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Transporting Sovereignty: Infrastructure, Foodways, and Inuit
Futures in Nunavut

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Abstract

This dissertation examines the role of transport infrastructure in shaping food sovereignty in Nunavut, Canada. Drawing on ethnographic research in five Qikiqtani communities, it situates infrastructure as an expression of socio-material and political authority over who can move, what can be accessed, and which futures become possible. Focussing especially on airport runways, cargo systems, and logistics, this research asks how transport infrastructure mediates access not only to imported foods but, crucially, also to locally harvested foods.

On a theoretical level, the dissertation develops and contributes the concept of “infrastructure sovereignty”, which describes the right and capacity of Nunavut’s residents to influence how infrastructure is planned, prioritized, operated, and maintained in ways that align with local needs, desires, values, and collective livelihoods. Infrastructure sovereignty highlights non-state-centric understandings of sovereignty by concentrating on the lived and material conditions that affect mobility, sharing, harvesting, and community wellbeing. Linking infrastructure sovereignty and food sovereignty, the analysis demonstrates that access to country food and Nunavut foodways depends on increased local control over infrastructural decision-making, particularly concerning transport systems. Through empirical examples, the research elucidates how different infrastructural materialities produce unequal opportunities for communities and shape residents’ aspirations for the future.

The four articles presented in this cumulative thesis illuminate various roles of transport infrastructure and residents’ engagements therewith across the Qikiqtani. They demonstrate that frictions in infrastructure planning and use are opportunities for co-development, as they are moments in which residents improvise, negotiate, and assert infrastructural priorities of their own, expressing creative agency within structural constraint. Building on anthropological debates about infrastructure, sovereignty, and Arctic futures, this dissertation presents a concept that connects infrastructure’s material systems to everyday lived sovereignties in Nunavut, arguing that transport infrastructure is central to food sovereignty, not simply a background condition for imported food.

Keywords:

Infrastructure, food sovereignty, Nunavut, Arctic, Inuit, transport, Canada, ethnography

Citation:

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German Abstract

Diese Dissertation untersucht die Rolle der Transportinfrastruktur bei der Gestaltung der Ernährungssouveränität in Nunavut, Kanada. Basierend auf ethnographischer Forschung in fünf Gemeinden der Qikiqtani-Region wird Infrastruktur als Ausdruck sozio-materieller und politischer Autorität über die Frage verstanden, wer sich fortbewegen darf, was für wen zugänglich ist und welche Zukunftsperspektiven dadurch entstehen. Mit Fokus auf Flughafenlandebahnen, Frachtsysteme und Logistik wird gezeigt, wie Transportinfrastruktur den Zugang nicht nur zu importierten, sondern vor allem zu lokal gejagt und gesammelten Lebensmitteln vermittelt.

Auf theoretischer Ebene entwickelt und vertieft die Dissertation das Konzept der „Infrastruktursouveränität“, welches das Recht und die Fähigkeit der BewohnerInnen von Nunavut beschreibt, Einfluss auf Planung, Priorisierung, Betrieb und Instandhaltung von Infrastruktur zu nehmen, sodass diese mit lokalen Bedürfnissen, Wünschen, Werten und kollektiven Lebensgrundlagen im Einklang steht. Infrastruktursouveränität setzt den Fokus auf nicht-staatlich zentrierte Auffassungen von Souveränität, indem sie die gelebten und materiellen Bedingungen betont, die Mobilität, Teilen, Jagen und gemeinschaftliches Wohlergehen beeinflussen. Durch die Verknüpfung von Infrastruktursouveränität mit Ernährungssouveränität zeigt die Analyse, dass der Zugang zu „country food“ und lokalen Essgewohnheiten in Nunavut von einer verstärkten lokalen Kontrolle über infrastrukturelle Entscheidungsprozesse abhängt, insbesondere im Hinblick auf Transportsysteme. Anhand empirischer Beispiele verdeutlicht diese Forschung, wie unterschiedliche infrastrukturelle Gegebenheiten ungleiche Chancen für Gemeinschaften schaffen und die Zukunftsvorstellungen der BewohnerInnen prägen.

Die vier Artikel der kumulativen Dissertation beleuchten vielfältige Rollen der Transportinfrastruktur und die Auseinandersetzungen der BewohnerInnen damit. Sie zeigen, dass Friktionen in Planung und Nutzung potentiell auch Chancen für gemeinsame Entwicklung sein können, in denen BewohnerInnen trotz gegebener struktureller Bedingungen improvisieren, verhandeln und eigene Prioritäten setzen können. Aufbauend auf anthropologischen Debatten zu Infrastruktur, Souveränität und arktischen Zukünften entwickelt diese Dissertation ein Konzept, welches materielle Infrastruktursysteme mit gelebten Alltagsformen von Souveränität in Nunavut verbindet. Sie argumentiert, dass Transportinfrastruktur nicht einfach nur eine Hintergrundbedingung für importierte Lebensmittel ist, sondern eine zentrale Dimension von Ernährungssouveränität darstellt.

Schlagwörter:

Infrastruktur, Ernährungssouveränität, Nunavut, Arktis, Inuit, Transport, Kanada, Ethnographie

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List of Abbreviations and Inuktitut Terms

Abbreviations

DFO – Department of Fisheries and Oceans Canada

GN – Government of Nunavut

IQ – Inuit Qaujimajatuqangit

NLCA – Nunavut Land Claims Agreement

NTI – Nunavut Tunngavik Incorporated

QCFC - Qajuqturvik Community Food Centre

QIA – Qikiqtani Inuit Association

RCMP – Royal Canadian Mounted Police

Inuktitut Terms

Iglu – snow house

Igluit – multiple snow houses

Inuk – singular form of Inuit, person

Qaggiq – communal iglu

Qallunaat – white/non-Inuk person

Qamutiik – sled, dogsled

Qimmit/Qimmiit –sled dog/sled dogs

Qulliq – soapstone lamp

Nuna – land, homeland, Inuit homeland

Nunavummiut – people of Nunavut

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Introduction

The smooth sanding sound of the *qamutiik* in motion is occasionally interrupted by a thump and rattle as we rise and drop back down onto the rough sea ice. We are out seal hunting in early June 2023 and as I gaze out at the *qimmiit* (sled dogs), I realize the efficiency of their leads: each qimmiit is tied to its own line which is hitched to the qamutiik, creating a fan shape as the dogs sprint forward, following their lead dog, and pulling us along behind them. In rougher patches of ice, or across cracks, the qimmiit are able to choose their own path forward while maintaining the overall group direction without waiting for others to clear their path, and without pulling them into danger.

We did not catch any seals that day, but the images stayed in my mind as I later reflected on the possible futures of Nunavut, the youngest and northernmost territory in Canada. Thinking back, I am reminded of an image in a report on food sovereignty published by the Qikiqtani Inuit Association together with the Qikiqtani Business Development Corporation, which shows qimmiit all pulling in the same direction, accompanied by the caption, “Achieving the Qikiqtani Food Sovereignty Vision will take a cooperative effort between Inuit, Inuit organizations, municipalities, hunters and trappers associations, governments, social enterprises and philanthropic groups. All organizations need to work together with the same vision in mind – feeding Qikiqtani Inuit first.” (2023, 26).

The territory of Nunavut is roughly the size of Mexico and makes up around 40 percent of the nation’s coastline (Inuit Tapiriit Kanatami 2022). It is home to around 37,000 people, 80 percent of whom identify as Inuit (Statistics Canada 2022c). In my dissertation, I use the terms “Inuit” and “Nunavummiut” interchangeably due to the majority Inuit population, unless explicitly noted otherwise. In doing so, I do not mean to erase the experiences of non-Inuit Nunavummiut, I am simply reflecting the majority demographic my research speaks to.

Today the semi-autonomous territory of Nunavut is made up of 25 communities, all of which are coastal, and all are on permafrost (Ramage 2019). The majority of these communities were created through the settler-colonial creation of settlements in areas accessible by ship or air to encourage trade and maintain a permanent presence in the Eastern Arctic. Formerly a part of the Northwest Territories, Nunavut was established in 1993 when it officially separated with the ratification of the Nunavut Land Claims Agreement (Indian and Northern Affairs Canada and Tungavik 1993).

Nunavut's need for cooperation across organizations and jurisdictions became even more crucial on January 18th, 2024, when the Canadian federal government and the Government of Nunavut signed a final devolution agreement that will transfer control over Nunavut's lands and waters to the territorial administration by April 2027. While this decision is monumental, it was greeted by some and begrudged by others. Although Nunavut may be considered a geographic periphery compared to the rest of North America, it is of central importance for the majority Inuit population and other long-term residents, as well as for resource extraction companies and the military. Naturally, the futures these groups imagine for the territory do not all align. The Nunavut land claims agreement (NLCA) and devolution process are an example of successful counter imaginaries that have been socially and politically mobilized to create a process for Inuit to take decision-making back into their own hands. The full implications of this power transfer have yet to show themselves, but resource and infrastructure development are two central topics for the territorial administration.

After April 2027, the Government of Nunavut (GN) will have a greater say in land and resource management, as well as infrastructure development. Although each community now has an airstrip, an airport, or "warming hut", only two have harbours. With no roads to the territory or between settlements, Nunavut is accessed predominantly by air. In the ice-free months between July and November (depending on latitude), cargo ships deliver goods by way of the annual "sealift" from southern ports to northern destinations, but this mode of transportation is not available for passengers.

While devolution signals hope for change among some Nunavummiut, others remain guarded, pointing to Nunavut's relatively new market economy. Currently, infrastructure development in Nunavut remains heavily reliant on federal investment. Similar to Greenland's dependence on Denmark, thanks to an annual block grant totaling around 60% of the national budget, "The main challenge to securing greater self-government and economic independence is to replace the block grant with revenues generated from within Greenland" (Nuttall 2018, 76). Canada's youngest territory relies on federal funding for 82% of its annual budget, generating only around 18% itself (Government of Nunavut 2024). Nunavut's major income generator is extractive mining, most significantly from the Baffinland Mary River iron ore mine and Sabina Gold mine. Although Nunavut's self-generated revenue is growing, the territory requires continuous and significant investment in infrastructure from beyond its borders.

A similar dependence is reflected in Nunavut's foodways, with the majority of foods now imported from southern stores rather than harvested locally (Gilbert 2023). Due to

unreliable transportation networks at the mercy of Arctic weather and limited navigational instruments, freight deliveries are often delayed or do not arrive, leaving grocery store shelves bare or decorated with limping lettuce and bruised apples. Similarly to other Indigenous communities across Canada, imported foods have contributed to a shift in diet away from traditional foods, leading to a decline in the population's health, with rising cases of diabetes and obesity (McKinley and Jernigan 2023). Furthermore, contemporary hunting activities have increased dependence on transport systems to access materials and machines necessary for harvesting, distributing and storing local foods. Taken together, Nunavut's food insecurity is not simply a consequence of skyrocketing grocery store prices or expedited climate change effects, but derives also from federally controlled infrastructural decision-making that prioritizes southern imports over local foods.

At this critical juncture in Nunavut's history, I chose to focus my dissertation research on the role of transport infrastructure in the daily lives of long-term residents. I conceptualize this through what I term "infrastructure sovereignty", developed in dialogue with McGrath's Qaggiq model (2018) and wider Indigenous sovereignty scholarship. Rather than expressing mere access to or consultation on infrastructure projects, infrastructure sovereignty moves beyond self-determination discourse to concentrate on political and relational dimensions of the material manifestations of Inuit futures: the built and logistical systems that make sovereignties livable in practice. Thinking back to the sled dogs, I was struck by how the instability of Nunavut's transport infrastructure contributes to an ongoing instability in Nunavummiut's access to daily necessities. By highlighting the ways people interact with airstrips, harbours, aviation routes, cargo policies and shipping subsidies, this research contributes to a deeper understanding of how infrastructure development can better align with Nunavummi needs and desires. I examine their accessibility of, and control over, transport infrastructure decision-making as an expression of infrastructure sovereignty, which I detail in my theory section. Analytically, I situate transport infrastructure as a material site of authority, relation, and future-making that has direct influence on the lived sovereignty of Nunavummiut.

After preliminary fieldwork, this research concentrated more specifically on the role of infrastructure sovereignty in the territory's food sovereignty, the findings of which are analysed throughout the four articles that make up the empirical contribution of this dissertation. Drawing on these insights, I argue that Nunavut's food sovereignty is inherently dependent on an increase in their infrastructure sovereignty – a combined process which works to strengthen Inuit sovereignty as a whole, not as an abstract legal status but as a lived, alimentary and material infrastructural reality. By positioning infrastructure sovereignty as an analytical

concept, this dissertation contributes to anthropological analyses of infrastructures as situated, relational networks influenced by global processes, with local expressions and dynamics. The concept's embeddedness in food sovereignty and Indigenous sovereignty discourse guides researchers to attune to how various sovereignties are materially enacted through infrastructural decision-making and local "infrastructure[ing] otherwise" (Cowen 2020).

Research Questions

To guide my inquiry and understanding of infrastructure sovereignty, I engaged with the following overarching research question:

How do the socio-material realities of infrastructure expose lived and negotiated sovereignties in Nunavut?

By posing this question as a guideline for my dissertation, I understand infrastructure, its planning, development, and use, as expressions of state as well as community and individual sovereignties. This lens grounded my inquiry in discrepancies between future imaginaries of Nunavummiut and the realities of infrastructure in the territory. These discrepancies allowed me to gather local perspectives on what infrastructure engagement in Nunavut should look like according to long-term residents. Throughout my conversations with interlocutors, the topic of accessing food was brought up repeatedly and connected to desires for more control over foodways, leading me to conceptualize infrastructure sovereignty as a foundational dimension of food sovereignty. These discussions led me to this dissertation's main, thematically more specific, research question, which examines infrastructure from relational and material perspectives:

How does transport infrastructure mediate the relationship between Inuit sovereignty, food access, and territorial futures in Nunavut?

In order to address this broad question, I divided my examination into narrower, more empirical, sub-questions which I examined in the four publications discussed in this dissertation:

Articles 1, 2, and 3 contribute to answering the question of *how transport infrastructure shapes Nunavut residents' access to foods and foodways*. By centering the relationship between transport infrastructure and food, this question focussed my dissertation on understanding the contemporary logistics behind not only imported foods, but also food harvested from the territory itself. Guided by this question, I examined how differences in transport infrastructure

affected access to different foodways across communities, leading me to look more specifically at Nunavut's airstrips.

Article 2 examines the following question more specifically: *How does the materiality of Arctic runways influence both the present lives of Nunavut residents and their desires for the future?* This question allowed me to better understand the key differences between gravel and paved runways in the Arctic, and what residents associate with these materialities.

Drawing on my experiences during fieldwork, I became interested in the role of ecommerce giant Amazon.com, Inc. in Nunavut for article 3, leading me to ask: *How does ecommerce influence access to Nunavut foodways, and how do Nunavummiut engage with ecommerce?*

Broadening from the specific focus on transport infrastructure to center our inquiry on housing in article 4, my colleague Ria-Maria Adams and I compared the reasons for, and effects of, housing scarcity in Malmö, Sweden, and Nunavut, Canada, asking: *What effects do limited housing options have on local residents in the communities of Malmö and Nunavut?* While this article is less directly connected to Nunavut foodways, its focus on housing underlines the interrelations between different infrastructures and their services in the daily lives of Nunavummiut.

Outline of the Dissertation

In the first short chapter I provide a brief contextualization of Nunavut's geography and economy before introducing each case study community. I chose to focus this introduction primarily on demographics, infrastructure and related services in each community, showcasing the variety and geographic spread. The state of the art is presented in chapter 2, which highlights the four main bodies of literature I drew on in my articles: anthropological research in Nunavut, anthropology of (Arctic transport) infrastructure, social science discourse on Arctic foodways, and futurity and imaginings. Having established the literature basis on which I draw, I present my theoretical approach of infrastructure sovereignty in the first part of chapter 3, building on Janet Tamalik McGrath's "Qaggiq Model" (2018) and social science discourse on sovereignty. Moving on to my methods in the second part of chapter 3, I explain my access to the field, and my own positionality as a non-Indigenous Euro-Canadian white woman. I discuss ethical considerations of this fieldwork and explain how I selected the five case study communities, my methods of data collection, analysis, and communication.

In chapter 4, I offer brief descriptions of my four publications and summaries of their results. The full articles are available in the Appendix. Article 1, “Transporting Arctic Foodways: The Infrastructure of Food Sovereignty in Nunavut, Canada”, lays the empirical groundwork for the relationship between transport infrastructure and food sovereignty in Nunavut. Article 2, “Flying into Frictioned Futures: Development of Canada’s Northernmost Runways”, explores the materiality and temporality of Nunavut’s airstrips and how these shape Nunavummiut desires for the futures of their community. In article 3, “Amazon in the Arctic: E-Commerce, Infrastructure, and Alimentary Assemblages in Nunavut, Canada”, I trace Nunavummiut uses of the e-commerce giant, illustrating how Nunavut’s infrastructure shapes Amazon’s services in the territory, and how residents actively shape these services themselves through expressions of personal preference. The last article included in this dissertation, “No Room in the North: Housing Scarcity as Infrastructure’s Failed Relations in the Arctic”, is one I co-authored with my colleague Ria-Maria Adams on the topic of housing infrastructure in Malmö, Sweden and Nunavut. While neither food nor transport infrastructure are key themes here, I decided to include this article as it demonstrates the entanglements and dependencies of various infrastructures and policies in the Arctic and how they directly impact residents’ daily lives.

Engaging with these articles and broader anthropological discourse, I tie my main findings to my overarching theoretical concept of infrastructure sovereignty in my discussion of central research findings in chapter 5. I return to the Qaggiq model to emphasize how infrastructure sovereignty affects every aspect of Inuit sovereignty and wellbeing. Furthermore, I discuss current initiatives in Nunavut that could increase the territory’s infrastructure sovereignty. Coming to a close in the conclusion, I offer lanes for future research, drawing on the limitations of my own research. I reaffirm that infrastructure sovereignty is an inherent dimension to food sovereignty in contemporary foodways and must be examined and supported to achieve food sovereignty and Inuit sovereignty more broadly.

1. Situating Nunavut: Case Study Communities

This dissertation is based on ethnographic research conducted in five communities of the Qikiqtani region of Nunavut between May 2022 and April 2025. My research began in Iqaluit, the capital of Nunavut, and branched out over time to include Kimmirut, Pond Inlet, Resolute Bay and Grise Fiord (see map in Figure 1, Sancho-Reinoso 2023). I describe my choice of fieldsites in my methodology section, but use this space here to give introductions to each community I worked with, focusing on the services and infrastructure available.



Figure 1: *InfraNorth Case Study Communities in North American Arctic. Red triangles mark author's case study locations in Nunavut. (Map by Alexis Sancho-Reinoso, red markers added by author)*

Iqaluit, in the south of Baffin Island, is Nunavut's largest city, boasting a population of 7,500 residents according to the latest census (Statistics Canada 2022d). The capital differs from other communities in Nunavut in its demographics, with only 52% of the population identifying as Inuk. Articles 2 and 3 describe the development of Iqaluit through its establishment as a runway and United States military base in the 1940s. Iqaluit, formerly referred to as Frobisher Bay, was built as part of the Crimson Staging Route for the United States military in 1942 with permission from the Canadian government (Lackenbauer 2012). Two paved runways were constructed by the Al Johnson Construction Company and became the Crystal Two air base (Eno 2003). The role of this project in the settlement of Inuit near Frobisher Bay was not intentional, as Lackenbauer and Shackleton (2012, 3–4) explain, though “[the military’s] activities created or exacerbated dependencies on wage employment and Western goods, encouraged the sedentarization of Inuit, and set up unsustainable expectations

given the ‘boom and bust’ cycles associated with defence work.” Food, construction materials and other goods were brought up by ship or by air, followed by Royal Canadian Mounted Police (RCMP), school teachers and trades workers.

Crystal Two became operational in 1943, by which time its originally intended use as part of the Crimson Route was no longer needed (Lackenbauer 2012). However, the location was still deemed strategically important and although the second runway was shut down, Frobisher Bay’s first runway was maintained and used throughout the Cold War and continues to be used today. The United States military officially handed the air base over to the Canadian government in 1963, by which time a considerable population of both Inuit and Qallunaat (non-Inuit, white people) had gathered (Eno 2003). Iqaluit’s airport was not intended as a civilian infrastructure, yet was constructed as a strategic military transport centre to defend and maintain Canadian sovereignty and warn southern provinces of imminent attack. The opportunities which arose in conjunction with this infrastructure, however, led to the development of a permanent settlement with a focus on government administration (MacBain 1970; Damas 2002).

While Iqaluit’s story is only one, it speaks to the broader process in the 1950s and 1960s of national “Arctic” sovereignty-led development with the purpose of securing the northern border and defending the area against intruders, resulting in civilian settlements. In the Nunavut context, airports are a colonial infrastructure (Spice 2018), which have been adapted into Inuit lifestyle and are now of utmost importance. Airplanes support the continuity of Inuit hyper-mobility which was given prior to colonial encounter, when Nunavummiut moved by their own means and followed animal migratory routes. Today, the reliance on aviation has constricted Nunavummi mobility options by defining flight paths, schedules, and pricing. At the same time, because air service is available in Nunavut, residents are able to visit other communities or regions and receive goods and produce from the far reaches of the globe. Today, aviation is an indispensable part of daily life in Nunavut.

The city’s international airport has a paved runway that services airplanes of all size-classes, including jets. Flights from southern Canada, Greenland, and the occasional emergency landing of transatlantic flights land here, making Iqaluit a point of entry to and departure from the territory. Cargo-jets deliver multiple times a week, stocking shelves in stores on a regular basis and delivering mail and Amazon orders to the capital. Just off of Davis Strait, Frobisher Bay boasts Nunavut’s first territorial deep-sea port, which is used by tankers and seasonal resupply “sealift” ships, as well as cruise ships and larger research vessels. A “causeway” serves

as a boat launch into deeper waters for those with cars, while the small craft harbour in Lower Iqaluit eases marine access closer to home. Nunavut's capital is the territory's administrative center with federal departmental offices, the territorial legislative assembly, courthouse, and seat of Qikiqtani Inuit Association (QIA, regional Inuit association). Organizations such as Nunavut Tunngavik Incorporated (NTI, the Inuit-led non-profit organization responsible for administering the NLCA), the Nunavut Research Institute (NRI), Parks Canada, and Qaujigiartiit Health Research Centre also play prominent roles in the community as employers, knowledge coordinators, and decision-makers. The city hosts a hospital, multiple schools, and the main campus of Nunavut Arctic College, as well as at least four large grocery stores.

Kimmirut, formerly Lake Harbour, is further south than Iqaluit on Baffin Island, nestled between hills and a long, calm bay which opens up into Hudson Strait. The community hosted one of the Hudson Bay Company's first outposts, yet as populations in the area declined in favour of residence in nearby Iqaluit, the outpost closed. Today, Kimmirut is home to around 430 individuals, 94% of whom identify as Inuit (Statistics Canada 2023b). Although the community is connected by snowmobile trail to Iqaluit in the winter, the community can be challenging to reach most of the year thanks to one of Nunavut's shortest gravel runways and fickle winds. De Havilland Canada Twin Otters service the community, resulting in severely limited cargo deliveries and passenger flights three times a week, weather permitting. Kimmirut has a Northern and Arctic Co-op store, hamlet offices, an airport building which was upgraded in 2025, a small dock, one school, a daycare, and a health centre. While Kimmirut receives multiple sealift deliveries during the ice-free season, they lack the storage facilities to stock enough dry goods to make it through the winter. The community falls into the same jurisdiction as Kinngait, or Cape Dorest, which is a larger community, leading some Kimmirumiut to feel underrepresented on a territorial level.

Moving further North, Pond Inlet, or Mittimatalik, is well-known for its picturesque mountains across Eclipse Sound at the northern tip of Baffin Island. Around 1,500 people, 93% Inuit, live in this sprawling community above the Arctic Circle (Statistics Canada 2022a). Pond Inlet has a gravel runway that is long enough to service ATR-turboprop planes, yet not long enough for jet aircraft to land on. The community is an important stop for cruise ships and research vessels, and in an area that will belong to the Tallurutiup Imanga National Marine Conservation Area. As a result, Pond Inlet was the first of five communities to receive new marine infrastructure – a small craft harbour – funded by the federal Department of Fisheries and Oceans (DFO), which opened the summer of 2022. The community is closest to Baffinland's Mary River iron ore mine, though they are not able to access the road, airstrip, or

port used by the mine. Alongside the typical Northern and Arctic Co-op, Pond Inlet runs a Quickstop and Canada's northernmost Tim Horton's coffee shop. Parks Canada has a permanent office in town, and the Government of Nunavut is also represented in a satellite department office. There are multiple schools, a Nunavut Arctic College satellite building, a health and wellness center, women's shelter, daycare, "c-hall" community hall, and Nattinnak Visitor Centre with a library and small museum.

The stories of Resolute Bay and Grise Fiord begin differently than those of the previously mentioned communities. These High Arctic communities are inextricably linked to Canadian sovereignty and transport infrastructure. In 1953, the Canadian federal government responded to the heightening threat of the Cold War by focussing its efforts on maintaining its northern border. At the time, there were no permanent settlements in this region, something the Canadian government sought to change. Residents of Inukjuak, Quebec, and Pond Inlet on Baffin Island, were relocated to Cornwallis Island and Ellesmere Island, over 2,200 kilometers further north. Families were transported up by ship, then divided and left on the shores without any further assistance. Larry Audlaluk, who was 3 years old when he and his family were relocated from Inukjuak to Ellesmere Island, described in an interview, "We were expected to have no assistance. No housing of any kind. We were to live off our own wit." Pleas to return home were ignored.

Today, many of the exiles have returned further south, while others have chosen to remain, arguing that Grise Fiord and Resolute Bay are the only homes they know now. Resolute Bay on Cornwallis Island is singular among Nunavut's communities from an infrastructure standpoint, because although the community is made up of only 180 permanent residents, 91% Inuit (Statistics Canada 2022b), the community's geographic location is of strategic importance for the military. Consequently, Resolute has a gravel runway long enough to service military jets, while residents themselves must rely on ATRs. The Polar Continental Shelf Program secures year-round federal military presence in the Arctic, with rooms available for visiting researchers and the annual United States military cold weather training camps. The region was formerly mined for zinc, and used for oil exploration – the material remains of which can be seen near the airport building, around 8 kilometers outside of the hamlet itself. At the time of writing, the community did not have any marine infrastructure available, though they are set to receive a community dock from the Tallurutiup Imanga benefit agreement. Resolute has a Parks Canada office, two ATCO hotels, QIA offices, one school, an Arctic Co-op grocery store, a community sports hall in the hamlet building, and a Nunavut Arctic College satellite building.

Grise Fiord, on Ellesmere Island, is Nunavut's smallest community by population, with only 140 residents, 93% of whom identify as Inuit (Statistics Canada 2023a). Like Kimmirut, Grise Fiord has one of Nunavut's shortest gravel runways and is serviced by Twin Otters from Resolute Bay twice a week. Grise Fiord is built directly on the beach, between crashing waves, with mountains rising behind. Coastal erosion expedited by climate change is a threat to the community (Didier et al. 2024). Efforts to curb erosion involve building a well-placed community dock as part of the Tallurutiup Imanga agreement. Alongside this transport infrastructure, the community has a large combined hamlet building and recreation center with a basketball/volleyball court and offices. There is one school, and a NAC satellite building, a health center, RCMP building, and a hotel run by the Arctic Co-op.

The horror of the High Arctic relocations is commemorated in two sculptures which stand in Resolute Bay and Grise Fiord, facing towards each other, ever searching for the family and homelands they were being kept from. The plaques read, "In memory of Inuit landed here in 1953 and 1955. They came to these desolate shores to pursue the Government's promise of a more prosperous life. They endured and overcame great hardship, and dedicated their lives to Canada's sovereignty in these lands and waters." Relocated as pawns of a national agenda, today residents of Grise Fiord and Resolute Bay are fully aware of their role in solidifying Canada's claim to sovereignty over these northernmost islands. Yet as one woman remarked in Grise Fiord, "You can't eat sovereignty." And while the High Arctic exiles and their families dedicated their lives to a national cause, the Canadian federal government has been slow to heed requests from its northernmost residents.

This quote, "You can't eat sovereignty", is what definitively solidified the relationship between food and sovereignty in my mind. In the coming chapter, I explore previous anthropological work on Nunavut and the Eastern Arctic before moving to my three theoretical focal points: infrastructure, food, and futures.

2. State of the Art

The importance of decolonial and solidarity practices does not fade when the researcher is no longer face to face, no longer “then” or “there”, with interlocutors. As Caroline Butler makes clear, part of our work that is ongoing beyond the time constraints of field work is the (historical) contextualization of local and Indigenous knowledges and terminologies (2006). In this brief review of literature on the four key themes within my approach, I chose to highlight Indigenous scholars and allies, particularly those with a focus on the North, in an effort to show the genealogies of knowledge I build upon.

2.1. Anthropological Research in Nunavut

I was reminded while reading Linda Tuhiwai Smith (2021, 32–38) that this section may offer a selection of stories, reports and narratives but is in no way meant to represent a “historical” totality of anthropological, or social science, research in Nunavut, least of all Nunavummi experiences thereof. I recognize that there are undoubtedly many stories, incidents, and knowledge exchanges which were not reported or passed down in this manner, and which are therefore not included in contextual descriptions such as this one.

Early anthropological research in the Eastern Arctic was famously conducted by Franz Boas, whose book, *The Central Eskimo* (1888) laid the groundwork for subsequent social science work in the region. However, his were not the first Eurocentric tales of the North: European explorers such as William Parry or Knud Rasmussen documented Inuit lives as they encountered them, and concretized images of the North for a European and Southern audience. In the 1930s, archaeologist Graham Rowley conducted research in the Kivalliq and on the west coast of Baffin Island. His memoir recounts his experience in the North and illustrates how defense strategy and spending during the 20th century impacted infrastructure development and funding, particularly of airstrips, and their influence on Inuit daily lives (Rowley 2007). His work gives early insights into the relationships between military-led transport infrastructure development and swift changes in Inuit settlement and economy – a theme I build on throughout my dissertation.

An increase in anthropological accounts of Nunavummiut began in the mid-1900s, when scholars such as John and Irma Honigmann (1965), Yatsushiro (1963), Nelson Graburn (1998), Jean Briggs (1971), Hugh Brody (1976), or Milton Freeman (1971) followed a call from the federal government to document Inuit lives in an attempt to judge and protocol the success of government programs. Honigmann and Honigmann give a detailed account of daily life in then Frobisher Bay and Apex, examining the introduction of government housing and the transition

from hunting to wage work (1965). Yatsushiro (1963) took notes on the material culture of early Frobisher Bay residents, and spoke negatively of government programs in the region. Graburn's (1998) research took him all across the Canadian Arctic, beginning in the late 1950s in Nunavik and moving up to Nunavut in the 1960s; he documents Inuit conceptions of the rapid changes brought on by colonial policies, and Inuit efforts to document their traditional ways. Writing of her fieldwork experience in the 1960s, Jean Briggs describes emotional regulation and conflict management among a group of Kivalliq Inuit (1971), and later details moral lessons taught to Inuit children in an effort to guide them into becoming a "whole person" (1998). In a critical piece important for early perspectives on Nunavut's settler colonialism, Hugh Brody (1976) describes colonialism in the Eastern Arctic and Inuit fear of Qallunaat, accompanied by a fear to speak out against them. Freeman (1971) documents demographic changes in the region, including early transitions from nomadic or semi-nomadic lifestyle into settlements.

In the 1990s and 2000s, anthropological accounts of life in the Eastern Arctic shifted from omniscient outsider perspectives to centering Inuit understandings and perceptions of daily life, changes, conflicts, and colonial history. More recently, a "critical Inuit studies" has emerged, tying Inuit daily realities to cumulative effects deriving from settler colonial, federally initiated programs and services (Stern and Stevenson 2006). In a three-generation life-history format, Nancy Wachowich (1999), Apphia Agalakti Awa, Rhoda Kaukjak Katsak, and Sandra Pikujak Katsak portraying Inuit womens' lifestyle changes around Mittimatalik (Pond Inlet) over the last 100 years. Wachowich et al. pay special heed to Inuit forms of resistance against colonial policies to this day. Billson and Mancini (2007) also write of the lives of Inuit women and families during the transition from the Northwest Territories to Nunavut, illustrating changing gender roles, women as hunter and providers, life in new settlements, mandatory education, dreams along the path to devolution and the particularities of Northern capitalism. Hunting and sharing networks (Wenzel 1995; Kulchyski and Tester 2007), as well as government responsibility (Tester and Kulchyski 1994; Damas 2002) became topics of focus, alongside a documentation of Inuit knowledge and values (Wenzel 2004; Tester and Irniq 2008). In *Life Beside Itself*, Stevenson (2014) articulates the tragic realities of the ongoing suicide epidemic in Nunavut, connecting Inuit suicide to the biopolitics of federal approaches to care, which erase the individual in an effort to remain objective, conveying an individual's insignificance when seen from an Inuit perspective.

With the exception of Wachowich et al. (1999), it is only in the last two decades that Inuit have featured more prominently as co-authors or leading authors in social science work on the

region – a sign not of new interest from the Inuit population, but of a change in social science practice. Working with the Nunavut Research Institute, Alexis Polidoro et al. (2024) provide a helpful overview of research trends in the social sciences between 2004 and 2019, which details what types of research were conducted in which regions and communities of the territory. Their findings show social science research has increased in recent years and that most research today is concerned with “Inuit culture and knowledge”. While most projects are led by researchers based at Canadian universities, few principle investigators originate from Nunavut, or are based in Nunavut, however, this trend is shifting (Polidoro et al. 2024). Publications such as *Inuit Qaujimaqatugangit: What Inuit Have Always Known to Be True* (Karetak et al. 2017), *Inuit Laws: Tirigusuusiit, Piqujait, and Maligait* (Aupilaarjuk et al. 2017), *The Inuit Qaujimaqatugangit Health System: A Holistic, Strength-based, and Health-promoting Model from and for Inuit Communities* (Healey Akearok et al. 2024), or *The Qaggiq Model: Toward a Theory of Inuktitut Knowledge Renewal* (McGrath 2018) recount lessons about Inuit knowledge and values as described and theorized by Inuit themselves. While there are many Inuit-led and co-created publications today, I conclude the overview of anthropological and social science literature in Nunavut here, and move on to exploring key texts in the anthropology of infrastructure, food, and future in the following sections, drawing on Indigenous authors within each of these subthemes.

