BRITISH COLUMBIA ASSEMBLY
OF FIRST NATIONS

First Nations Low-Carbon Transportation Planning Guide

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Table of Contents

Acknowledgements 3

Glossary of Terms 4

About This Guide 6

Background 8

- BC First Nations Low-Carbon Transportation Project 9
- Pilot Project Communities. 10
- What is Low-Carbon Transportation?. . . 11
- Transportation and Climate Change . . . 13
- Transportation Challenges and Opportunities 13
- Engagement. 16

Stepping Stone 1: Preparing for the Journey 18

- 1.1 Define the Project Scope 18
- 1.2 Consider Your Needs and Context. . . 19
- 1.3 Pre-Planning 21

Stepping Stone 2: Knowing Where You Stand 23

- 2.1 Community Transportation Inventory. 24
- 2.2 Carbon Assessment 26

Stepping Stone 3: Choosing The Path Forward 28

- 3.1 Identify Gaps, Opportunities and Prioritize Actions. 28
- 3.2 Validating Findings and Reporting Back 29

Stepping Stone 4: Paddling Together 30

- 4.1 Plan for Implementation 30
- 4.2 Monitoring and Reporting. 31

Conclusion 32

About the Artwork 33

Appendices 34

- Appendix A: Resources 34
- Appendix B: Sample Questions for Research and Engagement 35
- Appendix C: Sample Safety, Equity and Affordability Assessment Chart 37
- Appendix D: Gaps and Opportunities Analysis Template 38
- Appendix E: Potential Data Sources and Methodologies for Transportation Inventory 41

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Glossary of Terms

Active Transportation: Modes of travel which are human powered (i.e., do not involve the assistance of an engine or motor) such as walking, cycling, or skiing.

Carbon intensity: The relative amount of greenhouse gas emissions produced by a defined entity. For example, a large truck which burns lots of gasoline produces more GHG emissions than a small efficient car, and therefore the truck has a higher carbon intensity.

Community: In the context of this guide, the term 'community' refers to First Nation communities unless otherwise specified. There may be more than one reserve within a community or First Nation.

Crown governments: Provincial and federal governments.

Destination: The place where a trip ends. Where one goes to.

Efficiency: A system or object that works in the best possible way, resulting in low wastage of time, energy, and other factors.

Electric Vehicle (EV): A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. An EV includes both a vehicle that can only be powered by an electric motor that draws electricity from a battery (all-electric vehicle) and a vehicle that can be powered by an electric motor that draws electricity from a battery and by an internal combustion engine (plug-in hybrid electric vehicle).

E-mobility: Any type of vehicle which has an electric motor and battery. This could be electric bikes, electric snowmobiles, electric boats, or electric cars.

Fleet: A collection of vehicles used by a particular group, such as a First Nations government.

Greenhouse Gas (GHG) Emissions: Harmful gases such as carbon dioxide released when fossil fuels are burnt, contributing to climate change.

Gross Vehicle Weight Rating (GVWR): The total weight of a vehicle including fuel, passengers and cargo.

Heavy-duty vehicles: Vehicles with a GVWR of 10,001lbs or higher.

Implementation: The act of executing a plan and translating it into actions.

Implementation partners: People, organizations, businesses, or institutions which might be part of implementing, building, creating, or realizing the results of the transportation plan once it is finished.

Internal Combustion Engine (ICE) vehicle: A vehicle that is propelled by an internal combustion engine (ICE). These engines burn non-renewable fuels such as gasoline, propane, natural gas, biodiesel or ethanol.

Light-duty vehicles: A passenger vehicle, including cars, sport utility vehicles, vans, and light pick-up trucks with a gross vehicle weight rating of 8,500lbs or less.

Low-carbon resiliency: The concept of jointly considering climate risk reduction and greenhouse gas emissions reduction strategies with a goal to reduce both vulnerability and emissions.

Low-carbon transportation: Low-carbon transportation generally refers to ways of getting around that emit fewer greenhouse gases than single-occupant internal combustion engine-based vehicles. As carbon dioxide (CO_2) is the most prevalent greenhouse gas, we refer to forms of transportation that emit fewer greenhouse gas emissions as being "lower carbon."

Medium-duty vehicles: Medium-duty vehicles refer to vehicles with a GVWR between 8,501lbs-10,000lbs.

Mode share: The percentage of travellers using a particular type of transportation for their trips. For example, private cars, public transit, walking, and cycling.

Origin: The place where a trip begins or originates. Where one leaves from.

Scooter: A vehicle that allows the user to stand up when ridden.

Shared transportation and mobility: A system in which travellers share the use of a vehicle, either simultaneously as a group or sequentially over time. Examples include carpooling, car sharing, and bike sharing.

Stocks: Collections of different forms of capital (e.g., physical assets, services, or information) which can be grouped under a common theme. For instance, all roads, sidewalks, EV charging stations, and trails make up the stock of transportation infrastructure.

Transportation demand management: Strategies and policies designed to maximize the efficiency of transport systems by making it easier to walk, cycle, carpool, take transit, and drive electric vehicles.

Transportation modes: Commonly referred to as "mode of travel" or simply "modes." This term refers to the specific type of transportation a person is using to get from their origin to their destination. For example, a mode could be a motorized on-road vehicle, active transportation, off road vehicles, or using bus transit.

About This Guide

This guide provides a holistic approach and high-level outline to inform the development of a Nation-led self-determined Low-Carbon Transportation Plan (also referred to as a transportation plan). It is meant to support and improve your Nation's mobility and transportation priorities while reducing emissions, enhancing your Nation's climate resilience, economic development and revitalizing your culture and/or community connections. In addition, this guide aims to weave together what is important to your Nation, including improving the health, well-being and safety for all of your members.

This guide was designed specifically for First Nations technical staff to be utilized to create a transportation plan or to support First Nations collaboratively working with a consultant to develop their transportation plan. By following this guide, technical staff do not need to have pre-existing technical knowledge to produce a transportation plan that will create value for your Nation in realizing valuable safety, equity, and transportation outcomes for all members. A transportation plan can set the stage for implementation, particularly as it may be used to connect to other planning processes, support future grant applications for infrastructure or additional work if needed.

The sections in this guide are framed as 'Stepping Stones' which can be adapted to align with your Nation's self-determined needs and realities. These Stepping Stones are not linear and can be linked to other planning processes such as community comprehensive plans, infrastructure, land use or climate action plans. We have taken this interconnected approach because transportation is a complex topic that touches every aspect of community life including land, infrastructure, culture, and climate, and so should be examined holistically. As you read this guide, consider how you would apply and adapt the process to your Nation's context, culture, history, realities, priorities and needs.

The guide is structured around four Stepping Stones to support the development of your Nation's Low-Carbon Transportation Plan:

- **Stepping Stone 1: Preparing For The Journey**
  Provides a deep understanding of the purpose behind the planning project and establishes a common understanding of the work required.
- **Stepping Stone 2: Knowing Where You Stand**
  Includes steps which will build understanding of the current transportation reality within a First Nation community or region.
- **Stepping Stone 3: Choosing The Path Forward**
  Includes steps to inform and select projects that advance low-carbon transportation and other priority transportation goals.
- **Stepping Stone 4: Paddling Together**
  Includes steps to ensure that implementation is ongoing and there is accountability to members and leadership.

STEPPING STONES

Questions?

If you have any questions about this project or the Low-Carbon Transportation Planning Guide, please reach out to:

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General Inquiries: **www.bcafn.ca/contact**

Background

First Nations in British Columbia (BC) have been practicing and developing their modes of travel since time immemorial, creating sophisticated land and water transportation routes, and allowing for the movement of people, goods, services, and ideas over hundreds of kilometers.

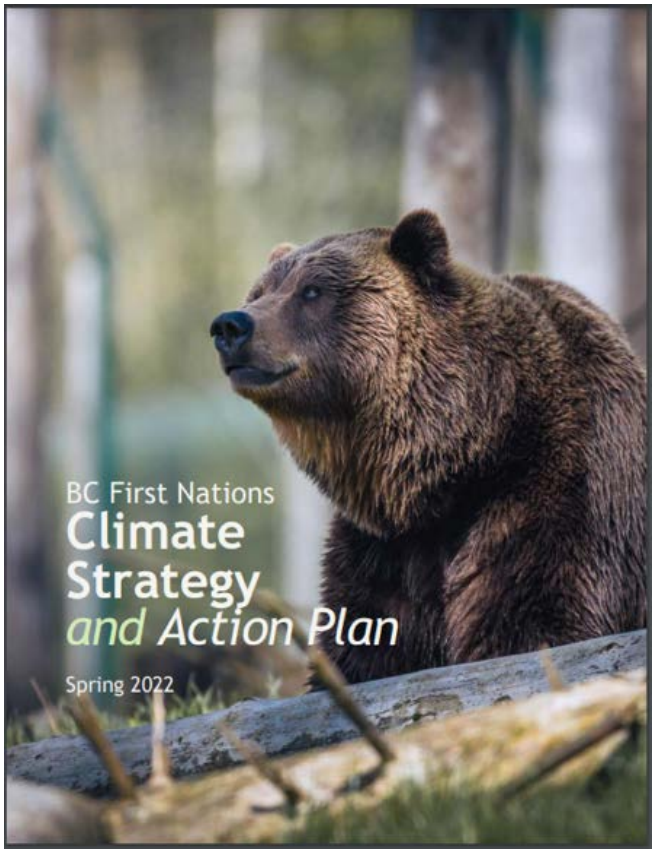
Colonization severed many of these complex transportation systems and sought to isolate and control the movement of First Nations through racist and discriminatory government policies and laws, such as the Indian Act, and the reserve and pass systems. These injustices disrupted traditional travel and trade routes and created a legacy of geographic isolation, poor infrastructure, limited access to services, and discrimination that continues to impact First Nations' mobility and access to transportation in BC. To this day, there are significant systemic barriers related to private vehicle affordability, insurance and operational costs, lack of driver's licensing, and infrastructure which have not been offset by long-term investment or widespread political support for a safe, equitable and low-carbon transportation system.

In recent years, climate-related disasters have further exposed the fragile and inequitable access to transportation experienced by First Nations in BC. Access to transportation is critical to building resilience in the face of pandemics and climate-related disasters. At the same time there is an urgent need to globally reduce greenhouse gas (GHG) emissions and reach global net-zero. Transportation emissions currently make up 42% of BC emissions, making it an important sector for emissions reductions.[1]

[1] CleanBC. (2026). *Transportation*

Beyond the transportation system's contribution to emissions, the lack of access to safe, affordable, accessible, and equitable transportation impacts First Nations' inherent, constitutionally protected Rights and Treaty Rights.

In 2022, BCAFN Chiefs in Assembly via *Resolution 06/2022* endorsed the BC First Nations Climate Strategy and Action Plan (the Climate Strategy). The Climate Strategy, under Pathway Four, identifies key actions towards achieving low-carbon and active transportation in partnership with First Nations (Theme 4.2, Objectives 4.2.1 and 4.2.2).



