED FOR THE DEVELOPMENT OF THE METHODOLOGY

Three First Nations and three municipalities were identified and selected by the project team based on their location (remote, proximity to an urban area), accessibility to transportation networks, geographic area, and population. This stage of the project proved decisive in completing the list of services under consideration in the methodology and in determining the extent and form of the information and data available.

GUIDING PRINCIPLES FOR THE DEVELOPMENT OF THE METHODOLOGY

Several considerations were taken into account in the development of the methodology and became its guiding principles. They have been included in the reference framework (Figure 6) and are further discussed in the conclusions of this study.

METHODOLOGY

It is important to note that the proposed methodology does not claim to be a perfect tool for conducting an analysis of service level standards or to be the only approach for their definition. However, it is based on fundamental principles that can be fully transposed to a wide range of communities, which makes it flexible and adaptable.

The methodology consists of six steps in addition to the preliminary community screening task. Amongst the six steps, the identification of context elements was identified as a foundational step of the analysis. Indeed, the evaluation process of the services and the assets that provide these services allows to identify those for which there are significant differences in levels of service; the context elements make it possible to identify the causes and reasons for those differences. The analysis tool is contained in an Excel file with several worksheets, the use of which is described in a user guide accompanying this report. The guide provides a step-by-step description of the application of the methodology.

CONCLUSIONS AND RECOMMENDATIONS

The development of the methodology has made it possible to produce an approach for the comparison of levels of service that is flexible and based on the social, environmental, and economic context of the communities. The guiding principles are as follows:

1) Indicators in manageable numbers, not requiring expenditures on studies and analyses, considered relevant, and that can be applied to all types of services.
2) Give equal importance to services ensuring the "quality of life" and to commonly called *"core"* services.
3) Conduct a comparison at the First Nation, local level.
4) Use the data and statistics that are available (e.g., Statistics Canada, ISC) to establish the context profile and to document some of the performance indicators.
5) Ensure that the methodology is flexible and simple – without being simplistic, and is supported by an easy-to-use tool.
6) Do not constrain the analysis to the notion of essential services, but instead consider critical assets.

Finally, it is possible that the comparison indicates that the performance indicators for a service or asset are "equal" between the First Nation and the municipality, and that in both cases this level of service is

unacceptable. These situations deserve to be highlighted and should lead to a reflection on the importance of engaging in a structured approach to asset management that includes the establishment of service level targets.

Three recommendations are made as a follow-up to the work carried out during this study:

1. Implementation of pilot projects in the Quebec region

It is recommended to carry out two to three pilot projects (using the current sample of communities engaged in the development of the methodology) in order to put the methodology to the test. It is suggested to form an advisory group (AFN, AFNQL, others) and a group of observers (other regions) to validate the flexibility and transferability of the methodology.

2. Organization of a National Conference on ongoing transfer of responsibilities initiatives (FN self-determination)

It is recommended that the Assembly of First Nations (AFN) host a National Conference on initiatives underway in Canada that are related to self-determination and transfer of responsibilities. It is suggested that a committee of regional representatives be formed to contribute to the organization of this conference.

3. Monitoring committee on the sharing of the results of the different service level initiatives

It is suggested that a pan-Canadian monitoring committee be formed under the coordination of the AFN, with the role of sharing information on ongoing projects aimed at supporting First Nations' self-determination processes and studies.

1. CONTEXT

When the department of Indigenous Services Canada (ISC) was created in July 2019, the Government of Canada committed to the gradual transfer of its responsibilities to Indigenous organizations. In his mandate letter of December 13, 2019 to the Minister of Indigenous Services, the Prime Minister of Canada reinforced this commitment by calling for a top priority to be given to "continue to work with First Nations communities to ensure First Nations control over the development and delivery of services."

First Nation organizations have been mandated by their leaders to develop, with the support of Indigenous Services Canada (ISC), service delivery and funding models to advance First Nations' self-determination in housing and infrastructure.

To this end, it was suggested that a regional comparability of levels of service standards for essential services be conducted with three First Nations communities and three municipalities of comparable size located in the same sub-region of Quebec.

Figure 1 below illustrates the six technical components defined by ISC – Housing and Infrastructure Services Reform (HISR) Directorate that support the advancement of self-determination. It should be noted that this model contains the 5 key steps of any asset management approach (future needs, service levels, asset condition, life-cycle costs and sustainable financing).

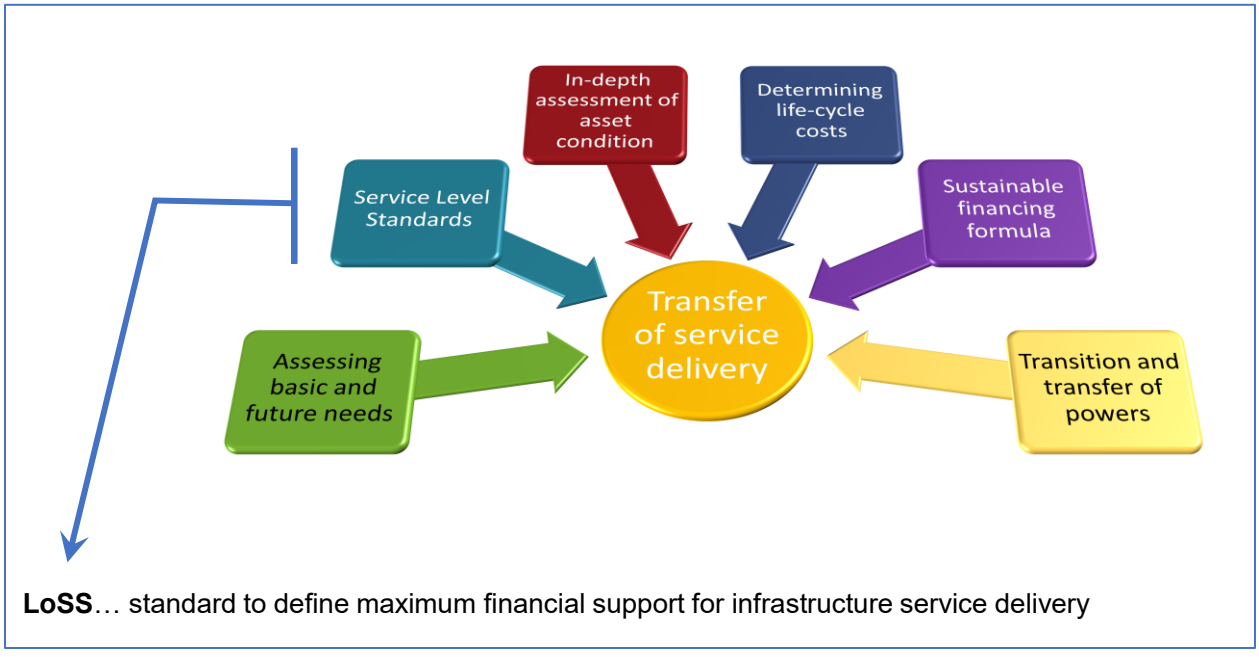

Figure 1. Technical components that support First Nations self-determination (source: ISC-HISR Directorate)

2. OBJECTIVES

The primary objective of the project was to develop a methodology that will support First Nations communities, the Assembly of First Nations Quebec-Labrador (AFNQL) and Indigenous Services Canada (ISC) define the essential services subject to the transfer of responsibilities and the associated levels of service that lay the foundation for sustainable funding.

This report summarizes the different stages of the process, presents the main elements that were selected and describes the methodology developed and validated using data collected from First Nations and municipalities that agreed to participate. An Excel file supporting the data collection and analysis, and a user guide on the application of the methodology accompany this report.

3. METHODOLOGY

The work plan followed by the project team consisted of four steps with the following objectives:

1) Perform an environmental scan and conduct a literature review of relevant documents on essential services, critical assets and levels of service indicators.
2) Determine what constitutes essential services and define service level standards.
3) Define the criteria for selecting the communities to be compared and the process to collect the data.
4) Develop a methodology for comparing service delivery levels identified as essential between First Nations and municipalities, and validate this methodology with an expanded working group of the AFNQL.

Figure 2 illustrates the main steps of the study.

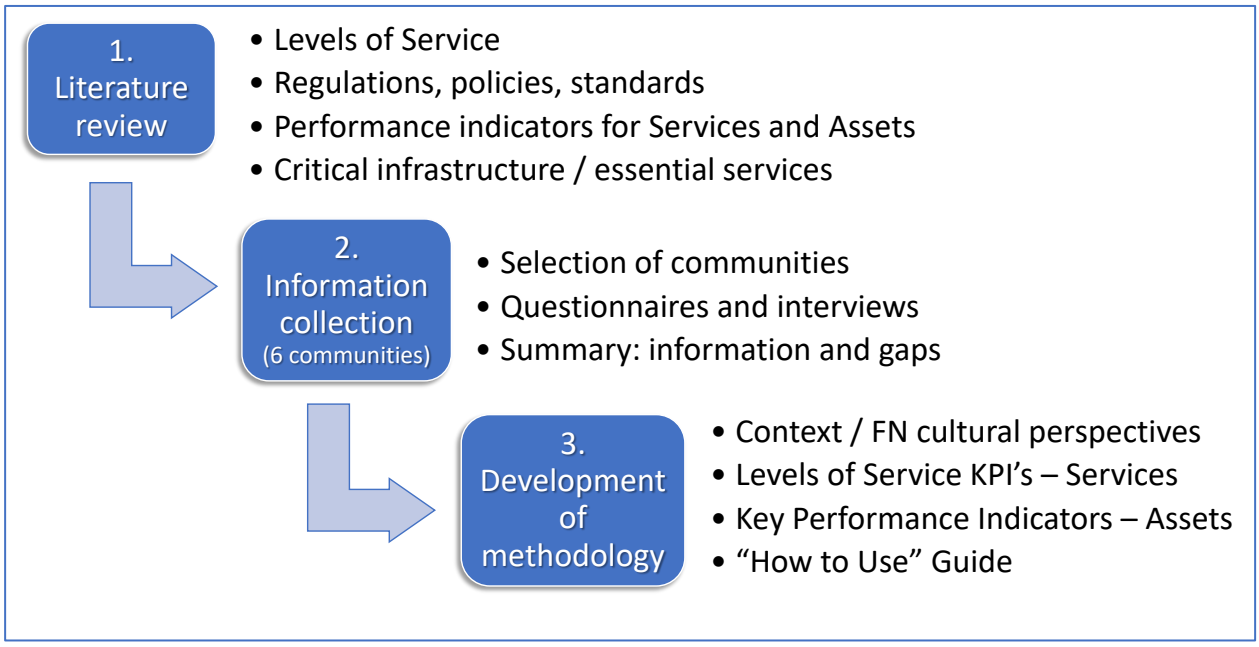

Figure 2. Overview of project phases.