2.2. Anthropology of (Arctic Transport) Infrastructure

Anthropology is famously the study of all things human, so why examine infrastructure, an object of analysis that seems at first to be static, unemotional, a technology separate from human endeavours? Infrastructures accompany our everyday lives, they articulate them, direct them, and manage them. We shape infrastructures through our use and building of them, but they, too, shape us. Susan Leigh Star (1999) argues in her seminal article *The Ethnography of Infrastructure*, that infrastructure is relational and thus should be analyzed as such. She points out infrastructure’s most visible moments: when they fail to function as we intended them to, further underlining the connections between human activities and infrastructural presence. Larkin (2013) weaves the political into infrastructures, a concept I follow to illuminate the specific connections and disconnections created and maintained by Arctic transport infrastructures in Nunavut. In doing so, I agree with Schweitzer et al. (2026, 3) that Nunavut’s infrastructures are relational, political systems and networks revealing “enduring colonial legacies (Von Schnitzler 2013) and path dependencies shaped by previous political regimes” that have influence over daily lives and future imaginings in the territory.

Having established infrastructure as relational and political, I want to be more specific in my understanding of infrastructure in Nunavut. From my own experiences, data collection and literature review, infrastructure is power, and those who control infrastructures enjoy power over those who do not, whether this is intentional or not. Winona LaDuke and Deborah Cowen (2020) articulate similar sentiments in their article on “Wiindigo” versus “alimentary” infrastructure. Wiindigo infrastructure works akin to the monster that is told to tear through the lives of Indigenous peoples, leaving despair and ruin in its wake. Colonially-directed infrastructures function as Wiindigo as they tear apart Indigenous livelihoods and ways of being through roads, railways, airstrips, or pipelines (*ibid.*). They call for an alimentary infrastructure to work in contradiction to Wiindigo, by directing infrastructural attention towards nurture and revival. Anne Spice (2018) further critiques infrastructure in Canada by categorizing oil and gas pipelines as “invasive”. She argues that many of today’s “critical infrastructures” could also be seen as invasive, and urges us to ask for whom these infrastructures are vital, and for which reasons. I find this question incredibly important, especially given the current surge in geopolitical interest in the Arctic and building or expanding infrastructures in this region: for whom are these infrastructures being built? Similarly, Jordan Kinder (2023) asks what “Indigenous infrastructuralisms” grounded in materiality could look like, leaving space for infrastructure to have positive material impacts if given the chance to configure Indigenous-centered purposes.

Contrary to popular conceptions, the Arctic is more than a little-known “wilderness”; it is home to “almost four million people” across the circumpolar North (Arctic Council 2026), all of whom rely on various infrastructures (Schweitzer et al. 2017). Even – or especially – in the Arctic, infrastructure enables certain movements and exchanges while hindering others. I align with Dimitris Dalakoglou and Penny Harvey (2012) in their assertion that an anthropological examination of roads/infrastructure should not simply be about mobilities, but an opportunity to question whose movements are enabled and whose are constrained. These realities are often in contradiction to the “promises” (Anand et al. 2018) or “enchancements” (Harvey and Knox 2012) of infrastructure: the idea that once this infrastructure is finally built, lives will improve, connections will improve, progress will be found in a “future perfect” (Hetherington 2016). Infrastructures are what Gupta (2018) terms the “future in ruins” by nature of their never-ending maintenance and repair, their illusion of ever being completed. The materiality and temporality of infrastructure are intertwined, though not aligned.

Rather than being static objects or connections, infrastructure is a dynamic, operating assemblage “that requires constant work” – a reality that is all too recognizable on Nunavut’s airstrips (Gupta 2018, 65). Carse and Kneas also define infrastructure as an assemblage, and

use this to connect back to its relationality as a “material assemblage built to support a higher-order project that is at once embedded in and constitutive of social relations” (2019, 12). I build on the concept of infrastructure as an assemblage in Paper 4 in my examination of Amazon.com, Inc.’s influence in the Eastern Arctic, but draw more heavily on Deleuze and Guattari (1988) and DeLanda’s (2019) understandings thereof to articulate the diversity and dynamism of southern-based ecommerce and infrastructure components in forced collaboration with territorial networks.

Building on this literature, I address a gap in both anthropological studies of Nunavut and infrastructure anthropology to ask what Inuit-centered infrastructure might look like in Nunavut. In particular, I examine infrastructure’s relational role in territorial foodways and imaginings of the future.

2.3. Canadian Arctic Foodways

If the saying, “You are what you eat,” is true, then Inuit in Nunavut are going through a speedy identity transition. Colonial encounters, policies and infrastructures have transformed culinary experiences in the North, leading to increased health issues and a call for Inuit food sovereignty (Trott and Mulrennan 2024). In this section, I engage in a discussion of key anthropological and social science publications on foodways, with a distinct focus on the Eastern Canadian Arctic.

The anthropological study of food has a long history (see Mintz and Bois 2002), that can be traced back to observations, for example, by Boas (1921) working on salmon with George Hunt and William Beynon on the West Coast of British Columbia, or Evans-Pritchard (1947), whose focus was elsewhere, yet shared detailed descriptions of Nuer foodways nonetheless. But it is Sidney Mintz (1986) who added a bitter-sweetness to this discourse with his critical study of sugar’s socio-political roots in Brazil, making a distinctly political-economic analysis of food systems. In my study of Nunavut’s foodways and the broader food system’s conjunction with transport infrastructure, I, too take a political-economic approach to highlight unequal access and distribution.

In this context, *food systems* are understood to be the broader networks surrounding food, from its production and consumption, to methods of dealing with its waste (Cachelin et al. 2019). *Foodways* are cultural food practices that tie in to a group’s identity and value-system (*Ibid.*). Within these topics, there are differing ways to talk and write about food, its scarcity and adequacy. *Food security* discusses efforts and obstacles for people to acquire enough food to live healthily, yet does not specify what these foods should be. In a study on barriers to

Nunavut's food security, Chan et al. write, "To be food secure, individuals and households must be able to reliably access food, usually via adequate income, and the supply and production of nutritious food at the community level must be sufficient" (2006, 417).

In contrast, critical discourse surrounding *food sovereignty* emerged at the 1996 World Food Summit in Mexico through international discussions among peasants, farmers, and Indigenous representatives, leading to a declaration for a new path to end world hunger (La Via Campesina 2025; Wittman 2011). Food sovereignty centers on "healthy and culturally appropriate food produced through ecologically sound and sustainable methods" and includes a group's right to determine which foods and food practices belong within their food system (La Via Campesina 2025). In my dissertation, I draw on a similar yet more localized understanding of food sovereignty as defined by the Qikiqtani Inuit Association: "Inuit food sovereignty means:

- the right to healthy and nutritious food
- the right to culturally appropriate food
- the right to food harvested through ecologically sound and sustainable methods as guided by the Nunavut Agreement and wildlife management regiment
- the right to access wildlife in ways that empower communities and stimulate local economies" (2019, 7).

The study of food has become a lens through which anthropologists and other social scientists in Nunavut examine themes such as health and wellbeing (Caughey et al. 2024), hunting economies (Wenzel 2017), intergenerational knowledge transfer (Greene 2021), gender roles (Quintal-Marineau and Wenzel 2019), and Indigenous sovereignty (Penney 2025). And yet, there is little research directed at the specific crossover between transport infrastructure and Inuit foodways – a gap I contribute to filling with this dissertation. Other Arctic case studies, for example in Greenland, examine the intersections between tourism, nationalism, and Indigenous foods (Ren and Fusté-Forné 2014), or the reasons behind the prioritization of Danish foods over Indigenous foods (Hauptmann 2024). Zona Spray Starks (2007) writes of Indigenous Alaskan culinary expertise and recipes, while Chie Sakakibara (2025) examines how Iñupiat "real foods" might aid local Indigenous populations as they confront rapid changes brought on by climate change. In Russia's Siberia, John P. Ziker (2007) writes on the nutritional wellbeing of people in the Taimyr Region who engage in foraging and food sharing. Elena Davydova (2023) discusses food nostalgia felt after culinary experiences shifted and Chukotka residents became spatially displaced.

An examination of Inuit foodways in the Canadian Arctic must include a discussion about country food, often referred to as “soul food” (Caughey et al. 2024). Country food is hunted and harvested from the lands and waters of Inuit Nunangat, the Inuit homeland, such as Arctic char, seal, narwhal, beluga, bowhead whale, caribou, muskox, or berries. Hunting and harvesting activities have often been referred to as “subsistence” (Natcher 2009) or “traditional” (Lambden et al. 2006). Yet as Pitseolak Pfeifer argues, these terms are misleading as they evoke a sense of country foods being procured on an individual basis and belonging to the past, whereas these foods continue to be consumed daily, and are shared through networks that mark its high social value (Qikiqtani Inuit Association 2019, Appendix). Recent publications in public health and geography highlight the relationship between country food consumption and individual and community health and wellbeing (Caughey et al. 2021; Gilbert 2023; Carter et al. 2025), a connection I work with to advocate for food sovereignty’s role in enhancing general Inuit sovereignty. A scoping review conducted by Trott and Mulrennan (2024) on sociocultural dimensions of traditional foods shows country food’s importance in Inuit identity. They identify a need to pay increased attention to sociocultural dimensions of country food, specifically connected to food sovereignty. In this dissertation, I heed this call when examining sharing practices between communities and restrictions to these practices induced by aviation regulations and limited infrastructure availability.

Approaching the topic of food in Nunavut through the lens of food sovereignty and its political-economic relations allows for a clear articulation of structural impediments to country food and territorial food security induced by colonial-driven policies. Scholars such as Collings et al. (unpublished manuscript), Ready and Power (2018), Gombay (2025), Todd (2011), or Fox (2018) trace the effects of colonial power and dispossession in today’s northern food emergency, critiquing historic as well as contemporary policy decisions in their assessments of Inuit foodways. Here, the discussion of food becomes intensely political. Broadening the discussion to include imported foods and the larger food system, critique of federal subsidy programs such as Nutrition North Canada has been voiced by scholars such as Tracey Galloway and Nicholas Li (2023), Eleanor Stephenson and George Wenzel (2017), and Sappho Gilbert (2023; Gilbert et al. 2025). I draw on their critiques and discussions to illuminate the role of marine and aviation infrastructure in prioritizing imported, southern foods over local, northern foods. In so doing, this dissertation further addresses a gap identified by Desmarais and Wittman (2014, 1153) by examining aspects of the food sovereignty movement in a specific place – the Qikiqtani region – and how its specificity is influenced by local dynamics.

2.4. Arctic Future Imaginings

The future and Nunavummiut imaginings thereof were constant topics of conversation throughout my dissertation research. Tying back to the discussion of infrastructure, infrastructural temporalities promise certain futures while delivering others. The discussion of infrastructure is thus intimately related to discourse on futurity, futurizing and imagining. But what is time, and how can it be studied anthropologically?

Nancy Munn's (1992) review of cultural conceptions of time describes examinations of daily rhythms, seasonal fluctuations, and "temporal strategy", revealing a variety of times lived through/in by humans, making it a tricky subject of study. Indeed, anthropology's depiction of time has been critiqued by Johannes Fabian ([1983] 2014), who warned against ethnographic work which seemed to situate researched groups as living in a distant past, not the same contemporary present as the ethnographer. Fabian's concept of "coevalness" (or denial thereof) shifted ethnographic description (*Ibid.*). Turning from the past and present to the future, Adam (2008) writes of the perceived responsibility we have in crafting our own futures, a responsibility that begins in the present, even if the future does not turn out to be the way we intended it to. Bryant and Knight (2019) join the conversation with the suggestion of attuning to "orientations" in our study of daily life by paying attention to sentiments of "anticipation, expectation, speculation, potentiality, hope, and destiny" in connection with the future.

Jean Briggs argues that while Inuit have historically been depicted as present-oriented, this is in part due to a misconception of what being future-oriented means; of course, Inuit do not exclusively live in the present, but "Inuit expect change, not stability, and put little stock in prediction" (1992, 98). From my experience, paying express attention to differing temporality in the North is vital for a successful ethnography: conceptions of time influence how we perceive environments, relationships, and tasks. Cyclical time, prevalent in Indigenous ontologies, recognizes change as happening simultaneously to continuity (Menzies 2013; L. B. Simpson 2011). Not only do these temporalities underscore the many actors involved in any moment of time, they also emphasize the immediate relation between people, beings, actions, events and terrains of the past with those of the present moment and the times that are yet to be, creating a relational foundation to Indigenous temporality.

Indigenous futurizing is a growing discourse that centers Indigenous cultural knowledge and experiences, adaptations, participatory imagining/planning, and strengthens Indigenous agency and self-determination (Cheok et al. 2025). In this discourse, I align with Whyte (2017), writing on Indigenous climate change studies, as I attempt to highlight relational responsibility

induced by colonial, invasive, infrastructure development. By applying these conceptions of temporality to my anthropological inquiry, my dissertation research poses questions concerning long-term developments originating in a past and extending through the present into the future, affecting residents' ideas of what their futures may be, contributing to discourse on Inuit-led futures.

As I write, all eyes are on the Arctic and its future, making this research especially relevant in the contemporary political climate. Carina Ren (2023) describes Arctic airports as affective spaces of socio-material importance in Greenland, which generate hopes as well as fears for a better-connected future. Writing south of the Arctic on a case study in Prince Rupert, British Columbia, Giuseppe Amatulli (2025) describes the effects of global politics on infrastructure development in a small port town with desires to become Canada's best marine connection to Asia. The town's infrastructure must be maintained, and is already transitioning into ruin, creating space for planners to propose newer, more expansive infrastructures for a brighter, more economically stable future (Amatulli 2025). Katherine Sinclair argues that, "Theories about the role of imagination are particularly important for resource extraction in Arctic Canada." (2017, 156). Leaning on Sneath, Holbraad and Pedersen (2009), Sinclair writes of Arctic imaginings as an infrastructure influenced by technologies of political speech, representations and lived experience (2017). In my research I do not work with imagination as an infrastructure per se, but instead examine imagination's role in the development of transport infrastructures, as well as such infrastructure's roles in influencing residents' imaginations of possible futures.

To better understand Arctic residents' desires for the future, Gordon (2021) suggests developing participatory ethnographic futures research when talking about community sustainability. Schweitzer et al. (2026) argue for an examination of infrastructural futures to grasp perceptions of the lived present. Strelkovskii et al. (Manuscript submitted for publication) describe the method of "future scenario workshops" for exploring the feasibility and desirability of futures in the circumpolar North. Such work has already been done in the Kitikmeot Region of Nunavut, when Falardeau et al. (2019) discussed rapid socio-ecological change and resident's agency therein during a series of positively formulated scenarios. As I discuss in section 3.2. on Methods, I drew on the idea of future scenario workshops to engage with residents' conceptions and desires of their communities' future, based on scenarios that held the potential to be perceived both positively and negatively, depending on participants' own stance. This work contributes to the limited body of research concerned with Inuit imaginings

of their future not specifically in connection to climate change, but rather a broader discussion of plausible developments in infrastructure, mobility, and access to foodways.

In what follows, I explain the theoretical discourse of my research approach and its contributions before diving into the specificities of my research methods.

3. Research Approach: Theory and Methods

My research approach was guided by people I encountered throughout the research process who placed books in my hands, took me out on the land, discussed concepts and contradictions, and questioned my assumptions. In this chapter, I begin by articulating my theoretical approach to the topic of Inuit sovereignty and its connection to food sovereignty and “infrastructure sovereignty”. In the second part of this chapter, I describe my methods, including an examination of my positionality and ethical concerns.

3.1. Nunavut’s Infrastructure Sovereignty: Theoretical Approach

The theoretical approach presented in this dissertation centers on the concept of “sovereignty”. The concept has been the focus of various anthropological inquiries, ranging from illustrating violent authorities of sovereignty over citizenship and death (Hansen and Stepputat 2006; Ong 2006), to tracing sovereignty’s tentacles in theological-political imaginaries (McAllister and Napolitano 2021) and its colonial grip on knowledge (A. Simpson 2020). Bryant and Reeves have made a call within anthropology to pay heed to interlocutors’ understandings of sovereignty (2021), examining what “sovereignty” means in different political contexts, and to different people. They write that sovereignty can often be seen as “a concept mobilizing as-yet unfulfilled communal desires” (Bryant and Reeves 2021, 3). In this dissertation I am less concerned with various Nunavummiut understandings of sovereignty per se, and instead have used the concept to illustrate relationships between what is built in Nunavut and what Nunavummiut speak of desiring, focussing on the role of infrastructure.

The materialization of sovereignty on the ground through (transport) infrastructure in settler colonial contexts is not a new point in anthropology (for example, Budka and Amatulli 2025; Pasternak et al. 2023; Schweitzer, Povoroznyuk, and Budka 2026; Spice 2018). Yet in this dissertation, I engage with an Inuit-centered sovereignty through an examination of its daily lived individual and collective realities, rather than state-centric conceptualizations. I examine different conceptualizations of “sovereignty” and my position within this discourse in more detail later in this chapter.

In my examination in particular of transport infrastructure shaping experiences and desires connected to Nunavut's food sovereignty, I contribute to anthropological discourse on sovereignty, infrastructure, and food by theorizing what I term "infrastructure sovereignty" as a necessary dimension of food sovereignty. Within the discussed context, I define infrastructure sovereignty as the right and capacity of Nunavummiut to shape the planning, development, operation and maintenance, as well as prioritization of, (transport) infrastructure in ways that align with local needs, values, and futures rather than external priorities. Leaning on the Qikiqtani Inuit Association's definition of food sovereignty discussed in the State of the Art, I understand infrastructure sovereignty to premise on "a culturally and community-minded approach to [infrastructure] management" (2019, 7). Embedding infrastructure sovereignty in food sovereignty means that Nunavut's infrastructure must also support the rights to healthy and nutritious, culturally appropriate food that is harvested sustainably and empowers communities while stimulating local economies (Ibid.).

I begin my theoretical discussion by drawing on the Qaggiq model (McGrath 2018) to situate my understanding of Inuit-centered (infrastructure) development within a framework for Inuktitut renewal based in Inuit Qaujimajatuqangit, Inuit knowledge, values and practices. As I detail in the next section, the Qaggiq model illustrates multiple facets of Inuit livelihoods that must be addressed when communicating and co-creating with residents to foreground Nunavummi wellbeing. The model's capacity to illuminate power relations in settler colonial control and Inuit counter-imaginaries draws semblance to approaches in Indigenous political economy; a theoretical connection not explicitly articulated yet alluded to by McGrath, and one I found helpful to think with in terms of their Inuit-centered critique of colonial systems. Beginning this discussion by metaphorically entering the qaggiq allows me to foreground Inuit perspectives in my foundational understanding of sovereignty.

In closing, I refocus on the relationships between infrastructure sovereignty and food sovereignty. I argue that infrastructure sovereignty is an inherent aspect of contemporary food sovereignty; and while my dissertation case study revolves specifically around highlighting the need for infrastructure sovereignty in Nunavut, this concept and its embeddedness within food sovereignty can be applied to contexts beyond the Arctic as well.

3.1.1. The Qaggiq Model and Indigenous Political Economy

The understanding of infrastructure I build on, as outlined in section 2.2., emphasizes the dichotomy between colonial/invasive/Wiindigo infrastructure and alimentary, Indigenous-centered, infrastructure (LaDuke and Cowen 2020; Spice 2018; Kinder 2023). Such critiques

of infrastructure fall in part into the category of Indigenous political economy as they formulate case-study-based analyses of how political and economic networks of power relate to community development and Indigenous self-determination (Jobin 2023). While my dissertation, too, is place-based and focussed on the intersection between the political and economic in Nunavummi daily lives, my thinking was guided more dominantly by Janet McGrath’s “Qaggiq model” of Inuit knowledge renewal (2018).

Qaggiq presents a relational approach to understanding Inuit wellbeing and steadfastness in the face of extra-territorial influence. A *qaggiq* is a communal *iglu*, made up of smaller *igluit*¹ for individual families and connected through one larger *iglu*, creating a communal space. McGrath evoked this imagery to think through what she terms the “Qaggiq model,” which examines how Inuit ways of knowing and being can continue to be passed on and strengthened in the face of settler colonial and capitalist expansion.

McGrath’s model is a combination and extension of two pre-existing models: the Inuit triad, articulated by Elder Mariano Aupilarjuk in interviews with McGrath, and the Indigenous matrix, described by Jeff Corntassel and Tom Holm (McGrath 2018). In the Qaggiq model, engagement with the four spheres of the Indigenous matrix (homeland, language, culture and living histories) support the wellbeing of the Inuit triad (individual, collective and productive livelihoods), while the wellbeing of these is in turn dependent on engagement with the four spheres of the Indigenous matrix (see Figure 2). The four aspects of the adapted Indigenous matrix are seen here as smaller family *igluit* connected by a larger *iglu* which work together to ground Inuit knowledge renewal. Inside the main *iglu* is a *qulliq* (Inuit soapstone lamp) with the three spheres of the Inuit triad. Together, these models represent an approach for Inuit knowledge renewal and Inuit wellbeing while critiquing settler colonial impacts on intergenerational knowledge transmission by articulating their interrelated affects on all spheres of Inuit life.

Drawing on the Qaggiq model within an anthropological study of infrastructure forces the lens of inquiry onto place-based practices in socio-economic spaces. By emphasizing relational learning through the Inuit triad, the Qaggiq model advocates for a relational accountability in territorial development, inviting Qallunaat to enter Inuit-centered spaces as listeners looking to understand, not control, define, or change Inuit ways of knowing and being (Ljubicic et al. 2022; MacLachlan et al. 2022).

¹ Plural form of *iglu*, snow house, in Inuktitut.

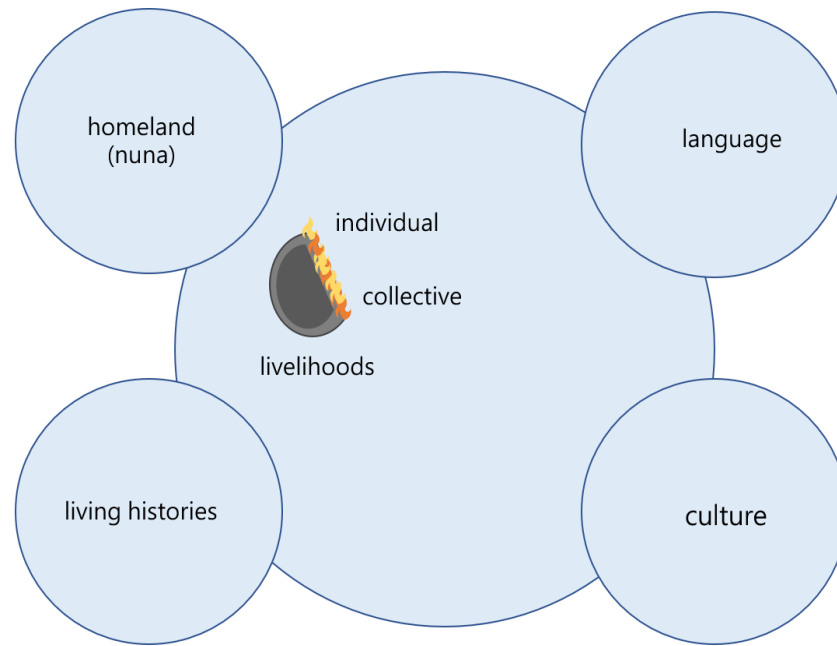


Figure 2 Qaggiq model, adapted by Schmid from McGrath 2018, p.311.

In my reading, I see Indigenous political economy as one aspect of Qaggiq. While deriving from a different epistemic paradigm, a critical Indigenous political economy perspective can be found within the Qaggiq model through its illumination of colonially-controlled spaces and advocacy for Inuit-centered renewal, which I found helpful to think with. Belanger argues that an Indigenous political economy can “(1) help us discern how the forces of politics and economics influence community development, and (2) inform us how community-based ideologies related to consumption and leadership are structured to help maintain political and ecological balance while ensuring the prosperity of community members” (as paraphrased in Jobin 2023, 31).

Furthermore, I use an Indigenous political economy to situate my understanding of Inuit-centered infrastructure development as discussed throughout this dissertation. Frances Abele (1997) argued early on that Indigenous people have always been involved in Canada’s economy, shaping the nation’s expression of capitalism along the way, yet today, the relationship between Indigenous peoples and Canada is marked by structural dependency. Shalene Wuttunee Jobin (2023) argues that the first and most enduring relationship between Indigenous peoples and settler colonialists in what later became Canada was economic exploitation, paving the way to the aforementioned structural dependency and leaving pre-existing Indigenous economies in ruin. Abele (1997) calls for a renewed spotlight on Indigenous histories and perspectives to grasp the development of capitalism in Canada, a call I heed in attuning to territorial infrastructural development as seen and imagined by Nunavummiut. In

doing so, my focus is less directed at the economy per se, but instead examines a particular manifestation of settler colonial driven development, which nonetheless has consequences for Nunavut's mixed economy. I stand with Rauna Kuokkanen (2011) as she asserts that Indigenous economic development must not simply follow in the footsteps of global neoliberal norms of capitalism, but should be attuned to historical and place-based practices that strengthen Indigenous self-determination rather than strengthen the very economic systems that caused their ruin.

Qaggiq shows how Inuit-centered spaces contribute to and are at the nexus of community wellbeing, promoting relational accountability and actively counteracting power imbalances. Extrapolating this away from knowledge renewal to speak to the broader Inuit economy and socio-political wellbeing ("livelihoods"), the Qaggiq model offers a framework for thinking about Inuit sovereignty and Inuit-led infrastructure development that examines individual and collective capacities as well as structurally induced barriers to Inuit sovereignty. It is here that I bridge the Qaggiq model more pointedly with discourse on sovereignty: The Qaggiq model's relational spheres (*nuna*², language, living histories, and culture) reveal how settler colonial airstrips, housing scarcity, and missing boat harbours disrupt a sense of wellbeing expressed through the Inuit triad. If Nunavut's infrastructure could be reconfigured to become Inuit-centered spaces of relational accountability, they could hold the capacity to contribute to collective wellbeing and self-determination, strengthening Inuit sovereignty in their wake.

3.1.2. Constructing Infrastructure Sovereignty

"Sovereignty" is a complex term in that its popular definition is tightly knit with supreme, often colonial, state and military power, while Indigenous understandings of sovereignty tend to refer to the rights and capacities of individuals or groups in decision-making processes (Nicol 2013; Inuit Circumpolar Council 2009). Discussions of Arctic sovereignty tend to center on the role of the state, though Indigenous conceptions focus on a pre-existing Indigenous sovereignty that is not connected to a recognition by any colonial state and instead derives from their living on and engagement with their traditional lands since time immemorial.

"Self determination" (Nuttall 2018) or "personal autonomy" (Elixhauser 2018) have been used to describe Indigenous decision-making capacity, referring to the juridical and governance dimensions in the case of self-determination, or smaller scale decision-making on an individual, interpersonal level in the case of personal autonomy. I make use of the term

² Inuktitut for "land", "homeland".

“infrastructure *sovereignty*” to highlight the material and political dimensions of infrastructural control and join this with discourse on Inuit sovereignty. I do so purposefully, aligning with Indigenous scholars such as political anthropologist Audra Simpson (2014, 105), who argues that although Gerald Taiaiake Alfred (2005) deemed sovereignty an “inappropriate concept” that signals Western state superiority over all others, the term belongs within the language of Indigenous dispossession and therefor has power within that discourse – a fact that can be manipulated to clearly articulate what Indigenous sovereignty means. Simpson also points out that multiple sovereignties may exist simultaneously and alongside, or within, each other, for example, the sovereignty of an individual within a sovereign state (2014, 10). Although many Indigenous people today do not live on their traditional lands, Leanne Betasamosake Simpson (2017b), too, writes that Indigenous sovereignty begins with the body, noting that Indigenous bodies cannot be thought of separately from the land, but should be seen as a relational extension thereof. Understood in this sense, deciding what happens on these lands, and with these bodies, is inherently connected to an Indigenous person’s sovereignty in that it has the capacity to influence land-based knowledge and engagement with embedded relations.

This conception of (Indigenous) sovereignty stands in contrast to Foucault’s understanding, wherein sovereignty lies with the state, while “biopower” has more to do with controlling the methods of daily life, emphasizing a power over life, rather than death (see Foucault 2007; Taylor 2011). These methods of daily life are the benign practices of daily routine: eating, habitation, mobility, or sexuality, for example. When the state has administrative control over these practices, it has control over the population. As Chloë Taylor explains, “Biopower is able to access the body because it functions through norms rather than laws, because it is internalized by subjects rather than exercised from above through acts or threats of violence, and because it is dispersed throughout society rather than located in a single individual or government body.” (2011, 43). When conceived of this way, settler colonialism as a regulating and controlling structure has ample means for having great influence over biopower. The tragic on-the-ground realities of such control were described by anthropologist Lisa Stevenson (2014) in her monograph on Nunavut’s suicide epidemic. Stevenson illustrates how the settler colonial approach to care invisibilizes the individual in favor of serving a population, leading to generic care approaches that can translate to an unimportance of individual life when viewed from an Inuit perspective, resulting in death as a release from settler colonial control over one’s body, and a perceived reinstating of individual choice.

And yet, biopower and sovereign control are not necessarily so starkly different from each other: Using Foucault’s concept of biopower, Giorgio Agamben argues, “It can even be

said that the production of a biopolitical body is the original activity of sovereign power” (see Agamben 1998; Rifkin 2009, 92). Understood in this way, creating power over bodies in their daily lives is a form of asserting sovereignty, connecting back to Indigenous understandings of bodily sovereignty and individual sovereignty, albeit with a difference in allocation of control: Indigenous conceptualizations center sovereign control over the body with the individual and their relationality, while Agamben still sees this sovereignty connected to the state. However, Rifkin (2009) argues that Agamben’s state of exception (inclusion versus exclusion of bodies) is precisely what provides opportunity for Indigenous sovereignty. Rifkin develops his argument to “(...) suggest the absence of a normative framework for U.S. Indian policy and more broadly for the geopolitics of the settler-state” (2009, 115). I would argue that although “Indian” policies differ between the United States and Canada, Canada’s current struggle with recognizing national as well as Indigenous sovereignty speaks to a similar normative absence.

Bauder and Mueller (2023) draw on examples from Canada and around the (settler-) colonial world to examine Westphalian (state-centric) versus Indigenous conceptualizations of sovereignty, writing that, from their perspective, although sovereignty proves to be an evolving concept, Westphalian sovereignty and Indigenous sovereignty are irreconcilable. Shadian (2014) argues that Westphalian conceptions are slowly loosening to make space for non-state sovereignties, and that Inuit have achieved such sovereignty in part through the establishment of the Inuit Circumpolar Council, which positions Inuit as actors in global geopolitics, albeit not as sovereign Inuit nations. This new position leads to a re-balancing of governance control in the Arctic, as Coates and Broderstad (2020) argue, wherein nation-states must attune to the desires of recognized Indigenous institutions. While this governance control is still bound to the overall recognition by the state, Nuttall (2018) sees “self-determination” in the Arctic to be less about becoming sovereign states than about having the capacity to exercise decision-making authority over one’s land, resources and local policy development. As Heather Nicol (2013, 132) writes, for Inuit in Nunavut, sovereignty “is the right to be heard and to be included in deliberations, national *and* international, concerning Arctic territories and resources”. Contradicting arguments made by Coates and Broderstad (2020) as well as Nuttall (2018) that Indigenous land claims agreements are in support of Indigenous sovereignty, Nicol argues, “Extinguishment of Inuit claims and the transfer of Inuit right to the state is not advocating Indigenous sovereignty, but state sovereignty” (2013, 135). Understandings of Indigenous sovereignty in the Arctic are murky, leaving room for interpretation and manipulation.

Acclaimed Nunavut author Rachel A. Qitsualik (2013) uses the contrast between Westphalian and Indigenous sovereignties to articulate Inuit self-sovereignty. Qitsualik divides settler colonial society from Inuit society by identifying the first as an anthropomorphic culture centered on humanmade order, and the latter as a non-anthropomorphic society which “default[s] to universal (i.e. natural) order” in the absence of human-made laws (2013, 28). She continues her argument by pointing out the “absurdity” within non-anthropomorphic classic Inuit thought, “that a human may possess any level of supreme or divine control over the shifting Land (not to mention Water and Sky)” (2013, 32). Instead, Qitsualik frames the Inuit concept of *Inummarik*³ as a sovereignty concept centered on the self, while “comprehend[ing] how self-sovereignties - those of others in society - synergize toward a system of self-perpetuating health” (*Ibid.*).

Recalling the Qaggiq model, and the qulliig within it, I argue that Qitsualik’s framing of sovereignty can be seen within the Inuit Triad, wherein individual responsibility stands “in relation to and on behalf of others”, creating a strong collective through its support of livelihoods and productivity (McGrath 2018, 306–7). Thus, a conceptualization of Inuit sovereignty as described by Qitsualik and the Qaggiq model cannot focus on the state, but must examine sovereignty as expressed through daily activity, by individuals as well as collectives. Engagement with these realms of Inuit wellbeing strengthens Inuktitut knowledge foundations and with them, Inuit sovereignty.

Turning now to my own application of this discourse, I apply an individual-focussed, Indigenous-centered, perspective of sovereignty to my ethnography of infrastructures to examine the role of national, territorial, or community-level interests in the development of Nunavut’s airports and harbours in daily lives of Nunavummiut. I argue that the Nunavummi-centered construction of small craft harbours and community docks, as well as the maintenance and upgrade of airstrips can contribute not only to local food sovereignty, but also to what I refer to as “infrastructure sovereignty”.