BC FIRST NATIONS LOW-CARBON TRANSPORTATION PROJECT

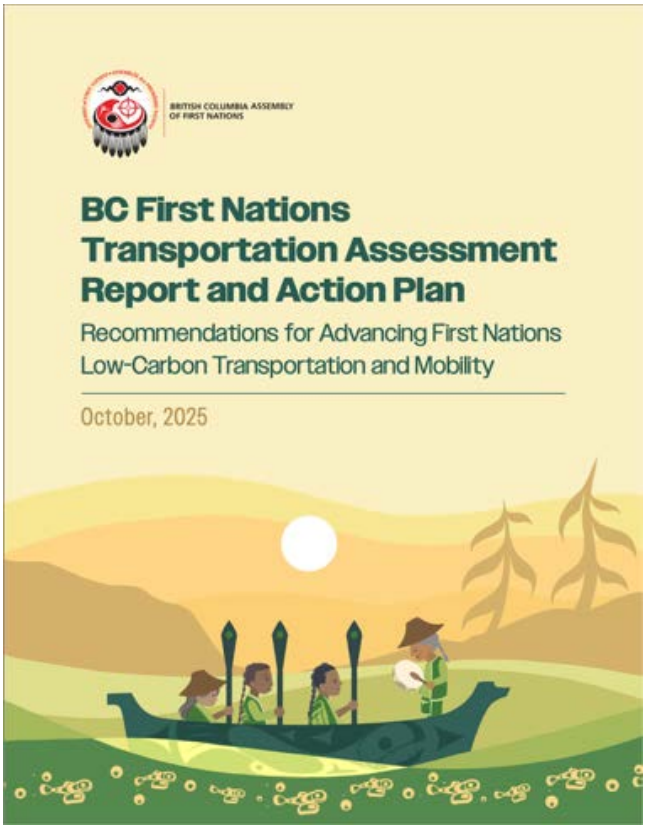
In December 2023, the BCAFN Chiefs in Assembly via *Resolution 12/2023* mandated BCAFN to support and advance First Nations access to safe, affordable, reliable and low-carbon transportation and transportation services in BC. To advance the mandates and address the many systemic barriers First Nations face related to transportation, BCAFN undertook a 5-year (2022 - 2027) BC First Nations Low-Carbon Transportation Project with the aim to promote and accelerate First Nations' equitable access to safe, affordable, and reliable low-carbon and active transportation within and between communities, reduce carbon pollution and uphold the Rights and well-being of all First Nations.

First Nations Low-Carbon Transportation Project objectives include:

- Assessing gaps and opportunities that restrict and assist access to transportation.
- Advocating for changes to transportation-related policies that uphold First Nations' Title, Rights and Treaty Rights.
- Strengthening First Nation capacity and climate awareness.
- Developing a Low-Carbon Transportation comprehensive planning tool for First Nations communities.

One of the key outcomes of this project is the BC First Nations Transportation Assessment Report and Action Plan (Transportation Action Plan), which identifies the main transportation challenges and opportunities facing First Nations in BC and provides recommendations to support equitable access to transportation province-wide. Completed in October 2025, it was endorsed by Chiefs at the BCAFN Annual General Assembly by *Resolution 35/2025*.

Building on the Transportation Action Plan and the Low-Carbon Transportation Project, this guide aims to strengthen First Nations capacity and climate awareness through creating a comprehensive tool to support low-carbon transportation planning.



PILOT PROJECT COMMUNITIES

This guide was developed through an active piloting process involving the feedback and guidance of five First Nations in Phase 1 (2024-2025), and six First Nations in Phase 2 (2025-2027). Each Pilot Project Community had this guide available to create their own Low-Carbon Transportation Plan. BCAFN amended the guide in collaboration with the Phase 1 and Phase 2 Pilot Project Communities. We thank the Nations for all their leadership and guidance.

The Phase 1 and Phase 2 Pilot Project Communities included:

- Squamish Nation
- Haíłzaqv (Heiltsuk) First Nation
- Nisga'a Nation
- Daylu Dena Council
- ?Esdilagh First Nation
- Skidegate Band Council
- SnPink'tn (Penticton) Indian Band
- Chawathil First Nation
- Tsawwassen First Nation
- Snaw-naw-as (Nanoose) First Nation
- Lheidli T'enneh First Nation

Figure 1: Map of Phase 1 and Phase 2 Pilot Project Communities

These First Nations were selected to represent the diversity of cultures, geography, lived experience and current transportation realities and opportunities across BC (coastal, remote, interior, northern and urban/suburban). BCAFN supported each Pilot Project Community in developing a Gaps and Opportunities Analysis Report and a self-determined Low-Carbon Transportation Plan to respond to each Nation's specific needs, realities, and priorities.

WHAT IS LOW-CARBON TRANSPORTATION?

> *"It is our right to move safely and freely within our territories—and it is essential that we are key leaders of the low-carbon transition on our own terms and with justice, equity and our rights central to this transition"*
>
> — BCAFN Regional Chief Terry Teegee

There are many ways that people move from one place to another. They may use active transportation (e.g. walking, wheeling, cycling, scootering, or paddling), or use the assistance of engines (private automobile, electric vehicle, public transportation). People also travel both on their own (private transportation), and in groups (e.g. carpooling, ridesharing, or public transportation). The way we choose to move has impacts on our lives in many ways. It dictates how much time we spend doing it (e.g. commute time) and how we feel while we are doing it. It also impacts our health and the health of the planet. For example, using a bicycle to get to work makes us healthier and reduces the impact of our travel on the planet, because we are using our own energy to move as opposed to using gasoline or other fuel sources to move.

Low-carbon transportation generally refers to ways of getting around that emit fewer GHGs than single-occupant internal combustion engine-based vehicles. As carbon dioxide (CO_2) is the most prevalent GHG, we refer to forms of transportation that emit fewer GHGs as being "lower carbon." Some low-carbon solutions might reduce but not eliminate carbon while others might generate no carbon at all. Both are still considered low-carbon transportation.

When defining low-carbon transportation, it is helpful to think of all the different ways of getting around and organize them from those producing the least carbon to those producing the most. A "transportation hierarchy" can help to visualize and prioritize different approaches to reducing emissions. Figure 2 illustrates a hierarchy of sustainable transportation modes. Walking and wheeling is shown as the most sustainable mode of transportation. The other extreme is the private car which comparatively produces the most emissions.

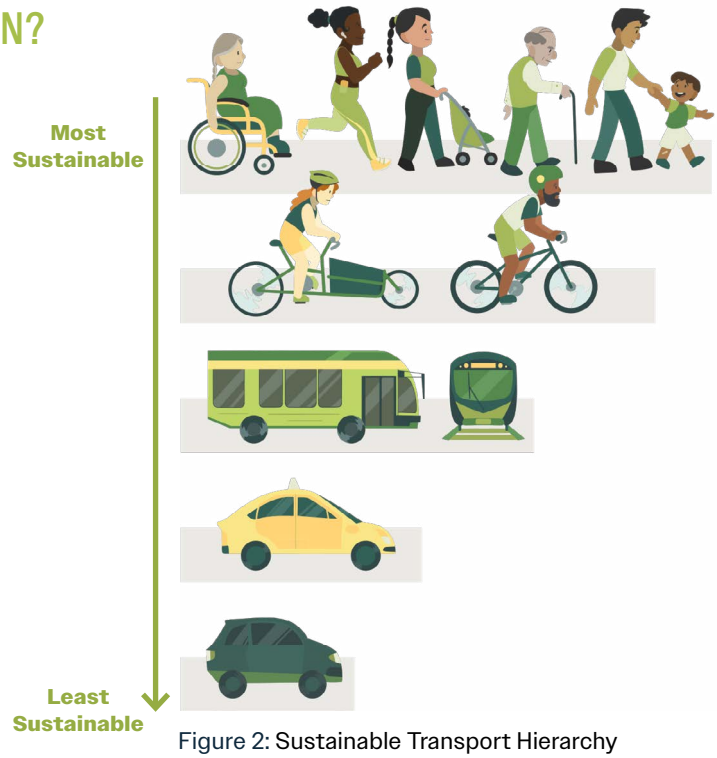


Figure 2: Sustainable Transport Hierarchy

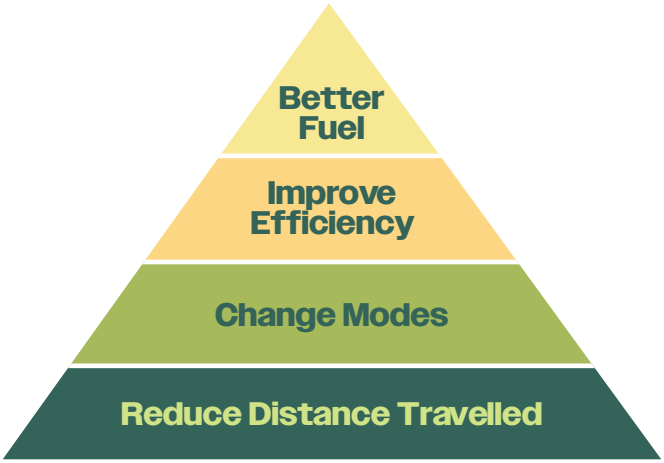


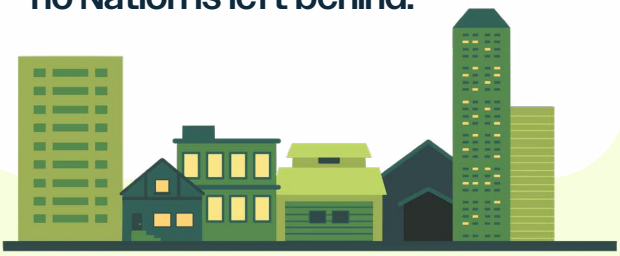
Figure 3: Transportation Pyramid

Figure 3 illustrates the relationship between transportation options and associated emissions reductions. The base of the pyramid represents the most significant opportunities to reduce the emissions associated with transportation which include reducing distance travelled and changing modes. In the context of First Nations reserves, it may not be possible to reduce the distances your members need to travel to access essential services and exercise their Rights. However, if it is possible to bring services into your Nation such as telehealth, mobile clinics, local food access, or broadband for remote work and school, this can remove some long, costly trips entirely.

Canada and BC are failing to meet climate commitments while transportation emissions continue to rise.

Transportation accounts for 42% of total emissions in BC.[2]

As the province transitions to a low-carbon transportation system, it must acknowledge the historic injustices and ongoing challenges and ensure that this transition is **just, fair, and equitable, and that no Nation is left behind.**



Active transportation improves physical and mental health, promotes social connectedness, reduces healthcare costs, offers personal cost savings, stimulates economic activity, and fosters more equitable, inclusive and livable communities. [3]

TransLink states that a **"trip on a hybrid-diesel bus reduces GHGs by 56% compared to driving a gasoline car.**[4]**"**

Even if these emissions reductions are lower in rural areas due to less ridership, overall public transit is still cleaner.