4. LIMITATIONS AND SCOPE OF THE STUDY

This study is part of a broader approach to advancing First Nations self-determination and focuses on is one of its six technical components (Figure 1). This study is not intended to determine service levels for operations and maintenance activities, but it is an additional tool in the toolbox, expected to inform stakeholders in the determination of sustainable financial support for service delivery.

This study does not claim to produce a perfect tool for conducting an analysis of service level standards, nor to be the only vision of them. However, this methodology is based on fundamental principles that can be fully applied to a wide range of communities; in particular, it provides the flexibility to take into account the specific contexts of First Nations and their values. The methodology also considers the availability of data at the local level: the comparison performance indicators, whether qualitative or quantitative, were defined to maximize the participation of community representatives and capture their knowledge about the services and assets.

This project focuses on communities located in the Quebec region. However, particular attention was paid to the transferability of the approach to other regions of Canada. Accordingly, it is expected that only provincially specific regulatory aspects should need to be updated when applied to other jurisdictions.

5. PROJECT TEAM

To implement this work plan, the project team was composed of three experts whose involvement varies according to the stages and themes discussed. These three experts were supported by the representative of the Assembly of First Nations Quebec-Labrador (AFNQL).

The experts were selected based on their experience working with municipalities and First Nations as well as their expertise in asset management.

Figure 3 illustrates the organization of the project team.

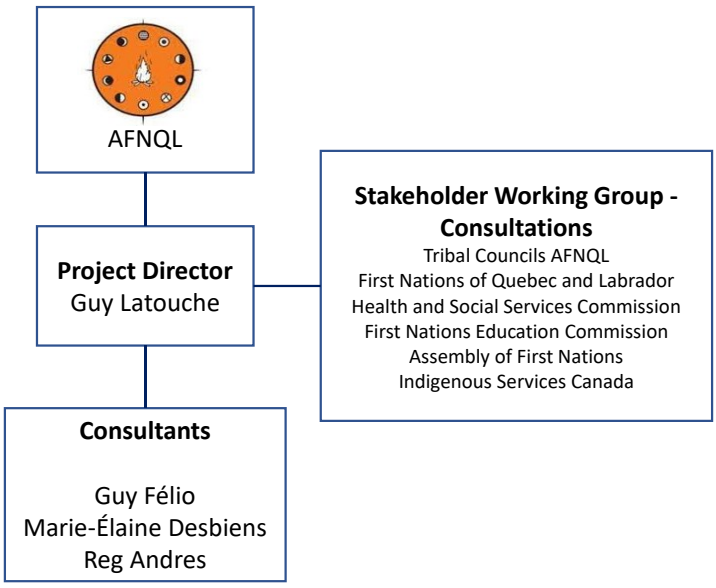

Figure 3. Project Team

6. LITERATURE REVIEW

6.1 Acts and Regulations Relevant to Essential Services and Assets

Prior to the review of the acts and regulations governing the services, the project team established the list of services to be included in the comparative analysis. This list, validated and enhanced as necessary during interviews with community representatives, is presented in the following table.

Table 1. List of services included in the comparative analysis

Service	Activity
Drinking Water	Intake Treatment Distribution
Wastewater	Collection Treatment Discharge into the environment
Drainage/Stormwater	Surface drainage (e.g., ditches) Storm sewers Retention (e.g., ponds) Discharge into the environment
Roads	Maintenance (preventive, corrective), repair and replacement of assets Seasonal maintenance (e.g., winter snow removal, summer dust control)
Public Parking	
Solid Waste	Collection Recycling and composting Landfilling
Education	Early childhood Pre-kindergarten and kindergarten Primary and Secondary Special education Work-force development
Health	Clinics Dental care Social services
Housing	Community (includes affordable housing owned by administration) Seniors' residences
Culture	
Sports and Recreation	
Security and Civil Protection	Police Fire protection
Administration	General administration Inspections (e.g., building codes enforcement)
Other	Airports and ports Electricity Information technologies Cemetery Community gardens Animal control Land management (planning) Land protection and enhancement

Once the list of services and assets included in the comparative analysis was determined, an extensive review of the applicable acts and regulations was carried out. This research focused on the general laws governing First Nations and those defining the responsibilities and jurisdictions of municipal organizations; in addition, the review identified regulations and directives issued by the various levels of government (federal and provincial) with respect to services and/or assets used to provide these services.

These acts and regulations are identified in the methodology. For many, a link is provided to access the official text. Examples include, at the federal level, the National Building Code and guidelines for Canadian drinking water quality. These are requirements that apply to all targeted services provided to Canadians. Other examples of federal-level standards and directives that apply specifically to First Nations include the Drinking Water and Wastewater Service Level Policy and Standards[2] or the Roads and Bridges Directive[3]. Finally, several provincial-level laws and regulations have been identified that govern municipal services and assets. It should be noted that some services offered to First Nations in Quebec may be governed by provincial regulations. These include the Regulation Respecting the Quality of Drinking Water in Quebec (RQEP)[4], the technical summary – Winter Road Conditions of the Ministry of Transports of Quebec (MTQ)[5] or the Children's Education Services Act and the Education Act[6][7].

A separate document (in French only) presents in more detail the acts and regulations as well as the main articles relating to the services included in the comparative methodology applicable to Quebec communities. It should be noted that the Excel file of the methodology includes a tab specifying the laws applicable to the services and/or assets covered by the comparative analysis.

6.2 Essential Services and Critical Infrastructure

6.2.1 General Observations

During the study, the project team began its reflection on the concept of essential services in the context of the levels of service provided by the assets (infrastructure, buildings, facilities and equipment) managed by the administration of a community.

In general, in "normal" times - without a crisis caused, for example, by extreme natural events or the COVID-19 pandemic that we are currently experiencing, all services provided to the community are "essential" to the health and safety of residents, as well as to the social, cultural and economic well-being of its members. As a result, assets managed by local or regional governments provide services whose availability, quality and accessibility are in some cases regulated by the provincial or federal governments (or their agents, for example, Regional County Municipalities – RCMs), or by local decision of elected officials (band council or municipal council).

In times of crisis (the COVID-19 pandemic is not considered in this observation but will undoubtedly have profound impacts on the definition of "essential services" in the future), communities base their

[2] https://www.sac-isc.gc.ca/fra/1312228309105/1533729544122 (consulted April 23, 2021)
[3] https://www.sac-isc.gc.ca/fra/1100100010628/1533652010591 (consulted April 23, 2021)
[4] http://legisquebec.gouv.qc.ca/fr/showdoc/cr/Q-2,%20r.%2040 (consulted April 23, 2021)
[5] https://www.transports.gouv.qc.ca/fr/securite-signalisation/securite-conditions-hivernales/Documents/cond-rout-hiv-resume-tech.pdf (consulted April 23, 2021)
[6] http://legisquebec.gouv.qc.ca/fr/showdoc/cs/S-4.1.1#:~:text=La%20pr%C3%A9sente%20loi%20a%20pour,enfants%20qui%20re%C3%A7oivent%20ces%20services%2C
[7] http://www.legisquebec.gouv.qc.ca/fr/showdoc/cs/I-13.3

interventions on the Emergency Management Plan (EMP) they have adopted. In general, EMP's identify the roles and responsibilities of members of the administration and, in some cases, essential or critical assets (for example, the administrative building serving as an emergency coordination centre).

In order to ensure that the distinction is made between essential services and the assets used to provide these services, the project team decided to use the term "critical asset" in further work. This distinction was necessary because a service might not be classified as "essential", but an asset that in "normal" times provides that service might, in times of "crisis", be considered critical. To illustrate this concept, consider a school. In times of "crisis", the "education" service is not defined as an essential service; however, it is possible that one or more schools will be identified in the EMP as a shelter for disaster victims, and thus become "critical assets" for the community. The same applies to school buses that could be used as public transportation during evacuations, or to provide temporary accommodation for residents or volunteers during a disaster.

6.2.2 Definition of Essential Services

The National Strategy for Critical Infrastructure[8] proposes the following definition:

> *"Critical infrastructure refers to processes, systems, facilities, technologies, networks, assets and services essential to the health, safety, security or economic well-being of Canadians and the effective functioning of government."*

The Strategy classifies Critical Infrastructure in Canada into the following ten sectors that provide critical services:

- Energy and utilities
- Finance
- Food
- Transportation
- Government
- Information and communication technology
- Health
- Water
- Safety
- Manufacturing

The definition of critical infrastructure in the Strategy is similar to that of several countries; the report of the Critical Group 5 composed of Australia, Canada, New Zealand, the United Kingdom and the United States of America states that:[9]

> *"All countries have established **critical infrastructure** sectors. For the purposes of the analysis, it is also useful to identify commonalities and differences between sectors. The five countries identified the following sectors as key:*
>
> - *Communications*
> - *Energy*

[8] National Strategy for Critical Infrastructure, Her Majesty the Queen in Right of Canada,2009

[9] *Acquiring a Common Understanding of Critical Infrastructure, Joint Presentation,* Critical Group 5 (2014)

- *Health care and public health*
- *Transportation systems*
- *Water (including wastewater treatment systems and stormwater systems)*

Furthermore, several members of the Critical 5 Group (including Canada) also noted that the following areas are essential:

- *Banking and financial services*
- *Manufacture of essential products*
- *Emergency services*
- *Food and agriculture*
- *Government facilities*
- *Information Technology"*

Responsibility for assets and activities related to these sectors varies according to governance models and jurisdictions, and can be at the level of local governments (First Nations or municipalities), regional governments (e.g., Tribal Councils or Regional County Municipalities – RCMs), provincial or federal, or in the private sector.