Entering “sovereign infrastructure” into a Google search retrieves initial hits on financial and digital infrastructure, speaking of security and data management; and while some anthropologists have examined this intersection (for example, Budka 2023), I work at the intersection of transport infrastructure and sovereignty. Shtern et al. use the term “infrastructure

³ *Inummarik* refers to a concept in Inuit thought that involves becoming full, real, well-balanced human beings (see Collings 2014; Snow and Obed 2022).

sovereignty” to describe “the ambition of political actors to achieve autonomous and exclusive domination over critical infrastructures within a defined national space” (2022, 5). While I distance myself from this state-centric perspective, I agree with their use of “hybrid sovereignties”, as well as their identification of six key areas in which control over infrastructure can be seen: “spatial, regulative, financial, executive, technical and discursive” (Shtern et al. 2022, 13). Terrefe and Verhoeven (2024) write more specifically of transport related infrastructures in the Horn of Africa, emphasizing infrastructure’s role in creating and maintaining sovereignty through its presence – or absence and vulnerability. In a more Indigenous-focussed study, Fladvad (2023) examines the “infrastructuring” processes of “sociotechnical imaginaries” around green energy on Indigenous land in Canada and Colombia. While the term “infrastructure sovereignty” is not explicitly mentioned, Fladvad’s analysis situates infrastructure not only as a socio-material force with the power to exclude groups or areas from networks, but also as a force with the power for “emancipation, decolonization and autonomy” that can reinforce or undermine Indigenous sovereignty (2023, 494).

Drawing on these examples, I use the term “infrastructure sovereignty” slightly differently to examine what infrastructure sovereignty means when it is understood from an *Indigenous* perspective of sovereignty. Leaning on the understanding of sovereignty developed through food sovereignty (see section 2.3. and La Via Campesina 2025), I frame “infrastructure sovereignty” in reference to the capacity of Nunavummiut to partake in infrastructural decision-making processes to determine which infrastructure and infrastructural practices belong within their infrastructure system. Furthermore, I argue that having infrastructure sovereignty means the local users of an infrastructure have authority over infrastructure priorities, design and operation. If a group or community has a strong grounding in infrastructure sovereignty, they have a say in whose values shape what gets built and how, as well as who runs, staffs, and maintains infrastructures. On a more analytical level, building on Dalakoglou and Harvey’s (2012) examination of roads, infrastructure sovereignty attends to the kinds of social, alimentary, and territorial relations enabled or constrained by infrastructures. Unlike state-centric views, Nunavut’s infrastructure sovereignty emerges through individual engagement with said infrastructure and infrastructure development in ways that support access to the components of the Qaggiq model. As McGrath (2018, 315) writes, “limited access means limited agency”, whereas both access and agency are needed for societal wellbeing, thereby underlining the critical role of infrastructure in contemporary society as a controlling mechanism of access, and extended therefrom, wellbeing.

Promoting infrastructure sovereignty in Nunavut means supporting Nunavummiut as they reclaim decision-making over territorial infrastructure systems. In order for this to succeed, Nunavummiut require sovereign control over their territory and resources – a process that is advancing through devolution from the federal government and increased capacity-investment in the North. With this dissertation, I argue that infrastructure sovereignty cannot be thought of as separate from food sovereignty; it is an inherent aspect of contemporary food sovereignty.

3.1.3. Infrastructure Sovereignty as Food Sovereignty

Recalling Nunavut's food sovereignty as the right to healthy, nutritious and culturally appropriate food that is harvested according to the Nunavut Agreement and in accordance with local wildlife management in ways that empower communities and local economies, the necessity of local decision-making control becomes clear. In Nunavut, the vast majority of food does not move, nor can it be harvested, without aid from infrastructural systems. As I detail in my empirical articles, Nunavut's aviation "lifelines" and marine resupply are depended on not only for imported foods, but also for harvesting equipment and exchange across communities.

While the connection between imported foods and transport infrastructure is perhaps obvious, and has been well-documented (Chan et al. 2006; Galloway and Li 2023; Gilbert et al. 2025), I argue that these same infrastructure systems have the capacity to support or constrain access to locally harvested country foods. Several studies examined opportunities to strengthen country food access in Nunavut, focussing on policies (Fox 2018) and "made-in-the-North" solutions to drive change (Wilson et al. 2020), yet the direct material role of runways, airplane carrying capacity, or missing harbours has not been as closely examined in connection to locally harvested foods. As my research shows, decisions about who plans, finances, operates and maintains harbours, airstrips, and community freezers become decisions about which foods are accessible, when, to whom, and on whose terms. When these decisions are made elsewhere, rooted in differing conceptions of Inuit wellbeing and economic empowerment, Nunavummiut have less influence over their foodways. In this context, infrastructure sovereignty is a necessary dimension of food sovereignty in Nunavut today.

Infrastructure sovereignty can be clearly illustrated as a fundamental part of food sovereignty with the help of the Qaggiq model. Nunavummi "soul food", country food, is harvested from the lands, air, and waters of the territory, making access to these areas a prerequisite for consumption. As I discuss in my articles, today, this access is mediated by the logistics of airplane cargo capacities and timing of resupply: harvesters need bullets, fuel, guns, snowmobiles, boats, all-terrain vehicles, or ropes and harnesses in order to travel and hunt.

Importantly, they also require knowledge of the areas and animals they harvest from – a knowledge that depends on the strength of engagement with language, opportunities to “follow” more experienced hunters, and learning from living histories. As I show in article 2, airport runway dimensions and materiality can have direct impacts on what services are available in a community, making it more or less likely for residents to stay and engage with their local livelihoods. Sharing networks are also dependent on aviation and freezer/storage infrastructure for exchange across communities, feeding the Inuit triad’s *qulliq* flame through engaging in practices of “generosity toward collective wellbeing” (McGrath 2018, 307).

As discussed previously, the Qaggiq model illustrates multiple facets of Inuktitut knowledge renewal and wellbeing, speaking to aspects of individual as well as communal importance that are foundational for Inuit sovereignty. This multiplicity of Inuit strengths and values that together create and maintain sovereignty has been articulated by leaders in Nunavut, for example in the Nunavut Arctic Sovereignty and Security Strategy which states, “For all Nunavummiut, sovereignty is not an abstract state interest – it is lived reality. It means having safe homes, food security, clean water, healthcare, economic security through local employment, education in Inuktitut, language protection, cultural connection, and the freedom to harvest, travel, and live well on the land.” (Nunavut Tunngavik Incorporated and Government of Nunavut 2025, 10).

With an understanding of sovereignty as a lived reality, Nunavut’s reliance on federal decision-making impedes the territory’s sovereignty by limiting its control over infrastructure development, affecting various aspects of daily life including what food is available. If we recognize sovereignty as manifold, belonging to states and well as groups and individuals, then supporting increased decision-making capacity over which foods are consumed supports not only food sovereignty, but individual and collective Inuit sovereignty. Infrastructure sovereignty denotes local control over decision-making relating to Nunavut’s transport and logistics systems as an essential aspect of food sovereignty, enabling access to country foods, relational (sharing) economies and Inuit ways of knowing and being. Based in my ethnographic analysis, I argue that infrastructure sovereignty is a material condition of food sovereignty in Nunavut. In consequence, efforts to achieve and sustain infrastructure sovereignty strengthen food sovereignty, inevitably contributing to the overall sovereignty of Inuit and Nunavummiut in Nunavut.

3.2. Methodological Approach

Doing anthropological fieldwork in Nunavut is both extremely challenging and extremely rewarding. The long history of colonial research exploitation, miscommunications, and failed relationships touched on in section 2.1. continue to shape research experiences in the territory, both for the researcher and for Nunavummiut.

From the onset, adhering to research standards set by local groups and institutions in Nunavut was my first priority. I find this especially important to be conscious of as an anthropologist, because our field has been critiqued as foundationally colonial and has actively caused harm to groups and individuals we have worked with throughout the history of this discipline by disregarding their sovereignty, needs, wishes, and boundaries during and after the research process (Asad 1973; Jobson 2020). Fortunately, Inuit Tapiriit Kanatami (ITK) (Inuit Tapiriit Kanatami 2018) published a “National Inuit Strategy on Research,” and more specifically, the Nunavut Research Institute (NRI) in Iqaluit requires researchers engaging with territorial residents to apply for a research license (NRI 2024; ITK and NRI 2006).

3.2.1. Preliminary Fieldwork and Situating Myself

Before applying for a license, I emailed NRI about visiting Nunavut for preliminary fieldwork in order to speak with possible research participants about the project design. After several Covid-19 induced delays, I visited Iqaluit and Pond Inlet in May and June 2022 for a total of six weeks. During this time, I spoke with multiple groups and representatives about my research plans and asked what they would find interesting or helpful to know more about within the overarching theme of Nunavut’s transportation infrastructure. I met with Amaruq Hunters and Trappers Association board members, Mittimatalik Hunters and Trappers Organisation board members, members of the Government of Nunavut (GN), hamlet employees, the CEO of Qajuqturvik Community Food Centre, a representative from the Canadian Northern Economic Development Agency (CanNor), Inuit Heritage Trust, representatives from Ikkarvik research organization, local shipping companies, and many others. James Bolt, the research advisor at Nunavut Tunngavik Incorporated (NTI) at the time, advised me to conduct this research in at least three communities, all of different sizes, to get a better sense of how the role of transport infrastructure differs depending on community population and location.

When asked what they thought I should look into in connection to transportation infrastructure, several people I met with spoke of the relationship between food and transportation, urging me to examine how food distribution can be improved. In these

conversations, it became clear that understanding the impact of transportation infrastructure specifically on locally harvested foods was a desired focus.

After this preliminary fieldwork, I contacted each group again to ask if they would support a project examining the role of transport infrastructure in territorial food sovereignty. I received letters/emails of support, which I submitted together with a technical and lay summary of my research plans, the NRI research license application form, and the University of Vienna ethics approval. In August 2022, I returned to Iqaluit and began conducting research under scientific research licence number 01-028-22N-M. As more communities joined this project and the license was renewed each year, I also worked under the following NRI license numbers: 01-010-23R-M-Amended; and 01-017-24R-M.

Positionality

Positioning myself within my research context was an ongoing process throughout this project. I am a Swiss-Canadian white female, unmarried and without children. I entered the field as a PhD student with funding from the European Research Council and support from the University of Vienna. I was part of a project that had already written and received a grant, without the involvement of any Nunavummiut, or myself. Before May 2022, I had never been to any part of the Arctic, nor had I had much previous academic experience learning about the region. As a result, I was and am in many ways the standard international researcher who visits Nunavut from a very privileged, yet not very informed, perspective. At the same time, although I did not grow up in Canada, I have regularly spent extended periods there since 2013, and conducted research with Gitxaala First Nation in British Columbia during my Master's program at the University of British Columbia. As a result, I was aware of Canada's settler colonial governance and its lived realities for Indigenous populations. My dual citizenship and international upbringing opened new avenues for connection with research participants. As someone from Canada, the United States, Switzerland, Germany, and Austria, interlocutors were interested to hear about life abroad, what customs we might have in common and what was completely different. I was both someone who knew some context, and someone who was far enough removed from it that people felt safe sharing their experiences and frustrations with me about living in a settler colonial nation-state in a territory that is often excluded or overlooked.

Ethical Considerations and Consent

I am aware that as a researcher, I was placed in a position of power. As researchers who are in direct and prolonged contact with select people, ethnographers have potentially greater influence on the representation and perception of Indigenous people than others. As such, it was especially important for me to be aware of the constellations of relationships I immersed

myself in. I constantly questioned how I, as an individual, am affecting these constellations, and how my research may impact relationships I am directly and indirectly tied to. No matter the social position of the research participant, I as the researcher was always in the position to make decisions about how to present the information that was shared with me. This means that an interview situation, for example, is never between equals. This particularly pertains to contexts in which the interviewee may identify with a social group that has been affected by discrimination and trauma, such as an Inuk living in Canada.

In considering how to navigate this dynamic, I call on the teachings from anthropologist Audra Simpson on what she calls “ethnographic refusal”: “My notion of refusal articulates a mode of sovereign authority over the presentation of ethnographic data, and so does not present “everything”. This is for the express purpose of protecting the concerns of the community. It acknowledges the asymmetrical power relations that inform the research and writing about native lives and politics, and it does not *presume* that they are on equal footing with anyone. This presumption of equal footing is false.” (A. Simpson 2014, 105, emphasis in original). As Simpson shows, the researcher has a responsibility to reflect on their use of knowledge that is shared with them and the consequences that may derive from information being publicized or decontextualized. The researcher also has the responsibility to recognize and accept a refusal on part of the interviewee when they are not comfortable speaking to the question or topic at hand.

In a more formal way, I made sure to receive consent from each interview participant after explaining the research project and before proceeding to use any of the information or material they shared with me. During interviews and workshops, written consent was given by having participants fill out a form describing which information they were comfortable having shared in which ways. The information and consent form was codeveloped within the *InfraNorth* project. I supplemented this form with a further one-page description particular to my case study project in Nunavut. Several participants gave oral consent after learning about the different options in a conversation with me. If participants were unclear in how they wanted their data handled, I opted to anonymize their information. At times, participants chose to use a pseudonym. One participant chose their pseudonym themselves, while others left it up to me. If a person chose to remain anonymous, I either omitted information from their quotes and stories to ensure anonymity, or refrained from using their information. All consent forms were returned to me and stored at the University of Vienna.

3.2.2. Selection of Fieldsites

I made five trips to Nunavut between May 2022 to April 2025 while collecting and reporting on fieldwork data, with lengths of stay ranging between a month to six months. In total, I spent 13 months in Nunavut as an active researcher. As I connected with more people in the territory, I contacted acquaintances and key stakeholders in smaller communities outside of Iqaluit to ask if they would be interested in having this research conducted in their community as well. The communities I ended up working with were chosen somewhat randomly, albeit consciously include a range of population sizes, connectivity to Nunavut's transportation network, and local infrastructure. The communities I conducted my work in are: Iqaluit, Kimmirut, Pond Inlet, Resolute Bay, and Grise Fiord.

Due to housing availability and cost of living, I lived with a friend in Iqaluit for the majority of my time. I visited each of the other communities at least twice, spending around three months between the four hamlets. While in Kimmirut, I was fortunate to stay with the Senior Administrative Officer, or at a home stay. In Pond Inlet I lived with a teacher and at a home stay. In Resolute Bay I stayed at ATCO's South Camp Inn, or the Polar Continental Shelf Program's researcher accommodation. In Grise Fiord I stayed at the Coop Hotel, and with the local representative of Nunavut Housing Corporation. Unfortunately, my financial means limited the choices I was able to make regarding my length of stay per community. Although these community visits were shorter, I maintained contact with friends and key research participants while I was away by communicating through social media and email. This enabled me to continue to develop these relationships, though I recognize that spending more time on site would have brought even greater advantages.

My choice to conduct research in five communities instead of spending all my time in one place was backed by the NTI research advisor's suggestion to work with at least three communities, as well as my desire to understand how experiences differed from one community to the next. Choosing this approach allowed me to gain knowledge of key themes that connect the five fieldsites and helped me develop questions to understand their differences.

3.2.3. Data Collection Methods

Anthropologists are well-known for their extended field stays, or ethnographic fieldwork. Although Tim Ingold argues that "Anthropology is not Ethnography" (2007), ethnographic practice is foundational to my research approach. Anthropology differs from ethnography in that it is not simply a description of what people do/think/feel, but an abstraction from these observations to connect to broader phenomena that describe the conditions of human life in the

world right now. To me, ethnography is the primary tool I use to make such observations and abstractions.

I conducted my research through engaging with acquaintances, friends and research participants at the airport, grocery store, concerts, public meetings, hunting trips, over shared meals and over the phone. While the majority of research participants identify as Inuk, this research is not restricted to the Inuit population of Nunavut. Many participants moved to Nunavut from southern Canada within the last 20 years, and do not identify as Indigenous. Interlocutors ranged in age from 18 to 70 years old, though the majority of respondents were young adults in their late teens, twenties or early thirties. Participants had various occupations: I spoke with government employees, food center volunteers, members of Inuit organizations and HTA/Os, young mothers, journalists, students and hunters. Others were not officially employed and depended on welfare, beneficiary support, and sharing networks within their community.

Participant Observation and Fieldnotes

Participant observation is widely acknowledged as the “central and defining method of research in cultural anthropology (DeWalt and Dewalt 2011, 2). In reference to Clifford Geertz (1998), participant observation is where ethnography’s “deep hanging out” occurs. As Lareau describes, participant observations and experiences are intimately tied to the researcher’s persona, and direct what one learns (Lareau 2021). Being new to the territory was simultaneously overwhelming and helpful because everything was new to me, and people were excited to show me places, get me out on a snowmobile, or share country food. As a result, I was able to participate in a plethora of activities in many different settings and gather information through these experiences. I came to know different groups of people in each community I worked with and lived in, which allowed me to experience various expressions of similar activities, such as a seal hunt or trip to the airport. The information I gathered while “hanging out” guided my lens of inquiry during interviews and informal conversations; it directed which situations I was more likely to put myself into, and which relationships and nuances I became attuned to.

My introduction to communities was often abrupt, after exiting the airplane and walking into the hubbub of the waiting area. On most occasions, someone would approach me to ask who I was and where I was staying, usually leading to a ride to my accommodation. By nature of research license requirements in Nunavut, several people in each location were already notified about my arrival and my purpose before I set foot in the community, which eased my

introduction. To get to know the community, meet people, and join any events, I spent a lot of time walking around aimlessly, stopping to chat or ask for directions and explaining my presence. As Lee and Ingold (Lee and Ingold 2006) write, walking around one's field site is not participant observation per se, as the researcher is not then immediately immersed in the daily intricacies of their field, however, walking allowed me to feel the differences between gravel, mud, ice, or snow on roads, tundra, runways and the sea ice, and I was able to share the experience of walking with residents who I accompanied. After breaking my foot during fieldwork in August 2022, I became easily recognizable while walking around with crutches and an AirCast, which further helped me get to know people.

In Iqaluit, I volunteered regularly at Qajuqturvik Community Food Centre (QCFC) and engaged in participant observation while preparing and eating food, setting up tables or handing out meals at the side door. During my time at the food centre, I had conversations with employees and volunteers about their access to country food, and food in general, as well as hunting networks and equipment. By handing out meals to people at the door, I began to recognize people, and they recognized me, even beyond Iqaluit: During my second visit to Pond Inlet, I ended up interviewing two young men who recognized me from the food centre in Iqaluit, where they picked up lunch while they were in town. I also became more acquainted with policymakers and industry representatives while assisting the Qikiqtaaluk Business Development Corporation with their research on territorial food sovereignty. Through this work, I met with people working on food sovereignty in their own communities, and was able to participate in several meetings and conferences that I would not otherwise have had access to.

While these two engagements provided some structure to my fieldwork, I tried to keep the majority of my time flexible so I could join any activities or conversations that came my way. The impressions and information gathered, and relationships built through participating in Nunavummiut daily life formed the foundation of my research. As DeWalt and DeWalt (2011) point out, participant observation's value is articulated through fieldnotes, which I wrote by hand in journals, as well as quick jottings in the notes application on my phone and longer, descriptive notes in a Word Document on my laptop. While I attempted to add as much detail, or thick description, to my fieldnotes, I agree with Emerson et al. that these notes represent only "slices of life", filtered through my own experience and writing style and therefore depict very specific renderings of daily life and events (Emerson et al. 2011, 46). In accompaniment of these notes I took photographs, videos, and recorded audio snippets on my phone and digital camera.

Interviews

Beyond participant observation and fieldnotes, I was able to conduct 179 semi-structured and open interviews, 60 of which were recorded. Interviews took place at people's homes, in their offices, at cafes, during breaks out on the land, over the phone, at the grocery store, and at the Nunavut Research Institute. Unless interviews were conducted during the interlocutor's paid working hours, interviewees received \$50 per hour gift cards to local grocery stores as a compensation for their time, a common practice in Nunavut. I interviewed government and Inuit organization employees, hunters, single mothers, students, airport employees and municipal workers. Matching the demographic and employment statistic of the territory, the majority of people involved in this research are Inuk, though many of the government representatives were Qallunaat.

Spradley describes the ethnographic interview as a guided conversation during which, "Instead of collecting 'data' about people, the ethnographer seeks to learn from people, to be taught by them" (1979, 4). While I always attended each interview with preformulated questions at hand, interviews were guided by the specific knowledge and experiences of the interviewee and their willingness to share certain topics in more depth than others. I found interviews to be highly fragile social spaces, as they momentarily augmented power hierarchies were not otherwise reflected in daily life to the same extent. I was once again reminded that I am a white anthropologist, a persona non grata in many Indigenous communities.

The responsibility of the interviewer to recognize and accept refusal as outlined by Audra Simpson (A. Simpson 2014) highlights a further dynamic at the foundation of ethnographic interviewing: The interviewer's job is not to mine for information, but to listen. The importance of listening and the role of storytelling, especially in traditionally oral societies such as that of Nunavummi Inuit cannot be understated (Kovach 2000; Menzies 2016; J. Bennett and Rowley 2004).

Focus Groups

I conducted three small-scale focus groups to go more in-depth on specific topics (Bernard 2018). Information from these discussions was used alongside interview and survey work to help me better understand key details and interviewee positions. The first focus group was with two hunters from Amaruq HTA. We met at QCFC in Iqaluit to discuss their perception of the new deep-sea port. The second focus group was with seven hunters from Kimmirut's HTA, at their office, where we discussed their thoughts and experiences with aviation to and from the

hamlet. The third focus group was with three GN employees focussed on airport policy. The meeting took place in the most senior employee's office in Iqaluit.

Workshops

Workshops provide an opportunity for participants to share and debate ideas, observations and concerns in a group-think setting, enabling relational knowledge construction (Horst 2016; Knox 2021). The stimulation for participants is different than in one-on-one interviews and can therefore also encourage a more multifaceted discussion of the topic at hand as participants engage not only with each other but also with ideas voiced in these sessions. I wanted to encourage such exchanges in conversations around the topic of what participants' imaginings for the future of their own community are, and how they perceive specific future scenarios presented to them. The future scenarios were presented by me, based loosely on future scenarios developed within the InfraNorth project together with IIASA, the International Institute for Applied Systems Analysis (see Schweitzer, Povoroznyuk, Budka, et al. 2026).

These workshops provided a space for exchange of knowledge, ideas and opinions surrounding research design and experiences with transport infrastructure, thereby enabling collaborative research development. I hosted three "Future Scenario Workshops": two in Resolute Bay and one in Grise Fiord. Initially, I had planned to host one workshop in Resolute Bay, but was asked to split the groups by gender so participants of the female group would feel more comfortable, which I then implemented.

The future scenarios we discussed were: (a) military town/military expansion in the area, (b) no more sea ice/ice-free year-round, (c) increased use of the Northwest Passage and Lancaster Sound, (d) tourism boom, (e) resource boom, and (f) no more air service to and from community. After briefly presenting each scenario orally, I opened the discussion with participants to exchange thoughts, concerns, and hopes. Applying the method of Dotmocracy, I gave each participant sticker dots in different colours, which they then stuck on notecards of the different scenarios according to their perception thereof: green = positive, yellow = neutral, red = negative (see Figure 3). Due to limited materials, blue dots were also used in place of red dots. We then discussed participants' reasoning for their placements. Towards the end of the workshop, participants drew or wrote their ideas for their own desired community future, which were then discussed in plenum (see Figure 4). Distinguishing between participants' desires and perceived feasibility was nearly impossible because people spoke of them simultaneously, making less feasible desires become desires of lesser importance compared to others.

I saw these workshops as a valuable methodological tool because they shifted the dynamic of knowledge exchange away from static one-on-one interviews, instead inviting a dynamic exchange of knowledge among several experts and knowledge keepers. Not only can such group constellations contribute to peer fact-checking, but they also are reminiscent of inclusive methods of knowledge transfer, storytelling and sharing typical to Indigenous societies (Menzies 2016; Kovach 2000).

Having gathered this data through multiple approaches means that I left Nunavut with a plethora of stories. It was time to ask myself which of these stories really needed to be told.

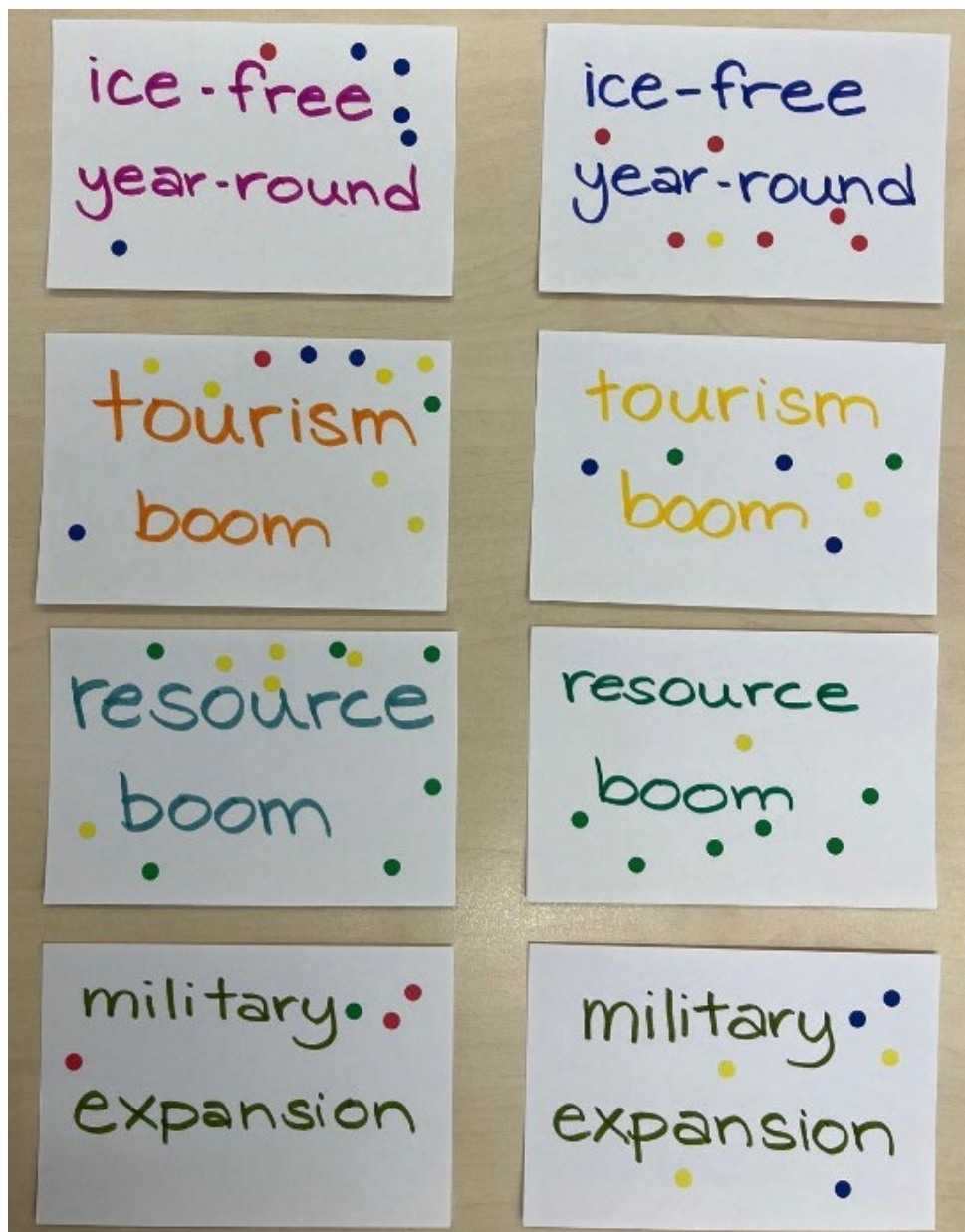


Figure 3: Dotmocracy notecards from Grise Fiord (left) and the women's workshop in Resolute Bay (right).



ICE-FREE YEAR-ROUND
 If the ship's are passing by all the time and making lots of sounds that would affect our animals hearing.

MILITARY ~~EXPANSION~~
 I've been hearing that Military is trying to make Runway Bigger at the airport. Would be nice if they hired more people.

NW PASSAGE
 Ship ~~ships~~ would need approval from HPA and/or Hamlets before passing NW Passage.

Resource Pool
 It would be sad if there is mining to see our land mess and/or dirty. Mining would be making too much dust. H E O would be too loud for wild animals and for sea mammals.

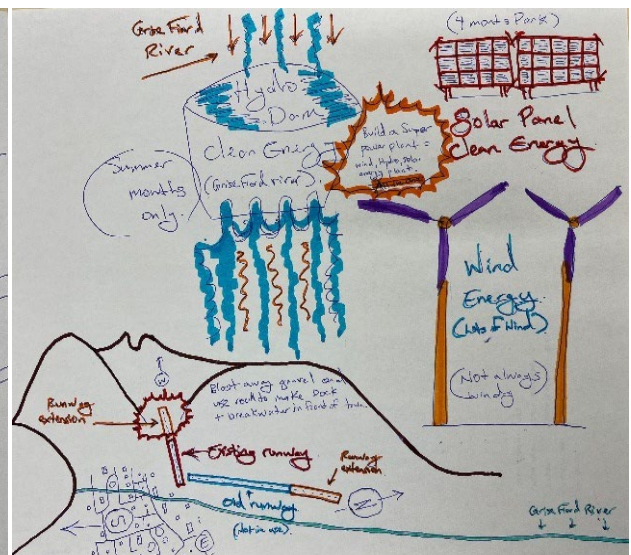
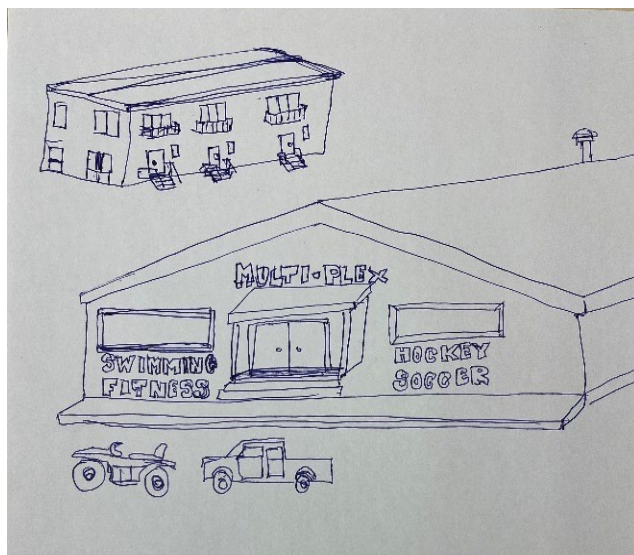


Figure 4: Desired scenarios drawn by workshop participants in Grise Fiord (top left, bottom left and right) and Resolute Bay (top right).

3.2.4. Data Analysis Methods

Margaret Kovach writes about the importance of storytelling in Indigenous oral tradition, and its use as a method in qualitative research (Kovach 2000). She writes of the responsibility involved in carrying and sharing someone else's story, "A researcher assumes a responsibility that the story shared will be treated with the respect it deserves in acknowledgment of the relationship from which it emerges" (Kovach 2000, 97). Kovach's approach guided my search for key themes and slowed my analysis as I asked myself why I was highlighting specific points from my data over others. My analysis was also guided by conversations with key interlocutors at QCFC, the GN and NTI in Iqaluit, hamlet and HTO in Kimmirut, and hamlet and QIA in Resolute Bay, who discussed lenses of analysis with me at different stages of this research.

Back in Vienna, I analyzed my recorded interviews with MAXQDA, a qualitative data analysis software, used to transcribe, code segments and visualize connected themes. I applied a mixture of inductive and abductive analysis (Tavory and Timmermans 2014). To get an overview of my data, I applied an inductive approach while thematically coding my interview transcripts and fieldnotes. Thematic coding involves reviewing the material and categorizing the content according to main themes. In this case, I identified both "in vivo" themes that were articulated directly in the material, as well as meta themes, which I identified during the analysis. A descriptive content analysis of themes further encouraged me to think of theories deriving directly from the most commonly mentioned themes and relationships. Initially, I jotted thematic notes and added timestamps while listening to recorded interviews, then proceeded to fully transcribe interviews, or sections thereof, if the material proved to be especially pertinent. I later approached my data through an abductive lens, examining the transcriptions and fieldnotes in conversation with theories I read on similar themes. An abductive analysis (Tavory and Timmermans 2014) allowed me to remain close to the data as inspiration for theory, yet encouraged a cyclical review of both data and literature, opening new connections between data and theory as I deepened both my analysis and theoretical literature review.

My literature review was guided by a hermeneutical analysis of text, photos, maps, and videos, which concentrated my inquiry on the context behind each piece, as well as its authorship and hidden authors. By "hidden authors," I mean unacknowledged interlocutors who shaped the information shared – for example Inuit who shared their knowledge but were not directly mentioned, or governing bodies who directed how and what information should be shared.

3.2.5. On Multi-Sited Fieldwork

My choice to conduct fieldwork in five Qikiqtani communities was grounded in a suggestion and later decision to examine connections and relationships across multiple locations with my focus of study set on the relationships between territorial food sovereignty and territorial transport infrastructure, and their community-specific articulations. As such, my research falls into the category of multi-sited fieldwork (Marcus 1995; Falzon 2009). At the time of Marcus's suggestion, the anthropological world was highly critical of this new approach, prompting him to respond to the concern "that ethnography will become more about systems, institutions, formal organizations, the structures of Western rationality, progress, modernity, and the thought of experts, rather than about the conditions of common experience, observed as every-day life in its own idiom" (1995, 18). Marcus notes that firstly, this shift in focus is not mandatory, and secondly, a more consequential examination of "experts" and "studying up" can bear a lot of fruit.

In a slightly different expression, my multi-sited approach is precisely what enabled me to focus on conditions of common experience across locations, and move away from the experts to instead work with the general public. This has to do with the way Nunavut's administration is set up: centrally in Iqaluit. If I had stayed in Iqaluit, I would have had a very specific, and in Nunavut's terms, very privileged perspective due to Iqaluit's availability of transport infrastructure and other services. This approach undoubtedly altered my ethnographic practice and data collection. I gained a deeper understanding of the different lives led across the Qikiqtani, and recognized more nuances in how infrastructural presence is articulated in residents' daily lives by experiencing a greater variety of Nunavut's widely diverse built environments.