The province continues to **spend almost twice as much** on highway operations as on public transit operations.[5]

The increase in extreme climate events has further exposed the fragile and inequitable transportation system, impacting the economy, ecosystems, and First Nations' mobility.

In 2021, as a result of **floods**, 45 First Nation communities had to shelter in place due to compromised road and bridge infrastructure.[6]

Wildfires are an escalating threat to First Nations across BC. They sever road access, cut off mobility, and increasingly endanger and isolate entire communities, including on Vancouver Island. [7]

[2] CleanBC. (2026). *Transportation*
[3] Government of Canada. (2026). *Active Transportation Fund*
[4] TransLink. (2022). *Transit for the Planet Challenge.*
[5] Ministry of Transportation and Transit. (2026). *2026/27 - 2028/29 Service Plan*
[6] BCAFN. (2021). IMPACTED INDIGENOUS COMMUNITIES REPORT #6 State of Emergency declared.
[7] CBC News. (2023). As B.C. fires threaten highways, communities fear their access routes will be choked off.

TRANSPORTATION AND CLIMATE CHANGE

The goal of low-carbon transportation planning is to understand the carbon intensity of a transportation system and identify ways to reduce it. The transportation sector in Canada is responsible for approximately one-quarter of total GHG emissions, which makes it the biggest source of carbon pollution after the oil and gas industries. In BC, transportation accounts for 42% of all emissions, driven by a car-centric colonial transportation system.[8]

The responsibility for addressing transportation emissions should not fall on First Nations alone. A just transition requires shared accountability, with governments, industries, and broader society carrying their share of the work (for more information please refer to the Transportation Action Plan).

TRANSPORTATION CHALLENGES AND OPPORTUNITIES

Every First Nation is shaped by its unique geography, history, and culture. The challenges faced by one First Nation may be entirely different from another. It is important to understand your Nation's context to ensure that your transportation plan responds to these unique challenges, opportunities and needs.

COMMON CHALLENGES

- **Remoteness:** Many First Nations reserves were deliberately placed in rural and remote areas, disconnected and/or isolated from other colonial municipalities and regional transportation networks. Despite the ongoing efforts towards reconciliation, a significant infrastructure gap persists between First Nations and the rest of Canada.[9] Remoteness creates many interlinked issues, for example a remote First Nation is accessed by roads that are in poor condition, lack maintenance, or offer only one road in and out. The remoteness and geography of reserves can make transportation services such as taxis, ride hailing services, public transit and car sharing services less economically viable without public funding or other subsidies. In these cases, your Nation may want to consider alternative options such as a community shuttle.
- **Jurisdiction:** Policy and regulatory gaps frequently arise from jurisdictional overlaps between Crown governments (federal and provincial), local governments, First Nations and other actors including rail authorities, BC Ferries, Crown Corporations and industry. Transportation that extends beyond a First Nation reserve, such as provincial highways or regional transit systems, can raise jurisdictional complexities. In these cases, planning efforts may shift into advocacy and require collaboration with external organizations.
- **Safety:** Safety is a significant challenge for many First Nations. Community members who rely on public transportation may face issues of physical and cultural unsafety. This can include physical or verbal threats due to someone's identity or appearance, or unspoken threats from often systemic racism or prejudice in transit infrastructure design or advertising. These risks are most acute for First Nations women, girls, and 2SLGBTQQIA+ [10] people, particularly in rural and remote areas where the absence of safe, affordable, and reliable transportation can force reliance on hitchhiking and other unsafe options. Transportation planning is therefore a matter of safety and survival, and plans should be shaped by the perspectives of those most at risk such as women, 2SLGBTQQIA+ people, families, those with disabilities, children and Elders.

[8] CleanBC. (2026). *Transportation*
[9] AFN. *(2023). Closing the Infrastructure Gap by 2030.*
[10] 2SLGBTQQIA+: *Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, and Asexual. The + acknowledges all other gender identities and sexualities*

- **Cold winters:** Some modes of travel, such as walking, can become challenging in the winter unless the Nation has the resources to undertake regular snow clearing efforts. Very cold weather reduces the efficiency of both internal-combustion engines and electric vehicles, which is an important consideration if your Nation is thinking about electrifying your fleet.
- **Climate-related disasters:** Extreme weather events can destroy roads or make travel otherwise unsafe. This is a particular concern if your Nation only has single entry access. You may want to coordinate your plan with an emergency response plan if this is a particular concern.
- **Steep, uneven, or challenging terrain:** Understanding which vehicles can navigate varied terrain in remote and rural areas is a key consideration of transportation planning, whether you drive a 4x4, a minibus, or a bicycle. Steep, uneven or challenging terrain can be mitigated by proper thought and design. For instance, steep hills can be difficult for people walking and cycling, but providing switchbacks makes the route passable. Being aware of safe transportation grades is important for roads, pathways and trails.
- **Reliance on marine/air transportation:** Your Nation may rely on air or marine transportation. Besides costly and infrequent connections, First Nations may have to manage more infrastructure (e.g. airstrips, ports/docks), and specialized, expensive equipment (e.g. ferries, planes, and associated support equipment). The predicted increase in extreme weather events associated with climate change in some regions will likely impact reliability of these services in the years to come.
- **Highway crossings:** The lack of safe crossing opportunities can discourage active transportation users and create barriers when the highway travels through a First Nation.
- **Wildlife:** Large species of wildlife are often drawn to roadsides for grazing so planning should consider how to mitigate surprise encounters on highways.

SOME OPPORTUNITIES MAY INCLUDE:

- **Partnering with other Nations and local governments:** Transportation planning creates natural openings for partnership and relationship building. Coordinating and partnering with neighbouring First Nations, local governments, trail building or transportation organizations and school districts can unlock shared infrastructure, joint service delivery, and a stronger collective voice when advocating to provincial and federal governments. Relationships built through transportation work often extend into other areas of mutual benefit.
- **Ancestral trails:** Revitalizing ancestral trails and travel routes that predate colonial road networks can serve as a form of active transportation, while also reconnecting community members with the land and traditional ways of moving through it. Consider whether any routes within your territory could be revitilised, mapped or restored.
- **Waterways:** Access to rivers, lakes, coastlines, or waterways may offer transportation options that are both practical and culturally significant. This could include reviving canoe travel, supporting small-boat connections between communities, or integrating water-based routes into a broader transportation plan.
- **Cultural revitalization:** Transportation planning can be an avenue for cultural revitalization, not only a logistical exercise. Reviving traditional travel methods, naming routes in your language, or grounding the plan in cultural practices and protocols can strengthen community identity alongside mobility.

- **Existing or nearby infrastructure:** There may be existing transportation infrastructure within or near your Nation's territories. It may be worth considering whether linking your plan to nearby roads, trails, or services could expand options for community members.
- **Engaging Youth:** Transportation planning offers meaningful opportunities to engage Youth, whether through engagement or building skills in planning and design. Youth involvement helps ensure the plan reflects the needs of future generations.
- **Thinking outside the box:** Think innovatively as you think of your transportation solutions and options. For example, car-share programs, bikes, e-bikes, and other forms of micromobility could respond to specific needs in your Nation that might not have been explored before. A community bike library, for example, allows members to borrow bicycles or e-bikes at low or no cost, lowering barriers to active transportation without requiring everyone to own their own equipment.

INSIGHTS FROM THE PILOT PROJECT COMMUNITIES:

- ?Esdilagh First Nation: Identified an opportunity to partner with neighbouring communities and governments to build a shared active transportation route between them.
- Daylu Dena Council: Identified a strong community interest in an e-bike rental service, which would encourage zero-carbon trips and offer an affordable alternative to motor vehicles for longer journeys in suitable weather.
- Squamish Nation: Identified an opportunity to explore active transportation connections to the Sea-to-Sky Trail with the District of Squamish, on both Nation- and District-owned lands, to establish a connective route linking its reserves into the trail as a main thoroughfare.

ENGAGEMENT

Engagement is foundational to all stages of the planning process and essential to the creation of a transportation plan that reflects your Nation's realities, values, and vision. Engagement is not only about gathering input but should be centred around building relationships, reciprocity, and consent. It should be built on your Nation's own governance, decision-making authority, and protocols. There are many ways of conducting engagement, and each First Nation will have their preferred methods and protocols. What forms of engagement to conduct and how many sessions depends on your goals and how participatory you would like the engagement process to be.

Participatory planning, where the Nation is directly involved in formulating the plan and making decisions collectively (planning meetings, workshops, collaborative sessions), is often considered a best practice.[11] This approach can be empowering, leading to increased community ownership of the plan, shared responsibilities, and momentum around plan actions. However, this approach can require more capacity and lead to engagement fatigue compared with processes which seek community input but the actual creation of the plan remains the responsibility of a designated planning team.

SOME BEST PRACTICES INCLUDE:

- Hearing the perspectives of a wide range of people who will be affected by the plan including Youth, Elders, employers, women, people with disabilities, 2SLGBTQQIA+ community members, off-reserve community members.
- Aligning work with your Nation's community values, harvesting, seasonal cycles and community events. For example, combining engagement processes with other events such as Open Houses can increase participation.
- Leveraging learnings from past engagement sessions and aligned work as a starting point.
- Conducting a variety of engagement methods that meet the needs of different community members' availability and preference such as online surveys, open house engagement sessions or other culturally informed methods.
- Starting engagement early and creating opportunities for input throughout the project's lifespan so the plan reflects community priorities as they evolve.[12]
- Being clear with community members about how their input will shape decisions and connecting engagement directly to the choices being made in the plan.[13]
- Sharing back results and the final plan with participants and the wider community is important to foster a sense of shared ownership, validate the information and follow up after engagement. Sharing the plan and key findings from the engagement back with engagement participants is important to check that what you heard in the session has been accurately reflected.
- Grounding engagement in trauma-informed, culturally safe practices. Conversations about getting around safely can touch on experiences of violence and loss, including those connected to the Missing and Murdered Indigenous Women, Girls, and Two-Spirit+ people crisis. Be prepared for difficult conversations, foster safe spaces and offer the appropriate culturally informed supports.
- Recognizing that participation takes time and capacity. Where possible, offering supports such as honoraria, childcare, food, transportation, or accessible formats and locations, may be helpful, so that everyone can take part.[14]

[11] Bammer, G. (2022). *Stakeholder engagement: Learning from Arnstein's ladder and the IAP2 spectrum*
[12] JCCA. (2020). *Joint Committee on Climate Action: Best Practices for Federal Departments Working with First Nations on Climate Change*
[13] Ibid
[14] Ibid

SOME SAMPLE METHODS INCLUDE:

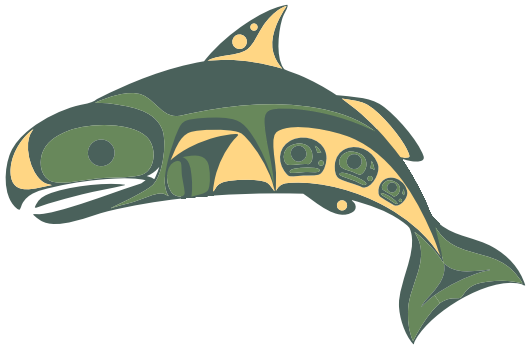
- **On-the-land and on-the-water engagement:** Can take many forms but could include taking a walk through a territory, paddling a river, or participating in cultural activities. By being on the land, engagement can be directly connected to the territory and conversations surrounding members' everyday travel experiences will likely surface more naturally.
- **Surveys (in-person or online):** Structured questionnaires that gather input from a broad cross-section of the First Nation in a relatively short timeframe. Useful for identifying priorities, testing options, and reaching members who may not attend in-person events, including those living away from home (see Appendix A for a survey template).
- **Open house engagement sessions:** Drop-in events that allow community members to learn about the plan, ask questions, and share feedback at their own pace. Well-suited for sharing information visually (maps, displays, draft materials) and for engaging members who may be uncomfortable speaking in larger group settings.
- **Community gatherings, feasts and shared meals:** Gathering and sharing a meal together can not only help conversations flow with more ease, but support relationship-building and affirm the First Nation spirit that grounds good planning.
- **Focus groups or circles:** Small, facilitated discussions with a targeted group of community members (e.g. Elders, Youth, or Knowledge Keepers). Useful for exploring or building connections on specific topics in depth, surfacing nuanced perspectives, and ensuring distinct voices are heard.
- **Interviews:** There are formal/informal ways to have one-on-one conversations with different community members. Particularly effective for reaching members who do not typically attend public events, for building trust through direct relationship, and for gathering more candid or detailed input than larger formats allow.

ENGAGING WITH OTHER PARTNERS OR ACTORS

Beyond community members, it can be valuable to engage external organizations, multiple levels of government and actors who shape or interact with the transportation system. Targeted interviews or discussions with these partners can surface their roles, constraints, and perspectives, and may reveal opportunities for collaboration or funding for implementation. Consider reaching out to transportation service providers, schools, bike and running clubs, social service providers, health authorities, neighbouring First Nations, and nearby local governments.

DATA SOVEREIGNTY

Transportation planning requires your Nation to gather a range of information including engagement data, maps, vehicle and fuel data and qualitative data. The First Nations principles of OCAP®, Ownership, Control, Access, and Possession, affirm that First Nations alone determine how information about their communities is collected, stored, used, and shared. Before you begin engagement, decide who will hold and govern this data, how community members will give informed consent, and whether any of it should be kept off third-party platforms. Where your Nation already has data governance or information-management protocols, align this work with them. Resources and OCAP® training are available through the First Nations Information Governance Centre (FNIGC). This process is particularly important in Stepping Stone 2: Knowing Where You Stand, as establishing a baseline understanding of your Nation's current transportation system requires collection of data.



Stepping Stone 1: Preparing For The Journey

This first Stepping Stone is about laying the groundwork before the planning work begins. It covers defining the project scope and rationale, understanding your Nation's context, and developing a pre-plan that includes a workplan, timeline, budget, and project team.

Engagement begins here, even if informally. Communicating with leadership and letting community members know the project is starting (what it will involve, why it matters, and how they can participate) helps build awareness and buy-in from the outset. A first engagement session can also help shape the project's scope and goals by surfacing the transportation challenges community members want addressed by the plan.

1.1 DEFINE THE PROJECT SCOPE

The first step in most planning processes is to determine the scope and rationale of the plan. Along with the scope of the plan, it is important to understand and agree on the rationale behind it. That is:

Why is this plan needed?

What are we hoping to achieve?

Why are we doing it now?

Think about your Nation's hopes and goals for this transportation plan and what it will bring to your community. Are there any words in your own language that might provide a name for the plan that will be meaningful and resonate with community members?

A project scope identifies the elements which will be covered by the planning process. This includes the project budget, schedule, the geographic area to be studied, background research, community engagement, and goals and policies. Your Nation's project scope should provide the technical team, leadership or community members an overview of the planning process, including the key objectives, budget, timelines and connections to other work.

It is also important to set goals that are aligned with your Nation's community comprehensive plan and/or climate, energy, and infrastructure plans. These goals will help inform recommended actions and projects that will be contained in the plan. To help define your project scope, consider:

PLANNING AREA BOUNDARIES

Consider the geographic area you want your plan to cover. For example, are you planning for transportation needs within your Nation, within and between other nearby communities, within a traditional territory, or maybe an entire region?

TRANSPORTATION CONTEXT AND GOALS

Consider your Nation's context, goals and vision for the transportation system. If everyone in your Nation could get around quickly, easily, safely and affordably, what would that look like? How would it feel? Does it align with your community's long-term vision? What specific transportation components would be involved? How would each type of trip be taken? When should this vision become a reality?

WHO SHOULD BE INVOLVED OR ENGAGED?

Start to consider who you want to involve or engage. Will you engage with all community members? Will you have special sessions for women, 2SLGBTQQIA+ people, Youth, Elders? Creating space to discuss sensitive topics or in smaller groups is important. What roles will leadership play? Will you include consultation with community groups, neighbouring communities, the surrounding region, other community entities?

1.2 CONSIDER YOUR NEEDS AND CONTEXT

The context of your Nation's distinct history, culture, geography, infrastructure, number of reserves, distance from service centre, needs of community members and many other factors will shape the transportation plan and planning process. The following list of questions will help you reflect on the current transportation needs, realities and priorities in your Nation. Additional sample questions are included in Appendix B.

LOCATION AND CONNECTIONS

- Where is your Nation located within your territory or region?
- How is your Nation situated? (Within a forest, beside a river, on an island, etc.)
- How far is your Nation from neighbouring communities or from major service centres?
- How is your Nation connected to the broader region socially and economically? Are there key services - such as hospitals, medical or government services, schools, colleges, major retail - located in other communities?
- Does your Nation provide any key services that other communities access?
- What is the terrain within the planning boundary? Are there any significant/ challenging terrain features?
- Do you have access to sites that are important for your Nation such as cultural sites?

PEOPLE AND ECONOMY

- How many people live on-reserve? How many are children, Youth, or Elders?
- What kinds of jobs do people have and how do people travel to work?
- What other services contribute to the local economy?
- What challenges do community members face?
- What services are provided in your Nation? (Daycares, schools, medical clinics, etc.)

CLIMATE, SAFETY AND EQUITY

- Are there barriers to safely moving within and beyond your Nation community?
- Is the level of safety affected by whether it is day or night, winter or summer?
- Does your community have constraints – like one road in and out – that significantly affect safe evacuation in the case of extreme weather events or climate emergencies?
- Are cultural and/or physical safety issues experienced by First Nation community members as they move around or between communities?
- What is the typical weather that can be expected at different times of the year?
- Have there been any significant extreme weather events?
- Is your community susceptible to climate-related disasters?
- Who is dependent on ride shares and hitchhiking and why?

CULTURE AND HISTORY

- Are there traditional transportation routes such as trails or waterways or methods to consider?
- What is the history of the current transportation system? Why is it the way it is?
- What other parts of your Nation's history or culture have impacted the way people get around your community?
- Are there efforts underway, or does your Nation have a vision, to restore traditional transportation routes and methods?

CHALLENGES AND OPPORTUNITIES

- Are you aware of any of the main challenges facing community members in terms of transportation?
- Are there any key opportunities in your Nation to talk about and plan for better transportation?
- Any other large plans (like a comprehensive community plan) underway? Are any neighbouring regions or communities doing any transportation planning or implementation work?
- Any new investments expected that could be utilized?
- Any major community events or celebrations scheduled that could include conversations about mobility?

1.3 PRE-PLANNING

REVIEW BACKGROUND WORK

Your Nation has likely completed studies and plans that will help to inform and provide guidance for your transportation planning. Compile a list of existing plans, reports, and studies that you will review. Maintain this list so you can review it with the project team and consider if anything is missing. Generally, planning results will be more comprehensive when they are connected to previous work and build on an established shared vision.

CREATE A WORK AND ENGAGEMENT PLAN

You will need a work plan based on the scope (identified in 1.1) to follow and stay on track. A work plan can be a simple list of activities and target dates to get them done. It can also be a more detailed spreadsheet that charts these things out more visually so it's easier to understand an entire process at a glance.

ESTABLISH A TIMELINE AND BUDGET

Transportation requires long term vision, commitment and funding. A 10-20 year timeline might be ideal, but a shorter-term plan (2-5 years) is also valuable to improve mobility and transportation in your Nation. It is important to establish a timeline and scope for the plan based on direction from the Chief and Council or through engagement with community members.

Budgeting for your transportation plan can vary and will depend on the scope, timeline and goals of the plan. Factors to consider include: the types

of engagement activities being pursued, physical materials needed, the hiring of external help or consultants, the need for meeting space rentals, staff time etc. See Appendix A for a basic budgeting spreadsheet to help you get started and consider which elements might be needed, and how much budget they might require.

There are many provincial, federal, and other funding sources which might help cover the costs associated with completing a low-carbon transportation plan. While these can help ease the burden of paying for this type of work, they usually specify which activities may or may not be eligible to be covered by the funds and might require the plan to be completed by a certain timeline. It is important to note all sources of funding being used to cover the budget for the plan, and what their requirements include.

ESTABLISH YOUR PROJECT TEAM

Staff should have clearly defined roles and the resources (leadership support, time, budget) that they need to complete the plan. This will take dedicated time and resources to complete. You should identify a key staff member who will be the Project Manager (it might be you) and any staff who will be supporting the project. If you are the Project Manager, ensure that you have advocated for adequate time to complete the project with your supervisor or leadership.

GOVERNANCE AND DECISION-MAKING

A Steering Committee or working group is optional, but it can strengthen how the project is governed. It gives decision-making a clear home, makes it more transparent, and creates a body that can be held accountable for moving the plan forward. The advantage of a Steering Committee is that they can provide direction on what action to take when challenges, tough decision points, or conflicts arise during the process.

If created, the Steering Committee should be made up of people who have an understanding of your Nation's transportation realities and the project's goals. For example, if one goal is to make it easier for Youth to get around, then consider having a Youth representative or a member of an organization who works closely with Youth on the steering committee. Generally, the committee should include diverse representation (age, gender, community roles/ jobs, etc) from the entire region which the plan is intended to cover. This could include the greater region around the Nation, just the Nation itself, or specific communities within the Nation. You may want to develop a Terms of Reference or similar guiding document so that the Steering Committee understands what their role is (e.g. their mandate) and what the scope is (e.g. frequency of meetings, number of members, how they make decisions).