The definition used by the Quebec Ministry of Public Security[10] aligns with these definitions and also links essential services to "those whose disruption may endanger the life, safety, health or economic well-being of a community or part of it." The Ministry adds that the identification of essential services can be influenced by the context. For example, the Quebec Ministry of Municipal Affairs and Housing[11], in the particular context of the COVID-19 pandemic, defines essential services as "services, activities, equipment under the control of a municipality or municipal body, the interruption of which, even for a short time, would have serious consequences for the citizen, community or municipality."

6.2.3 Essential Infrastructure in Emergency Management Plans

Canada's Emergency Management Framework[12] defines an emergency as:

> *"A present or imminent event that requires prompt coordination of actions concerning persons or property to protect the health, safety or welfare of people, or to limit damage to property of the environment."*

The Emergency Management Act, passed in 2007, defines the role of federal departments in emergency management. Each minister responsible for a government institution must clearly identify the related risks to his or her area of responsibility, including risks to critical infrastructure, and develop and implement an emergency management plan for those risks. Public Safety Canada coordinates the emergency management activities of all governments and has a special responsibility for providing assistance to provinces and territories in the event of an emergency. In accordance with the Emergency

[10] Guide for municipalities to establish a general disaster preparedness plan (translation by authors), Quebec Ministry of Public Security, 2018.
[11] https://www.mamh.gouv.qc.ca/fileadmin/publications/ministere/COVID-19/covid19_guide_aux_municipalites.pdf (page accessed on September 10, 2020)
[12] Ministers Responsible for Emergency Management, *An Emergency Management Framework for Canada,* 2nd ed., Public Safety Canada, January 2011

Management Act, both Indigenous and Northern Affairs Canada (INAC) and Health Canada identified on-reserve emergency management as risks related to their departmental responsibilities.[13].

Because emergencies are often local in nature, the government of the affected First Nation is the primary responder in the event of an emergency on reserve. In accordance with INAC's Emergency Management Assistance Program, First Nation governments are responsible for developing and implementing emergency management plans to prepare communities for an emergency.

The same applies to Quebec municipalities, which are responsible for setting up alert and mobilization procedures in the event of a major disaster. This responsibility is conferred to them by the regulation related to alert and mobilization procedures, and minimum means of rescue to protect the safety of persons and property in the event of a disaster adopted under the Civil Protection Act[14]

Table 2 next page summarizes the essential services retained by the various sources consulted.

[13] INAC, Audit and Assurance Services Branch, Internal Audit Report: *Audit of the Emergency Management Assistance Program,*Project#12-08, April 2013; Health Canada, *Emergencies and Disasters, Health Concerns.*
[14] http://legisquebec.gouv.qc.ca/fr/ShowDoc/cr/S-2.3,%20r.%203/ (page accessed June 16, 2021)

Table 2. Examples of essential services defined by different organizations

Key sectors National Strategy for Critical Infrastructure	**Essential services** Quebec Ministry of Public Security	**Essential services** Quebec Federation of Municipalities (QFM) and Ministry of Municipal Affairs and Housing (MMAH)	**Examples of assets/resources that provide the services (not exhaustive)**
Energy	Production and distribution of electricity	Activities related to the production of energy.	Location of production (dams, power plants, wind turbines, solar panel farms); transmission and distribution networks (underground and overhead cables)
Public services. Government, regulations		Director General; maintenance and operation of strategic infrastructure; maintenance in good working order of essential public infrastructure (bridges, municipal buildings, etc.) or involving a risk to public health and safety (dams, hazardous materials, etc.)	Members of the municipal council; staff (members of senior management, white-collar and blue-collar workers); payroll services
Information and communication technology	9-1-1 emergency call system; public information	Emergency Call Dispatch Service; IT resources (related to security, maintenance and urgent needs)	Wires and cable networks; antennas and relays
Health (See comment below)	Collection of solid waste (activity classified in "environmental health" in the municipal domain)	Waste collection	Vehicles; landfilling; Eco-centres
Water	Provision of drinking water; wastewater treatment; sewer system	Maintenance of essential public infrastructure (drinking water supply, treatment and distribution; wastewater collection and treatment)	Water intake; pumping system; reservoirs; treatment system, service buildings; watermains and distribution lines; lift stations; chlorination stations. Wastewater collection pipes; pumping stations; combined sewers overflow structures; service buildings; wastewater treatment system; outfall.
Security	Fire protection; police	Public security services; police services; fire department; security agency; forest firefighters and other professionals in support of civil protection operations	Police station and vehicles; fire stations and vehicles; emergency vehicle and other vehicles (off-road, boat, etc.)
Transportation	Roads and road network; public transit	Public transit (and paratransit) and passenger transportation; snow removal service; maintenance of the road network, street lighting, signs and traffic control	Buses; garages; parking; bus shelters; snow removal vehicles and equipment; streetlights; main and secondary traffic lanes; sidewalks; traffic lights and traffic signs.
Health: Municipalities do not have health responsibilities at the provincial level while Indigenous communities provide this service which is sponsored and overseen by ISC - First Nations and Inuit Health Branch (FNIHB).			

6.3 Levels of Service

What is a level of service (LoS)? A level of service is the description of how an organization delivers a service and against which performance indicator it is measured. Levels of service can be measured from different perspectives: the point of view of the user (the one receiving the service) and the technical point of view (the organization providing the service). [15]

6.3.1 Level of Service from a User's Perspective (Strategic – service level)

The criteria used to assess service levels from the user's point of view must allow the user to express their level of satisfaction with the services rendered. The criteria must also be measurable since they reflect the targeted level of performance of the service. Each measure will correspond to a value that users attribute to the service (quality, health, safety, reliability, accessibility, etc.).

6.3.2 Level of Service from an Organizational Perspective (Technical - asset level)

Generally, organizations favour the choice of standardized technical criteria found in the literature. This approach allows the organization to compare its service delivery over time or to compare its performance with other organizations.

In asset management, the minimum level of service must meet the regulatory requirements and laws that govern each type of service. Indeed, an organization would not be in compliance with the applicable regulations if it provided water that did not meet quality standards, just as an organization could not build a structure that did not meet construction standards.

6.3.3 Key Performance Indicators (KPI's)

The choice of performance indicators is an important step because they must be clearly and directly linked to the services they aim to measure. In addition, they must meet a rule (be SMART)[16]), that is, they must be specific, measurable (quantitative or qualitative), achievable, relevant and time-limited. There are numerous lists of examples of performance indicators that can be consulted and are applicable to different types of services and assets [17].

The literature on asset management and experience of the authors recommend limiting the selection to a "manageable" number of performance criteria because, for each of the criteria selected, data and information must be available or collected, which may represent efforts in excess of the expected benefits.

Table 3 lists the indicators used in the methodology described in Section 8 that meet the criteria set out above. These indicators are applicable to the wide range of services included in this analysis.

[15] The description of the service output for a particular activity or service area against which performance may be measured" In Developing Levels of Service and Performance Measures, National Asset Management Steering Group, New Zealand, 2007.

[16] International Infrastructure Management Manual, IPWEA, 2015 (Edition aligned with ISO 55000:2014)

[17] https://www.spiderstrategies.com/kpi/ (Accessed April 23, 2021)

Table 3. List of indicators selected for services and assets

Indicators for services		Indicators for assets
Availability of / Access to services	Affordability of service to residents	Condition
Safety / Security of service	Capacity to meet demand	Functionality
Reliability of service	Responsiveness	Capacity to meet demand
Cost of providing services	Support of community well-being	Expected service life
		Sustainable life-cycle investment

6.3.4 Industry Standards

"Industry Standards" are often referred to when discussing levels of service. In legal terms, industry standards are defined as[18]:

> *"Industry Standards means those standards of care and diligence normally practiced by a majority of engineering, construction and installation firms in performing services of a similar nature in jurisdictions in which the Work will be performed and in accordance with good construction practices, Applicable Permits, and other standards established for such Work."*

In regard to the wide range of assets and services provided by the community administration to its residents, levels of service standards may exist for some (e.g., water quality guidelines) but, in many instances, they are influenced by regional or local factors, and thus a "standard" does not exist or cannot be established.

The textbox next page from the Standards Council of Canada describes different types of standards.

From a general perspective, InfraGuide[19] defines levels of service as:

> *"Levels of service are a composite indicator that reflects the social and economic goals of the community and may include any of the following parameters: safety, customer satisfaction, quality, quantity, capacity, reliability, responsiveness, environmental acceptability, cost, and availability. Levels of service may also be legislated. The defined levels of service may be any combination of the above parameters deemed important by the municipality [community]."*

Important in this definition is the context, that is **"… reflect the social and economic goals of the community …**" and **"… deemed important by the municipality [community]**" and the parameters used to define levels of service.

[18] https://www.lawinsider.com/dictionary/industry-standards
[19] https://fcm.ca/sites/default/files/documents/resources/guide/infraguide-developing-levels-of-service-mamp.pdf

In view of the above and the literature research, the development of the comparative methodology focused on defining performance indicators that are relevant to all the services and assets the community administration is responsible for. Emphasis was also placed on ensuring either a quantitative or qualitative assessment could be achieved, without resorting to additional studies. Therefore, the performance indicators selected may or may not have a direct link to a standard.

Types of Standards

A standard is a document that provides a set of agreed-upon rules, guidelines or characteristics for activities or their results. Standards establish accepted practices, technical requirements, and terminologies for diverse fields.

Most standards aim to achieve an optimum degree of order in a given context. Because they are easy to recognize and reference, standards enable organizations to ensure that their products or services can be manufactured, implemented and sold around the world.

Standards can be either voluntary or mandatory:

- Standards are **voluntary** when organizations are not legally required to follow them. Organizations may choose to follow them to meet customer or industry demands.
- Standards are **mandatory** when they are enforced by laws or regulations, often for health or safety reasons.