The five communities I visited were constantly compared and contrasted in my mind, as well as in conversations with interlocutors and in official documents. My task, as I saw it, was to gain an understanding of how transport infrastructure is articulated differently in these communities, and what that means for each community's access to (country) food. I compared each community's given transport infrastructure, funding schemes of these infrastructures, the aircrafts and service schedules, pricing for cargo, and the availability of food in grocery stores as well as country food as communicated to me in interviews or through personal experience. Such comparisons aided me in articulating the relationship between infrastructure and food on a higher analytical level, by abstracting experiential knowledge from the five communities rather than basing my analysis solely in the empirical evidence of, e.g., Iqaluit.

3.2.6. Data Communication and Output

The results of this research were communicated in multiple formats. While the research was still ongoing, I wrote a report for the Qikiqtaaluk Business Development Corporation, and had an online meeting with NTI staff members to discuss preliminary findings. To better communicate my research with the public, I gave a radio interview with the Canadian Broadcasting Corporation, wrote publicly accessible blog articles, gave an interview with *Polar Journal*, and presented my research at the North American Native Museum in Zurich and the Natural History Museum in Vienna.

Thanks to funding from the Foundation for Canadian Studies, I was able to return to Iqaluit and Kimmirut in March and April 2025, where I met with key interlocutors and gave two public presentations to discuss my findings with residents of Nunavut. The presentation in Iqaluit was recorded and shared on my Facebook page so that interested individuals from other communities could also listen. These presentations were supplemented by a research report written in English plain language and Inuktitut, which was made available as both hardcopies and online (Schmid 2025). Hardcopies of the report were sent to the hamlet offices and HTO/As in Pond Inlet, Resolute Bay, and Grise Fiord.

As an academic student, I also presented this research at various conferences in Canada and Europe, and spoke about it during workshops. Main themes of this research are presented, analyzed and discussed in the four published articles described in section 4 of this synopsis.

4. Description of Publications and Summary of Results

Four articles make up the bulk of my dissertation, each of which highlights a slightly different aspect of my central and sub- research questions. Three of these articles are single authored, and one is co-authored with me as the first author. Three of the articles are published, while one is forthcoming, with an expected publication date in the first half of 2026 (accepted March 24, 2026). In this section, I provide brief summaries of each publication and their results. The findings will be discussed in more depth in section 5, which examines central research findings and their contributions.

4.1. Transporting Arctic Foodways

Schmid, Katrin. "Transporting Arctic Foodways: The Infrastructure of Food Sovereignty in Nunavut, Canada." *Food, Culture & Society* 0, no. 0 (2026): 1–19.
<https://doi.org/10.1080/15528014.2026.2651494>.

In this article, I lay the groundwork for connecting transport infrastructure with food sovereignty in Nunavut. I ask what the relationship between transport infrastructure control, food sovereignty, and sustainable foodways is in Nunavut. The article is part of a special issue to be published in *Food, Culture, and Society*, based on panel presentations at the 2023 IMISCOE conference focussed on cultural diversity and sustainable food (Mescoli 2023). In contrast to the other panel submissions, cultural diversity of foodways is not foregrounded in Nunavut; rather, the focus is on strengthening Inuit self-sufficiency and foodways. The average cost of food in Nunavut is the highest in Canada and 70% of the population was identified as food insecure (Qikiqtani Inuit Association 2019). As I argue, food insecurity in the territory is not accidental; instead, it is the product of infrastructure decisions that prioritize southern commodity flows over local food systems. Transport infrastructure (for example, airline routes, cargo pricing, and shipping logistics) has become a mechanism of control over Nunavummi foodways. To enjoy full food sovereignty, communities must have increased decision-making control over these transportation systems.

Currently, policies centered on Nunavut's foodways focus on alleviating food insecurity and while this is the priority, providing food security simply means ensuring residents have access to enough food per day, rather than which foods they are able to access. As a consequence, federal subsidies concentrate on transporting foods from southern Canada and beyond into the territory by way of seasonal marine resupply and air cargo. However, many Nunavummiut are raising their voices in an attempt to re-center Inuit foodways and culinary knowledge. My ethnographic data builds on perspectives shared by Nunavummiut and Inuit organizations, such as QIA, who advocate for food sovereignty in augmentation of food security (Qikiqtani Inuit Association 2019). While the connection between imported food and transport infrastructure is clear, the connection between locally harvested country foods is less obvious, yet no less important. This article addresses a gap in the literature of Arctic foodways by examining the role of transport infrastructure in residents' access to local foods and foodways. To address this gap, I examine infrastructure as relational (Star 1999; Schweitzer, Povoroznyuk, and Budka 2026) with the potential for colonially invasive (Spice 2018), or alimentary (LaDuke and Cowen 2020) impacts on daily lives.

I interweave colonial development policies, current transportation and food policies, as well as insights from my fieldnotes, interviews, and workshops to examine the relationship between transport infrastructure and foodways in the territory. In what is now Nunavut, settlement locations were chosen by colonial agents based on their suitability for airstrips and marine harbours, that is, transport infrastructure. These locations were not determined in relation to Inuit capacity to harvest in the area, leading to a fundamental restructuring of their food systems while creating a dependency of Inuit on goods and services connected to these invasive infrastructures. Accessing country food today means having access to equipment shipped from the South (ATVs, snowmobiles, boats, bullets, ...), having the financial means to order country food from a different community, or being connected to a strong sharing network with active harvesters (Collings et al. unpublished manuscript). Today, there are multiple reasons families lose access to harvested foods: high costs of hunting equipment and cargo, compromised exchange through frayed or stretched social networks across communities, and often limited nutritional value of ordered country foods due to spoilage.

Although the Government of Nunavut attempts a policy of decentralization, the territory's air services work in direct contrast to this attempt by centralizing services in Iqaluit and Rankin Inlet to maximize passenger count, forcing passengers from smaller communities on a one-day layover before continuing to a smaller destination. As a result, reaching urban centers is more efficient, but inter-community travel is less efficient and more expensive for travellers. Cargo policies prioritize medical goods and services, with southern imported foods as a second priority. During conversations with Nunavummiut, I learned that although there is a country food cargo rate, country food is often lost or spoiled upon arrival, leading most individuals to send harvested foods as a piece of luggage rather than a cargo shipment, increasing reliance on social networks. These examples illustrate ways in which transport infrastructure defines logistics pathways and, consequentially, who has access to which foodways.

Food sovereignty is not achievable through improved access to imported food and goods alone; it requires communities to have control over systems that afford or hinder access to culturally appropriate foods (La Via Campesina 2025). I argue that in Nunavut, this means having a say in communities' transport infrastructure development and logistics pathways: food sovereignty depends on infrastructure sovereignty, wherein communities have authority over local transportation and logistics systems.

4.2. Flying into Frictioned Futures

Schmid, Katrin. “Flying into Frictioned Futures: Development of Canada’s Northernmost Runways.” *Anthropologica* 67, no. 1 (2025).
<https://doi.org/10.18357/anthropologica67120252702>.

A panel at the American Anthropological Association/Canadian Anthropology Society annual meeting in Toronto in November 2023 concentrating on the temporality of infrastructure in Canada planted the seeds for this article. Here, I explore how the materiality and temporality of transport infrastructure, more specifically airstrips/runways, shape the daily lives and future aspirations of residents in the Qikiqtani region of Nunavut. Drawing on Elixhauser (2023) and Ren (2023), I frame infrastructure as not simply technical or physical-material, but as a socio-material reality with direct influence on Nunavut’s accessibility, community development and residents’ desires for the future.

I argue that Nunavut’s communities are developing differently in part due to their differing accessibility and air services. Aviation is considered a lifeline as airplanes provide communities with imported food and goods, as well as inter-community passenger transportation and medical services, drawing a direct relation between air service and community wellbeing. However, the type of air service is dependent on a community’s runway materiality (gravel or paved) and length. Gravel runways are more climate appropriate, but restrict transport capacity of food, passengers, and other goods. As a highly coveted Arctic resource (M. M. Bennett 2023), gravel runway maintenance comes at a cost to other infrastructure requiring gravel, such as housing foundations. All but two runways in Nunavut are made of gravel, while Iqaluit and Rankin Inlet benefit from longer, paved, runways which allow larger aircraft to land, transforming these communities into transport and regional service hubs. However, paved runways are less suitable for Arctic extreme weather conditions and effects of climate change: permafrost thaw leads to the formation of ice-wedge polygons beneath the paved surfaces, requiring intensive maintenance and repair. I argue that an examination of these runways’ socio-materialities highlights socio-economic inequalities across communities created by extra-territorial decision-making founded in colonial infrastructure systems.

To redirect infrastructure development conversations, I play with Anna Tsing’s concept of “friction” in both a literal and metaphorical sense: Airplanes’ tires hit the runway, producing physical friction where political friction can also be found at the nexus of technological modernization, community inequities and community desires. I argue that such frictions should be paid heed, as they hold the potential for innovation and transformation, particularly when

Northerners and Inuit are actively engaged in co-creating infrastructure plans that fit their realities. I combine Tsing's concept of friction with Hetherington's discussion of infrastructure as a promise of the "future perfect", or much rather, a future imperfect. I conclude that the ambivalence created at points of friction presents an opportunity of policy makers, funding bodies, and Nunavummiut to discuss infrastructure development centered on the needs of the people living in the areas where these infrastructures are built, aiming to support, not redirect, daily lives in Nunavut.

4.3. Amazon in the Arctic

Schmid, Katrin. "Amazon in the Arctic: E-Commerce, Infrastructure, and Alimentary Assemblages in Nunavut, Canada." *Journal of Contemporary Ethnography*, *Ethnographies of Infrastructure*, vol. 55, no. 1 (2026): 110–31. <https://doi.org/10.1177/08912416251398435>.

Continuing on the line of examining transport infrastructure's role in providing or ensuring access to other infrastructures, this article presents an ethnographic analysis of how Nunavut's transport infrastructure shapes e-commerce giant Amazon.com, Inc services throughout the territory. In this analysis, I view Nunavut's transportation and logistics infrastructure as actively shaping territorial ecommerce possibilities. This article contributes to the limited literature on ecommerce in anthropology, and more specifically in the Arctic. Moving beyond simplistic representations of infrastructural connections leading inevitably to a supposed "cultural loss", I focus this analysis on Nunavut residents' exercise of personal choice and individuality in repurposing systems of colonially-induced inequality to instead serve their own needs.

Drawing once more on LaDuke and Cowen (2020), I categorize Amazon as a "Wiindigo infrastructure", yet argue that Nunavummiut have found ways to use Amazon in alimentary-fulfilling manners to circumnavigate gaps in government services. I examine how residents engage with Amazon in Nunavut as a source for products that are otherwise difficult to procure, and in so doing reshape their economic activities. I apply assemblage theory (Deleuze and Guattari 1988; DeLanda 2019) to trace the relationships between Amazon's delivery logistics, local infrastructural realities, and resident's economic choices to highlight local expressions of agency and material reality that together create and maintain the assemblage within which Amazon must function.

Four factors consumers consider when making their orders are convenience, variety of choice, price, and delivery time – all of which depend on the functionality of Nunavut’s logistics systems. While Nunavummiut’s reliance on Amazon articulates the extent of Wiindigo infrastructure in northern daily life, it also illuminates consumers’ creative agency and personal attribution of value in repurposing such systems to fit their own needs. Significantly, residents turn to ecommerce services for equipment and materials required for hunting, tourism, and crafts with as little financial loss or seasonal delay as possible. As such, access to ecommerce has allowed many Nunavut Inuit to continue hunting, or creating art, thereby supporting their community and potentially making additional income. The ways Amazon is utilized in Nunavut, then, does not automatically contribute to a replacement of Inuit ways, but can instead augment specific traditional practices. I conclude that although southern-based infrastructures do not facilitate exchange in the North, it is the complementary capacity of southern streamlined infrastructures and gaps in Nunavummi systems that allow for ecommerce’s success in the territory.

4.4. No Room in the North

**Schmid, Katrin, and Ria-Maria Adams. “No Room in the North: Housing Scarcity as Infrastructure’s Failed Relations in the Arctic.” *Polar Geography, Transport Infrastructure and Population in the Arctic*, December 3, 2025, 1–19.
<https://doi.org/10.1080/1088937X.2025.2592134>.**

This article was written together with Ria-Maria Adams for a special issue in *Polar Geography* on transport infrastructure and population in the Arctic. Moving away from the strict focus on transport infrastructures themselves, we examine the role of transport infrastructure in the availability of another critical infrastructure: housing. We explore how limited housing options effect local residents in the communities of Malmö, Sweden, and the Qikiqtani region of Nunavut. This article begins to close the gap in existing research on Arctic housing comparing different regional cases by emphasizing residents’ lived experiences and placing these in connection with broader socio-political dynamics fueling housing scarcity. We adopt a relational and comparative analytical approach in order to identify structural commonalities and differences. Here, we understand housing as a type of infrastructure which is dependent on and shapes relations, caught in reciprocal social-relational networks (Ingold 2000, 2021). We inductively developed five analytical categories to approach our comparative data: funding and governance, population dynamics, infrastructure and logistics, and suitability of housing.

Based on our ethnographic case study data, we argue that housing scarcity in the Arctic is not simply about infrastructure availability, but speaks to broader economic and structural influences on the housing market. The housing crisis reflects systemic issues such as structural neglect, limited economic incentives, and governance failures. We chose a comparative approach to better illuminate how varying colonial legacies, degrees of state involvement, and Indigenous populations, affect governance and funding on shared issues such as housing. Malmöfalten and Nunavut differ greatly in their transport infrastructure availability, with Malmöfalten connected via road and railway to southern Sweden, Nunavut relies on aviation and seasonal marine resupply. Our initial hypothesis was that the degree of transport infrastructure connectivity and reliability would prove significant in housing availability, however, our case study examples show that transport infrastructure is not the main contributor to housing scarcity in these Arctic regions.

Malmöfalten's housing crisis derives largely from mining industry expansion that has led to the relocation of entire neighborhoods. In this region, housing scarcity is a condition of industrial activity. In Nunavut, colonial and paternalistic government policies have led to an acute housing shortage that cannot be adequately alleviated within the next few years to accommodate the rapid population growth. Importantly, fly-in-fly-out workers play a considerable role in each case study region. Their presence illuminates the gap between labor demands and housing availability, further straining existing infrastructures.

We conclude that housing is tied less to population levels and more to economic incentives for sustained investment and a political unwillingness from central governments to undertake development contrary to the market economy. We suggest that decision-makers fail to recognize housing as a relational infrastructure. Drawing on Simpson (2017a), we argue that without good relations and consent-based infrastructure development, official systems fail, burdening local social relations with the task of delivering services and maintaining relations the state has failed to follow through on.

5. Discussion of Central Research Findings

“The people who inhabit the North are the human dimension of Canada’s sovereignty in the Arctic.” (Senate of Canada 2009, 1, emphasis added by author)

Those who inhabit Canada’s North live there not for the purpose of protecting their country’s sovereignty, but because the North is their home. The infrastructure that services these areas should be configured to service Northerners in their daily needs, and in doing so will contribute to maintaining the nation’s sovereignty in the region. This dissertation has examined one particular expression of daily lived sovereignty through an analysis of transportation’s role in sustaining Nunavummi access to Inuit foodways. Over the course of the four attached articles (see Appendix), I sought to understand how residents of Nunavut envision the futures of their communities and how these visions align with infrastructure being built and planned in the territory today.

Through discussions with key research participants and Inuit organizations, this research came to focus more specifically on the role of transport infrastructure in territorial food sovereignty. I worked closely with Inuit organizations, government representatives, and five different Qikiqtani communities during my research to illustrate various expressions of infrastructure and their manifold impacts on food sovereignty in the territory. Conducting research in Nunavut’s largest (Iqaluit) and smallest settlements (Grise Fiord), with differing infrastructure availability allowed this analysis to recognize the many ways infrastructure creates uneven development across the territory. Ranging from Iqaluit’s paved runway with jet access, deep-sea port and small craft harbour, to Resolute Bay and Pond Inlet’s long gravel runways serviced by ATR turbo-props, or a new community harbour (Pond Inlet), and community docks in the making (Resolute Bay and Grise Fiord), the case studies examined during this research show infrastructure’s role in providing services beyond mobility and logistics.

Centering the voices of interlocutors helped me maintain my approach of suspending damage, choosing to focus on Inuit success stories, or stories of Inuit desires. While Inuit would have ideally participated in all stages of this research (including analysis and writing), these stories, combined with my reading of the Qaggiq model, led to my analysis of territorial transport infrastructure as an issue of infrastructure sovereignty.

5.1. Infrastructure Sovereignty as an Analytical Concept

The Inuit Circumpolar Council's "Circumpolar Inuit Declaration on Sovereignty in the Arctic" states under point 3.3, "The inextricable linkages between issues of sovereignty and sovereign rights in the Arctic and Inuit self-determination and other rights require states to accept the presence and role of Inuit as partners in the conduct of international relations in the Arctic." (2009). Active participation of Inuit is necessary for Canada to maintain its sovereign reach into the High Arctic, but the ways northerners are engaged should support their capacity for sovereignty. In reference to the statement quoted above, Heather Nicol clarifies, "Here, partners does not just mean consultative but also decision-making capacity" (2013).

The connections between Inuit daily sovereignty and state-centric sovereignty are magnified at Nunavut's lines of transportation, where invasive settler colonially built infrastructure is now paradoxically recognized as a lifeline. LaDuke and Cowen write that, "infrastructure is the *how* of settler-colonialism", yet they also make space for "life-giving" infrastructures (2020, 245, emphasis in original), begging the question of how settler built infrastructure might become life-giving, or alimentary. Building on definitions of sovereignty as a non-state-centric, lived sovereignty expressed primarily through control over decision-making (Barker 2005), I have conceptualized Nunavut's infrastructure sovereignty as the right and capacity of Nunavummiut to shape Nunavummiut-centered, culturally and community-minded infrastructure that prioritizes the needs of local residents in their planning, development, operation and maintenance.

Moving beyond equitable access to infrastructure to align more closely with the established concept of food sovereignty, infrastructure sovereignty speaks to the relational and political authority of a group to determine what infrastructure is for, whom it serves, and how it sustains community life. In framing the concept as such, I build on Indigenous understandings of sovereignty such as those articulated by Leanne Betasamosake Simpson (2017b) as grounded in everyday practice, tied to individuals and their relations to the land and more-than-human community. Through a prioritization of Inuit authority and relational accountability (McGrath 2018), infrastructure sovereignty contributes to a "grounded normativity" described by Glen Coulthard (2014) as it holds the potential to expand place-based practices by relocating authority locally, within communities, through drawing on the experience and capacities of community members.

Infrastructure sovereignty differs from the concept of infrastructural violence (Rodgers and O'Neill 2012) by laying its focus not only on the systems that impede people's lived

relations with infrastructure, but also on the refusals, reuses, and rerouting undertaken by residents, in effect an “infrastructur[ing] otherwise” (Cowen 2020). Yet beyond creating an infrastructure “otherwise” which examines how infrastructure can be built to reproduce “alliance, mutuality and solidarity” (Cowen 2020, 483); infrastructure sovereignty is grounded in aims of supporting local sovereignty through a solidarity that extends past interactions with the infrastructures themselves and reaches into peoples homes and onto peoples plates (or into their hands). Tying in to Indigenous political economy discourse, tracing the influences of runways, airplanes, cargo pricing and shipping back to what people are able to eat on a daily basis highlights the ongoing structural dependency of Nunavummiut on externally controlled infrastructures. As Jobin (2023) argued, settler colonialism not only enabled an economic exploitation of Indigenous people, it also caused the ruin of pre-existing Indigenous economies. This dynamic continues as long as Nunavut’s territorial infrastructure remains geared towards supporting southern imports over exchange in the North’s mixed economy. Examining this dynamic through the lens of infrastructure sovereignty does more than illuminate infrastructure’s failed relations; it attunes to Inuit desires for the futures of their communities in relation to food and transportation.

While infrastructure and logistics are at times mentioned in food sovereignty literature (see, for example, Stead and Hinkson 2022; Tahawa et al. 2025; Wilson et al. 2020), there remains an under theorization of transport infrastructure itself within this discourse, a gap I address through infrastructure sovereignty. I understand infrastructure sovereignty to be a fundamental part of food sovereignty today and argue that embedding the concept in food sovereignty means that Nunavut’s infrastructure must also support the rights to healthy and nutritious, culturally appropriate food that is harvested sustainably and empowers communities while stimulating local economies. It is critical that food sovereignty be understood not as a mere policy or declaration, but as a formulation of a way of engaging with foods and foodways that demands “fundamental social change, a transformation of society as a whole that can be achieved through the vehicle of food and agriculture” (Desmarais and Wittman 2014, 1156).

Just as control over the foods that make up specific foodways is at the root of food sovereignty, control over infrastructure that enables access to these foodways must also be recognized as a precondition for food sovereignty today. By theorizing infrastructure sovereignty as an inherent dimension of food sovereignty, this dissertation contributes to three overlapping fields of discourse: the anthropology of infrastructure (especially infrastructure’s everyday articulations), Inuit and Indigenous sovereignty studies, and research on Arctic foodways. While existing discourse treats infrastructure as a context for sovereignty struggles,

my research recognizes that control over infrastructural decision-making is an articulation of sovereignty in settler colonial contexts. By tracing (transport) infrastructure's influence in the daily lives of Qikiqtani Nunavummiut, this dissertation illustrates the relationships between runway materialities, airline policies, cargo loads and country food. In doing so, I advance our understandings of connections between Northern foodways and infrastructure, most specifically adding to the conversation that transportation must be taken into account when supporting country food, not only imported foods.

Beyond the Arctic, infrastructure sovereignty as an analytical concept helps us understand how Indigenous or other marginalized peoples globally navigate systems imposed on their daily lives while continuously asserting their own priorities. As such, infrastructure sovereignty can be applied as an anthropological lens of analysis to examine how (settler-) colonial power operates through circulation, logistics, and accessibility, and how local agency is found and expressed within these same systems.

5.2. How Transport Infrastructure Builds (?) the Qaggiq Today

Infrastructure in Nunavut has come under increased scrutiny in the contemporary race for Arctic sovereignty, and as my theoretical discussion of sovereignty in section 3 has shown, sovereignty in the Arctic cannot and should not be understood solely from a state-centric perspective, but must center the lived sovereignties of Northerners, especially of Inuit. One key way to support this more inclusive conceptualization of sovereignty is to reorient transport and logistics from simply accessing and delivering to the North, towards infrastructure actively supporting sustainable Inuit foodways.

Transport infrastructure's role in contemporary Inuit life cannot be understated. Throughout my dissertation, I understand transport infrastructure to be relational and political, holding the capacity to have invasive, Wiindigo effects, or Inuit-centered, alimentary influences on a region and population (see also Spice 2018; LaDuke and Cowen 2020; Budka and Amatulli 2025). The socio-material assemblages of these infrastructures shape social relations, local economies, community wellbeing, and imagined futures. This influence reaches into the Qaggiq and wrestles with the Inuit triad – shifting and destabilizing, or anchoring and tending to individual and collective livelihoods in the region. I use the concept of infrastructure sovereignty to show these entanglements with Inuit daily lives. In the following, I combine an understanding of infrastructure sovereignty with McGrath's four dimensions of the Qaggiq model (2018) to examine the role of transport infrastructure in building up or tearing down Inuit-centered spaces based on findings across my four dissertation articles.

A qaggiq is traditionally made of snow and does not require materials or tools brought in from elsewhere. Yet today, Nunavummiut live in houses and apartments of wood, glass, cement, and metal built with the help of bulldozers and cranes, hammers and nails, all of which are imported from other parts of the world. Accessing the land, ice and water by ATV, dirt bike, snowmobile, truck, and boat, requires shipping these vehicles up, fuelling them, and repairing them with parts and tools from outside of the territory. Today, the proverbial qaggiq, as a communal space of Inuit knowledge renewal and wellbeing, is reliant on a vast network of infrastructure services, not least of all, transport infrastructure. I use the Qaggiq model to highlight these interrelations to illustrate not only the connections between infrastructure and access to Inuit foodways, but also to a broader, more all-encompassing Inuit sovereignty.

From its incipency settler colonial transport infrastructure has influenced Inuit capacity to harvest. Runways determined settlement locations regardless of their adequacy or vicinity to hunting regions. Today, as shown in Article 2, larger runways draw more services to settlements, creating larger towns while forcing harvesters to venture further in their quest for country food. As a consequence, most Nunavummiut must rely on mechanized vehicles to hunt and access the nuna, which creates an economic barrier for those who cannot afford to procure or maintain such vehicles, inhibiting their capacity to participate in productive livelihoods. As described in Article 1, many Inuit families lost their dog teams to the RCMP massacre (Lévesque 2011), leading to a break in intergenerational knowledge transmission and engagement with living histories so central to the Qaggiq model.

Homes cannot be built quickly enough to meet the demands of Nunavut's growing population. Seasonal resupply ships and freight planes cannot transfer the mass of materials and fuel needed in communities in the timeframe available to them, slowing construction and renovation efforts (Article 4). The lack of housing impacts all four dimensions of the Qaggiq model as overcrowding undermines individual wellbeing and strains collective relations while limiting space for processing and storing country food to share or turn into clothing and crafts. Outdoor guiding and sports hunting have become increasingly important sources of income for Inuit, yet their activities depend on affordable and timely shipping of vehicles and materials via sealift and airplane cargo, as well as accommodation availability for their guests. Nunavut's housing crisis poses a barrier to the success of these jobs if interested parties are not guaranteed a bed to sleep in, holding the potential for far-reaching economic and material loss affecting all dependents of the guide. Seen through the Qaggiq model, imported housing standards fail precisely due to their current inability to create Inuit-centered spaces, instead displacing relational accountability onto already overstretched social networks.

Marine infrastructure fares no better in its current severely limited state. Of the 25 Nunavut communities, all of which are adjacent to the ocean or a lake, the majority do not have any type of marine infrastructure. This infrastructure gap reflects the federal priority to access settlements while failing to support residents' access to the waters they rely on for food and mobility. The prioritization of southern connections afforded swift importation of services and goods, while limited local infrastructure and limited economic support reduced who had access to the nuna, shifting sharing networks with the introduction of wage labor and regulated working hours.

Today, marine infrastructure is benefitting off growing financial support from federal and territorial organizations (GN, DFO, Transport Canada). Connected to the Tallurutiup Imanga National Marine Conservation Area Inuit Impact and Benefit Agreement, five Qikiqtani communities are in the process of receiving upgrades to their marine infrastructure in the forms of community harbours or docks (Parks Canada Agency 2019). Involved communities are being asked about their preferences and desires related to the extent and placement of the infrastructure, enabling increased engagement with collective livelihoods. As a young woman explained to me in Pond Inlet, she has seen more people take their boats out since their new small craft harbour opened in the summer of 2022. The boats are now better protected from waves and against the rocky shoreline, which effectively brings maintenance costs down, making owning a boat more feasible. Though still reliant on external funding, these marine initiatives exemplify how collective decision-making on infrastructure supports broader Nunavummi collective livelihoods, building up the qaggiq, as it were.

As I emphasize in my articles, country food is more than simply food, it is “soul food” (Caughey et al. 2024) that sustains social networks through sharing knowledge, time, resources, and meat. As one hunter and businessman in Iqaluit explained to me, hunting forces Inuit to engage with their language as they learn to describe the movements of a polar bear, or the sound of the qamutiik on the ice. Through these entanglements, country food becomes more than sustenance for the body, and becomes sustenance for the broader Inuit community as it lights the Inuit triad's *qulliq* and builds up the qaggiq. When these practices are mediated by externally controlled infrastructures, access to country food also becomes mediated. Recalling McGrath's point that “limited access means limited agency” (2018, 315), transport infrastructure's mediocre success in supporting access to Inuit foodways can be seen as a limiting factor for Inuktitut knowledge renewal and Inuit societal wellbeing.

Following interlocutors' practices of harvesting and accessing country food, I show how food insecurity is further produced by transport and subsidy decisions, such as the Nutrition North Canada program or Canadian North's cargo regulations, that prioritize southern commodity flows over country food and Nunavummiut-centered food systems. Currently, federal programs focussed on shipping imported foods north fail to recognize the relationships that are challenged between Inuit and country foods when access to culturally appropriate foods becomes second in rank. Several interlocutors mentioned their trepidation at the thought of leaving home for fear of losing access to their soul foods. Others mentioned during interviews that they used to visit their grandparents in Ottawa and bring them fish and seal, but since the flight prices have risen, these visits have become less regular, leading to disruptions in intergenerational knowledge transfer, opportunities to engage with Inuktitut, and time spent caring for the elder generations.

Nunavummiut expressed their ingenuity in circumnavigating externally imposed regulations to fit their own needs, for example by carrying country food in their own luggage rather than paying the Canadian North's country food cargo rate (Article 1), or by drawing on sharing networks to access ecommerce (Article 3). Such practices enliven Nunavut's sharing networks and acts of generosity towards the common good by accommodating the greater span of social connections across communities that are now almost exclusively reached by air.

Taken together, my four articles show that Nunavut's infrastructures continually reconfigure the *qaggiq*, clearly demonstrating the immersed role of infrastructure in all four dimensions of McGrath's model. Runway parameters, cargo policies, freezer functionality and subsidy structures have influence over how people can reach and engage with their homeland, their opportunities to speak Inuktitut or practice generosity and self-autonomy. As far-reaching as infrastructure's tendrils are, a focus on supporting infrastructure sovereignty as seen from an Inuit perspective holds the opportunity to reconfigure current engagement to strengthen the Inuit triad, and through it, Inuit sovereignty. Collective decision-making on infrastructure supports collective livelihoods through these interconnections. Consequently, when infrastructure sovereignty increases, the *qulliq* flame, a metaphor for Inuktitut vitality through engagement, is also strengthened (McGrath 2018). Infrastructure sovereignty supports engagement, keeping the *qulliq* alight.

In the next section, I discuss possible futures of infrastructure sovereignty as negotiated through frictions and conflicting sovereignties by drawing on initiatives and policies already put in motion.

5.3. Infrastructure Sovereignty Across Communities

Nunavut's runways highlight the temporalities of Arctic infrastructure as examples of Gupta's "future in ruins" (2018). As my articles demonstrate, differential runway design and routing centralize services in hubs and create "frictioned" futures that unevenly shape community development and imagined futures. And yet within discussions around runway development lies what I argue is an opportunity to pay heed to the future musings of Nunavummiut, examining them in comparison to project proposals and development plans to identify points of friction as points of production (Tsing 2005). The tensions between community desires for jet service, in the case of Pond Inlet and Resolute Bay, and the material reality of gravel runways generate new conversations about Inuit "infrastructuralisms" configured to serve Inuit purposes first (Kinder 2023). Furthermore, these frictions illustrate practices of sovereignty in the daily lives of Nunavut's residents as they interact with the territory's socio-material systems. Frictions at points of redirection, sharing, or even resisting infrastructural systems complicate state-centric discussions of infrastructure by adding the dimension of lived infrastructural practice.

Extending beyond a strict examination of transport infrastructure, Ria- Maria Adams and I use our analysis of housing in article 4 to show that transport connectivity alone does not guarantee adequate housing, it is instead much more relational. We argue that the failed relations of housing infrastructure in the North have led to today's crisis. Recalling Foucault's concept of biopower as "the right to make live and to let die" (Foucault 2003, 240-241 as cited in Taylor 2011, 41) which functions through norms rather than laws, the federal government's approach to housing seems to fall into an anonymizing style of care (Stevenson 2014), geared towards serving various demographics, yet failing to recognize the specificity of individual needs and differences between Inuit housing infrastructure and the rest of Canada. This failure can be described as a continuation of settler colonial relations importing housing standards that have violent, deadly effects on Nunavut's population. Connecting back to food sovereignty, insufficient and inadequate housing impact Nunavummiut in their capacity to harvest and store country food due to lack of space in kitchens, cold porches, freezers and sealift pantries. Infrastructural control, then, falls into the category of biopower and is heavily influenced by national biopolitics. Yet recalling Rifkin's (2009) assurance that Agamben's state of exception leaves space for Indigenous control, this same gap leaves potential space for Inuit control over Nunavut's infrastructure systems.

The importance of upholding good relations (L. B. Simpson 2017a) to strengthen infrastructure applies not only to housing, but to the context of e-commerce explored in article

3 as well, which shows that when extra-territorial infrastructure fails to deliver, local systems come into play to adapt or circumnavigate gaps in services. My exploration of Amazon's role in Nunavut complicates binary discussions of infrastructure as "invasive" and "violent" or "alimentary" and "life-giving" to instead focus on a point of friction and reuse (Spice 2018; Rodgers and O'Neill 2012; LaDuke and Cowen 2020). Here, Nunavummiut work collaboratively to ensure each others' access to goods offered on the ecommerce platform. In these examples, Nunavummiut apply an understanding of sovereignty explored by Rachel Qitsualik (2013) and the Qaggiq model to engage in practices of generosity that support collective wellbeing, such as sharing accommodation, credit cards, or travelling with a piece of country food as ones own luggage, using infrastructural services to strengthen their own sovereignty.

Following LaDuke and Cowen (2020), an infrastructure can be "life-giving" in multiple ways, yet in Nunavut, these life-giving capacities cannot operate alone: As illustrated by the examples of Iqaluit and Rankin Inlet in article 2, airports (and harbours) are transport hubs for the exchange of goods and people, but they depend on other infrastructures to support their daily operations. Airports and runways, and harbours and docks, require a high level of skills and technical knowledge to build and maintain safely; capacities that Nunavut does not currently have en masse. Thus, infrastructure sovereignty in Nunavut requires the active participation of residents in decision-making processes as well as the operation and maintenance of these infrastructures by community members over time.