CONSIDER PARTNERS FOR DEVELOPMENT AND IMPLEMENTATION

Implementation partners are those people and organizations which, once the plan is finished, will likely have a role in supporting, implementing or executing the actions identified. By engaging with them early in the process, or possibly including them in your project team if appropriate, they can be informed early and prepare for the outcomes which will help lead to implementation of the plan. Examples might include your organization's engineering department, or the provincial ministry responsible for highway design and maintenance.

These partners will also be able to share insights into the planning and implementation process early on. Such insights might help determine or discount the feasibility of certain actions or projects and thereby help focus the planning efforts on projects which are the most feasible.

Stepping Stone 2: Knowing Where You Stand

This Stepping Stone establishes a baseline understanding of your community's current transportation system, forming a clear picture of where your Nation stands today. This baseline can be guided by Two-Eyed Seeing, which uses both Indigenous and Western knowledge.[15]

The first step in your baseline is conducting a technical inventory of your Nation's transportation infrastructure, services, and fuel use, and a carbon assessment built from it. The second is collecting the knowledge held by Elders, Knowledge Keepers, and the land and water users who move through the territory. Their understanding of seasonal routes, water levels, ice and weather conditions, terrain, ancestral trails, and how people travelled before the current road system should form part of the baseline. In remote areas it is often more complete and accurate than any external dataset.

Community members are best positioned to speak to how the transportation system actually works, or doesn't, in daily life: what feels safe, what is affordable, what is missing, and what is working well. Doing background research first helps focus this engagement on the questions only your Nation can answer and may help reduce engagement fatigue.

[15]Two-Eyed Seeing (Etuaptmumk), a principle brought forward by Mi'kmaw Elder Albert Marshall, means learning to see with the strengths of Indigenous ways of knowing from one eye and Western ways of knowing from the other, and using both together. Here it means weighing community and Traditional Knowledge equally with technical, data-based knowledge. See Bartlett, C., Marshall, M., & Marshall, A. (2012). *Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together Indigenous and mainstream knowledges and ways of knowing.*

2.1 COMMUNITY TRANSPORTATION INVENTORY

Low-carbon transportation requires an inventory of existing community transportation assets and options. These include those assets, infrastructure, or services owned by your Nation, and those which are not.

Many Nations keep this kind of data in a geographic information system (GIS). If you don't have any data yet, it can be fairly straightforward to use Google Maps to create a map of the transportation infrastructure in your Nation. You can access Google My Maps, select the satellite imagery as your base map, and add map layers. Instructions can be found here.[16]

There are three categories (or "inventories") discussed below that should be included in this section of your plan.

*The **transportation stock** (i.e. How we get around)*

*The **fuel stock** (i.e. How transportation is powered; how much carbon is being used)*

*The **community stock** (i.e. community characteristics)*

These stocks are explained in greater detail below, along with general guidelines for the type of data which should be included in the inventory for each stock. While questions related to some of this information are provided earlier in the guide (Section 1.2), the task in this section is focused on data to be gathered by the planning team to create a full picture and fill in any data gaps remaining after the first engagement.

TRANSPORTATION INVENTORY

The transportation inventory can be thought of as anything that influences how people get around. This includes physical assets such as highways, streets, sidewalks, trails, cycling routes, transit routes and stops. Consider both in-community transportation options, as well as between-community or regional options when collecting this data.

Appendix E lists some common locations for this data, or methodologies for collecting it if unavailable.

TRANSPORTATION MODE SHARE

- Active transportation
- Private vehicles – small
- Private vehicles – medium and large
- Transit and shared transportation options
- Ferries/Water travel
- Air travel
- Other as required

[16] Note that Google My Maps hosts your data on Google's servers, which may be located outside Canada and are governed by Google's terms rather than your Nation's. You keep ownership of your content, but it sits in Google's possession, not your Nation's which is the reverse of the "possession" principle in OCAP®. Before mapping sensitive or culturally significant locations such as ancestral routes or cultural sites, see the data sovereignty note above and consider keeping that information on systems your Nation owns. *https://www.youtube.com/watch?v=fLhyr5MGi2g&feature=youtu.be*

TRANSPORTATION INFRASTRUCTURE

- Road network
- Sidewalks and trails
- Cycling routes
- Crossing points/crosswalks
- Traffic lights
- Street lights
- Gas stations
- Charging stations
- Bus shelters
- Traditional and ancestral routes documented with Knowledge Keepers
- Seasonal route conditions and closures (e.g. winter roads, washout-prone sections, water levels affecting marine travel)
- Other as required

TRANSPORTATION PROGRAMS AND SERVICES

- Transit routes, frequency and stops
- School bus routes
- Taxi or ride-share services
- Car sharing services
- Vehicle rental services
- Medical/emergency transportation services
- Funding programs (e.g. for EV purchases, charging stations)
- Driver licensing services available
- Driving education/training services for new drivers
- Other as required

FUEL AND ENERGY INVENTORY

The fuel and energy inventory is the makeup of all possible fuel and energy sources which support transportation within the planning area. It is important to understand the fuel and energy stock powering transportation options in your Nation. Low-carbon transportation planning aims to reduce the consumption of fossil fuels. Therefore, by comparing the fuel and energy stock before a plan, and after implementation, we can understand the relative success of the plan.

For the fuel and energy stock, you should create an inventory of all the fuel and energy sources being used in your Nation:

- ↳ Gasoline
- ↳ Diesel
- ↳ Electricity
- ↳ Other (propane, hydrogen, biofuels)

FIRST NATION COMMUNITY PROFILE AND INFRASTRUCTURE

Your Nation profile is the set of community characteristics that can heavily influence transportation decisions in the future. Establishing the baseline conditions of your Nation, and how they shape transportation, grounds the plan in the First Nation's real circumstances. Some of this picture comes from data, but much of it comes from the knowledge of Elders, Knowledge Keepers, and First Nation community members — particularly the seasonal and cultural patterns of movement that no dataset captures. Information to gather can include:

- Population growth or decline.
- Number of Elders, Youth, working age individuals, and any community members needing transportation support.
- Distance to other communities/centres.
- Transportation needs of community members including off-reserve members who travel to and from the territory.
- Community facilities such as hospitals, schools, daycares, key retail services, and government.
- Seasonal and cultural patterns of movement e.g. travel for harvesting, fishing, hunting, ceremony, and gathering, and how these shift through the year.
- Traditional and historical mobility including how community members moved through the territory before the current road system, which can reveal routes and connections worth restoring.

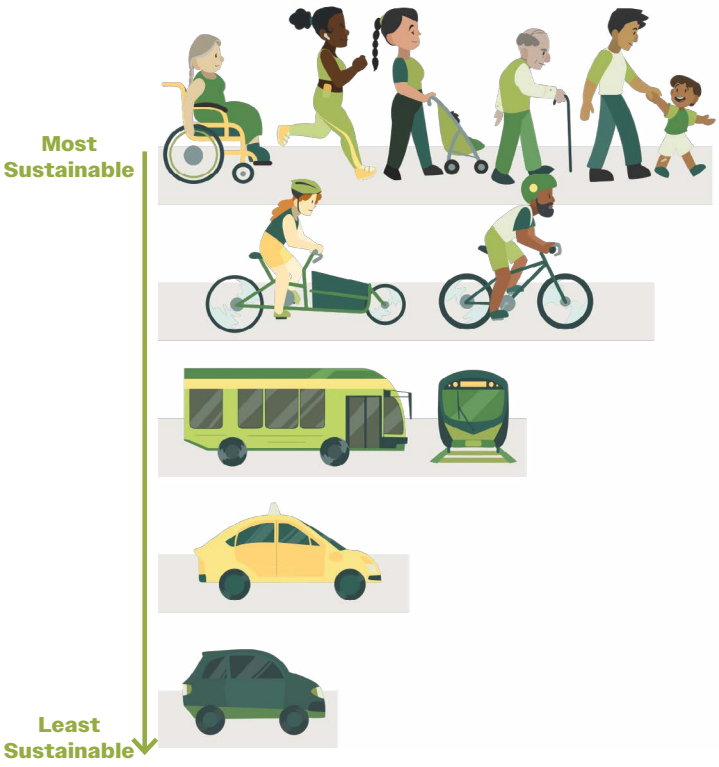
2.2 CARBON ASSESSMENT

The results of the transportation inventory will support the calculation of the carbon footprint of these stocks. This calculation is optional, but may be useful to contribute to broader climate or energy planning. There are two ways to do this:

Using the Sustainable Transport Hierarchy

The easiest method is to use the sustainable transport hierarchy to rank all existing transportation options by their carbon intensity. In practice, this means taking stock of how your Nation community currently travels — how many trips or vehicles fall into each tier of the hierarchy — and mapping that distribution onto it. The goal then becomes planning projects that shift this distribution toward the lower-carbon options at the top by addressing the infrastructure and service gaps that keep people in higher-carbon modes.

For example, a Nation might find that most daily trips are made by private car (the highest-carbon tier), even for short distances that could be walked or cycled. Mapping this onto the hierarchy reveals a heavy concentration at the bottom. A project to build a connected sidewalk and bike-path network, or to add a community shuttle, would then aim to move a share of those short car trips up into the walking, cycling, or public-transport tiers — lowering the community's overall transportation emissions.



Sustainable Transport Hierarchy

We can use the hierarchy below to generally rank transportation options based on their carbon intensity.