A standard is distinct from an Act, a regulation or a code:

- An **Act** is a statute that establishes control or directives based on legal authority.
- A **regulation** is a statutory instrument made by exercising a legislative power conferred by an Act of Parliament. Regulations have binding legal effects. If a voluntary standard is referenced in a regulation, it becomes mandatory.
- A **code** is broad in scope and is intended to carry the force of law when adopted by a provincial, territorial or municipal authority. A code may include any number of referenced standards.

There are many types of standards:

- **Performance standards** test products by simulating their performance under actual service conditions.
- **Prescriptive standards** identify product characteristics, such as material thickness, type, and dimension.
- **Design standards** identify specific design or technical characteristics of a product.
- **Management system standards** define and establish an organization's quality policy and objective.
- **Service standards** specify the requirements that are to be fulfilled by a service and establish its fitness for purpose. Service standards may be prepared in fields such as laundering, hotel-keeping, transportation, car-servicing, telecommunications, trading, and insurance and banking.

Source: https://www.scc.ca/en/types-standards

For specific services and assets, it is possible that standards (voluntary or mandatory) may exist. The methodology, by identifying where there are differences in KPI's for services and assets between the First Nation and a municipality, allows exploring in more details those differences while accounting for contextual elements, and the standards that relate to the service/asset.

6.3.5 Cultural Context and Values of First Nations

The unique context of this mandate prompted us to add a section specifically to First Nations values and culture to the literature review. Indeed, social and demographic contexts, and in particular values regarding nature, family and belonging to their community, contribute to the choice of services to prioritize, or even to offer to the members of the community.

In an excerpt from the terms of reference of this mandate, Indigenous Services Canada (ISC) "recognizes that the needs of First Nations communities are unique" and that the state of preparedness of different communities is very variable, which should be taken into account in the reflection initiated by this study as well as in the proposed methodology.

It was therefore important to add a reflection on the specific contexts that can differentiate communities between them, communities and municipalities, as well as municipalities amongst themselves. The addition of a contextual filter in the choice of communities to compare as well as to understand/explain possible differences in service levels adds greater flexibility to the methodology, an essential value attributed to it by the experts forming the project team.

The inclusion of these contextual dimensions is also part of the very current questioning of the capacity of institutions to take into account indigenous values and culture in the organization and delivery of health and social services, in education, and even for housing and infrastructure services.[20].

Part of the literature consulted refers to the concept of cultural security that could be described as follows: to develop services, programs and tools by and for the target populations according to their specific needs.

Other references allowed us to learn about the main findings of the assessment of the well-being index of First Nations communities whose gap in 2016 was 19.1 points below the average for non-Indigenous communities.[21] The indicators used to assess this index of well-being are education, labour force participation, income and housing conditions. However, the Auditor General of Canada, in its 2018 Spring Report, found that this index did not adequately measure well-being, noting that "variables such as health, environment, language and culture [were not taken into account]. First Nations, in particular, consider language and culture to be essential to their well-being."[22].

To complement our research for relevant references and recommendations to better understand and acknowledge the contextual elements that should be considered in our comparative analysis, we reviewed the First Nations Mental Wellness Continuum Framework published by Health

[20] Services covered by the consulting mandate.

[21] https://www.sac-isc.gc.ca/DAM/DAM-ISC-SAC/DAM-STSCRD/STAGING/texte-text/report-trends-FN-Comm-1981-2016_1578933771435_fra.pdf (Accessed April 23, 2021)

[22] https://www.oag-bvg.gc.ca/internet/Francais/parl_oag_201805_05_f_43037.html (article 5.25) (Accessed April 23, 2021)

Canada (2015) and developed in partnership with First Nations. This document proved to be very inspiring and relevant to allow the project team to identify several major components for which it would be possible to group the elements of context that may influence service levels.

An in-depth reflection identified a series of contextual elements that can influence choices and service levels. These contextual elements have been grouped under ten contextual themes. These themes - demography, governance/organization, characteristics of the environment, local and geographical characteristics, social, culture, economy, health and justice, in the opinion of the project team, make it possible to cover all the circumstances that can influence the offer of services, taking into account the specificities of each community. A comparison of the list of selected themes revealed that each of the eleven determinants of health listed in the Continuum of First Nations Mental Wellness can be matched with any of these contextual themes.

The description of the general comparative methodology illustrates the contribution of the contextual elements described above.

7. PROFILES AND CHARACTERISTICS OF THE COMMUNITIES SELECTED TO SUPPORT THE DEVELOPMENT OF THE METHODOLOGY

The next section presents the six organizations, paired two by two, selected for the comparative analysis. Three First Nations and three municipalities were identified based on their location (remote, proximity to an urban area), accessibility to transportation networks, geographic area and population.

This stage of the project proved decisive in determining the form and extent of information and data available from organizations that could be used to document performance indicators and thus assess the levels of service offered to community members. This step also addressed the concepts of critical services and assets by reviewing the content of emergency response plans where available. Further details can be found in Section 7 of this report.

The following paragraphs present the characteristics and context elements corresponding to each organization in order to demonstrate their specificities, similarities and interactions between First Nations and the twinned municipalities.

7.1 General Profiles of the Selected Communities

- **Remote First Nations community** and medium-sized municipality (population approximately 1,500). Accessible urban services but far from other communities requiring a trip of more than one hour and thirty minutes (1h30 minutes).
- **Small First Nations community located in a semi-urban setting** (population of approximately 400 people on reserve) near a small municipality but relatively close to a small town (population of approximately 2500). Members of the First Nation have access to the services offered by both municipalities; there may be service agreements in place between the communities.
- **Medium-sized First Nations** community located near a major city and urban centre. The community and the city are crossed by provincial roads.

7.2 Overview of Medium-sized Remote Organizations with Remote but Accessible Urban Services

7.2.1 Remote First Nation

The selected First Nation corresponding to this particular geographical location is just over 100 kilometres from the nearest town. The community has an on-reserve population of nearly 1500 members and covers an area of 2,978 hectares. This community is accessible by air via an airstrip a few kilometres from the reserve. However, this mode of transportation is used less frequently since the construction of a road that connects the community to the nearest city. The community is also accessible by rail, although the train station is further away than the airstrip, and this service is significantly reduced.[23]

7.2.2 Remote municipal organization

The municipal sector twinned with the First Nation is isolated and located a few hundred kilometres from the city it belongs. This municipal sector, located in the same geographic area as the First Nation, has a population of just over 600. Citizens can count on an airstrip, a train station and two forest roads for their travels.

7.3 Overview of Organizations in a Semi-urban Context - Accessible by Road Year-round

7.3.1 Semi-urban First Nation

The selected First Nation has fewer than 500 on-reserve residents and is located within the territory of a small municipality that surrounds it. Members of the First Nation have access, via a regional road, to a small town of about 2,500 people located approximately ten kilometres away. However, this small border town is only accessible to the residents of more remote locations by the road network of the neighbouring province.

7.3.2 Semi-urban municipal organization

The municipality twinned with the First Nation has a population of approximately 500. The municipal territory is divided into two sectors, the most important part is located around the First Nation reserve. The second residential area, of lesser importance, is located a few kilometres away, towards the small nearby town.

7.4 Overview of Organizations in Urban Contexts

7.4.1 Urban First Nation

The urban First Nation is located near a major river separating two provinces. The reserve is served by a provincial road and bridge that provide access to a city offering regional level services.

[23]Source: https://www.autochtones.gouv.qc.ca/nations/population.asp (Accessed March 26, 2021)

7.4.2 Urban municipal organization

The urban municipality twinned with the First Nation was selected because its northern boundary is adjacent to that of the First Nation. The municipality is a border area between two provinces, making it an important entry into the province of Quebec. This municipality has a varied topography and is served by provincial roads and a bridge, as is the neighbouring First Nation.

7.5 Collection of Data and Information on Levels of Service (LoS) and Essential Services

Preparatory steps were taken before the actual data collection could be carried out with the objective of securing the cooperation of the community staff. These steps consisted of contacting the directors-general of the organizations; members of the Project Team who already had contacts or relationships with certain organizations (i.e., AFNQL) or extensive knowledge of the Quebec municipal environment were tasked to make these contacts. Once these initial connections were established, and the commitment to participate was confirmed by the organizations, an email was sent by the AFNQL to formalize the process, clarify the context of the study and inform participants of the next step - namely data collection.

A questionnaire was developed in parallel to guide the interviews, to structure the exchanges and to facilitate the collection of the information sought. This questionnaire, which can be found in Appendix 1, consists of three sections: a section explaining the context of the study and allowing the contact information of the respondent(s); a section on services provided to residents that require or involve the use of assets; and finally a section on essential services and critical assets.

This questionnaire was sent ahead of an interview to each organization and an appointment of approximately 90 minutes was scheduled over the following weeks. Table 4 presents details of the interview schedule and the titles of the key participants from the communities.

The consulting team participated in each interview and the data collected was the subject of a cross-validation between the project team members. Once this first validation was carried out, the completed questionnaires were sent to the respective communities for their validation and return of missing information if necessary or available. Each organization's website was also researched in depth to gather the information available and to complete certain sections of the questionnaire.

Table 4. Summary of the data collection process

Organisation	EMP (Receipt date)	Interview	Staff participating in interviews
Medium-sized but accessible remote			
Municipality	October 20, 2020	November 17, 2020	Fire Prevention Captain Senior Technical Services Advisor
First Nation	October 29, 2020	December 3, 2020	Coordinator Roads and Public Works Special Projects Manager
Semi-urban context, located in remote areas accessible year-round			
Municipality	October 29, 2020	December 3, 2020	Director General
First Nation	November 16, 2020	November 19, 2020	Public Works Director
Small town nearby	N/A		
Urban context crossed by provincial highways			
Municipality	October 8, 2020	November 17, 2020	Director, Fire Protection and Civil Security
First Nation	-	December 3, 2020	General manager and Government Advisor
Neighbouring city (population 5,000 to 10,000 people)	N/A	December 17, 2020	Director General

7.6 Description of the Information Collected to Understand the Specific Context of each Organization.

It should be noted that consultation of each organization's website provided additional documents and information on the organizations and their orientations. Service and service level data were collected through key staff interviews and follow-ups.