So how can infrastructure sovereignty be achieved in Nunavut? First and foremost, Nunavummiut should have increased decision-making control over infrastructure developments and policy. In order for this to succeed, Nunavummiut must be able to increase their capacity to speak on these topics and work in these areas. In what follows, I provide examples of first steps taken towards supporting infrastructure sovereignty.

5.4. Steps Towards Infrastructure Sovereignty

Many social science publications have documented infrastructure as a mechanism of an ongoing settler colonialism structure (Kauanui 2016). In the Arctic, infrastructure's role in sovereignty claims is especially apparent as it creates the material development of possible futures while consequentially causing the material denial of others (Anand et al. 2018). While Nunavut's dependency on federal funding for its infrastructure budget remains almost debilitatingly high, I nonetheless argue that steps toward infrastructure sovereignty can be taken within this structure. These steps are reliant on good relations between government and

residents based on the concepts of relational learning and accountability described in the Qaggiq model (McGrath 2018).

Infrastructure is infamously a promise that inevitably fails to bring about the “future perfect” (Hetherington 2016), so how does infrastructure sovereignty counteract this tendency? Here, I return once again to the Indigenous political economy indirectly described by the Qaggiq model. By grounding its inquiry and focus in place-based practice and community relations (Coulthard 2014), infrastructure sovereignty centers Inuit livelihoods and wellbeing while navigating the development and maintenance of infrastructures and connected policies. Rather than continuing to approach food sovereignty in Nunavut through individual projects with limited funding, supporting infrastructure sovereignty goes to one of the roots of the problem – a problem that can be addressed and funded across multiple departments, organizations, and jurisdictions: the infrastructure gap (Nunavut Tunngavik Incorporated 2020).

This gap can be addressed not only through increased funding and flexibility of the infrastructures themselves, but also through on the ground capacity building. Although not yet there, the Government of Nunavut is eager to employ community members at all of their airports and works with the hamlets to contract local residents. The training required to maintain runways can now be done on-site, rather than in a central location, or outside of the territory, supporting families who would otherwise be separated for extended periods of time.

Nunavut’s offshore fisheries is currently attempting to restructure their training program to be more accommodating to infrastructural barriers such as limited housing and secondary education facilities, which make continuous training difficult because trainees have to spend most of their year away from home, putting a strain on social relationships. In an effort to combat this, the Nunavut Fisheries and Marine Training Consortium offers courses in Iqaluit, with occasional courses in other Nunavut communities, or Newfoundland and Labrador, depending on the course (Nunavut Fisheries and Marine Training Consortium 2024). The QIA runs a Nunavut Harvester Support Grant Program which offers hunters financial support for small harvesting equipment or grants towards larger equipment, enabling more hunters to purchase boats and snowmobiles needed for harvesting country food. Harvesters I worked with voiced their approval of this program, noting its offer of sustained income has helped them in times of low yield and bad weather, meaning they no longer have to go out hunting in highly dangerous conditions.

In a further development in May 2024, Canada released their new defense policy, “Our North, Strong and Free”, which speaks of creating more “northern operational support hubs” (National Defence 2024). In their policy report, the Department of National Defense commits to building multi-purpose infrastructure in consultation with northern residents that not only fulfills the Canadian Armed Forces’ needs, but also the needs of northern communities “wherever possible” (National Defence 2024, 25). Prioritization of multi-use infrastructure was identified by research participants as one way of having more control over what gets built and how it can be used; the commitment of National Defence on this matter could lead to increased local capacity in communities. While it is unlikely that military infrastructure will ever be in complete control or cater first to Nunavummiut, upping local involvement in planning, building, and maintenance, and being creative with these infrastructures’ multiple uses leaves room for these projects to be truly dual in purpose for defence and residence.

Nunavut’s airports were built for sovereignty and to support access by Qallunaat to the region. Their construction is connected to colonial violence which has resulted in generations of trauma. Over time, airports have become integral to Nunavut’s livability and are important for all residents. Today, airports may be expanded or updated again in the interest of national Arctic sovereignty, offering Canada an opportunity to build aviation infrastructure more attuned to northern needs, the needs of those who call the North home, and who also dedicate their lives to sovereignty. While infrastructure development decisions are technically made at the territorial level, Nunavut remains dependent on federal funding interests for larger aviation projects. Nunavut’s airports are already built and efforts are now focussed on maintenance and repair rather than new construction. However, Nunavut’s marine infrastructure still offers a largely blank slate, and therefor an opportunity to approach their development differently.

Nunavut is still a young territory in a region which has undergone tremendous changes in the last seventy years. The fact that Nunavut’s Inuit-led government, together with its supporting regional Inuit organisations, have initiated and followed through with the process of devolution to regain decision-making control over their territory speaks to their capacity to work together in the interest of territorial and Inuit sovereignty. Within this broader movement lies the question of future infrastructure development. While Nunavut is still dependent on federal payments, NTI, QIA and the GN have implemented processes which ensure Inuit and other fulltime northern residents are asked about their preferences for potential infrastructure, such as small craft harbours. Territorial companies and organisations are working to increase Inuit capacity to fill higher level positions in transport infrastructure related jobs. The transition from infrastructure development directed by foreign needs, to infrastructure development

directed by territorial, local needs, is underway, and brings hope and appreciation along with it, as one resident of Grise Fiord described, "The people here have been very careful to say what they do and do not want. We want this community to survive, but not by any means. Development is a good thing, if you do it right."

The discussed examples offer brief insights into ways aviation and marine infrastructure are being supported in Nunavut. Not every example is directly connected to transport infrastructure itself, but seen from an alimentary perspective, and a perspective of Inuit sovereignty, these efforts do increase Nunavut residents' capacity to participate in various levels of infrastructure development and operation in their territory. Achieving infrastructure sovereignty is challenging in Nunavut, especially given the territory's infrastructure gap and lack of resident certified trades workers compared to other Canadian provinces and territories, as well as the interdependency of infrastructure systems. However, this connectedness also means that making positive changes that align with northerners' sovereignty in one area will have far-reaching effects.

Conclusion

National leaders and corporate stakeholders are turning their gaze upwards, towards the North, each with their own visions of Arctic sugarplums dancing in their heads. While Inuit-centered futures have always been important, clearly articulating what these might look like – and what they do not look like – could sway future geopolitical developments. In this dissertation, I traced transport infrastructure's manifold relations in Nunavummi daily lives to illustrate discrepancies between infrastructure development and the future imaginings of Nunavut's residents themselves. Backed by the ethnographic material presented, I reaffirm my central claim that Nunavut's food sovereignty is inherently dependent on an increase in territorial infrastructure sovereignty. Combined, infrastructure sovereignty and food sovereignty strengthen Inuit sovereignty as a daily lived reality rather than a sovereignty as understood and mediated by the state.

This dissertation advances anthropological understandings of infrastructure as socio-material and political networks of Indigenous sovereignty, illustrating how transport infrastructures mediate everyday relations, imagined futures, and settler colonial power in the territory. My analysis of Nunavut's infrastructure sovereignty shows transport infrastructure's undeniable role in reshaping all aspects of life in the territory, transforming childbirth practices,

education, access to food, mobility, and social networks. I argue that transport infrastructure's role should not be ignored in an analysis of colonial influence on the territory, drawing on McGrath's model to illustrate intertwined impacts. Inuit mobility across Inuit Nunangat is essential to their maintenance of social networks, yet as I have shown, the high costs and limited availability of transportation place hurdles in their movement and connections. Cargo and passenger restrictions impact access to medical care and foods, which have resulted in a kindling of desire among many Nunavummiut for larger aircraft servicing their community. Furthermore, although Inuit preserved their right to harvest and sell country food, I illustrate how the infrastructures thought to support communities often operate against Inuit's sustained access to these foods.

Grounded in my ethnographic work across five communities, I argue that a community's available infrastructure is less dependent on its population size and more determined by outside interests. This reality of infrastructure development in the territory demonstrates the ongoing settler colonial control over development decisions, highlighting Nunavut's infrastructure as "Wiindigo" and invasive in its foundations (LaDuke and Cowen 2020; Spice 2018). While both aviation and ecommerce fall into these categories, I argue that the creative ways Nunavummiut interact with these infrastructures carve out alimentary opportunities within colonial structures, especially in areas where federal programs and local stores fail to provide. In doing so, I attune to Inuit agency and execution of infrastructure sovereignty within the constraints of overarching Wiindigo infrastructural assemblages. Creative interactions and personal preferences discourage homogenizing infrastructure designs, whether that be aviation cargo services, or housing designs.

As my colleague Adams and I argued in article 4, infrastructure failure is simultaneously a social failure. In order to understand this, infrastructure must be approached from the perspective of a socio-materiality that influences and is influenced by daily life (Elixhauser 2023; Ren 2023). Anthropological discourse on infrastructure has recognized this infrastructure as a material limitation of futures (Buier 2022; Hetherington 2016); vessels that encapsulate enticing promises of an ungraspable future (Anand et al. 2018). And yet, infrastructures do maintain a transformative factor for societies, a factor I examined through attuning to points of friction as sparks of innovation and transformation (Tsing 2005). In order to support Inuit-centered infrastructures that can grow from points of friction, infrastructure development must place socio-material discussions of these infrastructures at the forefront of decision-making – a process that should center Inuit in every step. Read through the Qaggiq model and Aupilarjuk's

triad, these Inuit-centered infrastructural practices strengthen sovereignty as relational wellbeing rather than as a solely territorial claim.

Study Limitations and Outlook

This research encountered multiple limitations along its way, some of which relate to my own positionality, which impacted who wanted to engage with me, and in which capacities. The main limitation I recognize in my research is that of the limited involvement of Inuit in research co-creation. This is in part due to my dissertation's relationship to the umbrella project *InfraNorth*, which had already been designed and funded by the time I joined the team. However, my choice to focus on five communities rather than only one further contributed to this, as it influenced the time I was able to invest in building and maintaining relationships within each community. While I was in regular contact with various interlocutors during my analysis and writing, several expressed their limited capacity regarding further involvement with the research beyond interviews and follow-up discussions, resulting in four publications without co-authorship from Nunavut. Being well aware of this constraint, I foregrounded Nunavummi voices in theoretical and empirical discussions. Inuit involvement was not perfunctory; the interests and concerns interlocutors and friends shared with me guided my thematic focus and theoretical analysis.

While not initially envisioned as such, this research has thematically focussed primarily on airstrips, as they were the infrastructure I came into contact with the most during my fieldwork, and the most present in discussions and daily life. However, much is left to be examined about marine infrastructure, a newer infrastructure to Nunavut and therefore open to more Inuit-centered “infrastructuralisms” (Kinder 2023). A study of infrastructure sovereignty based on marine harbours, community docks, and deep-sea ports remains to be done, and is evermore important in the face of climate change prolonging each ice-free season.

Further areas for future research include applying the lens of infrastructure sovereignty to a broader comparison with other Arctic regions and beyond in order to better understand how different methods of control over infrastructure, and different levels of Indigenous or local sovereignty, influence access to country foods/local foods. Expanding to include different types of infrastructure, such as digital or financial infrastructure, could also prove fruitful for this discussion. Closer to home, attending to the long-term infrastructural transformations in Nunavut, such as the development of the Grays Bay road and port project, could help highlight the effects of devolution and varying federal investment on infrastructure sovereignty.

In Closing

Recalling the opening scene about dog sledding presented in the introduction to this dissertation, I am struck by the similarities between the dog hitches and transport and logistics pathways. In Fennoscandia and Alaska, where trees dot the landscape, it is typical to use a gangline or “Alaska” hitch in which the sled dogs are positioned in a row, two-by-two, behind each other. In treeless Nunavut, the fan hitch is used, where each dog is on their own lead and picks their own path. This fan method has proven advantageous on rough sea ice as it allows each *qimmiq* to pick their own path while still pulling, moving forward in synergy. And yet, transport infrastructure in Nunavut is currently more of a gang-line hitch: few options, few transport lines and one or no alternative. As Kunuk and Stevens (2003, 7) put it in their presentation on Nunavut’s transportation system, the territory relies on “long, thin supply lines” covering great distances and creating even higher costs, with no back-up options. What might Nunavut’s transport infrastructure look like if it followed in the tracks of *qimmiit*, widening options to increase strength of the overall network?

Harnessing the imagery of the *qimmiit* once more underscores the alimentary dimensions to sovereignty: Just as *qimmiit* depend on steady access to food, care, and mobility, Inuit food sovereignty depends on transport and food infrastructures that nourish and embolden Inuit ways of living. When aviation routes, cargo regulations and supply chains undermine country food access, they do not simply interrupt foodways; they begin tearing down the *qaggiq* that maintains Inuit wellbeing and supports Inuit futures. Building up the *qaggiq* by recognizing and supporting infrastructure sovereignty in territorial foodways could positively affect overall Inuit sovereignty by locating the everyday as expressions of sovereignty. Sovereignty, like the sprinting *qimmiit*, only remains strong if it is sustained and supported. After all, you can’t eat sovereignty.

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Appendix

This Appendix contains the four articles that make up the empirical material of this dissertation, which were summarized in section 4. The publications are presented in the following order:

Publication 1: Schmid, Katrin. “Transporting Arctic Foodways: The Infrastructure of Food Sovereignty in Nunavut, Canada.” *Food, Culture and Society*, ahead of print, Forthcoming 2026. <https://doi.org/10.1080/15528014.2026.2651494>.

Publication 2: Schmid, Katrin. “Flying into Frictioned Futures: Development of Canada’s Northernmost Runways.” *Anthropologica* 67, no. 1 (2025). <https://doi.org/10.18357/anthropologica67120252702>.

Publication 3: Schmid, Katrin. “Amazon in the Arctic: E-Commerce, Infrastructure, and Alimentary Assemblages in Nunavut, Canada.” *Journal of Contemporary Ethnography*, Ethnographies of Infrastructure, vol. 55, no. 1 (2026): 110–31. <https://doi.org/10.1177/08912416251398435>.

Publication 4: Schmid, Katrin, and Ria-Maria Adams. “No Room in the North: Housing Scarcity as Infrastructure’s Failed Relations in the Arctic.” *Polar Geography*, Transport Infrastructure and Population in the Arctic, December 3, 2025, 1–19. <https://doi.org/10.1080/1088937X.2025.2592134>.

Publication 1

Schmid, Katrin. "Transporting Arctic Foodways: The Infrastructure of Food Sovereignty in Nunavut, Canada." *Food, Culture and Society*, ahead of print, Forthcoming 2026.
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Transporting Arctic foodways: the infrastructure of food sovereignty in Nunavut, Canada

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ABSTRACT

The conversation around sustainable food in Canada's Arctic today is inherently connected to the logistics of transportation. Drawing on ethnographic fieldwork (2022–2025), this research examines how control over Nunavut's transport systems shapes food sovereignty and Nunavut's sustainable foodways, asking whose interests current infrastructures serve and how to strengthen culturally appropriate access to food. Based primarily on participant observation, semi-structured interviews and focus groups, this article foregrounds community perspectives on hunting, sharing, and logistics. While country food remains central to wellbeing, identity, and daily practice, grocery stores are stocked with foods shipped up from the "South." The article proposes reorienting transport toward inter-community connectivity, raising country food cargo priority, investing in year-round freezers, and long-term support for paid harvester programs as infrastructure for sustainable foodways. Ultimately, achieving food sovereignty in Nunavut requires infrastructure sovereignty and collaborative decision-making led by Nunavummiut.

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Introduction

Davidee pushes the door open to a blast of cold air and hands the man waiting outside the Qajuqtarvik Community Food Centre (QCFC) in Iqaluit, Nunavut a paper bag with four turkey sandwiches, four small vegetable barley soups, and some bannock inside. The man nods appreciatively, "Nakurmiik," and shuffles down the stairs as Davidee asks the next person in line how many meals they need. They put me in charge of counting the people who come to the door for takeout meals, those who come in to dine, and the total number of meals handed out for takeout. Today, October 18, 2022, we served around 90 people, takeout and dine-in, and over 400 meals.

This excerpt from my fieldnotes was written during my research in the Qikiqtani region of Nunavut, located on the northeast coast of Canada, west of Greenland, in tree-less permafrost tundra. Roughly the size of Mexico, Nunavut stretches up to some of the highest islands of the northern hemisphere and is populated by around 36,000 people, 80% of whom identify as Inuit (Statistics Canada 2022). The capital city of Iqaluit, on Baffin Island, has around 7,500 residents, around 5,000 of whom qualify as low-income,

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an almost exact correlation to the city's number of Indigenous residents (Statistics Canada 2022). Although part of Nunavut is connected to continental Canada, transportation to and from the territory is limited to air services and shipping, both heavily reliant on diesel. There are no roads connecting the territory with the rest of Canada, and no roads connecting any of Nunavut's 25 communities. Instead, each community is serviced by airplanes, annual sealift, and fuel tanker resupply. As a result of high transportation prices, the average cost of food in Nunavut is the highest in Canada (Nunavut Bureau of Statistics 2018).

The Qikiqtani Inuit Association report on food sovereignty and harvesting states that 70% of Nunavummiut, residents of Nunavut, are considered food insecure (Qikiqtani Inuit Association 2019). While alleviating difficulties in accessing food is of utmost necessity, the types of food provided to Nunavummiut are of secondary concern in programs launched by organizations and regulatory bodies to combat food security (Qikiqtani Inuit Association 2019; Stephenson and Wenzel 2017). At the same time, as amenities and opportunities expand in the territory, the number of migrants originating from "the South," outside of Nunavut, increases.

With the influx of southern lifestyle comes a prioritization of imported foods, that is, food and produce not originating from Nunavut. Due to long transport paths, extreme weather conditions, and insufficient logistics infrastructure to handle temperature-controlled cargo, the majority of imported foods are highly processed, with long shelf-lives and many adverse health effects (S. Z. Gilbert et al. 2025). Food insecurity in Nunavut is not accidental. It reflects decades of infrastructure decisions that systematically prioritize southern commodity flows over local food systems. These decisions have concentrated control over foodways in the hands of profit-focused federal programs and an airline monopoly rather than local, Inuit, communities. As a result, Nunavummiut are now dependent on systems they do not control.

In this article, I examine who has control over Nunavut's transportation systems, and whose interests these systems serve. I place this in conversation with insights and desires shared by research participants around how Nunavut communities can maintain control over their food systems in a sustainable manner, with a focus on food sovereignty rather than food security discourse. I ask, what is the relationship between transportation infrastructure control, food sovereignty, and sustainable foodways in Nunavut?

Transporting Nunavut's food: contextualized colonial infrastructure

Nunavut is a young, semi-autonomous territory that was established through the Nunavut Land Claims Agreement in 1999, a mere 25 years ago (Indian and Northern Affairs Canada and Tungavik 1993). However, the territory has been inhabited for over 1000 years, when the Thule people, early descendants of Inuit, crossed the Bering land-bridge and migrated east toward Greenland, making Inuit Nunangat their homeland (Damas 2002). Today, "Inuit Nunangat" refers to the lands, water, and ice that make up the traditional territories of Inuit across what is now known as the Canadian Arctic, which includes Nunavut. In Nunavut, Inuit moved from igloo and qammaq, to tents and small cabins, to houses and apartment buildings in newly formed villages all within in the past 50 to 60 years – a rapid change in lifestyle, accompanied by demographic and societal shifts (Damas 2002).

The location of hamlets created during the centralization of the Inuit population was not determined by the quality of nearby hunting grounds, but by their access to trading posts and community resupply, in other words, settlement locations were chosen by colonial agents based on their capacity to reach transportation services (Graybill and Petrov 2020; Qikiqtani Inuit Association 2013). These decisions effectively placed Inuit communities in a dependency on these transport infrastructures. The majority of Nunavut villages and towns remain in the same location over sixty years later.

Before being forced to relocate into these hamlets and towns, Inuit lived a largely nomadic lifestyle with mobile hunting and fishing camps which allowed them to follow animals in their seasonality (Bennett and Rowley 2004). However, due to more concentrated, drastic, colonial influence in the region from the 1950s onwards Nunavummiut increasingly gathered in or near settlements for easier trade and employment opportunities, as well as access to southern-style healthcare, federal welfare support, and newly mandatory schooling (Damas 2002). While Damas argues that many Inuit eventually moved into permanent settlements voluntarily, the extent of this volunteerism is questionable when colonial pressures created the need for these moves in the first place.

The presence of settler colonialists across Canada has also forced Indigenous people to reconceptualize their relations to land, at least in a legal sense (Coulthard 2014; Harris 2002; Kushwaha 2013). The Nunavut Land Claims Agreement is the largest Aboriginal land claims settlement in Canada to date. However, 80% of the territory is Crown land owned by the federal government, while only four percent are above and below surface Inuit Owned Lands (Bernauer 2019). Since the land agreement and Nunavut's official separation from the Northwest Territories, much has changed in the governance of the semi-autonomous territory, where multiple levels and reaches of government and knowledge holders are involved in determining what the city, hamlets and territory should look like and act as in the future. On January 18, 2024 Nunavut and the federal government signed the final devolution agreement that will give the Government of Nunavut (GN) management power over land and resources. The devolution process itself, however, continues into 2027 (Government of Canada; Crown-Indigenous Relations and Northern Affairs Canada 2024).

As communities continue to grow today, the required mobility for food procurement is also changing: harvesters are forced to travel further away from their community to hunt or fish. People who used to hunt on foot or by dogsled are now limited in their access to wildlife without an all-terrain vehicle, snowmobile, or boat. Many of the dog teams so integral to Inuit society were slaughtered by the Royal Canadian Mounted Police in the 1950s to 1970s (Lévesque 2011; Qikiqtani Inuit Association 2013). As a member of Amaruq Hunters and Trappers Association in Iqaluit described to me, "Inuit with dog teams are viciously independent." Losing these teams had serious repercussions for families as there were not enough jobs in villages to provide income for food or mechanized hunting equipment and without dog teams, many hunters were unable to provide food for their community, once again increasing reliance on shipped goods and welfare support (Karetak, Tester, and Tagalik 2017; Qikiqtani Inuit Association 2013). It is a testimony of Inuit strength and perseverance that there continue to be hunters who operate with dog teams, alongside hunters with snowmobiles, boats, all-terrain vehicles and trucks.

The centralization of Inuit into fixed settlements based on transportation access rather than harvesting suitability fundamentally reshaped how their food systems could operate. Inuit were no longer free to follow seasonal animal migrations. Instead, they became dependent on bringing resources to fixed locations, straining animal populations nearby. This structural dependence has only deepened with the fixed paths of infrastructure development in the territory.

Theoretical lens: infrastructure and food sovereignty as political systems

Infrastructure is often discussed as a technical network, for example, of roads, digital connections, or knowledge (Ojani 2021); it has also been described as highly relational (Meyer, Maria Adams, and Elixhauser 2025; Schweitzer, Povoroznyuk, and Budka 2025; Star 1999), bringing forth power relations and conflicting interests. Anne Spice identifies settler infrastructures as “invasive” (2018), while LaDuke and Cowen (2020) ask what “alimentary infrastructures,” which are decolonizing and life-giving in their intent, might look like. In Nunavut, transportation infrastructure decisions about shipping or airline routes, pricing, and cargo categories are at their core decisions about food sovereignty and control over foodways; I examine them as invasive, colonial-centered, lifelines for the Arctic population.

In the past decade, the food security movement has increasingly been supplemented by the food sovereignty movement. Gombay (2025) argues that the current food security discourse remains centered on colonial conceptions of foodways, while making invisible the continued settler colonial efforts to alter Indigenous relationships to food and their lands. In this article, I apply the concept of food sovereignty to better understand conflicting foodways in Nunavut, paying specific attention to settler colonial influences. While food (in)security concentrates on insufficient availability of food, food sovereignty discourse examines how local foodways can be strengthened sustainably and in manners appropriate for the cultural context of the region/people (La 2025; Settee 2018). According to the Qikiqtani Inuit Association (QIA), food sovereignty in Nunavut means:

[T]he right to healthy and nutritious . . . culturally appropriate food . . . harvested through ecologically sound and sustainable methods as guided by the Nunavut Agreement and wildlife management regiment . . . [and] the right to access wildlife in ways that empower communities and stimulate local economies. (2019, 7)

As QIA’s definition illustrates, food sovereignty is not achievable through improved access to imported foods and goods alone. Instead, food sovereignty requires communities to have control over systems that afford or hinder access to culturally appropriate foods. In Nunavut, this means having power over transportation infrastructure in communities and along logistics pathways.

The special issue of this journal is based on panel presentations during the 2023 International Migration, Integration and Social Cohesion (IMISCOE) conference on the broad topic of cultural diversity and sustainable food, where cultural diversity is understood as “as a set of practices which are not in the majority in the context under study and which, in the local imagination, are perceived as distant in content from the more familiar habits” (Mescoli 2023). Within the Nunavut context conversations around “cultural diversity” are not

foregrounded. Instead, discourse revolves around strengthening Inuit self-sufficiency and empowering ways of life in line with Inuit Qaujimajatuqangit, Inuit knowledge. Here, the food practices that are seen to require increased support are the traditional foodways of the dominant, Inuit, population. In this context “traditional foodways” refers to hunting, gathering, distributing, and consuming local food and products known as “country food,” following the general methods and conventions practiced by Inuit, beginning at a time before colonial contact and continuing – albeit evolving – into the present (Natcher 2009; Penney 2017).

“Country food,” sometimes termed “traditional food,” refers to foods harvested from the land and waters, eaten predominantly by Indigenous people. These foods are generally harvested outside of commercial food systems, though in Nunavut, harvesters are allowed to sell their catch in accordance with the land claims agreement. Although local, accessing country food today relies heavily on transport infrastructures and mechanized equipment imported from the South, such as snowmobiles, ATVs and boats (Collings et al. 0000 unpublished manuscript). Beyond equipment and harvester mobility, having the capacity to move country food between communities is important because animals follow seasonal cycles as well as specific migration routes. As a result, not all country foods (such as caribou, narwhal, or muskox) are available in every community. Hunting and harvesting are seen as both culturally and environmentally valuable and sustainable forms of food procurement in Nunavut (Carter et al. 2025). Although country foods now make up a lesser percentage of foods consumed in comparison to store-bought foods (S. Gilbert 2023), the importance of country food remains central in Inuit imaginaries (Lamalice et al. 2020, writing in the Nunavik context). Alongside nutritional benefits (Caughy et al. 2024), harvesting country food is an important method of wildlife management practiced by Inuit all over Inuit Nunangat.

Cookbooks (NAC Media and Flaherty 2021; Myers 2012), edible plant guides (Ziegler, Joamie, and Hainnu 2018) and stories (Wachowich et al. 1999) document the rich culinary knowledge of Inuit foodways. Starks (2007) writes about Arctic culinary tradition and variety, neither of which were adequately recognized by early explorers and colonists in the region during their efforts to assimilate the northern populations. Bodirsky and Johnson (2008) and Cyr (2018) emphasize the power of resurgent Indigenous foodways in healing colonial trauma.

In the Nunavut context, food, identity, and questions of control over infrastructure go hand in hand: just as infrastructures define logistics pathways, they also define who has access to which foodways (Canadian Northern Economic Development Agency 2020; Pilcher 2016). Sustainable foodways in Nunavut must be based in food sovereignty and concepts such as reciprocity and measure fundamental to Inuit Qaujimajatuqangit (Karetak, Tester, and Tagalik 2017), in order to provide adequate nutrition without compromising that of future generations (FAO 2025). For this to occur, foodways must be economically viable for hunters and embedded in sharing networks while still aligning with wildlife management principles. Particularly in Nunavut, sustainable foodways require reliable infrastructure systems for their distribution; these then should be controlled by northern communities for true food sovereignty (Penney 2025).

Methods

This research builds on five ethnographic case studies conducted as part of the European Advanced Grant project “InfraNorth” between May 2022 and April 2025 during my dissertation research. I first set foot in Nunavut as a novice to the Arctic, a young, female, non-Indigenous anthropological researcher trained in European and Canadian institutions and critically aware of the heavily colonial hand that has guided my discipline’s research across the world (Smith 2021). My interactions with Nunavummiut were grounded in the concept of “suspending damage” as described by Tuck (2009), asking community members what stories needed to be told (Menzies 2001), and doing my best to tell them honestly in ways that allowed me to return to these communities and be welcomed back.

In May and June 2022, I first traveled to Iqaluit and Pond Inlet to discuss the focus and value of this research with local residents, Inuit organization members, and decision-makers. Upon receiving support from Nunavummiut and passing the ethics review at the University of Vienna, I applied for and received a research license from the Nunavut Research Institute, allowing me to return to Iqaluit in August 2022. With the support and engagement of residents, I was able to conduct fieldwork in five communities in the Qikiqtani region of Nunavut, which vary in population size and density: Iqaluit, Kimmirut, Pond Inlet, Resolute Bay, and Grise Fiord.

Communities were chosen for their interest in the research project, as well as their geographic locations within the Qikiqtani region, differences in population size, and variety of accessible transport infrastructure. My fieldwork stays included a six month stay and four additional short-term visits spanning between one to four months, during which I continued research and discussed my findings with residents involved in this research, as well as the interested public. I spoke with local leaders, politicians, military representatives, students, transient workers, Elders, young mothers, hunters, artists, journalists, and many others. In total, I spoke with around 180 people during informal conversations documented in fieldnotes, and recorded 60 semi-structured interviews (Bernard 2018). Semi-structured interview questions revolved around use of transportation, access to country food and hunting equipment, and desires for the community into the future.

Nunavummiut who participated in this research became involved in a variety of ways: many approached me after I publicly announced the ongoing project on social media, local radio or posters; others were contacted via snowball sampling, and several I contacted directly due to their employment. Interviews were either audio recorded or not based on the preferences of each participants. Additionally, I wrote ethnographic fieldnotes (Emerson, Fretz, and Shaw 2011), and hosted focus groups and future scenario workshops to discuss the importance of transportation accessibility for daily life in communities (Falardeau, Raudsepp-Hearne, and Bennett 2019; Gordon 2021). Focus groups were held with hunters in Iqaluit in November 2022 and Kimmirut in March 2023, during which participants discussed the role of local transportation infrastructures in their access to food. The future scenario workshops were conducted in Grise Fiord and Resolute Bay in June 2023, where I presented multiple scenarios for the community’s future, and participants discussed their plausibility and desirability (Scenario workshops are not discussed in this article, but can be found, for example, in Schmid 2025b).

These empirical methods were supported by my review of academic, policy, and gray literature as well as other publications such as documentary films, social media posts, and newspaper articles. I analyzed the collected data with a qualitative content analysis through inductive analysis of interview transcripts and fieldnotes. With the help of MaxQDA 24, a qualitative data analysis software, I transcribed the audio files from interviews and used thematic coding to focus on seven main themes which emerged during analysis: hunting/food security, transportation, future, operation/maintenance, community/wellbeing, government, climate/weather. These themes guided my writing for this article. All names mentioned are pseudonyms for reasons of anonymity.

In March and April 2025, I returned to Iqaluit and Kimmirut to present and discuss the research findings with involved Nunavummiut, and the interested public. I mailed copies of a report discussing these findings to each community I worked with, and shared the report online in both English and Inuktitut (Schmid 2025a). Twice, I spoke about this research on the local radio station and shared insights about my research with one of the local newspapers, Nunatsiaq News.

Capacity constraints and airline economics

In this section, I illustrate how contemporary infrastructure makes decisions about foodways in the territory. The relationship between foodways and transportation infrastructure is partially described within Pilcher's concept of "culinary infrastructure" (2016), which examines "artifacts, institutions, and media that are used to mobilize and organize food, or to convey knowledge about food." Nunavummiut's culinary practices remain heavily influenced by transport infrastructure services today, especially through control over aviation systems.

Canadian North is the only commercial operator in Nunavut and functions as a monopoly. Although Calm Air services parts of the Kivalliq region, the airline has a codeshare agreement with Canadian North. As a GN employee remarked, in Nunavut, "air transportation is a lifeline but it's also a headache." Mail, food, freight, and people are transported by air all over the territory, but, he continued, "One airline can't keep up." In the past, Air Canada and other, locally owned, air operators have attempted to enter the Nunavut market without success due to the high service costs and low passenger numbers (Nunatsiaq News 2011). The Competition Bureau of Canada is monitoring the situation in Nunavut, yet although Canadian North agreed to conditions after their merger with First Air in 2018, the airline has since reduced flight frequency to communities and raised ticket prices (Competition Bureau Canada 2025; Driscoll 2019).

If Nunavut's population had another transportation option, steep flight fees would be vexing, but perhaps avoidable if one were able to drive or ferry across the territory. There are, however, no alternatives, leaving the population to rely on the aviation industry and federal monitoring to keep mobility feasible. Due to the lack of alternatives, the federal government attempts to counter rising cargo prices with subsidies, which ease access to imported foods, but do little to support harvesters in the territory. A prime example of this is the Nutrition North Canada subsidy program, formerly known as the Food Mail program. The program has been run by the federal government since 2011 to reduce the cost of food and goods shipped from the south to northern territories. As a result,

Nutrition North Canada prioritizes food delivered from southern providers. It is more common to see sugar cane and dragon fruit in Nunavut grocery stores than caribou, seal, or Arctic char. Anthropologists Eleanore Stephenson and George Wenzel explain,

While commercially produced country food is technically subsidy-eligible, the absence of licensed processing facilities in the North means few subsidy dollars go to local foods. Since the program was implemented, country food has amounted to less than one percent of subsidy expenditures (...). (2017, 49)

Although presented as a food security program, Nutrition North Canada is more accurately described as a southern commodity subsidy (Galloway and Li 2023). In effect, southern suppliers profit from northern food insecurity and therefore have little incentive to end it. This systematic structural disadvantaging of northern-centered foodways is also prominent in policy requirements around country food: While Inuit do not need a business license to sell country food, permits are required depending on the contamination “risk” associated with each food (Government of Nunavut 2024). Furthermore, food distributors are required to adhere by federal Canadian Food Inspection Agency policies as well as the Nunavut Public Health Act (Canadian Institute of Food Safety 2024), posing a significant hurdle for businesses and organizations. These policies were created to regulate industrial food systems, yet are also applied to small scale, subsistence-based systems. Without differentiation at a regulatory level, Nunavummi foodways are routinely disadvantaged over southern industrial systems.