Highest carbon travel

Lowest carbon travel

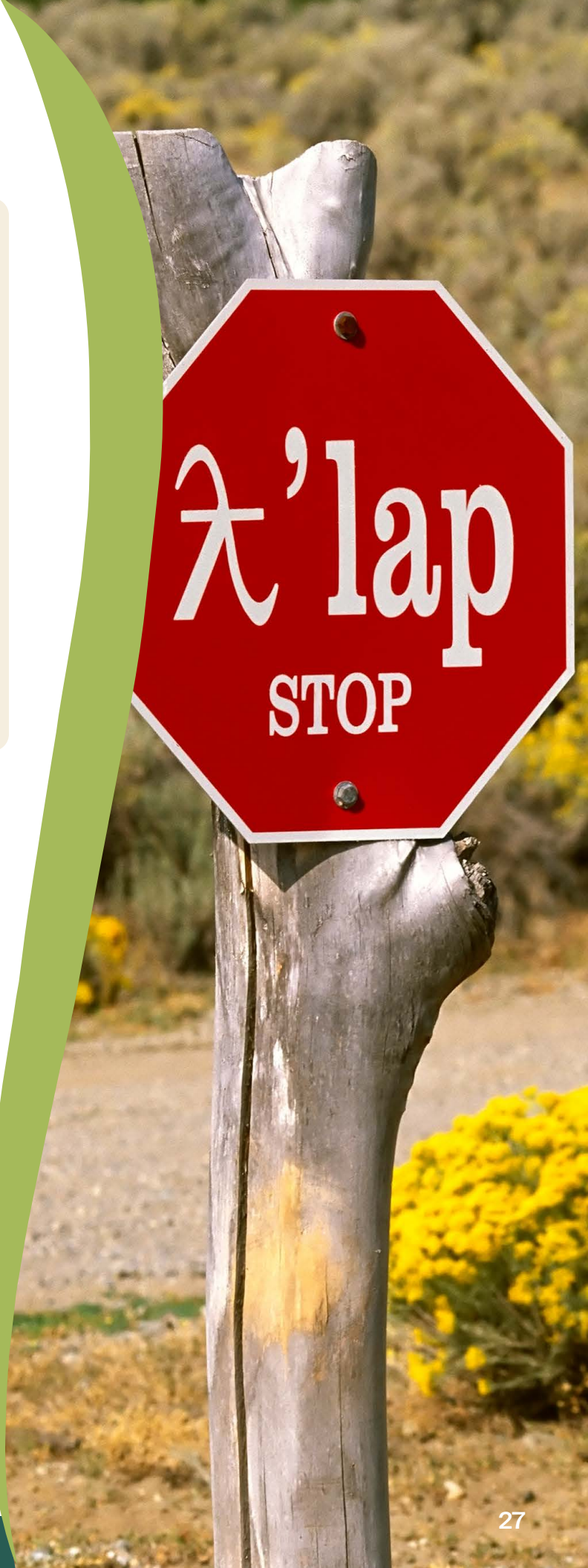
- Medium and heavy-duty internal combustion engine vehicles
- Older (pre-2010) internal combustion engine light-duty vehicles (cars and smaller trucks)[17]
- Newer internal combustion engine light-duty vehicles
- Transit and high occupancy internal combustion vehicles (including community shuttles)
- Electric vehicles, scooters, and e-bikes
- Active transportation such as walking, cycling, self-propelled scooters

Generally, shifting as much travel as possible from higher carbon sources to lower carbon sources is an improvement in the carbon footprint of your transportation system.

COMPLETING A TRANSPORTATION GHG INVENTORY

A more thorough, but time-consuming method is to complete a detailed GHG inventory of the transportation options. This will measure how much carbon the transportation system is emitting, and support projects targeted at the high-carbon elements of the transportation system. Preparing a transportation GHG inventory involves identifying emission sources, measuring their energy consumption, and converting consumption into emissions. This process is conceptually simple but acquiring data can be difficult. More information on completing a GHG transportation inventory can be found in **Appendix E.**

[17]Generally speaking, fuel efficiency of vehicles has been steadily improving over time. There were, however, significant improvements around 1980 and again around 2010. Smaller vehicles are generally more efficient than larger vehicles.



Stepping Stone 3: Choosing The Path Forward

This section moves the planning process from data collection and research to analysis, priortization and direction-setting: articulating a shared community vision, identifying gaps between that vision and the current state, prioritizing actions to close those gaps, and preparing for implementation. Each of these stages is strengthened by ongoing community engagement, conducted in whatever form and frequency best fits your Nation's protocols and capacity.

3.1 IDENTIFY GAPS, OPPORTUNITIES AND PRIORITIZE ACTIONS

It may be useful to compile the data you have collected so far into one chart or document. There are many ways to consolidate what you have learned including organizing the information according to whether it is a physical safety, cultural safety, accessibility or affordability issue (see **Appendix C**). Another method involves using a Gaps and Opportunities Analysis template that is provided in **Appendix D**. If relevant, you may want to link the issue or gap to a particular location. Each issue may also be ranked in terms of severity and/or urgency. It may be useful to provide this chart for public comment in future community engagements.

At this point in the planning process, there should be enough information and a clear enough picture to begin deciding on future actions. In choosing actions to pursue, it is important to use the information we have collected to identify gaps in the transportation system. Gaps can be physical, as in the disconnection of transit services between two places that need service, or in the form of missing services such as in the lack of EV chargers within your Nation, driving licensing services, etc. There may be policy gaps, such as a lack of support for safe, affordable, and active transportation in the comprehensive community plan.

Based on the vision and goals of the engagement with your Nation, transportation inventory and GHG profile, identify specific actions that will help to address gaps and achieve the vision. Actions might include:

- Prioritizing budget for active transportation infrastructure
- Installing more EV chargers
- Working with other governments and actors to establish bus services to your Nation

Be sure to systematically consider the vision developed, results of your Nation's engagements, results of the carbon assessment, and any community attributes which might influence the success of actions. Furthermore, key characteristics such as population and demographic trends might influence selected actions and how they are prioritized.

Initial criteria for prioritizing actions may include:

- Urgency (safety, support for vulnerable residents, Elders etc.)
- Benefits compared to costs
- Available funding
- Relative ease of achievement

3.2 VALIDATING FINDINGS AND REPORTING BACK

If desired, community engagement could involve presenting the findings, key recommendations, and prioritized actions to your Nation, for instance through your Nation's website, community meetings, advertising, and/or social media.

Community members should have the opportunity to let you know how they feel about the results of the planning process. Do they agree with the prioritization of the actions? Do they believe in the vision that has been developed?

If your Nation has bought into the reasons for the project and had many opportunities to contribute, the results of this engagement tend to be positive and indicate alignment and agreement between your Nation members, leadership, and any other partners.

Stepping Stone 4: Paddling Together

The final stepping stone is focused on turning the transportation plan into action and keeping it alive over time. It covers securing resources and partners for implementation, monitoring progress through key performance indicators, and committing to a regular reporting schedule.

Engagement does not end when the plan is finalized. Keeping First Nations community members and leadership informed of progress through annual reports, community gatherings, newsletters, or the Nation's website sustains momentum, maintains accountability, and ensures the plan continues to reflect your Nation's evolving priorities. Implementation is strongest when it remains a shared effort, not a document sitting on a shelf.

4.1 PLAN FOR IMPLEMENTATION

Achieving the vision, goals and actions of the transportation plan requires a detailed implementation plan. An implementation plan should include each action, its priority, who (or which department) is responsible for achieving it, when it will be achieved and, in the best-case scenario, a predetermined budget.

RESOURCES REQUIRED FOR IMPLEMENTATION

Considering the actions to be implemented, estimate the resources required to make them a reality. This can include how many staff members need to be involved, how much it will cost, the need for external funding, quotes or designs, or whether special knowledge or expertise will be required. Consider seeking out high level quotes for certain work or activities to understand expected costs and move the potential project closer to being shovel ready. Utilizing your network is key and it may be useful to talk to other Nations that may have completed similar plans or projects.

EXPLORE FUNDING OPPORTUNITIES

Depending on the political and fiscal climate, there may or may not be grants or programs available that align with your implementation priorities, so it is worth treating funding as an ongoing search rather than a one-time step.

Start by identifying what actions are most likely to attract external funding. Projects that deliver multiple benefits at once, such as reducing emissions while also improving safety or accessibility, tend to align well with funding programs. Having a clear, prioritized list of actions or shovel ready projects can position your Nation to act quickly when funding opportunities arise.

Funding may come from federal programs (such as Housing, infrastructure and Communities Canada, Natural Resources Canada, Environment and Climate Change Canada, and Transport Canada), provincial programs from the Ministry of Transportation and Transit and the Ministry of Energy and Climate Solutions, regional partnerships, foundations, regional economic trusts, and First Nations-specific streams. Building relationships with funders early and partnering with neighbouring Nations or local governments may expand eligibility and ease the application burden.

Finally, not every action will require external funding. Some changes, such as policy adjustments or small-scale active transportation improvements, may be achievable through existing resources and partnerships.

4.2 MONITORING AND REPORTING

The best way to realize the vision of your Nation's plan is to keep leadership and community members aware of its progress. If reports to leadership are not made as part of regular business, ensure that, at a minimum, an annual summary of progress is presented. An annual report should also include mention of any work or progress being planned and targeted for the upcoming year. It is a good idea to keep community members informed as well – through Nation gatherings, websites, newsletters and other events.

Measuring key performance indicators (commonly referred to as KPIs) over the course of implementing the plan is one approach. Some common KPIs for low-carbon transportation might be:

- Transportation mode share
- Dollars invested in new infrastructure or services
- The number of new EV charging stations
- The number of meters/kilometers of new active transportation routes/sidewalks
- The number of trips made by shared transportation
- The number of EVs in your First Nation
- Number of safety/equity/affordability issues resolved
- % increase in bike ownership

It is good practice to think about KPIs, including what KPIs are of greatest importance/value to your First Nation and what is important to monitor for progress in the future during the development of the transportation plan. They can then be refined, adapted, and changed as the planning process takes place and outcomes evolve. Another approach is conducting an annual transportation survey focused on what is most important to your Nation. A survey could help monitor the changes year over year if the survey questions are the same/similar to the baseline.

It is also important to set a baseline to measure progress against. It is impossible to know how far we have come, if we do not know where we started. For example, adding one new EV charger to a community which already had 50 is a marginal improvement to the existing condition. However, adding one new EV charger to a community which had none is a significant milestone and might be talked about much more throughout your Nation.

It is important to state the baseline along with the total and yearly change in KPIs (Key Performance Indicators). For example:

1. KPI: NUMBER OF EV CHARGING STATIONS WITHIN THE FIRST NATION

- **Baseline (2024):** 0
- **Annual progress (2025)**: 5
- **Total progress (2024-2025):** 5

2. KPI: NUMBER OF SAFETY/EQUITY/ AFFORDABILITY ISSUES RESOLVED BY SEVERITY/URGENCY RATING

- **Baseline (2024):** Two very urgent safety issues related to active transportation; one very urgent affordability issue related to travel outside of the First Nation.
- **Annual progress (2025):** Funding secured for active transportation improvements; study underway related to affordability issue.
- **Total progress (2024-2025):** 30% complete.

Conclusion

Developing a Low-Carbon Transportation Plan is not the end of the journey, it is the beginning. The four Stepping Stones outlined in this guide are meant to help your Nation prepare for the work, understand where your Nation stands, choose a path forward, and keep moving together long after the plan is written. The journey will not always be linear, and each First Nation will travel on their own path, guided by its own worldview, priorities, and cultural protocols.

Although this guide is framed as 'low-carbon transportation', this work is about far more than reducing carbon. Safe, reliable, and affordable transportation is a matter of rights, safety, health, and connection to the land, and to one another. The work of transforming a transportation system shaped by colonialism does not rest with First Nations alone. A just transition requires governments, industry, and broader society to work together in partnership with First Nations to achieve a transportation system that not only reduces emissions but supports mobility and upholds First Nations' Title, Rights and Treaty Rights.

A plan's value comes not from being finished, but from being implemented, revisited, and carried forward. This guide is offered in the spirit of BCAFN Regional Chief Terry Teegee's words, that "it is our right to move safely and freely within our territories—and it is essential that we are key leaders of the low-carbon transition on our own terms and with justice, equity and our rights central to this transition."