Our reflection on the concept of essential services and critical assets had led us to pay particular attention to emergency management plans (EMPs). We obtained EMPs from most organizations. These documents were, at the time of data collection, either in the process of being approved by the local authorities or being updated. We found that EMPs contained key information, even in those that were not final at the time of the review. The EMPs were also used to prepare for the interviews and provided elements relevant to our study.

7.6.1 Remote First Nation

Services related to drinking water, wastewater and drainage are provided throughout the reserve. Only one building has an individual system for its wastewater treatment. According to the interviewees, the wastewater treatment plant is outdated. Winter maintenance of the streets is contracted to a private company that must respect snow removal priorities (priority buildings and streets). The community has set up several assistance programs to encourage education and literacy, and access to property ownership.

Although there is no formal cultural policy, the Band Council attaches some importance to the organization of cultural weeks and traditional ceremonies. In addition, the Council delegates three employees, including a coordinator, with the task of organizing leisure and sports activities, the arena being divided between education, minor hockey and adults' activities.

Security is provided by the First Nation police, who can call on the *Sûreté du Québec (SQ)* for mutual aid. The police station and fire station are considered inadequate and a new construction project is expected to meet the demand in the short term.

The land protection and development service plays a fairly broad mediation role with forestry companies for logging on the First Nation's ancestral lands.

There is an airport (without lighting) that was used for medical evacuations. Currently, a forest road connects the community to the nearest big city in 90 minutes. All services offered are considered essential and some assets have been identified as critical.

The pandemic period that has been underway since March 2020 has prompted the First Nation's band council to clarify, in a by-law, the concept of "essential services":

> *"Services, facilities or activities that are or will be necessary for the health and safety of all or some of the residents, occupants or members of the community, including health services, public safety services, social services, the Emergency Measures Committee as well as the public services identified by this Committee, and services for the delivery of essential goods (including: food, supplies for the food market, medical supplies, products for the production of drinking water, waste collection, parcels and postal mail, gasoline and fuel oil)".*

The EMP drafted by the First Nation indicates that the city located about 100 kilometres away is identified as the main host community in the event of an evacuation and is part of the regional resources that can help community members in the event of a disaster (accommodation, food, etc.), forest interventions (rescue, hazardous materials, etc.) as well as at the technical level. The City Hospital is one of the resources available for health and environmental sanitation needs. However, formal service agreements with these institutions have yet to be developed.

The Health Centre and the Council offices are the two buildings identified as emergency measures coordination centres and must always provide a number of services (communications including internet, energy, vehicle access) in times of emergencies. The community arena and high school located on the reserve are identified as a disaster services' centres.

Several buildings have been identified as priorities in the event of a day evacuation or for the preservation of certain important assets, in particular: medical records, the Council's archives, and the Council's computer servers.

7.6.2 Remote municipal organization

The municipal organization paired with the remote First Nation is a well-organized community with a few businesses, institutions (school, church, health centre, municipal office) and a few recreational facilities. The main employer is a local company. This isolated area is served by an airport and connected to the city by two forest roads.

This municipal sector has aging and poor infrastructure, except for some services. According to the manager, the condition of the assets constitutes a risk to the health and safety of residents. The wastewater from each residence is treated by individual systems qualified as “artisanal”.

Some services are offered through agreements with other institutions (for example, access to the high school library, which also serves as a service point for the city's library). In terms of sports and recreation, it is the residents who "manage their own clubs."

A coordinator of local services is present at the municipal office five half-days a week to respond to requests from citizens in the remote area. The *Sureté du Québec (SQ)*, serves this isolated sector only when called.

The city's EMP provides few details on this isolated municipal sector other than the nature of some specific threats, such as the derailment of a train carrying or not carrying hazardous materials. Several services were identified as essential and some assets as critical.

7.6.3 Semi-Urban First Nation

The Band Council of this First Nation has committed to its members to promote and protect the collective interest of all by the strength and will of its people and guided by their values - culture and traditions. At the administrative level, the existing team works to provide equal and equitable opportunities for all members who access programs and services in accordance with established community improvement policy and procedures.

The community has begun an exercise of consultation with its members in view of preparing preparation its comprehensive community plan (CCP) whose concept[24] is illustrated in Figure 4 below.

[24] Source : https://www.sac-isc.gc.ca/eng/1100100021901/1613674678125 (Accessed: July 21, 2021)

Figure 4. Components of a Comprehensive Community Plan (source : ISC)

The community has generally new and good infrastructure. Its approach to regulatory compliance is to follow the most stringent requirements for drinking water infrastructure. The community has its own snow removal equipment and recruits an operator for the winter; it provides snow-removal of the main roads of the neighbouring municipality (5-year contract). Currently, the solid waste collection services are contracted to the Regional County Municipality (RCM), but this service will be internalized in 2021 because the community has acquired the necessary equipment and infrastructure. There is no school on the reserve; school-aged children are transported to schools about 100 kilometres away. The secondary school off-reserve offers special services to young people according to their special needs (2 special educators).

Most community members own their homes and the band council builds rental townhouses for seniors in transition. The community has a coordinator responsible for the cultural and recreational components that are shared with the neighbouring municipality.

In terms of security, there is a tripartite agreement between the community and the provincial and federal governments. A new police station will be built in 2021. Fire protection is provided by volunteer firefighters and a mutual aid agreement has been concluded with the small town located about ten kilometres away.

Technical services are provided by the tribal council (Asset Condition Rating – ACRS report). The administrative offices are served by a local company for telecommunications. The community has not identified essential services or critical assets.

A consultation of the community's emergency management plan revealed that the administrative offices of the council as well as the health centre, located in the same building, are identified as

emergency operations centres. In addition, several types of threats were cited in the EMP, including: forest fires, ice storms, high winds, floods, industrial incidents and pandemics.

7.6.4 Semi-urban Municipal Organization

The municipality is located on the borders of Quebec and Ontario near major centres and the local economy revolves around logging and tourism. Only citizens in the residential sector outside the urban perimeter are served by the municipal drinking water and wastewater infrastructure connected to the system of the small town located nearby. Residences in other sectors are served by individual private infrastructure.

The drainage system consists of ditches or stormwater pipes in the residential sector. Snow removal for the main roads is carried out by the neighbouring First Nation through a 5-year agreement. The collection and disposal of solid waste is done by the RCM.

Cultural, sports and recreation services are shared between First Nation members and municipal residents at no additional cost to residents of both communities. Similarly, they can use the recreational services of the city located approximately 10 km away under an agreement that allows them to avoid paying the fees for non-residents.

Regarding public security, the provincial police covers the territory of the municipality and fire protection is provided by the nearby larger city (2,500 inhabitants) because the municipality has no fire protection infrastructure. In terms of monitoring compliance with the regulations (septic systems and shoreline protection), the municipality has entered into an agreement with the RCM and pays for the services of an employee (60 hours in 2021).

The municipality has a public pier. The telecommunications services at the municipal office and the community hall are provided by a private company and are required to meet the requirements of the EMP. Some services and assets have been identified as priorities, particularly the municipal office and garage, as well as the community hall.

A review of the municipality's emergency plan highlighted some of the risks to which the municipality may be exposed, as well as events that have occurred in the past (high winds in 1996; ice storms and major power outages in 1998; heavy rains in 2004; snowstorms and power outages in 2011; floods and road closures in 2019).

Three municipal buildings have been identified to perform specific functions in the event of a disaster: City Hall (emergency coordination centre), the municipal garage (warehouse for essential supplies) and the community centre (disaster service centre). In regard to facilities for vulnerable populations, the three centres identified are all located on the territory of the neighbouring First Nation. It should be noted that there is good collaboration and communication between the residents and the institutions of the two communities. Moreover, particular attention is paid to taking cultural specificities into account in the EMP in the event of hosting disaster victims in the community hall of the municipality.

Special agreements will be concluded with the Community Centre and the high school of the city of 2,500 inhabitants for accepting municipal residents in the event of an evacuation. Finally, in regard to health care and emergencies, two hospitals can accommodate patients, one of which is about 10 kilometres away and the second is almost 100 kilometres away.

7.6.5 Urban First Nation

The urban First Nation has developed a vision and action plan that supports self-government, cooperation, and local self-regulation. Several specific initiatives are underway in the community and target both youth and elders. Indeed, the community has initiated an approach aimed at developing a comprehensive community plan (CCP) as illustrated in the previous Figure 4 and is founded on being developed by the community, for the community and belonging to the community.

The First Nation has community drinking water; wastewater is collected by the First Nation and treated at the treatment plant in the neighbouring municipality through a specific agreement. There are approximately 5 buildings that have individual services for wastewater. In terms of drainage, a project to build a retention pond is underway and will comply with provincial and federal standards.

The maintenance of the streets of the reserve is mainly corrective. There is a council directive with respect to snow removal. The management of solid waste is carried out in part by the community and by a private firm (landfill). Regarding education, services are provided on-reserve. After Grade 8, young people head to the large mainly English-speaking city in the neighbouring province to continue their studies. There are many initiatives put in place by the Band Council to combine the cultural component with education and to promote the use of the language of the Nation.

Basic health care is provided at the reserve's health centre, while for more advanced care members have access to two hospitals: the first located 5 kilometres away and the second approximately 75 kilometres away. The Band Council has a policy on access to housing. However, seniors must travel to the big city for specialized housing. The economic development team manages the community centre and several other projects. For sports and recreation, the First Nation, the municipality and the big city are financial partners for the civic centre's facilities (in the city), which allows them to benefit from the facilities and programs at the same rate as local residents. A single rate is also applied for the use of cultural infrastructure and services.

With respect to emergency management, the Rangers are responsible for enforcing the highway safety code and animal control. The community has a rescue vehicle and two fire trucks for fire protection.

The community is responsible for enforcing the building code, and federal and provincial regulations as appropriate. The community has specific infrastructure (pier, cemetery, community gardens). Most services have been identified as essential and several assets are included in the list of critical assets.

7.6.6 Urban Municipal Organization

The municipality is served by collective drinking water and wastewater infrastructure. The wastewater treatment plant is operated by First Nation staff. Some streets are drained by ditches (the ditch by-law is being revised). A stormwater pipe system is located under the *rue Principale* (interprovincial road managed by the Ministry of Transport of Quebec– MTQ). The municipality maintains a road network which is 90% asphalted and has determined snow removal priorities

(streets located by the seaside, critical buildings, pedestrian sections including interprovincial boulevard – agreement with the MTQ).