Furthermore, air cargo regulations dictate the prioritization of specific goods and people over others. A middle-aged male Inuk consultant and politician explained during an interview in Iqaluit in February 2023,

Because medical travel is highly dependent on airline travel it has taken up a lot of the transportation, and they take priority. And then when we try and look at food, that becomes secondary. That’s why a lot of the food that goes into the community is not fresh, because of that priority. ... We don’t have the transportation requirement to service all the food coming in and going to different communities. We’ve seen a lot of country food go bad that have been sent from other communities, because Canadian (North) cargo handlers cannot handle the amount going through. That aspect of the infrastructure is really missing. You would think along with the medical people, it would be a priority, because food insecurity has always been an issue here in the North.

Medical travel and cargo are rightfully prioritized, yet southern imported foods tend to take second priority over northern country foods, leading those foods to spoil or go missing. As a consequence, families lose access to food for multiple reasons: high costs, compromised exchange through social networks across communities, and often limited nutritional value due to spoilage.

Canadian North does offer land claims beneficiaries a country food subsidy, a flat rate of \$1.31/kg for shipments under 100 kg (Canadian North 2023b). However, for cargo or customers who do not qualify for the country food subsidy, the rates differ drastically: there is a minimum charge of \$46.53 on temperature-controlled cargo (TEMP), as opposed to the country food minimum charge of \$1.31 Canadian North 2023b. A closer examination of pricing revealed that while shipping TEMP from Arctic Bay to Resolute Bay is only \$5.60/kg, the rate from Arctic Bay to Grise Fiord is a whopping \$32.26/kg. There are two crucial factors that determine the discrepancy in these rates:

Firstly, the size of the aircraft servicing the communities, and secondly, the maximum cargo and passenger capacity, or payload, of those aircraft. The connection between Arctic Bay and Resolute Bay, or from Arctic Bay to Iqaluit, is serviced by an ATR-42-300 or ATR-42-500, each with a maximum payload of 10,000 pounds or 4535 kilograms (Canadian North 2024). The route from Resolute Bay to Grise Fiord is serviced by Kenn Borek, an airline contracted by Canadian North, using a De Havilland Canada Twin Otter with a maximum payload of 3,500 pounds or 1587 kilograms (Borek Air Ltd 2021). Larger aircraft are placed on more profitable routes connecting to the South, while inter-community routes depend on smaller aircraft (Schmid 2025b). As a result, it is cheaper to send TEMP cargo from Arctic Bay to Ottawa (\$10.95) than from Arctic Bay to Grise Fiord.

In May 2023, the Nunavik Inuit owned airline, Canadian North, adapted their route plan to increase the number of direct flights to Iqaluit, and from Iqaluit to southern hubs, but with fewer connections between communities (Canadian North 2023a). This contributes to the centralization of Nunavut's population and services in the territorial capital, in direct counteraction to the strategy outlined by the Nunavut Implementation Commission, which strives for decentralization in favor of strengthening individual communities (Rodon 2014; Weber 2014). At the time of writing, if a passenger wants to travel from Resolute Bay to Pond Inlet, they are flown south to Iqaluit, where they have to spend the night before catching a northbound plane to Pond Inlet the next day. As a result, Nunavummiut have to spend money on accommodation as well as traveling for a minimum of two days as opposed to one day with multiple, shorter, stops between communities on the way. During an interview at the Nunavut Research Institute in Iqaluit, a middle-aged Inuk man illustrated some of the difficulties this creates,

Last year when there was a dog team race in northern Baffin from Pond [Inlet] to Igloolik, they were going to do celebrations in Igloolik once the dog teams came in. So, all these people were trying to travel: the relatives, the media, people who wanted to watch the dog teams, and on top of that all the medical people trying to get in, and then people who are trying to get home. One of my buddies was stuck for 19 days here [in Iqaluit] trying to get to Igloolik because he had no seat available because of all those people going up. That can be really expensive if you don't have a social network where you're stuck.

The current airline routes are designed to centralize services in Iqaluit and Rankin Inlet, and maximize passenger count per flight, rather than connect communities. Reaching urban centers is more efficient, yet inter-community travel has become less efficient and more expensive for travelers as a result. Northern routing plans make the effects of transportation as a political system apparent in the daily lives of Nunavummiut.

The schedules rerouting flights through Iqaluit also affect the distribution of country food. While some may view the mandatory lay-over in Iqaluit as a chance to share country food with family and friends in the capital, the decision also presents challenges: Most country food is meat and needs to remain frozen, while Iqaluit's freezer space is notoriously overflowing. Beyond social networks and the practice of sharing rather than selling country food (Searles 2016), the geographic availability of animals requires the gifting and receiving of country food across the territory. As one young hunter and father from Pond Inlet described to me during an interview in March 2023, "When we try to

ship out country food, sometimes they disappear. They are delayed or lost before they get to communities. Canadian North is the only airline now. Country food starts going bad before they get to our communities.”

Many people speak of loss of appetite and negative effects on their mental health if they are unable to eat country food for extended periods of time. When cargo services prioritize food shipments from south to north, and let country food spoil, families are directly impacted: financially, socially, and nutritionally. The structurally-induced failures of transportation infrastructure systems to adequately address and respond to food insecurity and support sustainable foodways in Nunavut adversely affect Nunavummiut wellbeing, weakening their food sovereignty.

Why infrastructure matters for country food

Numerous studies have shown the value of country food goes beyond that of nutrition (for example Carter et al. 2025; Caughey et al. 2024; Trott and Mulrennan 2024). Country food, or “*inuksiutininik*” in the South Baffin dialect of Inuktitut, is more than foods from the land and waters of Nunavut, it is a nourishment for the body, something the body “craves,” as many interviewees explained to me. When hunting or eating country food, people’s connection to Inuktitut is strengthened, which in turn strengthens their understanding of Inuit Qaujimajatuqangit, helping them to live a healthy and balanced life. During interviews, interlocutors emphasized the role country food plays in their daily food consumption, life-decisions, and the mental health benefits of hunting and sharing. A female hunter spoke to the regularity with which some families consume country food, and their dependence on it not just to fill their stomachs, but to enjoy as “such a big part of [their] lives”:

Yesterday we had a bite of caribou, frozen, and today he cut up seal meat that we’re going to enjoy after. If we could, we’d eat it every single day. But if we’re running low, it might be two to three times a week. I can’t imagine less than that. It’s just such a big part of our lives. (Interview with female hunter, Iqaluit, February 2023)

Another Iqaluit hunter and businessman described the importance of hunting as an everyday practice for knowledge renewal and language revitalization, an aspect of food procurement not present while grocery shopping:

Riding on a sled with your dog team, the sound it makes, they all have different names. The immense vocabulary of owning your hunting dog team went with the dog slaughter. And that’s the most effective and insured way of passing the knowledge down so each family can have a food at their table and at the same time carry on the wonderful practice of sharing the catch. Going out hunting is the most effective way. (Interview with member of Amaruq Hunters and Trappers Association, Iqaluit, July 2023)

The last quote illustrates the participant’s hesitation to pursue secondary education at the thought of no longer having access to country foods and speaks to the strong connection between harvested food and being home:

Sometimes I’m even scared of going to college down south because I grew up eating mostly country food, what if I lose my appetite and can’t eat anymore? Because I can’t just eat anything, I have to eat country food. I can eat a lot, but a couple months later my appetite drops down and I don’t want to eat anything. [K: If you’re not eating country food?] Yeah.

Since I can remember I've been eating country food. (Inuk female high school graduate, Pond Inlet, March 2023)

Other interviewees emphasized the mental health benefits of family hunting camps, or the fact the sharing food makes it “last longer” as well as making you feel good. In its multiplicity, country food is far more than something to fill one's stomach; it is an anchor of Inuit knowledge and social experience, at the heart of Inuit food sovereignty.

According to the findings of the 2007–2008 Inuit Health Survey, residents of Nunavut want to consume more country food (Egeland 2010). Yet, based on discussions with harvesters, the current cost to hunters to harvest one pound of country food is around \$100. As an Iqaluit hunter explains, “Hunting is not cheap. We could spend upwards of \$200 for a few days' camping trip, just on fuel. And then grub, warm clothes, and whatever else we might need.” This is further emphasized by a middle-aged female Inuk hunter and businesswoman from Iqaluit, who described,

The boat, outboard, the skidoo, the four-wheeler, the guns, the ammunition, and then the fuel and food to go out with for that long. If you're going to be going out like approximately a week to two weeks, it's going to cost you a minimum of \$5,000 just to go out there. That's how much it costs. It's not cheap to be out there.

The cost of harvesting has risen and is now the most common barrier to getting involved in hunting, hindering food sovereignty practices (Qikiqtani Inuit Association 2013; Quintal-Marineau et al. 2019). One of the main costs for contemporary hunting is that of fuel – a cost induced by the reliance on machinery rather than dog sleds. Nunavut Tunngavik Incorporated partially offsets fuel costs through their “gas voucher” program, however, vouchers are not distributed regularly and thus only have limited impact.

Food sharing networks are integral to country food distribution (S. Z. Gilbert et al. 2025; Trott and Mulrennan 2024). However, as centralized wage labor and educational opportunities incentivize people to move from their home communities to urban centers, many Nunavummiut are removed from their social networks, arriving in Iqaluit or Rankin Inlet without the social relationships to access country food. Residents who are not able to go out harvesting themselves are reliant on food sharing networks and country food stores. Iqaluit once again has a country food store, this time connected to QCFC, with flexible pricing dependent on income. However, most communities lack country food stores, and local grocery stores seldomly sell country food. The majority of country food sold today is advertised and purchased via social media. While residents are able to purchase country food online, if they can afford it, this does not integrate them into a social network that allows them to join hunting activities themselves.

One story shared by Amka during a lunchtime chat in Iqaluit illustrates how essential social integration and family ties are to accessing country food. Amka recalled to me that her family used to get country food every day through their social network while her mother was still alive. Everyone knew her mom, and everyone brought her country food, even from places she had never been herself: She got mussels, seaweed, and fish from Nunavik, while caribou, seal, and whale were also sent regularly. Amka laughed as she recounted the time her mother was sent half a bowhead whale tail, which resulted in them hosting a “whale tail feast” here in Iqaluit. Everyone used to go to her mother's house in the evening for country food, and on Sundays it was just the family. Amka shrank visibly

into the couch as she explained that since the passing of her mother, people do not come anymore, and the family does not receive country food anymore. “People don’t see each other anymore when there isn’t country food to share,” she tells me.

Another woman shared her experience during an interview at the Nunavut Research Institute. She highlighted the importance of social networks in her access to country food, and relatives’ access to bulk dry goods:

Like my family, I have a brother in Pond, and they go seal hunting quite a bit. They’ve been sending me seal meat through someone who’s traveling down either for medical or work. Same thing from Cape Dorset, where my sister is from, and from Coral, where my other sister is from. Just last week, my niece was passing through from Kimmirut, she passed me a couple of ptarmigans. In return, I send them dry goods. Not necessarily country food, but staples like flour, sugar, cereal, pasta, pasta sauces, you know, things that will last a while in bulk. Because they have no food banks in the communities. My family struggles with no jobs, no employment, no income, and the food’s so expensive in the communities. So, you know, we help each other out in that way. (Middle-aged Inuk mother, Iqaluit, February 2023)

Food sharing systems function best within social networks where people know each other and are able to visit regularly (Collings et al. 0000 unpublished manuscript), yet the regulations of Nunavut’s transportation systems pose barriers to this practice. Once again, Nunavut’s transportation takes on a political dimension as it decides who stays connected with whom, and who has access to which foods.

A guided conversation with a group of young coworkers based in Iqaluit articulated the relationship between hunting, country food access, and social network integration:

K: Ben, you were saying you have a skidoo and ATV you can use in [Pangnirtung]? Can you go out here [in Iqaluit] at all? Ben: I got nothing to use back here, so I don’t go hunting here. Only when I go to Pang. Lisa: No hunting partners. K: If you had a hunting partner would you be able to go? Sam: I don’t enjoy as much as I was a kid. Jay: If somebody asked me, I’d go. K: That’s interesting about hunting partners. Why don’t you enjoy it as much? Sam: I don’t know. Used to be fun as a kid. Ben: It’s still fun. Lisa: You’re a city boy now! [laughs] Yeah, hard to get by when you don’t know any hunters. Sam: And if you don’t have any type of transportation.

When infrastructure erodes social networks, hunting becomes nearly impossible for those without knowledge of the area or the money to purchase and maintain their own equipment. Importantly, the above conversation goes beyond identification of barriers to hunting and highlights young adults’ continued interest in harvesting.

Yet even those who have access to equipment, regular funding, and social networks encounter challenges in distribution or acquisition of country food. Freezers are an important piece of infrastructure in Nunavut’s sustainable foodways, but are not funded as such. During my visits to Pond Inlet over the course of two years, the freezer broke twice, and was never in service while I was there. Nor are airports equipped to handle the volume of TEMP cargo Nunavut’s sharing networks demand. Consequently, country food goes to waste and families lose both food and money. Prioritizing the installation, maintenance and repair of freezer infrastructure in Nunavut’s transportation logistics lines and Hunters’ and Trappers’ Organizations could prove as highly beneficial for Nunavut’s food sovereignty.

The stories of infrastructural breakdown and unreliability are nothing new to Nunavummiut. The stores rarely run out of food entirely, however staples such as fresh produce, milk and eggs cannot be replenished if freight does not arrive. As people told me, there is nothing they can do about it, they just have to “wait”; and they eat country food. Eating country food, an older resident explained to me in Grise Fiord in April 2023, is what allowed them to survive in the High North. Country food is what is still available when southern industrial food and transportation infrastructure breaks down. While current transportation infrastructure is fragile, its structure still manages to destabilize territorial food sovereignty.

Food sovereignty-centered infrastructure

During a conversation over dinner in March 2023 a hamlet employee from Kimmirut noted, “I mean, you want to support food security in Nunavut? Great. How are you going to get it here? Food and transportation go hand in hand, even country food.”

Investing in community capacity building is a foundation for strengthening Nunavut’s communities and improving their access to harvested foods. As Dominic, a resident of Pond Inlet, explained to me from behind his desk in March 2023, “I think we need more certified electricians, freezer technicians, plumbers. We need all the trades to help build this community, and to help fight food insecurity, because education is the key to fight food insecurity.” In this instance, people are seen as part of the needed infrastructure to maintain and develop sustainable foodways.

Sustainable foodways require flexibility and balanced networks of relations with which to imagine and work toward various futures. While the above comment refers to training for trades employment, capacity building is equally relevant for Inuit Qaujimagatuqangit. In this excerpt from my fieldnotes, I reflect on the life of Atanarjuat, a young hunter and adventure guide outfitter, who taught himself how to lead a dog team in part by watching YouTube videos of Greenlandic mushers:

I think about how ‘viciously independent’ he is with his dog team. In his late teens, when he was just starting his team, he lived solely off country food and food sharing networks in the community. He went out hunting every single day, because he had to. He had no money to afford dog food, so he had no choice. And because he was out hunting all the time, he couldn’t do any other jobs to make money, so he had to hunt for his own food because he had no money to spend. His perseverance and intelligence pulled him through this period and now he has his own outfitting business and is becoming one of the wealthiest residents of his community. (From fieldnotes, June 2023)

Today, Atanarjuat continues to share his catch and his voice, advocating for acceptance of Inuit harvesting lifestyle and foodways. He hunts for his dogs, for himself, and for his community. He has since expanded his operations to include guiding and sport hunting, a welcome source of income which relies on tourists access to the community. As a member of the Qikiqtani Inuit Association’s Nauttiqsuqtiit salaried hunters’ program (Jamal 2023), Atanarjuat has a reliable income even when outfitting is slow. Over the last two years, he has become a friend and mentor to another young man in the community, who now has his own dog team and hunts regularly.

Atanarjuat’s success has many reasons, yet it is undeniable that his access to food sharing networks without economic burden and his capacity to draw on Inuit knowledge

supported his development into a *qimuksiiti*, or dog sledder. Food sovereignty, transportation and sustainable communities are inextricably intertwined in Nunavut, each one necessitating the other. Furthermore, improving the economic viability of hunting by providing fulltime paid positions and subsidies for hunters rather than southern suppliers could allow more Nunavummiut to contribute to country food systems. When framed as a step toward territorial food sovereignty, long-term support for such programs and initiatives on the community level can be seen as public investment in the infrastructure of sustainable foodways.

Discussion and conclusion: rerouting Nunavut's food sovereignty

Transport infrastructure currently servicing Nunavut incentivizes flows from South to North in its pricing and route selection, discouraging inter-community sharing and travel beyond the urban and infrastructural centers of Iqaluit and Rankin Inlet. Cargo priorities set by Canadian North decide which foods arrive fresh, and which foods spoil, while regulations for food processing limit distribution in the North. Infrastructure and their regulations are highly political, influencing the possibilities of daily life. Southern suppliers and the monopoly airline profit off of these structures, while the predominantly Inuit population remains dependent on federal subsidies and programs. This is not a new development, but rather a continuation of settler colonial control over foodways, social networks, and knowledge systems (LaDuke and Cowen 2020; Spice 2018). Having the legal capacity to harvest is inadequate if the infrastructure meant to support communities works against their sustained access to harvested foods. Understanding the political role of transportation systems is vital to the food sovereignty movement in Nunavut, because only then can unequal control and access be recognized and mitigated.

Infrastructure directed at serving Nunavut's sustainable foodways should refocus on inter-community connectivity rather than routing everything and everyone through the capital. Adapting cargo prioritization to raise country food above southern imports would help prevent spoilage and lower the risk of financial loss within country food sharing networks. While many people today send country food along with a passenger to ensure TEMP cargo is transferred onto the plane, raising country food cargo priority would reduce the risk of these packages getting lost or going bad when sent without an escort. Investing in the year-round operation and regular maintenance of community and airport freezers would further reduce spoilage of harvested foods. As can be seen in the successful Nauttisuqtiit community harvesters' program, creating permanent, full-time paid positions for hunters encourages participation and removes economic barriers for Nunavummiut to engage in harvesting and sharing practices.

As this article has shown, infrastructure decisions are simultaneously decisions about power: who has control over which systems, whose mobility, which futures, and which foods? Transport infrastructure is not simply about moving goods and people from A to B, it is intensely political and determines the viability of foodways (Penney 2025; Pilcher 2016). The placement and function of these infrastructures historically has led to the continued dependence on southern foods and federal programs to this day. Current infrastructure systems concentrate on sending southern foods northwards to Nunavut's communities, focusing on food security rather than food sovereignty. While feeding Nunavummiut is the

absolute priority, ensuring food quality and sustained community health should also be at the forefront of such decision-making.

There is a strong desire among Nunavummiut to have access to country food protected, improved, and ensured for future generations. They also recognize that to have control over what foods they can afford to eat, they need increased control over the systems shaping food access today. A collaborative approach between decision makers and Nunavummiut focused on how air services can further ease hunters' ability to go harvesting, and which concrete measures airlines can take to further engage food sharing networks across the territory, may be an opportunity for both communities and the transportation sector to build capacity. As the interview excerpts in this article have shown, Nunavummiut believe strongly in the importance of country food for quality of life in Nunavut; they also enjoy and rely on food imported from the South. Following Inuit Qaujimajatuqangit epistemology, removing barriers for people to access healthy, culturally appropriate food on a regular basis is a crucial step to ensure community wellbeing (Akearok, Katheryn, and Mearns 2024; Karetak, Tester, and Tagalik 2017).

Sustainable foodways in Nunavut require community participation, and therefore support for various forms of community engagement. As such, food sovereignty requires infrastructure sovereignty to strengthen the community in its entirety. Hunting or eating country foods are in no way practices of the past. As the young hunter and adventure outfitter's story shows, supporting harvesters can mean not only ensuring people have good food, it can also mean enabling young residents to become viciously independent once again.

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Publication 2

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Flying into Frictioned Futures

Development of Canada's Northernmost Runways

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Abstract: In Nunavut, Canada's largest, youngest, and northernmost territory, gravel, asphalt, and concrete determine much of daily life. Airport runways' materialities dictate the types of aircraft that can land in each of the 25 fly-in communities and with them the cargo-carrying capacity, passenger mobility, and frequency of intercommunity connections. The last jet capable of landing on gravel was recently phased out of commercial service in Nunavut, a move that further limits access to communities and works counter to desires voiced by residents to increase jet access. Temporality, an immaterial concept, becomes intimately articulated through the physical realities of transport infrastructure in Nunavut. I examine the interplay of residents' imagined futures for their communities and the on-the-ground reality of developing, operating, and maintaining gravel and paved runways in Nunavut as points of friction, following Anna Tsing. I argue that the divergent development of communities can be partially attributed to the accessibility of transport infrastructure in each location. In conclusion, I question the idea of infrastructure as a promise of a "future perfect" (Hetherington 2016) and attempt to refocus the processes of Nunavut's transport infrastructure development onto Nunavummi-centred solutions.

Keywords: Canadian Arctic; transport infrastructure; materiality; friction; future; Nunavut; aviation

Résumé: Au Nunavut, le territoire le plus vaste, le plus jeune et le plus septentrional du Canada, le gravier, l'asphalte et le béton déterminent en grande partie la vie quotidienne. Les matériaux utilisés pour les pistes d'aéroport définissent les types d'avions pouvant atterrir dans chacune des 25 communautés desservies par avion, ainsi que la capacité de transport de marchandises, la mobilité des passagers et la fréquence des liaisons

intercommunautaires. Le dernier avion à réaction capable d'atterrir sur du gravier a récemment été retiré du service commercial au Nunavut, une décision qui limite encore davantage l'accès aux communautés et va à l'encontre des souhaits exprimés par les résidents qui souhaitent augmenter l'accès aux avions à réaction. La temporalité, un concept immatériel, s'articule intimement avec les réalités physiques des infrastructures de transport au Nunavut. J'examine l'interaction entre l'avenir imaginé par les résidents pour leurs communautés et les réalités concrètes du développement, de l'exploitation et de l'entretien des pistes en gravier et en asphalte au Nunavut comme sujets de discorde, à la suite d'Anna Tsing. Je soutiens que le développement divergent des communautés peut être partiellement attribué à l'accessibilité des infrastructures de transport dans chaque endroit. En conclusion, je remets en question l'idée que les infrastructures sont la promesse d'un « futur parfait » (Hetherington 2016) et tente de recentrer les processus de développement des infrastructures de transport du Nunavut sur des solutions centrées sur les Nunavummiut.

Mots clés : Arctique ; infrastructure de transport ; matérialité ; friction ; avenir ; Nunavut ; aviation

Introduction

There are fifteen of us at the gate, a tucked-away area with two rows of seats and a small glass door leading out to the airport apron in Iqaluit, Nunavut. We have grown accustomed to each other over the past four days. I am the only Qallunaaq, or non-Inuit person. Everyone else is from Kimmirut: young families who were travelling for medical care, two young men who were visiting relatives, and a university student visiting home from Ottawa. Everyone is eager to make it this time. At this point, Kimmirut has not had a grocery delivery in six days. Milk and other staples ran out. Medication sits, boxed and cooled, waiting to be delivered in the next possible window. Today we have blue skies and low winds, a promising end to a turbulent week. In Nunavut, flying from one community to another is not simply a matter of booking and catching the flight. In this territory of the Canadian Arctic, aviation is the reason many of these communities exist, and it is one of the reasons people decide not to stay.

Kimmirut, formerly Lake Harbour, is one of Baffin Island's oldest settlements. As was common in the fur trade era, Kimmirut was established as a trading post for the Hudson's Bay Company in 1911, the first in the region. Today, according to Statistics Canada (2023), the community hosts a population hovering around 430, with many residents moving to the nearby territorial

capital, Iqaluit. Iqaluit was originally the site of a popular Inuit summer fish camp and is now a city of around 7,500 inhabitants, largely due to military aviation infrastructure investments (Statistics Canada 2022). As I will argue, the divergent development of these two communities is not uncommon in Nunavut and can be attributed to the accessibility of transport infrastructure in each location.

In this article, I examine how the materiality of transport infrastructure influences not only the present lives of residents in Nunavut communities, but also their desires for the future. I give a short introduction to the importance and transformation of transportation in Nunavut before delving into the specificities of materiality, infrastructure, friction, and temporality for the purposes of this article. To better understand the context of my work, I provide a brief description of my methods and field sites before moving to a discussion of first gravel, then paved runways in Nunavut. In the second half of this article, I zoom out from the material makeup of runways to consider the importance of these airstrips for Nunavut residents in the future development of their communities. In conclusion, I question the idea of infrastructure as a promise of a “future perfect” (Hetherington 2016) and attempt to refocus the processes of Nunavut’s transport infrastructure development onto Nunavummi-centred solutions.

Importance and Transformation of Transportation in Nunavut

K: Would you consider sea ice a type of infrastructure?

S: Only seasonally, only in winter, where we use it for our highway. Actually, in winter, we’re more mobile on the land, even inland, because we can skidoo anywhere. Where during the summer, we’re pretty much confined to the coast. A lot of us can’t go inland because there’s no infrastructure to go inland. Nor do we have the vehicles to be able to go inland. Even four-wheelers, you can only go so far because of the rivers, all the rivers and lakes. Four-wheelers can’t go through that. And often it’s very rough, that’s not feasible either. ... But in winter, anywhere there’s ice or there’s snow, you can pretty much go anywhere. So, we have more freedom in winter. It’s our highway in wintertime. (Simeonie Akpalialuk, Iqaluit, February 2023)

Movement, dynamism, transformation, nomadism, mobility, and transportation are all at the core of successful life in the Arctic (Inuit Circumpolar Council - Canada 2008). Today, the majority of Nunavut residents

live a sedentary lifestyle in one of 25 communities in their territory. Over the last sixty years, the territory has undergone a rapid transition from igloos, dog teams and nomadic hunting to apartments, airplanes and wage labour (Damas 2002). Nunavut itself was established through a land claims agreement (NLCA) in 1993, overseen by what is now known as Nunavut Tunngavik Incorporated (NTI), the Inuit-led non-profit corporation responsible for administering the NLCA. Today, the territory has its own legislature and territorial government, the Government of Nunavut (GN). While modes and reasons for travel have shifted over these decades, mobility and transportation remain at the heart of life in Nunavut. Today, hunters and harvesters are reliant on their ability to travel in search of animals; students and trainees rely on their ability to access necessary educational institutions via airplane. Mothers fly to Iqaluit or Ottawa to give birth, while family members visit their elderly in care facilities down South. Social networks that were once maintained throughout Inuit Nunangat (the Inuit homeland) are now facing challenges due to the cost and availability of transportation.

Nunavut is not connected to the North American highway network; there are no roads between communities or to Nunavut. Instead, travel and transport to and from the territory runs via aviation or maritime routes, the former affected by extreme weather and fuel cost, the latter by sea ice coverage. At the same time, thanks to infrastructural developments, a greater variety of products can be circulated throughout the territory via sea lift, air freight, or snowmobile. Airplanes initially landed on ice runways or on sandbars near communities, but upgrades, increased use, and the now fickle Arctic climate solidified today's predominantly gravel airstrips. Distances that used to be crossed on foot, by dog team, or kayak can now be covered in a shorter amount of time, benefiting local economies, tourism, and medical services, as well as increasing the accessibility of higher-level education opportunities. Despite these beneficial effects of colonial infrastructure, the discourse around transport infrastructure in Nunavut has only recently brought concerns of proposed development projects' local use and value to the forefront of decision-making, alongside the possible economic and politically strategic opportunities.

Materialities and Temporal Imaginaries

According to Daniel Miller (2005, 2), the current focus on materiality has centred our relationships with the material world as a "driving force behind humanity's attempts to transform the world in order to make it accord with beliefs as to how the world should be." Materiality is discussed as transformative, affective,

“vibrant” (J. Bennett 2010), and an act of resistance when materiality is denied or altered in its realization (Kinder 2023). Throughout life, we constantly navigate changes in materiality around us and influence those changes ourselves. In this relational process, materiality is formed to create objects, structures and spaces we might identify as the built environment. Infrastructure is one expression of the built environment, one expression of materiality.

One of the most important materials for travel and transportation in the Arctic is sea ice. As Simeonie describes in the previous section, the sea ice is “our highway.” While his words are undeniably true, this is not the type of infrastructure I have chosen to concentrate on here. Instead of following infrastructure carved into or onto naturally occurring, elemental landscapes, I am interested in anthropogenic infrastructure made of conglomerate materialities: a mess of materials that together create something unnatural, new and altered in the landscape. Due to the central importance of aviation in the North, I have chosen to concentrate my discussion on airport runways, or airstrips in this article. Following Brian Larkin, infrastructure is a network facilitating flows of matter, information or ideas over space (2013). Anne Spice writes of the colonial process behind the development of oil and gas pipeline infrastructure on Indigenous lands (2018), an infrastructure not present in Nunavut, yet Spice’s critique of “infrastructure” is valid in the northern context, too. As a middle-aged Inuk¹ woman told me in Iqaluit,

“You would never think that we have such a great background of great travels. But the system put it so that we no longer travel. That we are now dependent on this fuel, fueled airplanes. Whereas before everything existed, they walked. Dog teamed. Travelled by boat. Not one mechanical thing and they travelled throughout the North.”

Her reference to “the system” illuminates the connection between locally lived transformations and global processes such as capitalist expansion, fossil fuel dependency, and the use of infrastructure as markers of nationhood and sovereignty. Today, Nunavut’s airports are considered a lifeline, delivering people, medical services, food, water, goods, and building supplies. The territory’s airports function like the legs of a table: each one must stand alone to uphold the entirety, and without one, the whole system shifts and may collapse. The instability of Nunavut’s transport infrastructure is also an instability in Nunavummiut’s² access to daily necessities. As a lifeline, the ways aviation functions in Nunavut help determine the opportunities and restrictions of daily life. The materiality of the airport, the runway, and the airplane influence how

aviation is organized and connected in Nunavut, consequently shaping the ways life can be lived now and in the future. While aviation infrastructure was built with a colonial agenda, and Nunavummi livelihoods have been irreversibly altered by their development, aviation is now integral to northern life, albeit not completely accommodated to northern realities.

Akhil Gupta suggests examining infrastructure through the lens of “infrastructural time,” a time that is dynamic, as though following the lifetime of a living being through its processes (2018). Just as with living beings, infrastructure is never at any point “complete;” it is simply at the stage it is at in that given moment. The temporalities of infrastructures differ drastically depending on their materiality, intensity of use, and ecosystem suitability. Infrastructures’ temporalities, their “relationship[s] to time” (Bryant and Knight 2019, 9), are largely determined by people who design and use them. Notably, transport infrastructures partially reciprocate this determination, as they determine many of the paces of our daily lives, enabling and restricting our movement. Furthermore, infrastructure is commonly discussed as a material development of possible futures, and as a consequence, the material limitation of futures (for example Anand, Gupta, and Appel 2018; Buier 2022; Hetherington 2016). By building one future, other futures remain imagined.

How then, do certain futures come into being while others do not? I use temporality and materiality to think through Nunavut’s airport runways as sites of friction both metaphorically and analytically in the sense of the physical force and in the sense evoked by Anna Tsing in her study of global interconnections, which she situates in the “sticky materiality of practical encounters” (2005, 1). Her conceptualization of global encounters describes a dynamic wherein, at any point in time, there are forces that strive for continuity and forces that strive for change: together, these forces interplay at points of friction (Tsing 2005). Friction creates movement, motion: physically, for example, as airplane wheels spin on gravel, snow, or pavement, and metaphorically in the creation of ideas, policies, or agendas.

Throughout Nunavut’s history, desires for continuity and change have gone hand in hand: Inuit leaders mobilized frictions to create the NLCA and ensure continued representation of Inuit knowledge, rights and ways of life. Historically, Inuit involvement in the trade system created both the necessity and a desire for foreign goods such as firearms and bullets, which in turn supported harvesting activities and families. During the colonially induced creation of federally administered communities in Nunavut, imposed mandatory schooling

created a desire among many Inuit to live in these communities, close to their children, to continue their role of mentoring younger generations in Inuit Qaujimajatuqangit (IQ)³. Today, long-distance mobility is largely restricted to aviation dependent on fuel, aircraft and runway infrastructure, but necessary for travel to other communities or outside of the territory. The social mobility of many Inuit, combined with the centralized development of administrative and medical services in Iqaluit and Ottawa, means Nunavummiut have needs and expectations towards aviation that do not always align with the current services. Within this context, I examine Nunavut residents' desires for the future to ask: If infrastructure is seen as a material development of possible futures, how can these points of friction be utilized to create aviation infrastructure more attuned to Nunavummi needs?

Methods and Fieldsites

I conducted ethnographic fieldwork in five communities of Nunavut's Qikiqtani region from August 2022 to December 2023. My first visit to the territory was in May and June 2022 to discuss my project idea with local stakeholders in an effort to align our interests. The research for this article was conducted as a subtheme of my overall dissertation topic on the role of transport infrastructure in Nunavut's food sovereignty, which is embedded in the ERC Advanced Grant project "InfraNorth." My focus on food sovereignty emerged through discussions during my preliminary fieldwork. My lens on runways derives from my personal experience travelling between communities and realizing the drastic differences between local infrastructures and their effects on everyday community life. This research is licensed by the Nunavut Research Institute, whose employees guided me throughout my fieldwork.

Over a period of around one year, I spent most of my time in Iqaluit and made two trips each to Kimmirut, Pond Inlet, Resolute Bay and Grise Fiord, all of which are fly-in communities. Iqaluit, established during World War II, is the largest settlement in Nunavut. The communities as they exist today were created through colonial involvement, for example, through trade, residential schools, resource prospecting, or military interests, as was the case for Grise Fiord and Resolute Bay during the forced High Arctic relocation. While they vary in size and topographic accessibility, all airstrips in the Qikiqtani region, excluding the Iqaluit runway, are made of gravel. Residents connect through Iqaluit to leave the territory, cementing the capital's role as a political, social, medical, and travel hub.