The illustrations in this guide were created by illustrator Bayja Morgan-Banke from Toquaht (Nuu-Chah-Nulth) and Secwépemc (Shuswap) nations.

The cover illustration and stepping stones graphic were inspired by the idea of each stone as an island: distinct from one another but connected within a shared ecosystem. A canoe can move between islands in any direction and order, depending on the journey ahead. Rather than a linear path, each island represents different opportunities and actions along the way. Each stepping stone is paired with an animal symbol reflecting its theme.

Stepping Stone 1: Owl

The owl represents foresight and preparation. With its ability to see into both the future and the past, the owl reminds us that reflecting on what has come before helps us anticipate challenges ahead and prepare for what lies on the path.

Stepping Stone 2: Bear

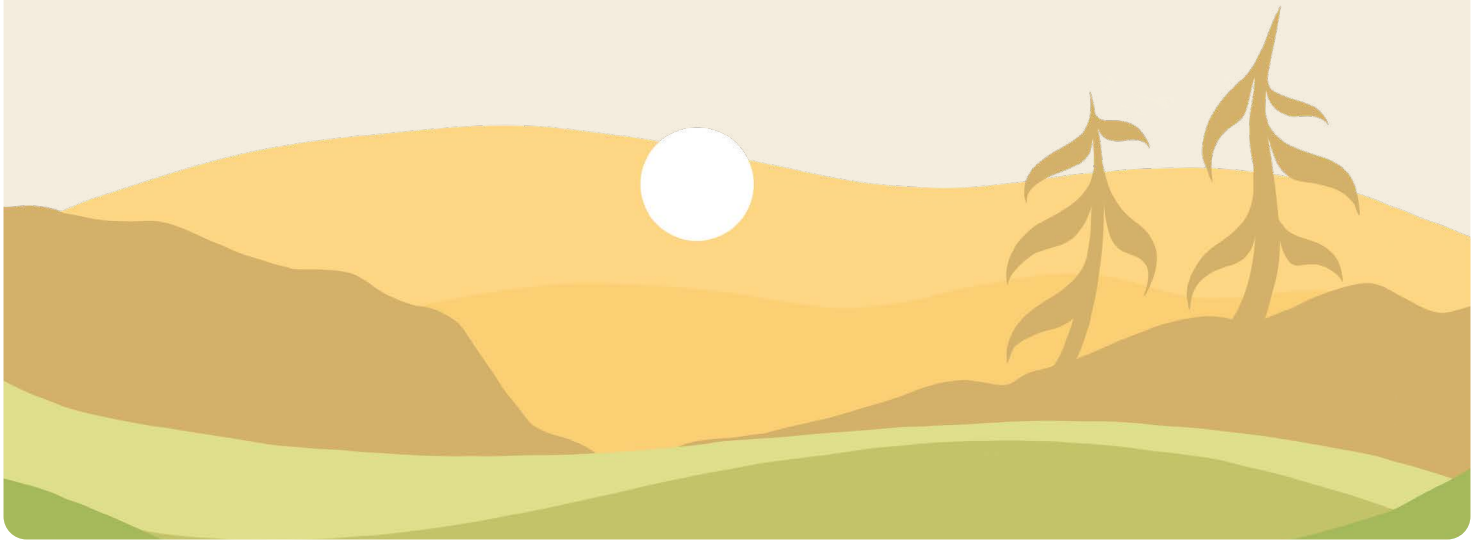
The bear represents stability and self-determination. It symbolizes honest, grounded leadership: the confidence to know who you are and where you come from, and the strength to move forward with purpose.

Stepping Stone 3: Orca

The orca represents guidance, navigation, and connection to those who came before us. In many coastal First Nations cultures in BC, the orca is believed to guide those lost at sea safely back to land, and is often understood as the spirit of great chiefs returning to guide us. Orcas are seen as good omens and beings of spiritual navigation.

Stepping Stone 4: Wolf

The wolf represents collaboration, community, and working toward a shared goal. Wolves are deeply connected to family and collective strength, reminding us that progress often requires trust, communication, and effort made together. As protectors and team players, wolves embody the strength of paddling in the same direction.



Appendices

APPENDIX A: RESOURCES

- Low-carbon Transportation Plan Worksheet
- Sample Community Survey
- Sample plan budget workbook

The following resources can be referenced for further best practices, outcomes, and ideas:

CONNECTING YOUR PLAN

- Sḵwx̱wú7mesh Úxwumixw Climate Legacy Strategy — Squamish Nation was a Phase 1 Pilot Project Community and included their Low-Carbon Transportation Plan within their climate strategy.

RURAL AND REMOTE TRANSPORTATION

- Innovative Rural Transportation Strategies Aid in Poverty Reduction — How rural transportation solutions can advance broader social goals.
- Navigating Rural: Place-Based Transit Solutions for Rural Canada — Place-based approaches to rural transit.
- Promising Practices for Increasing Access to Transportation in Rural Communities — Evidence-based practices for improving rural transportation access.
- Northern BC Inter-Community Transportation Study — A regional study on connecting communities across northern BC.

INNOVATIVE SERVICE MODELS

- Delta Seniors' Bus — A community shuttle model serving older residents.

ACTIVE TRANSPORTATION

- Indigenous Youth Mountain Bike Program — An Indigenous-led Youth cycling program.
- New Hope Community Bikes – Indigenous Bike Program — Community bike access and repair initiatives.
- Keep Pedaling in Pikangikum — A bike program serving a remote First Nation.
- Native Women Ride — An Indigenous women's cycling initiative.
- Costing of Bicycle Infrastructure and Programs in Canada — Cost benchmarks for bike infrastructure and programming.
- B.C. Active Transportation Design Guide — A comprehensive provincial guide with design standards and best practices for walking, cycling, and rolling infrastructure.
- Communities Going Active – Tzeachten First Nation — A case study on an Indigenous community's active transportation and healthy living initiatives.

APPENDIX B: SAMPLE QUESTIONS FOR RESEARCH AND ENGAGEMENT

LOCATION AND CONNECTIONS

- How is your First Nation community connected to the broader region? Are there many options to move around or are options limited by condition, service frequency, weather, etc?
- Do visitors or First Nation community members need to use marine or air travel to get to your community?
- How many reserves does your First Nation have? Are they connected by land or water transportation systems?
- Are any travel routes cut off in winter or summer (or any other season)?
- Are the ways people get around connected in any way to community culture and history?
- Does your Nation involve/participate in decision-making on transportation at the local, regional, and/or national level?
- Are there traditional or ancestral routes — trails, portages, or waterways — that members use or that could be restored?
- Do members travel for harvesting, fishing, hunting, ceremony, or to visit family in other communities? When, where, and how?

CLIMATE, SAFETY AND EQUITY

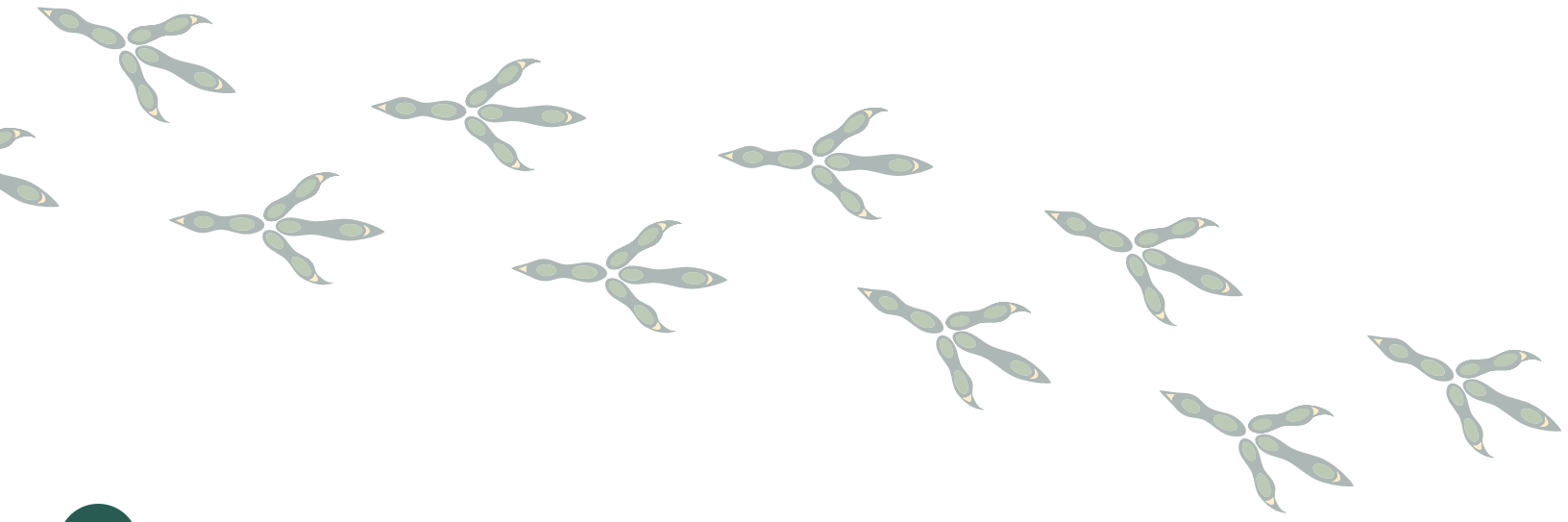
- What climate impacts is your Nation facing and how are they impacting the ability of people to get around?
- How do different seasons impact transportation? Have there been any severe weather or climate impacts on transportation infrastructure or impacted travel? If so, what are they?
- How safe do Nation community members feel when moving within and beyond your First Nation's reserve(s)? If there are safety concerns, what are they specifically? (Are they associated with a location, a time of day, a certain mode of travel, time of year, etc.)
- Do members, particularly women, girls, and 2SLGBTQQIA+ people, ever have to rely on unsafe options such as hitchhiking because safe, affordable transportation isn't available? On which routes, and at what times?
- What would help members feel safer when they travel? E.g. lighting, safe-walk programs, emergency phones, more frequent service, or other supports your First Nation identifies?
- Who is excluded from being able to move around your Nation community easily, safely and when they want? Make sure you talk to these people.
- What is the rate of vehicle ownership (by gender and age)?
- What options are available for unbanked Nation community members to access mobility options? (i.e. unbanked community members may not have a bank account, debit card or credit card).
- Are there opportunities for community members without smartphones to access mobility options?
- Are there travel challenges for people based on factors such as gender or age?
- What is the rate of crashes or transportation-related crime and injury?