The solid waste collection is provided by the RCM; the municipality has a dry waste storage site. The following services are provided by the provincial government or by private companies: education, health, and community or affordable housing. Cultural activities are provided by the school board (evening and weekend school library) and with the large city of the neighbouring province through a tripartite service agreement. Sports and recreation activities are organized by the municipality (multipurpose centre and youth centre, 50-year-old club) and shared with the school board (gymnasium) and private associations (four-wheelers and snowmobilers).

In terms of public security, the municipality specifies that it can count on the police service of the neighbouring First Nation in addition to those of the Provincial police (SQ) and the RCMP. Fire protection is provided by volunteer firefighters; a fire station and three vehicles are available to firefighters. The fire department can count on the services of the surrounding municipalities in mutual aid, including that of the First Nation (an agreement has yet to be concluded). Standpost hydrants are available in urban areas and portable swimming pools in rural areas.

In terms of compliance, the municipality shares an inspector with 3 other municipalities to enforce its regulations. An exercise is underway to develop a mission and strategic objectives and thus prepare a long-term development plan for the municipality. Several services were deemed essential and some assets identified as critical. From a sustainable perspective, the municipal council has adopted several by-laws aimed at protecting its territory and its resources (coastal erosion, protection of shorelines, protection zone for drinking water sources, etc.).

The main threats identified by the municipality's EMP focus on hazardous materials spills, floods, a tidal wave, sewer system breakdowns and road accidents. It can be assumed that these threats are similar to the First Nation because these two organizations are neighbours.

8. SELECTED SERVICES AND ASSETS FOR THE COMPARISON METHODOLOGY

The list of services included in the study was developed by the project team and enhanced during several validation stages. This list was included in the questionnaire and was finalized based on the information gathered during the telephone interviews with the communities.

In regard to the identification of essential services, the interviews revealed that not all the organizations consulted had formally defined a list of essential services and critical assets. However, the assets listed in the EMPs were easily identified by the interviewees as critical assets, without this being an official designation.

The “essential service” designation will be defined during the comparison; critical infrastructure covers many services and critical assets may belong to non-essential services as discussed earlier[25]. On the other hand, emergency situations may modify the designation.

The project team considered necessary to add to the list of services the associated “core assets”- the infrastructure, buildings and facilities enabling the provision of these services. An example of

[25] National Strategy for Critical Infrastructure

these two lists is provided in Figure 5 below. The complete lists (services and assets) are available in the Excel tool that accompanies this report.

Services to residents (that require infrastructure / assets)	**Assets required to provide the service**
◆ **Drinking water**	
Communal supply & piped distribution	Source / intake system
	Treatment facility
	System Storage (elevated, in-ground)
	Distribution pipes (valves, hydrants, etc.)
	Booster pumping stations
Communal supply & trucked delivery	Source / intake system
	Treatment facility
	System Storage (elevated, in-ground)
	Water delivery vehicles
Individual on-site systems	Individual (in-house) tanks
	Individual w ells
	Plumbing
◆ **Wastewater**	
Piped collection & communal treatment	Collection system (incl. MH's)
	Treatment facility (mech / lagoons)
	Pumping stations
	Effluent discharge structure / system
Trucked collection & communal treatment	Individual (on-site) septic tank
	Communal septic systems
	Sew age haulage trucks
Individual on-site systems	Individual (on-site) septic tank
	Individual septic system
	User system (plumbing)

Figure 5. Example of services and associated assets

9. METHODOLOGY FOR THE COMPARATIVE ANALYSIS

Each of the previous steps provided insights to develop the framework and process of the methodology. The criteria used to select First Nations and municipalities to compare provided some context for matching similar organizations. The development of the questionnaire made it possible to draw up a preliminary list of services and to add missing services. Interviews with staff from each community identified the type and availability of data. Finally, the continuous literature review made it possible to locate relevant references as presented in Chapter 5.

9.1 Guiding Principles for the Development of the Methodology

Several considerations were taken into account in the development of the methodology and became its guiding principles. These have been integrated into the framework presented in Figure 6 as well as into the structure of the methodology.

More specifically, the following elements supported the development and application of the methodology:

- The analysis must consider the context and cultural specificities of the First Nations. The methodology must be flexible and allow the identification of context elements specific to each First Nation.
- The comparison must be made locally, at the level of a First Nation twinned with one or more municipalities.
- The services covered by the analysis fall into two categories: mandatory services (imposed by acts and regulations) and community services (community choice). These two types of services will be assessed consistently throughout the comparative process.
- A distinction must be made between service levels related to services (strategic) and those related to assets (operational).
- The comparison should be based on available data: Statistics Canada, ISC and the professional judgment of community staff.
- When services are regulated, the comparison project team will assume that service levels are met. The focus will be on services or aspects where no regulations specify levels of service.
- The key performance indicators (KPIs) selected must be applicable to all services, not be excessive in number, be relevant and can be evaluated on the basis of simple rating scales.

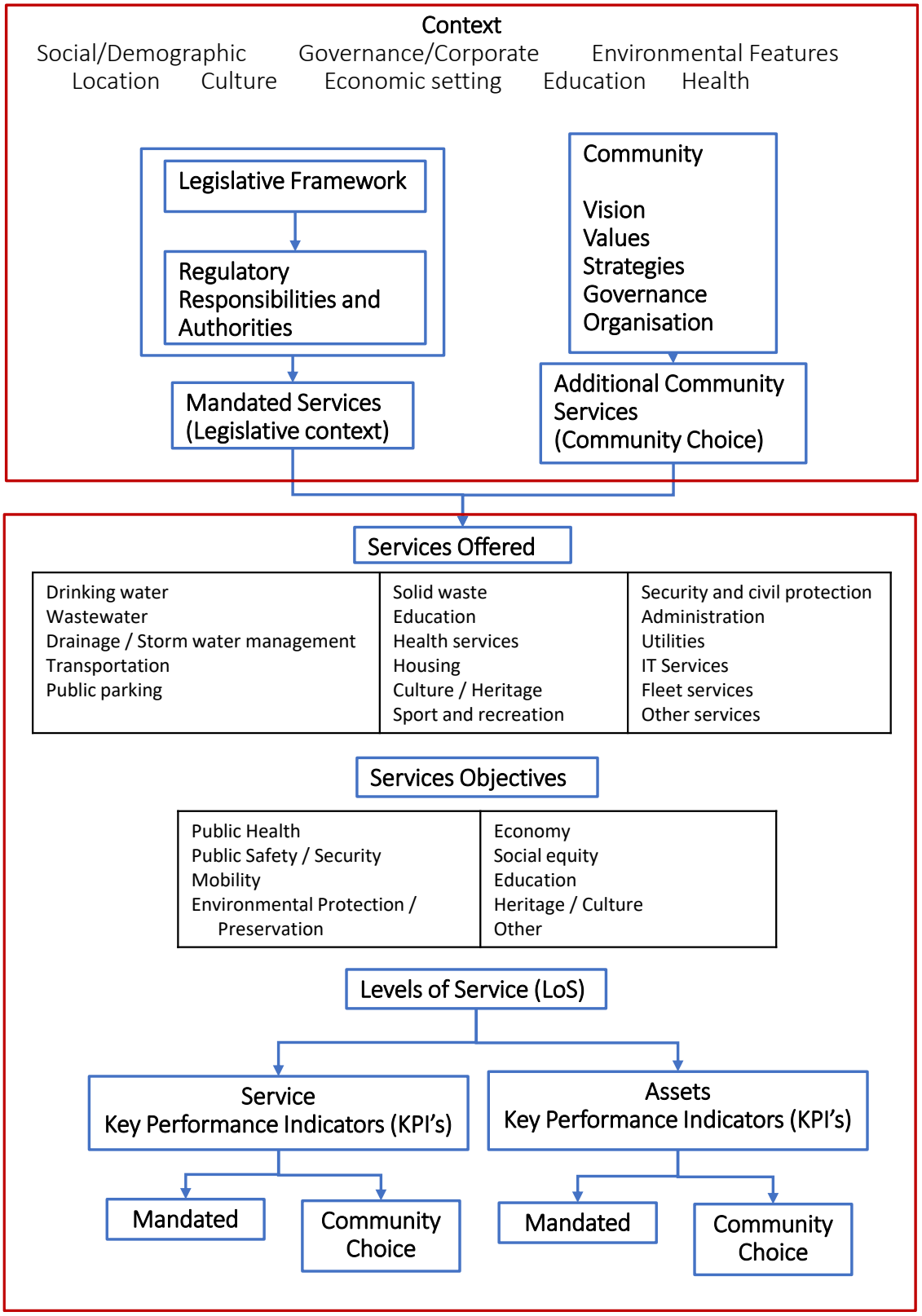

Figure 6. Methodology framework

9.2 Methodology

To facilitate the process of developing the methodology, collecting and analyzing the data, an Excel file was selected as a support tool. Several worksheets have been created, each of which collects specific data: context elements, identification of services and modes of delivery, service levels and performance indicators for services, service levels and performance indicators for assets, comparison of results and summary sheets.

The methodology flowchart is presented in Figure 7 and contains six steps in addition to a preliminary pre-selection task. Each step of the methodology and the objectives pursued are briefly described in the next section.

9.2.1 Description and Specific Objectives of the Methodology Steps

Preliminary Step – Pre-selection of communities for comparison

This step selects the municipality(ies) that are candidates for comparison with the selected First Nation. Communities are selected from general contextual information such as location and environment, demographics, social context, etc. It is possible to select more than one municipality for the comparison to ensure that key context elements are shared between the municipalities and the First Nation.

Step 1 – Context and confirmation of the selection of communities

To succeed in the match, the project team responsible for the comparison will prepare the contextual profile of each of the communities on the basis of available knowledge and information that will be validated and completed by each community. This step can be iterative if the contextual characteristics do not match.

This step in the comparison is important since it will serve to confirm the selection of communities for comparison and to explain differences in service levels, if any.

Step 2 – Identify the services provided to members of the community

This step identifies the services provided to members and by whom, it determines whether they are subject to regulations, which organization determines levels of service, and identifies the primary objectives of the services.