Figure 1. Field sites in Nunavut. (Map by Alexis Sancho-Reinoso)

During my fieldwork, I joined interlocutors on hunting trips, grocery runs, work meetings, and meals, at concerts, their homes, or the airport, among many other places. My decision to conduct research in five communities allowed me to conduct autoethnography while flying within, as well as to and from, Nunavut. I engaged in participant observation at the airport gates, on flights, awaiting baggage and passenger pickup, and following airport employees around airside or in their offices. I visited each community during both frozen and dirt runway months to experience the seasonality of the materials. Following methods of qualitative data collection, I conducted semi-structured and open interviews, hosted focus groups, wrote ethnographic fieldnotes, and took photos and videos in each community. I conducted interviews and hosted a series of workshops in which we discussed future scenarios for the community, ending with each participant coming up with their own desired scenario. The data described and analyzed in this article derives from these interactions, collected over months of participant observation and literature review, as well as many informal conversations with interlocutors.

My position as a young, at the time single, woman of European descent with funding from a European organization placed me among the wealthy from the perspective of many interlocutors. This was in many cases true, in comparison to local financial situations, yet also caused frustrations on both sides when residents expected me to be able to provide funding for local projects and infrastructures. At times, the fact that I was a single woman

restricted the situations and people I could interact with in order to avoid inflicting jealousy on others. I took care, for example, to meet young men in public places. Nonetheless, I was able to speak with men and women ranging in age from their early 20s to their 70s and with various backgrounds. My interactions focused primarily on young adult community members⁴, many of whom are hunters, young parents, or government employees. This demographic was especially interested in sharing their ideas, hopes and demands of what Nunavut should become in the future. I also spoke with elderly community members, who shared historical perspectives through their own experiences and offered suggestions for the coming decades. The majority of research participants identify as Inuk; however, this research was not restricted to the Inuit population of Nunavut.

Materiality's Frictions

Imagine you are sitting in an airplane, about to embark from Toronto International Airport. You look out the window onto the runway, a smooth, paved strip with guidelines painted on its surface, connected to other paved areas and marked by lighting. You likely entered the plane via a jet bridge, or by bus and stairs. Airside vehicles of all shapes and sizes drive by. The airport is teeming with employees, all working together to ensure your safe and timely travel.

The average runway in Canada is 8,000 to 13,000 feet (2,438 to 3,962 m) in length and paved (Dargie 2016). In Nunavut, all but two runways in the territory are made of gravel. Iqaluit's paved runway is the longest at 8,605 ft (2,622 m), at the low end of the national average. The remaining communities have airstrips around 3,500 to 4,000 ft (1,066 to 1,219 m) long, with the exceptions of Kimmirut and Grise Fiord, whose runways are both under 1,700 ft (518 m), and Resolute Bay's 6,504-foot (1,982 m) gravel runway, which acts as a forwarding base for the Canadian military (Government of Nunavut 2023). This almost complete reliance on gravel runways is somewhat unusual compared to other Arctic regions, such as Norway and Finland, where most communities have paved runways, or Greenland and Russia, which combine airplanes with helicopters for passenger transportation (Meyer, Adams, and Elixhauser forthcoming). While Nunavut looks to Greenland for infrastructural inspiration, East Greenland looks to Iceland, and other Nordic countries seem comparatively successful in developing regionally appropriate networks (*ibid.*, and Elixhauser 2023). The majority of Nunavut's runways are substandard and do not conform to national regulations, with insufficient lighting, surface material, border

fencing or length (Government of Nunavut 2014), but they continue to operate, and as lines for the transportation of goods and people, it is vital that they do. In the following section, I discuss the differences between gravel and paved runways in Nunavut and their materialities' impact on daily life.

Gravel, Ice and Snow

Gravel is considered predictable and reliable in the Arctic, where the land is made of shifting permafrost tundra and rock (Krause 2022). Gravel is a geologic resource necessary for infrastructure in the north. However, it is not legally recognized as a resource, as described in the NLCA (Indian and Northern Affairs Canada and Tungavik 1993). Instead, gravel is catalogued under “specified substances,” which Inuit and Nunavummiut have the right to access and use, even on non-Inuit-owned lands (*ibid.*, art. 1.1.1. and 21.6.1.). This is noteworthy because, as Mia Bennett points out, in the North, gravel is a resource and material of power: the power of building tomorrow (2023). Unfortunately, gravel is in “short supply” in North America (Bennett 2023, 1189), and regardless of the size of gravel-suitable deposits, the granular material is not easy to acquire or work with under Arctic conditions.

The gravel runway is built using a stockpile of crushed rock, which takes about two ice-free seasons, or two years, to make. The “crusher” machine is sent up from one of Canada’s southern ports and delivered via sealift during the summer. Once rock is crushed to an adequate size, an “overlay” made of 15 cm of gravel is distributed on the already compacted airstrip foundation (Government of Nunavut 2014). This lasts for about seven years, with daily maintenance including hole filling, flattening, and snow clearing. After this period, another overlay is necessary, which holds another seven years, after which major maintenance work must be conducted. As such, the average lifecycle of an Arctic gravel runway is around 15 years. (Government of Nunavut 2014; Nunavut Tunngavik Incorporated 2020). This is within the globally-anticipated lifecycle of a gravel runway, between 10 and 20 years (for example, Midwest Industrial Supply, Inc. 2024).

However, as Adam Martin, the owner of a consulting company for aero engineering with a long history of working in Nunavut, described to me, crushing, moving, and then storing rock carries significant cost, which is a struggle for some communities “to maintain and be able to prepare their runways and keep them in operational condition.” The precarity limited gravel places on communities is further illuminated in an entry written by the hamlet of Grise Fiord in the 2023–2024 logbook for community and government



Figure 2. Gravel runway in Kimmirut, Nunavut, September 2022 (Photo by author)



Figure 3. Kimmirut runway, marked in red, covered in ice and snow, March 2023.
(Photo and red arrow by author)

services: “The runway needs gravel, since the surface is mainly skeleton and large rocks have started to surface. The frequent heavy winds have taken a toll on the surface.” (Government of Nunavut 2024).

For most of the year, gravel runways do not look like the one in Figure 2. Instead, they are covered by snow and ice (see Figure 3). The altered material composition of the runway surface influences the friction produced by the airplane wheels during takeoff and landing, as the wheels’ traction varies depending on the contact surface.

Regular maintenance is required on the runway to ensure the surface is flat and snow and mud are removed and compacted. Nathan Qaunaq, who works at the airport in Grise Fiord, describes how maintenance is dependent on season and weather:

K: Do you take care of the runway every day there's a plane landing?

N: Just if it snows. And in the summertime, we'll go in there every two days to compact it.

K: Every two days?

N: Something like that.

K: Do you have to do it more often in the winter or the summer?

N: It depends on the conditions. In the winter, if it snows a lot, we'll go in way more.

K: Isn't there a time in spring when it's super mucky?

N: There's about an inch of snow, an inch or less, so it'll melt out pretty quick. And then it's fine with the gravel because you can compact it and the runoff is good enough.

Gravel is not only important as a material providing friction, but also as a foundation suitable for Arctic conditions, where the ground is heavily waterlogged during the spring and summer months. The temporality of the runway's foundation, permafrost, and its winter surface, compacted ice and snow, is shifting as the climate warms rapidly. Precipitation and extreme weather events are increasing, changing levels of snowfall and ground saturation (Clark et al. 2022). The depth of the gravel pad for the runway will need to increase as permafrost thaw advances. This is costly not only in monetary terms but also on a broader scale of infrastructure development. With a limited source of gravel available and aviation as a lifeline for northern communities, runways will be prioritized while other projects addressing basic needs, such as housing foundations, may face challenges in procuring enough gravel to build foundations suitable for the Arctic ecosystems (Bennett 2023). These material constraints impact daily life in the communities.

Here is an example: We are flying to Kimmirut. In March, it took us three attempts over a span of four days to reach the hamlet. The plane was packed with people. Every seat was taken, and the seats on the right side, the wider seats, were filled by two people per seat, and they are small. Tight quarters and

no cargo in the front. A strong contrast to my last flight in a DHC Twin Otter after the Kimmirut Trail in September, when we each had a seat to ourselves, the front was full with our backpacks, and I could stretch my legs out. This time, we sat thigh to thigh, in our parkas, hats, and mitts, with carry-on luggage between our legs. The windows were frozen over. We took off and were soon in mostly white, low-visibility conditions. This, combined with the frosty windows, made it nearly impossible to see anything below us. After about half an hour (the time it takes to Kimmirut flying south) we dropped a bit and could see more of the rolling mountainous landscape. Dropping...dropping....and then the cockpit got busy again, pilot and co-pilot smoothly shifting the handle that seems to control the acceleration. We started ascending again. Ascending and turning. My seat neighbour looked at me and asked, "Going back?" I shrugged, it seems so. Once we'd stabilized at the desired altitude, the pilot, Scott, turned around and spoke into his microphone, "Can you guys hear me?" The intercoms on the ceiling of the plane transmitted his voice. I nodded. "Just as we were reaching Kimmirut they updated the winds, and they are way too high, so we are going back to Iqaluit, and they'll try to put you all on another flight."

For context, Kimmirut's runway is the second shortest and most challenging runway to land on in Nunavut. This has several reasons: The de Havilland Canada-6 Twin Otter, which is a Canadian Short Takeoff and Landing commuter plane, is built for these conditions, but even so, landing on a short, inclined, gravel runway has its challenges in any weather, not to mention extreme weather events common in the Arctic. Secondly, the useful carrying capacity of a Twin Otter is limited by the amount of fuel it has to carry and the weight it is allowed to have on descent and landing. In Nunavut, the average load is between 3,300 and 2,600 pounds, depending on fuel availability at the destination community and the distance between communities. For the Kimmirut route, the Twin Otter carries a maximum of 15 passengers, depending on cargo weight; more often than not, it is only able to transport eight people per flight.

Restrictions in cargo and passenger capacity have direct negative effects on medical services and food security, creating a desire among many Nunavummiut to have their community serviced by larger aircraft. In fact, a gravel runway does not automatically mean smaller aircraft: Resolute Bay's gravel airstrip is accessed by turboprop ATRs, Twin Otters, and the occasional C-17 Globemaster belonging to the United States Air Force, among others. Baffinland's Mary River iron ore mine has a gravel air strip serviced by a Nolinor 737-200 combi, the only

remaining jet aircraft capable of landing on gravel. Gravel is not the limiting factor here; it is the aircraft. Resolute and Baffinland's runways allow for high traffic and several sizes of aircraft; however, all of these must be classified for gravel. Therein lies the challenge.

Adam Martin of HM Aero explained to me that since Boeing and Airbus are no longer making gravel-suitable jets, the available airplanes are limited in number, and they are getting old and expensive to maintain. This affects passenger safety and fuel efficiency, which, in turn, affects cost and carbon footprint. He continued, "As time goes on, these airplanes are becoming more and more obsolete, and we're not really seeing any of these large airplane manufacturers coming up with any alternatives for that." In May 2023, Michael Rodyniuk, the then CEO of Canadian North, the sole commercial operator in the territory, hosted an open house in Iqaluit where he further underlined the challenges associated with serving Nunavut communities:

We're still running on gravel runways and specialized equipment. Even the modern ATR turboprops that we operate, we have to invest heavily in those aircraft for them to be able to fly into the North because they need special skins on the belly of the aircraft. They have to have special deflection panels around the wheels, and they have to have unique piloting skills and training to land in the North because there's gravel. And gravel isn't kind when it comes to aircraft. (Transcript of public event, Iqaluit, 24 May 2023)

In the discussion of aviation's service to communities with gravel airstrips, frictions occur between the ecosystem suitability of the gravel runway and the discontinuation of gravel-approved aircraft. While 737-200 combis are still being used to service Nunavut's biggest mine, Canadian North discontinued its jet service to Cambridge Bay's gravel airstrip, switching instead to the smaller ATR in late 2022 (Kennedy 2022). Even so, the dream of jet service and paved runways is very much alive in Canada's northeast.

Paved Tundra Takeoffs

"If President Biden wanted to visit Kimmirut, I think that's the only way Kimmirut would get a bigger runway. That's how Iqaluit got a runway, is by the military." (Rosie Akavak, Kimmirut, March 2023)

Iqaluit and Rankin Inlet are the only communities in Nunavut with paved runways, both of which were paved by the military. Iqaluit's runway and adjacent infrastructure were built and financed by the United States as the Crystal Two

air base, later bought by the Canadian government in 1944 (Clark 2022). Rankin Inlet's runway was extended and paved in 1994 by the Canadian Department of National Defense and now functions as a forward operating station for the Canadian air force. Although their runways are a rarity in Nunavut, the stories of these two communities are not unique. Indeed, they speak to a reality of infrastructure development in the territory that continues to this day, where predominantly outside interests direct what gets built, when, where, and by and for whom.

The idea of a paved runway is enticing for many Nunavummiut who wish to see their communities grow in size and prominence. With a paved runway, jet service may follow, and with jet service, other amenities may be built. A resident of Pond Inlet explained to me, "Our community is thinking to become a High Arctic community hub. ... And if we become a hub, if we have health centres and if we have jet service, those communities that I mentioned would go to Pond, hop on a jet, go to Iqaluit, and then go further South." However, the GN does not have any immediate intentions of converting further runways. Here is an excerpt of a conversation with John Hawkins, Assistant Deputy Minister, Transportation at GN and Paul Crenson, Airport Operations Manager at Iqaluit International Airport for the GN:

J: Paved runways are *hard* to maintain compared to-, it seems like a gravel runway would be hard, difficult to maintain, but they're actually less challenging to maintain.

P: Even more so up here in the Arctic, where your geological conditions - there's a lot, much more movement in the ground with the thaw ... Just in general, the life cycle of something paved is going to be a lot shorter because of the geological conditions that exist in the permafrost.

J: Extremely hard to put a rigid structure on top of permafrost. These two runways that we have, that are paved, both have severe challenges.

Although a paved runway may seem to be more complete, more static, in its presence than a gravel runway, the lifespan of paved runways averages around 15 years, similar to a gravel runway. The airstrip is built and then requires minor maintenance, like pulling weeds or filling in cracks, for 10 to 15 years (Bouchard 2020). However, getting the material to make a paved runway up to a community in Nunavut takes a lot of planning, at least one sealift season and the practical know-how of paving. With permafrost thaw and changing weather patterns, freeze-thaw events cause the frozen ground to shift more often, allowing seeping



Figure 4. Cracks on the runway at Rankin Inlet airport. Satellite image taken 14 June 2023 (Google Earth 2023)

water to collect in indentations. The water freezes and cracks the tundra apart, forming ice wedge polygons. In an attempt to slow such thaw effects, both of Nunavut's paved runways were built with an insulating layer of high-grade Styrofoam⁵. However, instead of halting the cracking, the insulating layer has only changed the location of the cracks, which now develop at the edges of the Styrofoam slabs (see Figure 4, Google Earth 2023). As a result, the lifetime of paved runways in the Arctic is shorter than in non-permafrost areas further south. The repairs necessary on Nunavut's paved runways are expensive and time-consuming, requiring the runway to be partially blocked off when cracks jut across the entire strip, impeding regular service. One interlocutor suggested to me that Rankin Inlet's runway is in such poor condition, "They should just rip up the pavement and go back to gravel—but that's never going to happen."

Why is it highly unlikely Rankin Inlet would ever do such a thing? Because paved runways are more than their materiality. Nunavut's paved runways are hubs for population, medical services, and commercial transport. In fact, they were made into hubs purposefully, with the choice of paving the runway. The only purpose of a paved runway in the Arctic is to improve access and thus enable the region to become a hub for cargo and passenger transportation.

Paved runways tend to service larger airplanes: turboprop ATRs, Boeing 737s, and jet aircraft. People and goods are flown to the hub, where they are then transported to different communities using smaller aircraft. In this way, the materiality of the runway and those who decide on the materiality simultaneously decide that the future of the community or region in question is to become a hub. Infrastructure development decisions are, therefore, socio-material decisions which have direct consequences for social lives and material realities in these areas (Elixhauser 2023; Ren 2023).

According to Akhil Gupta (2018), infrastructure is, among other things, a (bio-)political, aspirational process, a material manifestation of what the future might entail. But when there is a discrepancy in future musings, this influences infrastructural investment, which, in turn, influences what futures are possible, and for whom. Expectations of infrastructures do not always align with what works in the Arctic, or what people think the infrastructures will bring with them.

Futures, Flights and Frictions

The GN, a public government heavily reliant on transfer payments from the federal government, and NTI, financed by the land claims transfer and royalties from resource development, signed a devolution agreement with the federal government in January 2024, wherein land and resource rights are transferred to the two territorial powers (Government of Canada; Crown-Indigenous Relations and Northern Affairs Canada 2024). From April 2027 onwards, territorial rather than federal decision-makers will determine what infrastructure is built. Nunavut's political situation is better equipped today to investigate and follow the desires of Nunavummiut than it was 25 years ago. Yet frictions remain where the often conflicting GN and NTI have overlapping governance structures and financial dependencies (Rodon 2014), in a region that costs more than it produces, and political representation down South is limited by Nunavut's small population. While Nunavut receives significant federal funding for infrastructure development, funding packages and policies surrounding these infrastructures are often discussed and developed in southern boardrooms, based on limited knowledge of northern realities. Deborah Cowen writes, "Infrastructures thus highlight the issue of competing and overlapping jurisdictions – matters of both time and space." (2017).

As Tsing makes clear, frictions need not simply be points of resistance; instead, frictions can lead to sparks of something new (2005). Recalling the framing of materiality and infrastructure as transformative, it is especially important to understand Nunavummiut perceptions of infrastructure development in regard to territorial future-making. The GN has only had control over their airports since 1999, when it took over this responsibility from the Northwest Territories. Now the GN is making decisions about whether to renovate—that is, continue to do maintenance on a piece of infrastructure—or replace each runway and aerodrome. NTI explained in its report on the state of the territory’s infrastructure that the path forward should not continue with the transfer of infrastructure built for southern conditions and implemented in the Arctic. Instead, infrastructure needs to be examined “within the context of Northern and Inuit-specific realities” (2020). A re-evaluation of the territory’s aviation infrastructure may be an opportunity to re-examine the realities NTI is referring to. Paying heed to points of friction could present new opportunities.

In a 2015 study, Widener, Saxe, and Galloway concluded that Canada’s northern runways would significantly improve air service if extended in length (2017). During the future scenario workshops I hosted in Resolute Bay and Grise Fiord, the topic of aviation was mentioned repeatedly in connection with the community’s future well-being. Figure 5 shows a scenario sketched by a workshop participant in Grise Fiord in June 2023. Alongside a transition from diesel to renewable energy sources, the scenario suggests extending the current runway (lower left) and revitalizing and extending the old runway (lower centre). Such changes would create a second approach for aircraft, which could be an important option in southern Ellesmere Island’s heavy wind region.

As Rebecca Bryant and Daniel Knight eloquently convey, temporalities have different depths, layers, and urgencies (2019) depending on their subjects. When it comes to building infrastructure, multiple temporalities converge: the temporality of actors planning, building and using the infrastructure, and the temporality of the materials that make up the infrastructure itself. In Nunavut, all construction materials and machines must be ordered well in advance and then shipped up from southern ports, making the temporality of construction dependent on logistics and seasonality. When access to materials is seasonally restricted, funding allocation is largely determined by outside sources, and the building season is short. Infrastructure, too, has various depths, layers, and urgencies. A longer runway could bring many potential benefits to Grise Fiord; however, securing the community’s drinking water supply is at the top of the

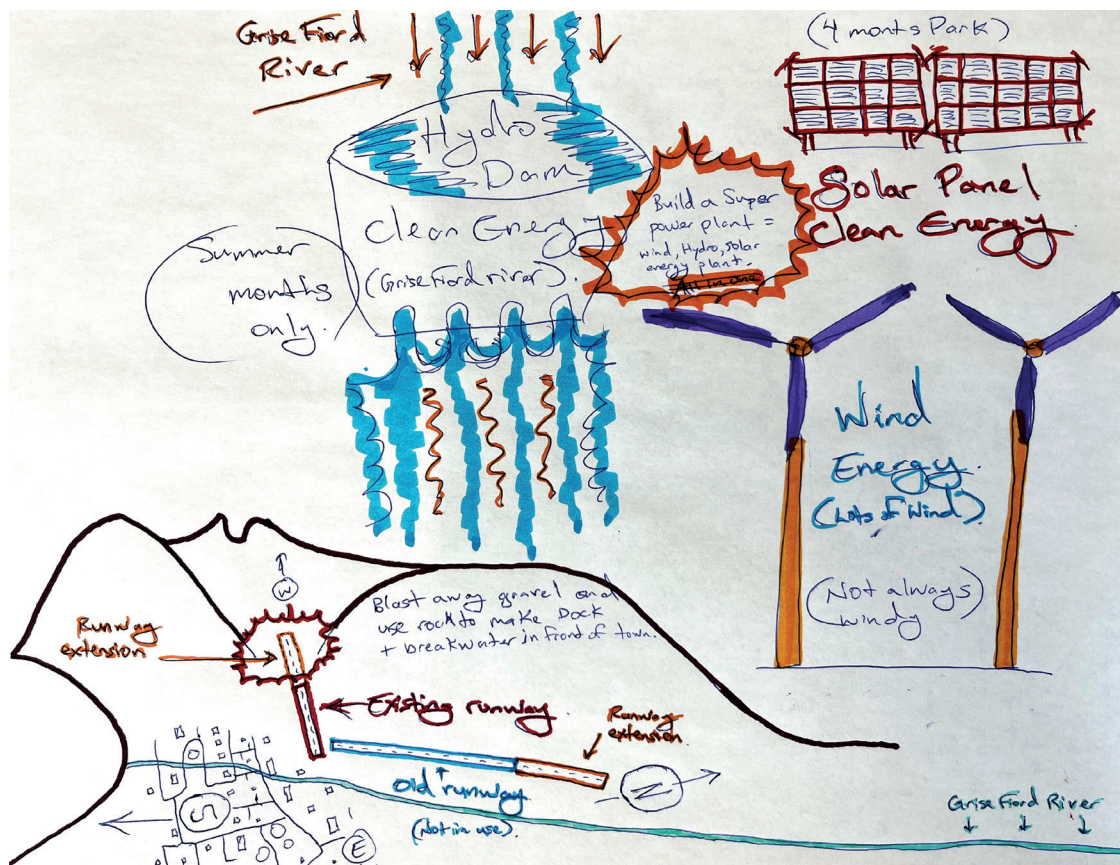


Figure 5. Workshop participant's brainstormed desires for the future of their community.
(Photo by author)

hamlet's agenda. The fickleness of infrastructures supporting primary needs such as clean water waylays the desire for other future developments. The Kimmirut airport has needed an upgrade for decades, yet when asked about infrastructure priorities, residents first mention housing, government offices in town, and less dusty roads because, as Rosie Akavak explained to me in March 2023, "We don't have enough jobs, so people move. If we had more, Kimmirut would be more. It wouldn't just be a home to us. It would be more."

Decisions about infrastructure are made based on knowledge of the past and imaginations of the future. In so doing, they enable certain futures while disabling others. In its young history, Nunavut has moved from colonial administrative control to semi-autonomous territory with a predominantly Inuit government. The long-term effects of having leaders at the forefront of infrastructure development who understand the importance of IQ and know the territory's history remain to be seen, but if "the future is faced using knowledge of the past," then locating decision-makers in the territory whose future they are deciding seems to be a step in the right direction (Bryant and Knight 2019, 10).

Conclusion

“We will want to benefit as much as everything surrounding us. They seek our support to protect it [the High Arctic region]. And yet, because we’re not a hub for an airline we lose out all the time.” – Resident of Grise Fiord, April 2023

Although processes of colonialism have differed across Canada, the traumatic, disruptive influence of colonialism in Nunavut is undeniable. The comparatively late year-round presence of Qallunaat (enabled by aviation infrastructure), rapid establishment of permanent settlements, and Inuit-led land claims negotiations make Nunavut’s colonial transformation distinct. The influx of Qallunaat into Nunavut is part of the ongoing settler colonial movement in Canada. As Patrick Wolfe remarked, in settler colonialism, “invasion is a structure not an event” (2006, 388). Anne Spice cites Wolfe as she writes, “If settler colonialism is a structure that ‘destroys to replace’ (Wolfe 2006), then transportation infrastructures are themselves settler colonial technologies of invasion.” (2018, 45). As this article has shown, airports and airstrips are a “lifeline,” a network of critical infrastructure without which life in Nunavut would be very different. Simultaneously, aviation infrastructure’s evident role in reshaping ways of life (from childbirth, education, and access to food, to name but a few) should not be ignored in an analysis of colonial influence on the territory. The fixed routes and schedules of aviation and sealift in Nunavut, combined with centralized medical, educational, transportation, and administrative services in Iqaluit, have created a dependence on invasive infrastructures in all stages of Nunavummi life. In an effort to disrupt these infrastructures’ potentials to further perpetuate settler colonialism, transportation developers must think beyond the immediate, southern-style use of said infrastructures and instead sit with northern residents to plan infrastructure that does not redirect northern life and aspirations, but assists and aligns with them. The choice of runway material is a significant and consequential factor in communities’ economic and social capacities, as it determines accessibility and prominence. Thinking through the specific material and temporal realities that affect transport infrastructure in Nunavut is about Inuit self-determination and capacity building. It is about disrupting imaginaries inundated with settler-colonial perspectives concentrating on the economic and technological (Abildgaard et al. 2022), and instead daring to think of Inuit-led futures by placing socio-material dimensions to infrastructural investment at the forefront of discussions (Elixhauser 2023).

In the midst of all this potential for the future, I relate to Kregg Hetherington (2016): Don't fall into the trap of the future perfect. The future will not become perfect with infrastructure. It is much more complex. It is imperfect. In this sense, thinking about the future perfect captures an ambivalence required at points of friction, where objects and ideas are set in motion. Friction is necessary on a runway for aircraft to take off and land. This physical force is an integral component of Nunavut's lifelines. However, limited infrastructure concentrates the flows of people, goods, and medicine, and it also directs what people think can happen. In some areas of Nunavut, infrastructure embodies the desire for a bright, strong community; in others, it conveys a feeling of demise, a destiny that is beyond residents' control in a territory repeatedly deemed too expensive and too challenging, for investment. In Nunavut, the materiality of a runway is a deciding factor of a community's future precisely because extraterritorial interests do not regard gravel-classified aircraft as a priority investment. As the discussion in this article has shown, applying friction as an analytical lens in infrastructure discussions may support improved alignment of future development and desires to direct change in ways that embrace the socio-material specificities of Nunavut's territory.

Pond Inlet needs others to believe in their dreams, Grise Fiord needs others to understand their geographic limitations, but to continue to invest. Kimmirut needs a new runway and more residents to sustain its population. Resolute Bay and Iqaluit, along with every Nunavut community, need long-term engagement and investment, both from the federal government but also, most importantly, from within the communities themselves. All these require an understanding of what the lived realities in communities are; what it means when planes do not make it in for two weeks, or when the motor grader breaks down, there is no mechanic in town, sealift is months away, and it is mud season. From these specific tracings of people's interactions with transport infrastructure today, we can sit together and sketch how people might engage with infrastructure in the future and discuss what communities need now, whether in direct relation to transport infrastructure or beyond, in order to achieve the level of self-determination Nunavummiut have fought for.

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Notes

- 1 An individual of Inuit heritage.
- 2 Residents of Nunavut.
- 3 Inuit knowledge.
- 4 Aged around 18 to 35.
- 5 The material used for the Iqaluit runway is DuPont™ Styrofoam™ Brand Highload 40 XPS Foam Insulation.

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Publication 3

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Amazon in the Arctic: E-Commerce, Infrastructure, and Alimentary Assemblages in Nunavut, Canada

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Abstract

Since establishing a delivery hub in Iqaluit, Nunavut in 2020, Amazon.com, Inc. has become an essential resource for many Nunavut residents, providing affordable access to goods otherwise constrained by high costs and limited availability in the Arctic. This article explores the significant yet underexamined role of the Amazon corporation in Nunavut, Canada, as a response to the territory's infrastructural and economic challenges. By combining an alimentary understanding of infrastructure with the theoretical concept of assemblage theory, I analyze Amazon's operations as part of a complex system shaped by global logistics and local agency. My research based on ethnographic fieldwork highlights how Inuit residents adapt Amazon's services to navigate gaps left by government programs. This nuanced perspective challenges assumptions about e-commerce as a purely homogenizing force, illustrating how residents adapt global platforms to meet local needs, and underscoring the interplay between global corporations, local infrastructure, and Indigenous agency in shaping Arctic livelihoods.

Keywords

Canadian Arctic, infrastructure, ecommerce, Inuit, Nunavut

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Introduction

“Do you mind if we swing by the hub on our way home?” We drive along the paved road through the industrial area of town, toward Iqaluit International Airport, then turn right, away from the passenger parking lot and toward a warehouse with yellow pillars out front. A large sign reads, “Canadian North, seriously northern,” yet this sign is misleading—a mark of bygone times. The building we are now parked in front of used to be the cargo warehouse for one of formerly two commercial airlines operating in Nunavut: Canadian North. In December 2019, the airline merged with its competitor and relocated its cargo storage to a larger facility. Today, the warehouse is occupied by Amazon.com, Inc. (“Amazon”) and functions as a hub for all orders via the online shipping service addressed to customers in Iqaluit.

In many a mind’s eye, the Arctic conjures images of pristine snowy landscapes with the northern lights dancing overhead, polar bears on sea ice, or seal pups basking under the midnight sun. Disrupting these images, it may come as a surprise to learn that the trillion-dollar corporation Amazon is considered essential to daily life by many Nunavut residents, Inuit and Qallunaat (non-Inuit) alike.

This is an ethnography of how transport and logistics infrastructure shape digital commerce in Canada’s North-East. The infrastructural entanglements of Amazon’s successful presence in Nunavut speak to the power of their functioning logistics, a power this corporation holds over much of today’s world (Amazon.com, Inc. 2024a; Moody 2020). Yet I argue that their influence on Nunavut is specific, and this is partly due to the territory’s varying infrastructure availability, which guides and constricts delivery logistics.

In the Eastern Canadian Arctic, transport infrastructure remains sparse with few or no options to fall back on should one form of transportation fail (Nunavut Tunngavik Incorporated 2020). There are no roads connecting Nunavut to the rest of Canada, nor are there any roads connecting the communities within Nunavut. All twenty-five communities are reached by air-plane and in the ice-free months by annual sealift resupply via cargo ships. As a result, the logistics of transporting food and goods to and from the territory is a challenge directly tied to infrastructure development and maintenance. The Government of Nunavut and the Canadian federal government have prioritized improving Nunavut’s aviation and marine infrastructure, yet high price tags, inclusive planning, and construction logistics slow or limit development in the territory (Infrastructure Canada 2024). Furthermore, infrastructure differs greatly between communities, which influences each community’s connections around and beyond the territory.

Iqaluit, the territorial capital and transportation center of Nunavut with around seven thousand and 500 residents (Statistics Canada 2022c), enjoys access to a wider variety of products and services than any other Nunavut community not only due to its size, but because of the infrastructure put in place by the United States military during World War II and later taken over by the Canadian government (Farish and Lackenbauer 2009). This infrastructure was built off of Koojesse Inlet at the end of Frobisher Bay, prior to any permanent settlement, either of Inuit or Qallunaat origin (Clark 2022). The site of Iqaluit, then known as Frobisher Bay, was chosen as an airfield base with plans for use on the Crimson Staging Route due to its geographic and topological aptitude (Eno 2003). While the airfield was never used for its original purpose, the runway built in 1942 formed the foundation of what was to become the biggest settlement in the Eastern Canadian Arctic. Later, the importance of Frobisher Bay was further solidified by the construction of Distance Early Warning-Line sites throughout the territory. Today, Iqaluit's airport is a gateway to and from "the South" (anywhere outside of the territories), and an administrative capital has formed around the runway. Iqaluit now hosts a deep-sea port, the territorial legislative assembly, jail, and court, as well as multiple hotels and restaurants, arts festivals, the main Nunavut Arctic College campus, largest grocery stores, Nunavut Tunngavik Incorporated (the territorial legal representation for Inuit), and the Qikiqtani Inuit Association (the regional Inuit organization), among other things.

While the Government of Nunavut officially attempts to disperse their departments throughout the territory, the vast majority remain in Iqaluit. This leaves smaller communities, such as Grise Fiord or Kimmirut, with basic transportation infrastructure (gravel runways that service Twin Otters, and no boat harbor), and few community services beyond fuel and water trucks, the hamlet offices, Hunters' and Trappers' Organizations, a conservation office, a small Nunavut Arctic College satellite building, the housing association, and a school. However, size alone is not a determinant of available infrastructure: Although Resolute Bay is nearly as small as Grise Fiord in terms of population—both have fewer than 200 residents (Statistics Canada 2022b, 2023)—the military's interest in establishing a permanent community on Cornwallis Island enabled Resolute its long runway with jet-landing capacity, as well as the presence of the Polar Continental Shelf Program which is used for military and research purposes, the utilidor system, and ATCO hotels. Even larger communities, such as Pond Inlet, depend greatly on the services and infrastructure stemming from Iqaluit. Pond Inlet is home to around one

thousand five hundred people (Statistics Canada 2022a) and is a burgeoning hub for Arctic tourism as well as the seat of the Government of Nunavut's Department of Economic Development and Transportation. Pond Inlet is serviced by ATR aircraft and is equipped with a small craft harbor. Amidst this variety of infrastructural expression, each community has access to Amazon, and makes use of it.

While there is some social science research on Amazon, most publications focus a critical gaze on the corporation's inner workings (Alimahomed-Wilson and Reese 2020), labor shortcomings (Starn 2023), racialized inequalities (Ciccantell et al. 2025), or digital and technological power (Delfanti 2021). Huberman (2021) postulates Amazon's formative role in the creation of an "ideology of convenience" which effectively alters consumers' behavior and continuously urges users to make purchases. Social scientists have also noted Nunavummiut (residents of Nunavut) consumer habits and their transformations over time (Honigmann and Honigmann 1965; Lackenbauer 2012; Yatsushiro 1963), listing goods and products that Inuit bought or traded for, and even voicing concern about potentially culturally corruptive effects thereof (see Honigmann and Honigmann 1965). Yet as Stern (2010) writes, purchasing imported consumer goods is just one more sphere of contemporary Inuit economic life (37–38). This article examines how residents engage with Amazon in the northern territory as a source for products that are otherwise difficult to procure and in doing so reshape their economic activities in the territory to meet local needs independently from government programs and services.