TRANSPORTATION INFRASTRUCTURE

- How many and what types of roads are there? Are they in good condition and easily accessible? Are they affected by seasonal weather?
- Does your Nation have any EV charging stations supporting operations, tourism and/or your community?
- Does your Nation have sidewalks and crosswalks? Are they in good repair?
- Does your Nation have street lighting at night?
- Does your Nation have public transit? Is transit supported by shelters from bad weather, shade in hot weather, lighting for night journeys and other elements that allow users to feel safe?
- Is there appropriate signage for active transportation routes?
- Does your Nation have any trails that are used for active transport or for recreation or cultural use?
- Is transportation accessible for members with disabilities, including Elders and those with mobility needs (accessible transit, curb cuts, maintained paths)?
- For communities relying on marine or air travel, what is the condition of docks, ports, or airstrips, and how reliable are these connections?
- Are walking and active routes cleared and maintained in winter?

DESTINATIONS AND TRAVEL

- Where do community members need to go (essential trips), how do they get there, when and how often? How long does it take?
- Where do community members want to go, how do they get there, when and how often? How long does it take?
- How would community members prefer to get to their destinations if they could go there in a different way?
- How much does it cost each month to travel? Is this affordable or do they wish they could reduce costs?
- Which trips outside your reserve(s) are for services that could be delivered locally such as medical, banking, government, or groceries? Which of these create the greatest burden?



APPENDIX C: SAMPLE SAFETY, EQUITY AND AFFORDABILITY ASSESSMENT CHART

Issue Identified	Physcial Safety Issue	Cultural Safety Issue	Accessibility Issue	Affordability Issue	Automobile related	Active transportation related	Service provision related	Severity/urgency rating	Associated location

APPENDIX D: GAPS AND OPPORTUNITIES ANALYSIS TEMPLATE

You can use this section to list and describe any gaps that exist in relation to the transportation system and the vision statement. Gaps have been sub-categorized into "transportation system gaps" (meaning those relating to components of the actual transportation system) and "institutional gaps" (meaning those relating to the First Nations government institution as they pertain to improving the transportation system). Some examples have been provided under each heading.

Insert new rows into each section to include as many gaps as you need to.

TRANSPORTATION SYSTEM GAPS

Gap	Description	Recommendation
Infrastructure		
Lack of active transport trail that connects the reserves and neighbouring municipality.	Community members do not feel safe enough to switch to low carbon transportation/active transportation modes due to the poor existing dirt trail conditions and lack of lighting	Continue community engagement to develop a project proposal and plan to improve safe and accessible active transportation route that safely connects the reserves.

Gap	Description	Recommendation
Services		
No bus route connecting reserves and neighbouring service centres.	Accessing services located on other reserves or in the neighbouring service centre is difficult for those without access to a vehicle	
Policies		
No EV Ready policy	New buildings in the community will need to retrofit to add EV chargers in the future – which is much more costly than planning for them at time of construction	
Key Actors and Relationships		
BC Transit	BC Transit have jurisdiction over bus service within region making it difficult to improve service to/from the Nation.	
Funding Programs		
Tedious application requirements	Federal and provincial funding requirements and processes are tedious and require stacking of multiple grants to implement transportation projects.	
Other		

INSTITUTIONAL GAPS

Gap	Description	Recommendation
Capacity		
Staffing	Our Nation has no dedicated transportation staff to manage implementation of transportation-related projects.	
Knowledge		
Technical understanding of charging stations	The organization requires knowledge to understand and effectively plan for a diverse charging network which will support the needs of the community.	
Fiscal		
Competing Priorities	The Nation does not have budget to improve access to transportation when faced with other priorities such as housing and energy supply.	
Other		

OPPORTUNITIES ANALYSIS

Use this section to list and describe any opportunities that exist in relation to the transportation system and the vision statement. Opportunities have been sub-categorized into **"transportation system opportunities"** (meaning those relating to components of the actual transportation system) and **"institutional opportunities"** (meaning those relating to the First Nations government institution as they pertain to improving the transportation system). Some examples have been provided under each heading.

TRANSPORTATION SYSTEM OPPORTUNITIES

Opportunity	Description
Infrastructure	
New bridge at local river	Partnering with the province on bridge construction provides a chance to include a pedestrian or bike lane on the bridge
Services	
E-Bike Library	Strong public support for active transportation and e-bikes make the establishment of a community e-bike library a low-risk solution.
Policies	
Provincial EV Sales mandate	Province to provide funding to support growth of EV charging network
Key Actors and Relationships	
Modo CarShare	Looking to expand services and could offer car sharing for community members who cannot afford to own
Capacity	
Training in sustainable trail building	Can help staff design new trail networks to connect the community and get Youth out on the land.
Fiscal	
Recent investment in housing retrofits	Possibility to include EV charging in retrofits
Economic development	
Other	

APPENDIX E: POTENTIAL DATA SOURCES AND METHODOLOGIES FOR TRANSPORTATION INVENTORY

This appendix spells out in greater detail how to conduct a transportation GHG emissions inventory. Low-carbon transportation plans typically focus on community-based emissions. The level at which a community-based assessment is done (one community or a group of communities that share a central government) is determined when creating a scope for the plan. Planning scope can also include operational emissions if desired, particularly if emissions from operational sources (like community-owned fishing fleets) are likely significant.

ESTIMATING COMMUNITY TRANSPORTATION GHG EMISSIONS

Community-based emissions are created by community members going about their daily business in your Nation. These emissions cannot be directly controlled and are dependent on how well the transportation system supports low-carbon transportation choices.

For this guide's purpose, we focus on community-side transportation emissions (regardless of the geographic boundary you choose for your plan) and addressing gaps in the transportation system within or beyond a community.

Beyond any situation where bills are collected in one place, such as by a Government entity, it is not possible to precisely calculate what community transportation GHG emissions are in any given year. But there are a few different ways to estimate community transportation GHG emissions.

Each of these methods can be used either in isolation, or to corroborate each other. They are listed in approximate order of accuracy, but in some circumstances, there may be a different preferred order.

Each of these methods can provide a volume for gasoline or diesel. These volumes can then be multiplied by the Province of BC emission factors that can be found in the latest version of the BC Best Practices Methodology for Quantifying Greenhouse Gas Emissions on the Province of BC's website (typically one released each year).

Method 1 – Fuel Station Sales Data

Some First Nations have gas stations on their reserve lands. Because First Nation members have a tax benefit for purchasing fuel on reserve, most First Nation members fill up on reserve, and it should be possible to obtain data from the gas station(s) on reserve on how much fuel has been sold to members.

Based on local knowledge, this figure may need to be adjusted, e.g. if it is known that many members also fill up elsewhere (e.g. in another community), or if many members from other First Nations use their gas station.

If you are choosing to include EVs or other fuel sources in your GHG inventory, this would also include data from charging/fueling stations as appropriate. EVs can be tricky to calculate as many people choose to charge their vehicle at home, which does not give us access to their electrical (fuel) consumption data.

Method 2 – Survey of Members

A survey can be created and distributed to members that can ask questions such as how many vehicles they have, what types of vehicles, the fuel it uses, and how much money they believe they spend on transportation fuel per year. Other questions can also support this analysis, such as how many big trips do they believe that they conduct in a year, and to where (e.g. to Vancouver, or Calgary).

From these questions, particularly their annual fuel expenditure, volumes of fuel can be calculated (from energy price data – see below) and then GHG emissions can be calculated.

To encourage First Nation members to respond to the survey, a prize draw can be created, and/or a community dinner can be hosted with encouragement to complete the survey at the dinner.

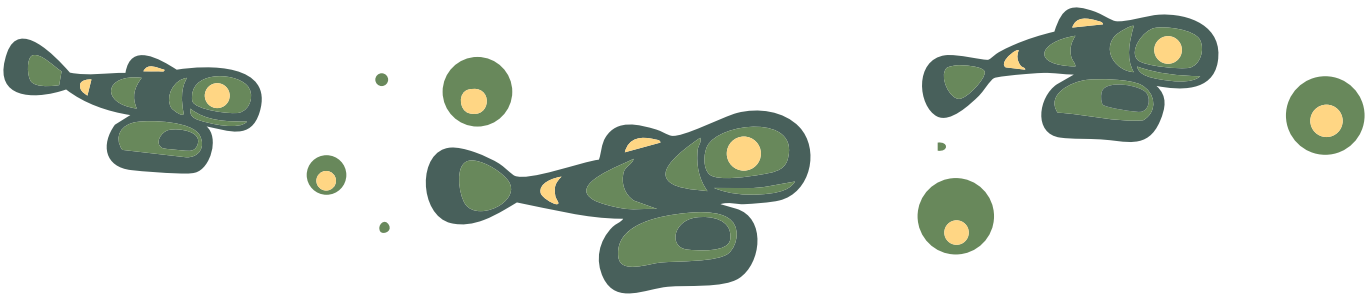
Not all First Nation members will respond to the survey, and so results will need to be extrapolated based on the number of responses and the number of members.

Most registered vehicles travel about 10,000-20,000 km/yr, and this fact can be used to check the answers received. This figure can be highly dependent on circumstances, however. Members of First Nation communities sometimes use their vehicles less than members of colonial communities.

Method 3 – Estimate of Vehicles and Vehicle Kilometers Travelled from Province of BC data

The Province of BC has created estimates of transportation energy consumption and emissions for each Municipality and Regional District in BC (as well as the Stikine Region), through the Community Energy and Emissions Inventory (CEEI), which is available here: https://www2.gov.bc.ca/gov/content/environment/climate-change/data/ceei

For any area in BC, local per capita transportation fuel consumption and GHG emissions can be calculated. Using the figures for the municipality or regional district your reserve falls within, this can then be multiplied by the number of people on reserve to create a community estimate. An alternative way of calculating this is to create estimates per vehicle or even by vehicle type and multiplying this by the number of vehicles believed to be on reserve and/or vehicle types. The survey of members in Method 2 is a way of estimating the number and types of vehicles on reserve.



ESTIMATING OPERATIONAL TRANSPORTATION GHG EMISSIONS

First Nation's Government transportation GHG emissions (i.e. from your Nation's Government fleet) may be a significant proportion of the GHG emissions of your Nation. If bills have been collected at the Government level, these can be easily calculated.

The gasoline and diesel consumption of the vehicles is summed and multiplied by the Province of BC emission factors that can be found in the latest version of the BC Best Practices Methodology for Quantifying Greenhouse Gas Emissions (typically released each year around December). If only the cost of fuel has been collected, then this should be summed and back calculated to obtain fuel consumption (see inventory expansion – energy expenditures below).

If detailed data has been collected, then consumption by asset and/or month can be calculated, which can be beneficial for finding ways to reduce consumption.

INVENTORY EXPANSION – ENERGY EXPENDITURES

Any GHG inventory can be easily expanded to also create an inventory of how much money is spent on energy. This is done by multiplying the volume of fuel with local energy price data over the year.

Local energy price data can be found by obtaining gas station receipts from the First Nations Government or can also often be recalled through local knowledge. There are also resources online to support estimate creation.

- 2025 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions
- Climate Guide to Understanding Emissions

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