Each community must complete an individual worksheet which are then compiled by the project team.

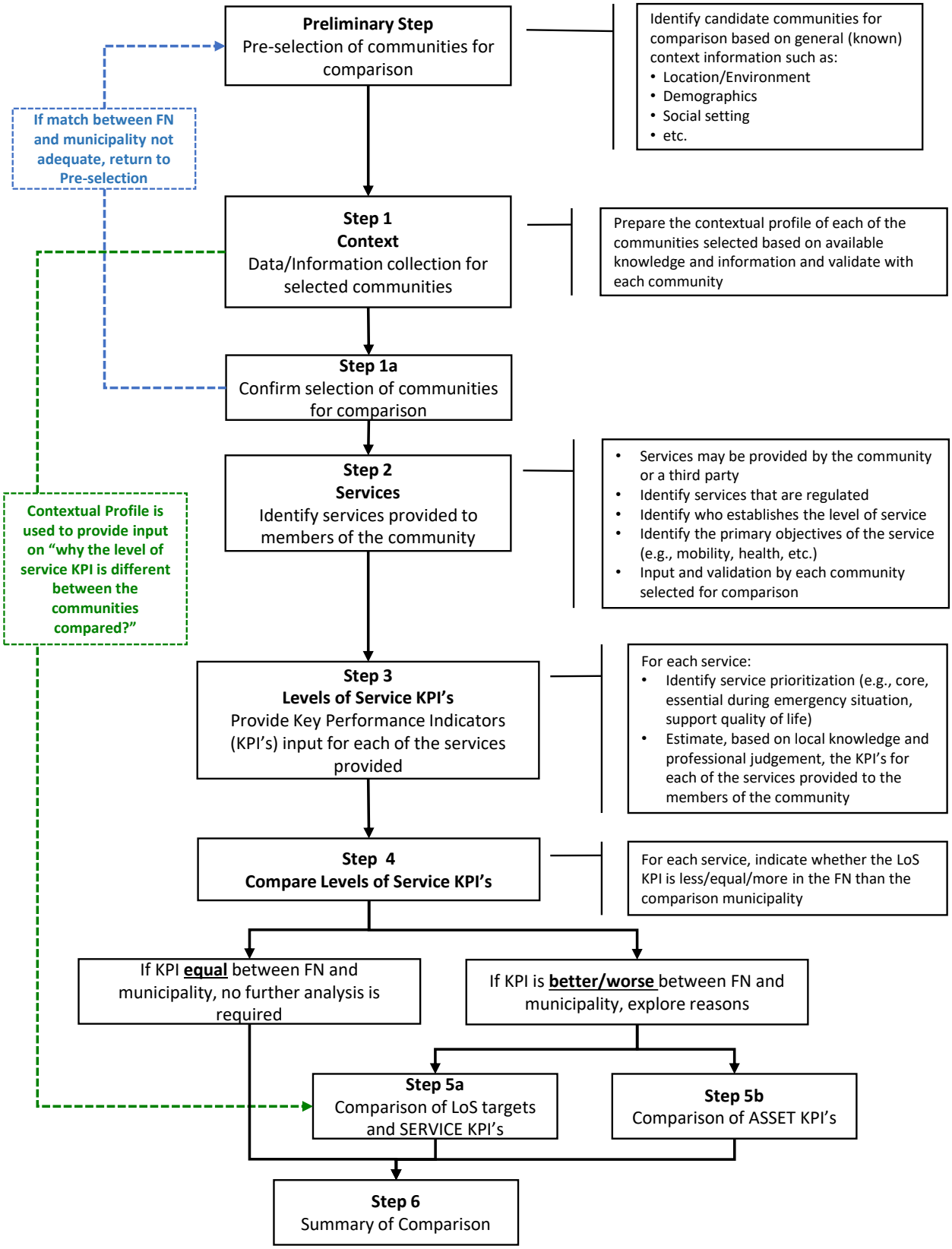

Figure 7. Flowchart of methodology

Step 3 – Input key performance indicators for services

This step involves assigning a rating to each performance indicator for each of the services provided to community members by the organization. Stakeholders in each community must first determine the priority given to services (basic, essential, emergency or quality of life). It is then requested to estimate, on the basis of local knowledge and professional judgment, the score to be given to each of the eight proposed performance indicators.

Step 4 – Comparison of key performance indicators for each service

The results of Step 3 for each community, once compiled by the project team, are analyzed to determine whether they are similar (equal) or different (better or worse)[26].

Step 5 – Analysis of indicators for which the rating is different

When the rating of a performance indicator is different between the two communities, the contextual profile is used to provide information on the reasons for the difference. The perspective used to determine the differences between the rating of the indicators is that of the First Nation.

An additional analysis is then required for these services. The team should use an assessment of the assets involved in the provision of the service to obtain further explanations of the differences. Five performance indicators have been identified to assess the performance of assets. A rating scale has been developed for each of these indicators. Representatives of each community are invited to rate assets for services with different service performance indicators between the First Nation and the municipality.

It is possible that the performance rating of a service (or asset) will be equal between the First Nation and the municipality, but be unacceptable from a level of service perspective. The project team responsible for the comparison is then encouraged to explore further what an “acceptable” level of service should be considered.

Step 6 – Summary of the comparison

Once all this data and information has been collected, the project team compiles the results and produces several comparative documents:

- A first table is developed to summarize the data collected on each community (First Nation and municipality) from Statistics Canada and other government sources as well as the specific context elements.
- A worksheet that shows, in parallel, the results of step 2 for each community.
- A second summary sheet that compares service levels for SERVICES. This worksheet presents the results of each community, in parallel, for each service performance indicator. A colour code makes it easy to identify performance indicators that are considered "different" between the First Nation and the municipality.
- A third summary sheet compares ASSETS levels of service. This worksheet presents the results of each community, in parallel, for each performance indicator for the assets. The

[26] The project team explored the use of the terms "more, equal or less" for the comparison. However, this rating did not ensure consistency of interpretation for all indicators (see Conclusion and Recommendations for more details).

same colour code makes it easy to identify indicators deemed "different" between the First Nation and the municipality.

- A fourth worksheet compiles information and comments explaining the differences between the performance indicators for the services.

Finally, a summary sheet is produced for each performance indicator whose results are different for the services. The summary sheet will bring together all the relevant information explaining the sources of these differences both for the service itself and for the assets involved in the provision of that service. There are likely to be many summary sheets as there are service performance indicators deemed different (better or worse).

9.2.2 Excel-based tool with the comparison worksheets

The Excel work tool includes a master file containing all the worksheets and remains in the hands of the team mandated to perform the comparison. This file is also used to compile the information obtained at each stage of collection from both the First Nation and the twinned municipality. In addition, a specific worksheet is extracted for each stage of information collection and is transmitted to each organization.

A guide has been developed to facilitate the use of these tools both by the comparison team and by the participating communities. This reference document makes it possible to walk through, step by step, the application of the methodology.

10. CONCLUSIONS AND RECOMMENDATIONS

The development of the methodology, guided by a review of the literature and the acts and regulations that govern some of the services provided by the communities, as well as by the information gathered from the six communities, has made it possible to produce a flexible methodology for comparing levels of service based on the social, environmental and economic contexts of the communities.

In particular, the project team ensured the following in the development of the methodology:

1) Indicators in manageable numbers and that do not require organizations to make considerable efforts in studies and analyses. In addition, the selected indicators are considered relevant and can be applied to all types of services. The literature suggests that it is better to use fewer indicators, choose them well and make sure they are SMART"[27]
2) Not to attach greater importance to ″core″ services than to those ensuring the "quality of life". While mandated services may require levels of performance, the standards do not cover all aspects that affect the well-being of community members. For example, a community centre must comply with building codes and fire protection, but the hours of operation and scheduled activities are determined by the community administration.

[27] Specific, measurable, attainable, realistic and time-bound

3) Conduct a comparison at the local, First Nation level. Each community, whether Indigenous or municipal, has specific characteristics based on the factors identified in the contextual profile of the methodology.
4) Use available data and statistics (Statistics Canada, ISC) that may be relevant to present the profile of each First Nation, and to establish the contextual profile and to document some of the performance indicators.
5) Focus the methodology on the root causes of the differences identified, not just the technical (operational) aspects. The choices of community administrations are linked to their specific context, which includes cultural aspects, and cannot be overlooked in such a comparative analysis.
6) Ensure throughout the development of the methodology that it is flexible and allows conclusions to be drawn that are unique and specific to each First Nation.
    a. The Excel tool developed makes it possible to enrich the methodology by adding, if necessary, other elements of context or performance indicators specific to certain services.
    b. The Excel tool also makes it possible to extract the elements of specific services given the variety of services considered (drinking water and wastewater, roads, health, education, etc.) and given that the respondents will probably come from distinct department within the administration of the community.
7) Produce a simple tool without being simplistic. The methodology should make it possible to analyze/compare without having to document everything with very detailed data.
8) Not to be forced into the notion of essential services. The literature review on the subject showed that ALL services are essential and that this concept can evolve according to the circumstances (emergency, disaster, pandemic, etc.).
9) Attempt to identify an aspect of the comparative analysis that could encourage the participation of municipalities in such an exercise. The eight KPIs for services and the five KPIs for assets appear to be good motivators. Municipalities that agree to participate will at the same time be able to evaluate the performance of their own services while benefiting from a framework (definition of indicators, guide to the use of the tool, etc.).

An important element raised by a partner in the approach when presenting the draft methodology was the use of the terms **"better, equal or worse”** to point out differences when comparing performance indicators for services and assets. The project team had already explored the use of the terms "more, equal or less". However, this rating did not ensure consistency of interpretation for all indicators. For example, "more road deaths" is considered "worse" while "more access to service" is considered "better". The use of the term "more" would lead to confusion as to the interpretation of these results.

It is important to clarify that the terms (better or worse) used **are not intended to judge the way in which the service is managed** but rather to "qualify" the result and not comment on it. This leads to a better understanding of the results of the comparison, which is the purpose of the methodology.

Finally, it is possible that the comparison indicates that the performance indicators for a service or asset are "equal" between the First Nation and the municipality, and that in both cases this level of service is unacceptable. These situations deserve to be highlighted by the team and

participants in the comparison process and should encourage them to start, if they have not already done so, a reflection on establishing levels of service targets for these services and/or assets. This exercise is complementary to the comparison, part of a structured approach to asset management, and is essential in the context of devolution of services and assets from the Federal government to First Nations.

It should be noted that the model adopted by ISC-RSHI for the transfer of service delivery (Figure1) includes the key elements of asset management. It is suggested that a First Nation wishing to engage in self-determination and comparison begin the development of an asset management plan beforehand. The performance indicators presented in the comparison methodology could be used for this purpose.

Recommendations

The following recommendations are from discussions amongst team members as well as feedback during presentations to the AFNQL Project Advisory Group.

1. Pilot projects of the application of the methodology in the Quebec Region

It is recommended that several pilot projects be carried out to test the methodology. Two or three First Nations could be engaged and matched with municipalities according to the criteria set out in the pre-selection stage of the methodology. It may be desirable to engage First Nations and municipalities that have already participated in the development phase (current sample) to benefit from the experience gained and information already collected. In addition, as the pandemic situation improves, one or more face-to-face meetings could facilitate the implementation of these projects.

To coordinate these pilot projects and add an additional dimension to validate the flexibility and transferability of the methodology, it is suggested that: a) an advisory group be formed consisting of representatives from the AFNQL and the AFN; and b) a second group composed of observers from other regions of Canada be formed. They could follow the experience, take ownership of the methodology, propose improvements if necessary, and assess the adaptation efforts required to use the methodology with First Nations located in their respective regions.

2. Organization of a National conference on current initiatives regarding the transfer of responsibilities (Self-determination of First Nations)

It is recommended that the Assembly of First Nations (AFN) host a national conference on ongoing initiatives in different regions of Canada that are part of the devolution initiative (FN self-determination). An organizing committee consisting of representatives from each region of Canada could help develop the program, determine the content and engage the speakers. This conference would be open to all interested participants (tribal councils, FN groups, health, education, housing, infrastructure, etc.). The organizing committee could consider the form that this conference could take (presentation of ongoing initiatives, working/reflection committees, monitoring of the progress of these initiatives, (integration, information sharing, etc.).

3. Committee to follow-up the pooling of results from initiatives related to levels of service

It is suggested that a pan-Canadian monitoring committee be formed under the coordination of the AFN, which is the organization selected by ISC to contribute to the co-development of the vision of devolution from the federal government to First Nations.

The role of this monitoring committee would be to share the results of the various ongoing initiatives stemming from the model adopted by ISC-RSHI for the transfer of service delivery. This Monitoring Committee would be made up of representatives from each of the regions of Canada and would serve as a gateway for the sharing of information. This information-sharing mission would ensure consistency between the different initiatives and promote their integration for First Nations interested in engaging in self-determination discussions.

APPENDIX

QUESTIONNAIRE ON ESSENTIAL SERVICES AND LEVELS OF SERVICE TO RESIDENTS

Questionnaire

Essential Services and Levels of Service to Residents

Context

As part of the potential transfer of control of housing and infrastructure to First Nations, Indigenous Services Canada (ISC) is supporting the Assembly of First Nations of Quebec and Labrador (AFNQL) conduct a comparative analysis of the levels of service related to the operation and maintenance (O&M) of community infrastructure in the Quebec region. The analysis consists of selecting 3 First Nations communities and comparing their service levels for O&M with those of 3 municipalities of comparable size and located in the same region. The goal is to identify acceptable levels of service and associated funding. The study could be used to guide similar analyses in other regions.

To achieve this. the AFNQL has engaged two consultants (Guy Félio and Marie-Élaine Desbiens) to collect information about the services offered to your citizens/community members, as well as the levels of service associated with those services. We therefore ask for your participation and collaboration for this important analysis.

This questionnaire is a first step in gathering information for the comparative analysis. We are providing it to familiarize yourself with the type of information we are looking for. Following your receipt of the questionnaire, we will contact you to set up a 90-minute telephone interview (Zoom or other digital platform) to complete this questionnaire with the guidance of one of the consultants, and identify relevant documents that could complement your answers.

To make sure we properly interpret your answers and the information you will provide us, we plan to record the interviews for the sole purposes of this project, and therefore will need your agreement for the recording.

We thank you in advance for your participation and collaboration in this important project for the First Nations communities of Quebec and Labrador.

Respondent information

First Name:	Last Name:
Organization:	
Position in organization:	
Brief description of your responsibilities:	
Telephone:	Email:
Address:	
Date:	

Definition of levels of service

“The level of service is a qualitative measure of the service to the community taking into account one or more parameters such as safety, customer satisfaction, quality, quantity, capacity, reliability, environment, costs, accessibility, etc.”

(Source: *Guide de gestion des actifs municipaux à l’intention des gestionnaires municipaux*, CERIU, 2018)

Services to residents (services that require infrastructure or assets)									
Community Administration	**Check here if your organization is responsible for this service**	**Check here if another organization is responsible for this service to the citizens of your community**	**If another organization is responsible for this service, please name it**	**For each of the services for which your organization is responsible, is the level of service defined? Yes/No**	**For services for which your organization is responsible and for which you have established service levels, please indicate whether the level of service is defined by:**				
					Provincial or Federal regulations	**By-Law**	**Council directive**	**Level of service required by asset funding**	**Other (Please name the source that defines the level of service)**
Drinking water (source/intake, treatment, distribution)									
Wastewater (collection, treatment, effluent release)									
Drainage/stormwater									
Surface drainage (e.g., ditches)									
Stormwater sewers									
Retention (e.g., ponds)									
Release into the environment									
Roads									
Maintenance (preventive, corrective), repairs and replacement of assets									
Seasonal operations (e.g., winter maintenance, dust control in the summer)									
Public parking									
Solid waste									
Collection									
Recycling									
Landfilling									

Comparative analysis of levels of service in First Nations communities and municipalities on behalf of the AFNQL

Community Administration	Check here if your organization is responsible for this service	Check here if another organization is responsible for this service to the citizens of your community	If another organization is responsible for this service, please name it	For each of the services for which your organization is responsible, is the level of service defined? Yes/No	For services for which your organization is responsible and for which you have established service levels, please indicate whether the level of service is defined by:				
					Provincial or Federal regulations	By-Law	Council directive	Level of service required by asset funding	Other (Please name the source that defines the level of service)
Education									
Early childhood									
Pre-kindergarten and kindergarten									
Primary school									
Secondary school									
Special education									
Workforce development									
Health									
Clinic									
Dental care									
Social services									
Housing									
Community housing, including affordable (low rent) dwellings (owned by the administration)									
Senior's residences									
Culture									
Sports and recreation									
Security and civil protection									
Police									
Fire protection									

Comparative analysis of levels of service in First Nations communities and municipalities on behalf of the AFNQL

Community Administration	Check here if your organization is responsible for this service	Check here if another organization is responsible for this service to the citizens of your community	If another organization is responsible for this service, please name it	For each of the services for which your organization is responsible, is the level of service defined? Yes/No	For services for which your organization is responsible and for which you have established service levels, please indicate whether the level of service is defined by:				
					Provincial or Federal regulations	By-Law	Council directive	Level of service required by asset funding	Other (Please name the source that defines the level of service)
Administration									
General administration									
Inspections (compliance with building codes)									
Others									
Harbours or airport									
Electricity									
Information technology									
Cemetery									
Community gardens									
Animal control									
Land use planning, development, and management									
Land protection and enhancement									
Others (add as necessary)									

Defining essential services and critical assets that provide essential services

"Critical infrastructure (CI) refers to processes, systems, facilities, technologies, networks, assets and services essential to the health, safety, security or economic well-being of Canadians and the effective functioning of government. CI can be stand-alone or interconnected and interdependent within and across provinces, territories and national borders. Disruptions of CI could result in catastrophic loss of life, adverse economic effects and significant harm to public confidence."

(Source: Public Safety Canada, https://www.securitepublique.gc.ca/cnt/ntnl-scrt/crtcl-nfrstrctr/cci-iec-en.aspx)

Does your organization have an emergency plan?	**Yes** **No**
Has your organization defined the critical infrastructure in your community?	**Yes** **No**
If your answer is yes, please indicate the reference document or documents that define critical infrastructure (e.g., master plans, contingency plan, etc.).	

For the services provided to residents in your community, please indicate those **that your organization** defines as essential services

Service	Defined as essential?		Amongst these services, are there specific assets that are identified as "essential assets" (e.g. emergency coordination centre, bridge, communication relay station, etc.) Please identify them.
	Yes	No	
Drinking water (source/intake, treatment, distribution)			
Wastewater (collection, treatment, effluent release)			
Drainage/stormwater			
Surface drainage (e.g., ditches)			
Stormwater sewers			
Retention (e.g., ponds)			
Release into the environment			
Roads			
Maintenance (preventive, corrective), repairs and replacement of assets			
Seasonal operations (e.g., winter maintenance, dust control in the summer)			
Public parking			

Service	Defined as essential?		Amongst these services, are there specific assets that are identified as "essential assets" (e.g. emergency coordination centre, bridge, communication relay station, etc.) Please identify them.
	Yes	No	
Education			
Early childhood			
Pre-kindergarten and kindergarten			
Primary school			
Secondary school			
Special education			
Workforce development			
Health			
Clinic			
Dental care			
Social services			
Housing			
Community housing, including affordable (low rent) dwellings (owned by the administration)			
Senior's residences			
Culture			
Sports and recreation			
Security and civil protection			
Police			
Fire protection			
Education			
Early childhood			
Pre-kindergarten and kindergarten			
Primary school			
Administration			
General administration			
Inspections (compliance with building codes)			

Service	Defined as essential?		Amongst these services, are there specific assets that are identified as "essential assets" (e.g. emergency coordination centre, bridge, communication relay station, etc.) Please list them.
	Yes	No	
Others			
Harbours or airport			
Electricity			
Information technology			
Cemetery			
Community gardens			
Animal control			
Land use planning, development, and management			
Land protection and enhancement			
Others (add as necessary)			