I begin with a brief overview of my theoretical approach, centered on the main concept of alimentary versus Wiindigo infrastructure (LaDuke and Cowen 2020). I position Nunavut's infrastructure within an assemblage to deepen my analysis of its interplay with Amazon's delivery logistics (Deleuze and Guattari 1988). Paying closer attention to how Amazon's delivered products are used once they arrive, I draw on Appadurai's (1986a) concept regarding the social life of things. Moving to methods, I concentrate on how an ethnographic approach for data collection supported this particular analysis. In the empirical sections, I examine how the territory of Nunavut has come to host an Amazon delivery hub, focusing on Amazon's reliance on pre-existing infrastructures in the territory, and how Nunavummiut benefit from being able to access Amazon delivery services. In conclusion, I argue that although Amazon is a Wiindigo infrastructure, residents of Nunavut have found ways to use Amazon in alimentary-fulfilling manners to circumnavigate gaps in governmental infrastructure services.

Theoretical Approach: Carving the Alimentary from the Assemblage

Delivery services such as Amazon are dependent on the transport infrastructure available along their logistics lines. Taking the sparse transportation options between southern hubs and northern communities into account, it is especially interesting to follow Amazon's role in Nunavut, where the same infrastructural opportunities used by this corporation are often considered to be limitations to service delivery by territorial organizations (Nunavut Tunngavik Incorporated 2020). While such perceptions of opportunities and constraints as dependent on infrastructure availability and the possibility of economic growth are prominent in Nunavut, I draw on LaDuke and Cowen (2020) to expand our understanding of infrastructural services.

LaDuke and Cowen (2020) write of two types of infrastructure: "Wiindigo infrastructure," primarily intended to benefit a settler colonial society, and "alimentary infrastructure," directed at supporting and maintaining lifeforces "in its design, finance, and effects" (245). Wiindigo infrastructure references the Anishinaabe and Ojibwe cannibalistic monster, "Wiindigo" or "wendigo," which lives off of inequality and greed (Simpson 2011). LaDuke and Cowen (2020) theorize the monster as akin to the contemporary economy, which she refers to as the "Wiindigo economy"; an economy that preys on the marginalized and thrives on ever greater economic disparity (244). This cannibalistic form of economy is reliant on Wiindigo infrastructures as they are "the material systems that engineer and sustain that violence" (LaDuke and Cowen 2020, 253). In contrast, alimentary infrastructure refers not specifically to infrastructure relating to food systems, but to any infrastructure that is reviving and life-supporting in its intent: for example, by making the shift away from fossil fuels to renewable energy, or by redesigning infrastructures to purposefully address current environmental injustices (LaDuke and Cowen 2020). Applying this understanding of infrastructure to an analysis of Amazon's role in Nunavut is fitting because the aviation infrastructure used by Amazon was initially built with military, settler colonial, intention and is now an integral part of life in Canada's North, often referred to as "a lifeline."

Building on this expanded sense of infrastructure, I combine LaDuke and Cowen (2020) with the theory of assemblage as articulated by Deleuze and Guattari (1988), and later DeLanda (2019), to more closely examine how Wiindigo infrastructure, of which Amazon is a part, articulates itself in Nunavut. Assemblage theory addresses distinctly local expressions of agency and material reality that together create and maintain the assemblage within which Amazon must function.

In order not to lose sight of daily practices and everyday formations of meaning within the territory, I draw on Appadurai (1986a) in his recommendation to take note of the social lives of things, illuminating the social contexts of transactions and exchanges among residents of the territory. Paying attention to the social context of value in infrastructure allows us to identify and understand the perhaps less obvious alimentary values attributed to “things” and the infrastructures they depend on. In conclusion, I argue that the reliance on Amazon.com, Inc. by residents of Nunavut not only underscores the importance of infrastructure networks to service delivery in the North, and the entanglement of Wiindigo infrastructure with everyday life, but also reveals how individuals creatively reimagine and repurpose these systems to create alimentary value, asserting agency through personal choice and individuality within a system shaped by settler colonial and economic inequalities.

Methods

I first visited Iqaluit and Pond Inlet, Nunavut, during May and June of 2022 to conduct preliminary fieldwork and discuss the direction of my research with local stakeholders. As a team member of ERC Advanced Grant project InfraNorth, I was required to concentrate my research on the general topic of Arctic transport infrastructures, yet the particular focus therein was open to discussion. I spoke with employees and representatives from the Government of Nunavut, Nunavut Tunngavik Incorporated, Nunavut Research Institute, hamlet, Hunters and Trappers Organizations/Associations, and Qajuqturvik Community Food Centre, among others. We agreed on a focus at the nexus of transport infrastructure and territorial food sovereignty. I made five trips to Nunavut with various lengths of stay, which total around one and half years between May 2022 and December 2023, followed by a final return in March and April 2025 to present and discuss my research findings with participants and the general public. Throughout my research, the majority of my time was spent in the territorial capital, but my research area soon expanded to include the following communities, all within the Qikiqtani region: Kimmirut, Pond Inlet, Resolute Bay and Grise Fiord, which range in population size from around seven thousand five hundred (Iqaluit) to one hundred forty (Grise Fiord; Statistics Canada 2022c, 2023).

This research concentrates on infrastructures in use, from which Amazon emerged ethnographically through my examination of various local infrastructures, all explicitly or implicitly servicing the corporation’s needs. On a walk along the rotting ice trail from Iqaluit to Apex, I encountered my first Amazon Prime cardboard packaging caught in a snowdrift behind a rock.

Intrigued, I later asked acquaintances about Amazon, whether they used it, how long it had been available, and what they ordered. Although Amazon is not a focus of my research, the corporation's importance to daily life and food security in the territory became obvious. In a region where flight schedules and annual sea lifts determine grocery bills and timelines of repair, and grocery stores have limited stock on the shelves, Amazon's capacity to deliver has not gone unnoticed. Conversations about Amazon orders came up in every community, especially when I asked about food, hunting, or crafts. Thus, while my research had a slightly different lens, my ethnographic observations and experiences inadvertently highlighted the particular role Amazon plays for many residents of Nunavut.

Research participants were all located in the Qikiqtani region. I laid a focus on permanent residents who had lived in Nunavut for over five years, which directed my interactions toward Inuit, who made up the majority of research participants; however, many Qallunaat also took part in this study. I spoke with men and women ranging in age from early 20s to late 70s. Some interlocutors were employed with government or Inuit administration, others as hunters, research assistants, or conservation officers. Still others were students, unemployed, young mothers, or food center employees. The data for this article were collected first unintentionally through participant observation and informal conversations, but later led to a concentrated inquiry into interlocutors' uses of Amazon. Participants engaged in this topic during semi-structured and open interviews (Bernard 2006; Spradley [1979] 2016), as well as informal conversations throughout the day, and requests for input I shared via the social media channels Instagram and Facebook. Conversations began during joint activities, such as seal hunting, beading, hanging out watching YouTube videos during quiet moments at the office, over cups of tea, a shared meal, or a walk. I conducted interviews at the Nunavut Research Institute, at participants' offices and meeting rooms, in cars, cafes, cabins, living rooms, and Nunavut Arctic College learning spaces. Upon my return to Vienna, I analyzed my data with a thematic content analysis to recognize patterns and main themes within interview transcripts and ethnographic field-notes (Braun and Clarke 2006).

My interest in understanding the nature and variations of transportation infrastructure, and particularly aviation in the territory, combined with the highly connected social networks between communities, led me to divide my fieldwork across the five communities who voiced an interest in engaging in this research. My experiences in these communities were influenced by my position as a non-Indigenous woman of European descent without any previous connection to the Arctic, who was funded by a European institution. Having been in Nunavut for every month of a year, I saw changes in store

shelves' stock and prices, the lines at the post office and Amazon hub, and began to wonder how these changes aligned both with the particularities of Nunavut's logistics infrastructure, and the needs of residents.

Carving Amazon into the Arctic

At its earliest beginnings, Amazon.com, Inc. sold books online; today the corporation is among the most powerful in the world, with such influence on the economy that some scholars now refer to "Amazon capitalism" when examining the giant's activities (Alimahomed-Wilson et al. 2020). Yet Nunavut's Amazon is not the same as Amazon in Ottawa, New York, or Vienna. This major corporation must comply with the rules and restrictions typical of Arctic infrastructure: transportation services at the mercy of extreme weather with no alternative routing available in vast regions with proportionally low population densities. While Amazon has shaped global flows of transformation taking place in Nunavut, so too has Nunavut's fragile infrastructure molded the corporation to serve its population specifically. In Nunavut, Amazon relies entirely on public infrastructure that was already built, from the air transportation to the warehouse or Canada Post networks and offices, without directly contributing to maintenance, repair, or new developments. Within the territory, infrastructure continues to influence access to daily goods, and this extends to residents' capacity to order from Amazon. Amazon orders are delivered with CargoJet Inc., run through the Canadian North airline and charged by the pound (Nunavut News 2020). Upon arrival, Canadian North provides the ground handling before packages are organized onto shelves and in piles in the Amazon Pick-up point warehouse—known locally as "the hub" in Iqaluit—or passed on to Canada Post for further transport via Canadian North to other communities. Precisely due to their range of infrastructure and, in turn, access to Amazon and other services, I chose to focus this analysis not only on the capital and infrastructure hub Iqaluit, but to include all five communities in this discussion.

Amazon is far from the first force delivering Southern goods to northern residents. Historically, Inuit created everything they needed using materials they found in their vicinity (Stern 2010, 37). Yet through contact with whalers, fur traders, and other colonialists, Inuit were introduced to different materials and goods, such as guns, canned foods, and non-fur clothing. Writing in the 1960s, Honigsmann and Honigsmann (1965) illustrate Inuit use of "commercial air facilities to receive express shipments" in Frobisher Bay (52). Yatsushiro (1963) remarks on the popularity of Simpson's and Eaton's mail order catalogs in Inuit households during the late 1950s (18). Today, residents place orders through online retailers such as Mountain Equipment

Company for outdoor clothing, Beadazzle for glass beads, Northern Shopper for food orders, and of course, Amazon. All manner of goods are sent up using the online shopping service: pet food and supplies, home décor, bulk items like toilet paper, cleaning products, instant noodle multipacks, items with a long shelf-life, pots and pans, or toiletries—the list goes on.

Just as in other towns and cities, Amazon is not the only place to shop for Nunavut residents. Each community has at least one of two grocery store chains, Arctic Co-op and Northern Stores, to shop at locally. However, as one interlocutor explained to me, “Any vehicle parts or tools that I can get through the hub, I’ll get because those are ridiculously expensive locally. A lot of the time, parts that are available on other websites are available on Amazon just the same: same parts, same quality, same brand. So, go through the hub if the shipping is three to five days.”

Some people I spoke to were critical of Amazon, yet continued to shop there. They voiced a desire to support the local businesses and reduce carbon emissions by purchasing directly from Co-op or Northern but explained that the prices are much higher in comparison to online shopping, and often the quality and variety of goods are poorer in the territory (Lambden et al. 2006; Nunavut Bureau of Statistics 2018). Such high prices and limited choice are especially apparent when it comes to imported foods, which, in a territory without agriculture, makes up nearly 100 percent of foods consumed daily, not including country foods. While there are government subsidies through the Nutrition North Canada program for basic nutritional foods such as milk, northern residents have no say over which products receive the subsidy, and the extent to which the subsidy reaches consumers varies (Galloway and Li 2023; St-Germain et al. 2019). This dictation of food priorities and lack of transparency directly affects consumers’ decision-making. As research participants in Iqaluit told me, “I literally order just about everything I can [via Amazon], if it can be shipped up here, if it’s cheaper than what I can find here, which is 99% of the time,” or, “Pretty much the only thing I buy in store is fresh vegetables.” One young mother in Grise Fiord explained to me that she places a bulk Amazon order every few months to stock up on toiletries, granola bars for children’s snacks, and household materials, which usually arrive two to three weeks later. Convenience, variety of choice, price and delivery time are four crucial factors consumers consider when making their orders, and all of them rely on the functionality of Nunavut’s logistics systems.

In summer, Nunavut is serviced by two sealift companies, Nunavut Eastern Arctic Shipping (partially owned by the Northwest Company) and Desgagnés/Nunavut Sealift and Supply Inc. (partially owned by Co-op). These companies transport goods from southern ports on cargo ships to

northern destinations for communities' annual resupply. Sealift orders allow residents to make bulk food orders or deliver large items such as snowmobiles, trucks, or furniture. However, sealift requires customers to wait many months for their delivery and to pay by credit card, something many Nunavummiut do not possess. A resident of Pond Inlet told me, "In the past two years we haven't ordered one [sealift] because since there's Amazon and the sealift shipment [fee] is getting higher; I think it's cheaper to order from Amazon instead. When you order from Amazon you can get them in weeks instead of once per year. And the expiry dates are also a factor when you want a good item or product."

Furthermore, ordering in bulk requires the capacity to store these items. While most housing has a designated storage space, these rooms or nooks are often converted into bedrooms due to the severe housing crisis in the territory (Schmid and Adams 2025). Placing smaller bulk orders multiple times throughout the year from Amazon as opposed to one large bulk sealift order comes with distinct advantages compared to the standard alternatives available across Nunavut. Severely limited housing creates an infrastructural condition, which makes ordering from Amazon the most convenient and viable option for many Nunavummiut today.

Residents of Nunavut have long ordered from Amazon, but since the company opened their Iqaluit hub in late 2020, delivery is not only sped up, it is also free for Amazon Prime members with delivery addresses in the capital (Murray 2020). This decision has created a further imbalance in communities' access to southern goods, because only orders to Iqaluit qualify for prime delivery and free shipping. Payment for Amazon orders, with or without Prime, is generally by credit card, but Northern stores offer a prepaid Visa credit card, "WeCard," to which customers can upload credit in the Northern store, or have their payroll/government payments directly deposited, and then use it online like a regular credit card. However, such restrictive payment methods have further accentuated socio-economic inequality across and within communities, where buying from Amazon is connected to status. A long-term Qallunaat resident of Pond Inlet explained to me, "More people seem to be able to access goods from Amazon now, but it's still the case that those [people] in the most need aren't able to buy. (. . .) In Pond Inlet, so many people order on Amazon that the postal service doesn't have enough room to store the packages and instead started piling them up in the Northern store. You can walk around and read the names on the boxes, and you tend to see the same few names." While these economic disparities exist, customers have found ways to involve their networks in their orders by placing bundled orders for family members who do not have direct access to Amazon, as one Inuk hunter from Grise Fiord explained to me. These examples articulate how

the infrastructure behind credit cards and bank accounts determine residents' access to products beyond the shelves of local stores.

The hub makes ordering online even easier for Iqaluit's residents with financial means, but this option is not available to Nunavut's twenty-four other communities. For residents anywhere except the capital, Amazon orders are shipped using the standard postal system, racking up the cost of delivery. This policy makes a marked difference in cost between Iqaluit and other communities, such as in the example of Pampers diapers for newborns, priced at \$24.99 for a box of ninety-six and shipped to Iqaluit for free versus to Grise Fiord for \$79.99 on May 21, 2024 on the Amazon.ca shopping site.

Why is there such a price range? Because Amazon determines that Nunavut's communities are "remote locations," meaning they are not transport hubs themselves, nor are they close to one (Amazon.com, Inc. 2024c). Here, the role of infrastructure in determining accessibility to products is glaringly clear: It is about runway capacities, aircraft, and local cargo facilities (Schmid 2025). Iqaluit is home to Nunavut's largest airport with capacity to land large cargo and passenger jets on a paved, insulated runway and has direct, three-hour flights from Ottawa twice daily. Grise Fiord is Canada's northernmost community and relies on the carrying capacity of a de Havilland Canada DHC-6 Twin Otter with flights from Resolute Bay twice a week, landing on a short gravel runway, weather permitting. The length and material of the runway determine the cost of products, and postal and bank infrastructure limit who has access to which products, as well as the timing of their deliveries.

In Nunavut, once foods sent up by sealift are sold, costs increase dramatically as stores adapt to air cargo pricing until the following sealift season. However, residents' salaries do not increase during this period. In a region where the logistics of transportation is a challenge and food insecurity is at 70 percent, many people seek alternative solutions to keep their grocery bills down (Qikiqtani Inuit Association 2019); the prospect of free shipping is especially enticing. Until early 2024, residents of smaller communities were able to circumnavigate Amazon's restrictive Prime delivery conditions by entering a false postal code, allowing their orders to register as eligible for Prime. However, Canada Post recently discovered this "loophole" and changed their regulations, resulting in a loss of access for all Nunavut residents outside of the capital (Murray 2024). Soon after Canada Post changed its policies, residents of Nunavut began a petition to extend Prime services to all Nunavut communities. Having access to cheaper non-perishables and staple products can make a big difference when it comes to regularly accessing food.

During an interview in June 2023, a hunter and businessman from Iqaluit remarked, "If our government is going to be honoring the claim, which is to

make life better—the logical step . . . is that you better demand a cap on products, instead of the companies being given free will how to use and apply that subsidy; that’s not making life better. That’s not being accountable as elected officials across Canada. We did not sign with Northern stores. We did not sign with early Co-ops. We did not sign with Canadian North. We signed with federal government, territorial government, to make life better in the North.”

There is an expectation from many Nunavummiut that the federal and territorial governments should have greater responsibility and engagement in creating equity between the North and the South. While residents did not “sign with” Amazon either, when government subsidies, local stores, and postal codes are not able to meet residents’ needs, Nunavummiut have creatively used Amazon services to access their daily necessities and personal preferences, in effect forming the Wiindigo ecommerce into an alimentary service to improve livability (LaDuke and Cowen 2020). Nunavut’s local conditions form the infrastructural foundation upon which Amazon must function. This infrastructure directs the flow of logistics as well as what is ordered by whom, and when, linking local realities with global flows and thereby effectively producing the Arctic Amazon assemblage (Deleuze and Guattari 1988).

The Social Life of Amazon’s Things

At the end of November 2023, I interviewed Paul Crenson, Manager of Airport Operations for the Government of Nunavut, in Iqaluit. He explained, “One thing we need is a new cargo facility because there’s a fight for the perishables and an increase of regular other goods that are coming through the airport. And the provider can’t manage it all without damages being incurred. [. . .] But I think it’s also because of the sensitivity up here; the infrastructure down South isn’t necessarily designed for that rapid movement to get stuff up here. If the supply chain was better modified for that direction, there could be some improvements in the quality of food when it ends up with the consumer here.” While the Arctic’s “sensitivities” to supply chain inefficiencies and infrastructural failures do not have a quick-fix, supporting businesses that ship to remote locations makes a difference in individuals’ capacity to pursue their interests and engage in cooking, hunting, beading, sewing, or photography.

Amazon’s presence in the Arctic is connected to their ability as a corporate giant to make use of the limited territorial services and high local costs without any of their own major losses. In effect, Amazon can afford to lose money on Nunavut, if it means gaining the longer-term loyalty of both the permanent

and transient populations. The corporation is not invested in supplying or supporting Nunavummiut from an alimentary perspective; it is instead a parasitic user of the territory's infrastructure. After backlash (Wilson 2020, 148–49), Amazon did begin investing in select regions, or as they call it, “Giving back around the world” (Amazon.com, Inc. n.d.). For Nunavut, this meant “\$25,000 in electronic gift cards” in 2020, yet no mention of Nunavut is made in Amazon's 2024 report on how the corporation is investing in Canada, beyond mention of Iqaluit's hub (Amazon.com, Inc. 2024b). This limited, extractive, reciprocity is indicative of Amazon's Wiindigo role.

However, in the context of Nunavummi daily life, online shopping has improved the territory's livability by attuning to the power of personal choice and the capacity to buy the things needed for personal styles, hobbies, or jobs. Even in Iqaluit, buying clothing or sports goods of high quality is a challenge. A young Inuk woman in Resolute Bay told me, “I order a lot of clothes from Nike. A lot of [stores] like adidas, Puma, Amazon, they all ship up here. ‘Well.ca’—it's where you buy, like body wash. [Me: It's cheaper than getting stuff here?] Yeah. And more options. Have you been to the store and seen the soap options? It's very limited. And the clothing—it's mainly just socks!”

Up until this point, my examination of Amazon's role in the daily life of Nunavummiut has largely centered on economic factors, especially connected to infrastructure and food accessibility. It is undeniable that Nunavut's contemporary transportation infrastructure, and Amazon with it, has enabled the material force of the colonial to enter the Arctic at higher intensity than ever before and, as such, it would be simple to write Amazon off as a cannibalistic corporation, a doom-bringer to northern society. Similar concerns have been voiced before in connection with the introduction of ever more Southern goods, which were said to make Inuit “shed a measure of their former autonomy” (Honigmann and Honigmann 1965, 54), or “result in expediting the change occurring in the material culture of the people” (Yatsushiro 1963, 18). Building on Appadurai's (1986b) concept introduced above, “value is embodied in commodities that are exchanged,” and these values are not simply economic, but also social, political and cultural (3). Value, then, is attributed to things based not only on their economic price, but on their significance for the end consumer. These significances are created through many influences such as knowledge, experience, or social networks. Purchasing items based not only on necessity, but on personal value attribution is an exercise of personal choice that imbues residents with the potential to transcend local infrastructural constraints.

During my second visit to Pond Inlet I walked around the flea market in the community hall (“C-hall”) one Saturday in March 2023. The large hall echoed with the mixed murmurs of visitors and the scampering of children

across the wooden floor. Two tables caught my eye, as they were especially popular: one selling creamy cakes and plastic cups full of colorful Jell-O, and one table covered in all manner of beauty products from fake eyelashes to fake nails, both of which sold out within minutes. I later learned from the woman selling the beauty products that she had ordered these online and was now reselling them at a slightly higher price. While these products were ordered from Shein, a fast-fashion ecommerce platform from China, their introduction to the Pond Inlet flea market is one example of the social lives of ecommerce's things that also pertains to Amazon's products. Residents use Shein or Amazon products to create their own income, which you can see by checking out any community Facebook page or flea market. Buldak noodles, for example, are very popular; a resident purchases a multipack and then sells the individual packs for ten to fifteen Canadian dollars per pack on "Sell/Swap" pages.

These examples illustrate residents' manipulation of the infrastructural assemblage into opportunities for a secondary economy, profiting off of ecommerce's frequent deliveries and consumers' variable access to products.

Online stores have expanded Nunavut residents' capacity to choose what products they want to order, and from which companies. While some hamlet stores order their assortment based on residents' preferred consumption (e.g., of potato chips), there is generally little variation in supply between communities because restricted airplane and sealift cargo capacities force stores to concentrate on necessities or commonly popular products. Unless you make your own clothing (which many people do in Nunavut, especially when it comes to outdoor gear such as parkas, sweaters, wind pants, or boots), ordering online can be a way to purchase things that reflect one's personality and interests beyond what is on offer at the hamlet store. In fact, in small communities such as Resolute Bay or Grise Fiord, key items like machine parts, or glass beads are not always available, which affects residents' capacity to produce crafts or access the land.

Most communities do not have a mechanic or spare parts store. This leaves harvesters to either wait months for sealifts orders, make a costly trip to Iqaluit or down South, or wait mere weeks for the arrival of a package from an online store. If a broken part on a snowmobile cannot be replaced until the next sealift season, the hunter and those who depend on them lose access to self-harvested country food, directly affecting the community's food security and individual's capacity to practice Inuit Qaujimagatuqangit (IQ, Inuit traditional knowledge) through application of traditional skills. Historically, hunting materials could be made from local materials, traded for or bought in local stores, but the highly effective policies of relocating

Inuit into permanent settlements, making attendance of Qallunaat-led schools compulsory, and the introduction of wage labor have placed enormous hurdles in hunters' way. With shorter time allotments to go out hunting, greater variety in machines, and fewer hunters per community, those who can go out on the land are depended on by community members to have functioning machines and enough gear to go on longer trips. A young, successful, hunter and outfitter in Resolute Bay told me that he orders "tons" from online stores rather than the local Co-op, both because of the specificity of parts and the price tags.

Hunting and tourism with sled dogs are also not exempt from such uncertain situations: While sled dogs are typically fed hunted meat, time constraints and lack of resources mean not all hunters can harvest enough meat to sustain their team year-round. In such cases, dogs are fed with kibble sent up from southern Canada, with a hefty price tag attached. The time commitment and associated costs inhibit some with an interest in mushing from starting a team, or others from continuing theirs. I learned of a downside to this reliance on outside materials during a stay in Grise Fiord in April 2023, shortly after bad weather blocked air service to the community for multiple weeks. No kibble remained in the Co-op, and the hunter whose team relied on imported food ended up losing several of his dogs while he was unable to hunt for meat.

Inuit residents who are able to order via Amazon have found ways to order products they need to continue their hunting, tourism, and craft activities with as little financial loss and seasonal delay as possible. In this sense, having the opportunity to select products from the largest global online marketplace indirectly empowers many Nunavut Inuit to continue hunting, thereby supporting their community, and perhaps making an income by slightly modifying the typical pathways of product procurement while maintaining the IQ core in their activities. Given the limited availability of choice in communities, and economic constraints experienced by residents, their decision to spend money on goods from ecommerce platforms, which come with a waiting period, as opposed to making due with whatever is available in the local store, prioritizes residents' valuation of personal choice and, depending on the products, expressions of individuality. In this sense, choosing to use ecommerce is a way of executing one's agency as a consumer.

And yet, the giant's documented Wiindigo-like ability to dry out smaller retailers could have detrimental effects on Nunavut's economy (Huberman 2021). Arctic Co-op, for example, is co-owned by the residents of each community; they rely on local consumers. If all shopping moves online, these stores will likely have to fight to stay open.

Amazon can by no means be labeled as an alimentary infrastructure in the sense evoked by LaDuke and Cowen (2020). The corporation is not “life-giving in its design, finance, and effects” (LaDuke and Cowen 2020, 4), yet the value that residents have carved out of it complicates general assumptions of Amazon’s unidirectional global transformative influence by encouraging us to recognize individuals’ personal agency in choosing ecommerce when local options are limited. Paying attention to these details is especially important today as Nunavut is at a point of heavy infrastructure investment, expansion and renovation, processes largely directed by the Canadian federal government, which decides which infrastructures are of value to whom and where.

As Harvey (2016) writes, “(. . .) the value of infrastructural initiatives lies in their generative capacity and their ability to connect across scales” (53). The ability of Nunavut’s infrastructure, and Canada’s, to connect across scales has not taken full effect in most northern communities, where residents instead recognize a gap in service and the resulting inequity. Larry Audlaluk, a resident of Grise Fiord, illustrated this sentiment in April 2023: “I go back to the cost of running the High Arctic. It is costly for *us* Inuit Canadians up here. But it’s no issue for the federal entities . . . They bring in a jet to Resolute, yet Resolute does not have jet service. It’s very clear and obvious. You can see it black and white. Why are they doing that to us? If they were helping us, if it helps Canadians, if it helps me from having to spend 9860 dollars and 37 cents for a skidoo to come up, great, but it’s not. And the snowmobile will only last for two good years.”

With its far-reaching logistics network and solid foundation in warehousing, Amazon is viewed as the more reliable source of goods and foods, even outside of Iqaluit, where Amazon is delivered by standard Canada Post. As the above examples have illustrated, when the single pathway of logistics cannot be maintained, infrastructural failure can have detrimental effects. Simultaneously, air cargo, warehouses, postal depots and snowmobiles have become infrastructural necessities which enable the continuation of traditional practices. Amazon’s activities in Nunavut are unlikely to be officially determined as part of a critical infrastructure, yet the ways residents have taken to using the ecommerce’s services may be seen as akin to critical, alimentary services not yet dependably provided by others.

Discussion: A Global Assemblage with Local Alimentary Value

There is an irony in the fact that today’s largest and most powerful online shopping corporation is named after the Amazon River, a region not unlike the Arctic with regard to Indigenous lands, presence of extraction industries,

or importance for a balanced global climate. Now, this corporation has a total net worth of \$1.98 trillion as of October 29, 2024 (Stock Analysis 2024) and emitted “68.82 million metric tons of carbon dioxide equivalent in 2023” (Twidale 2024).

The Amazon corporation stands for both a promise of the future and a destruction of future potential. The corporation promises the world at ones fingertips, a certification of modernity (Moody 2020, 23). But at the same time, Amazon is known for its poor and racialized labor conditions, especially in their warehouses, and as a corporate giant that can negatively impact local stores, projects, and initiatives (Alimahomed-Wilson et al. 2020; Moody 2020). Nunavut is still an emerging economy at a precarious stage in this last step in the territorial devolution process from the federal government (Crown-Indigenous Relations and Northern Affairs Canada, Government of Canada 2024). While outside influences, such as Amazon, may benefit individuals, and the territorial hubs to a certain extent, prioritizing the access and expansion of such forces may negatively impact community economic initiatives and smaller scale territorial projects. As such, Amazon is in its essence a Wiindigo infrastructure which converts “ecologies of the many into systems of circulation and accumulation to serve the few” (LaDuke and Cowen 2020, 245).

Yet labeling Amazon as an uber-capitalist force to the detriment of humanity is a gross simplification and misrepresentation of many consumers’ lived realities. While e-commerce-enabling economies and socialities are colonial, the materials transported North have also enabled residents to continue feeding their children, go hunting, and produce carvings, sewing, or beading in altered, albeit traditional, ways.

Political decisions around infrastructure development, welfare allocation, capacity building, and tax systems have created an opportunity for Amazon to flourish in a territory that is otherwise often deemed too expensive for investment. Yet Amazon would not function if its logistics pathways were limited to their individual parts, nor would it function by simply using the infrastructure found in Nunavut today. The corporation’s operations work as part of a larger assemblage, which includes infrastructure in southern Canada and beyond. Although southern infrastructure is not coordinated to encourage exchange to Canada’s Arctic, it is the complementary capacity of these infrastructural systems within Nunavut and beyond that enables the material operation of global ecommerce platforms in the North.

The assemblage function of Amazon in Nunavut can be seen in the social life of products ordered to Nunavut. In tracing the trajectory of delivered items and products, the imagined homogenous population is broken down into groups of individuals with various socio-economic contexts who order

vastly different items and use them in different ways. Amazon's presence in the Canadian Arctic as part of an assemblage with alimentary value is not a static reality, it is more so an expansion of possibilities for residents in a constantly newly configured flow of transformative practices (Dewsbury 2011).

Conclusion

In this article, my examination of ecommerce's infrastructural entanglements in daily lives of Nunavummiut attempts to discourage homogenizing policy or infrastructure designs by illuminating the diversity of desires among residents. Furthermore, Nunavut can learn from Amazon about the power of warehouses in keeping prices down. The on-the-ground presence of Amazon in Nunavut is strategic, and it follows the long prevailing economic reality of shipping the majority of Nunavut's goods and foods from the South into the territory, rather than prioritizing strengthening local entrepreneurs, or encouraging warehousing and bulk orders. As it is, Amazon is benefiting from Nunavut's sparse logistics landscape.

By attuning to residents' everyday entanglements with aviation, cargo, credit cards, postal deliveries, warehouses, and sealift, this article illustrates the public infrastructures necessary for global ecommerce platforms to enter local livelihoods. Nunavut shows that global logistics systems are only as inclusive as the local infrastructural assemblages they rely on; where infrastructural inequalities persist, access to digital economies remains uneven. Simultaneously, the material groundedness of e-commerce provides an opportunity to reconfigure said infrastructures to address these inequalities.

Meanwhile, back at the Amazon hub in Iqaluit, the line moves quickly as employees rush to the storage area and return with parcels. People waiting greet each other, read the newest event posters, or play on their phone. At the counter, an employee scans our barcode before disappearing into the warehouse filled with shelves of parcels and returning moments later. We shuffle back to the car, our arms filled with cardboard boxes of various sizes, which we dump on the back seat. My friend sighs; it has become that "necessary evil," Amazon in the Arctic.

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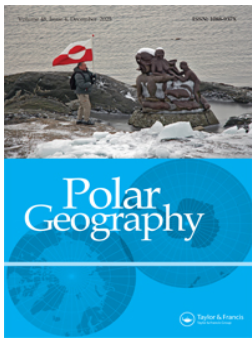
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No room in the North: housing scarcity as infrastructure's failed relations in the Arctic

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ABSTRACT

This article examines the entanglements of housing infrastructure, economic structures, and social relations in Arctic regions, focusing on Nunavut (Canada) and Malmöfalten (Sweden). Using a comparative ethnographic approach, we explore how housing scarcity is shaped not only by physical infrastructure but by broader political and economic forces. Drawing on thematic content analysis and an infrastructural relations framework, we highlight how capitalist logics, demographic shifts, and governance structures contribute to ongoing housing crises. Rather than viewing infrastructure as a static entity, we adopt a relational perspective that emphasizes the reciprocal dynamics between housing, social networks, and state policies. Our findings suggest that housing scarcity in the Arctic is not merely a consequence of remoteness or material limitations but a product of structural neglect, economic disincentives, and governance complexities. By framing infrastructure as a site of contested relations rather than a neutral technical system, we argue that addressing Arctic housing challenges requires not only increased investment but a fundamental rethinking of infrastructural governance, social responsibility, and sustainability in northern communities.

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Introduction

The Arctic is often imagined as a vast wilderness of vast empty spaces stretching over long distances (e.g. Cooke, 2016), yet it is also home to human communities and built infrastructure, where the abundance of space paradoxically coexists with a shortage of housing. Restricted construction space in the Arctic is not only a matter of geography but also one of financing profitability. Investments in housing are often deprioritized, viewed as economically unviable due to perceived risks, high costs of construction and repair, low or declining population numbers, and the transient nature of many extractive industries (Avango et al., 2022; Klinger et al., 2023; Malmgren et al., 2022). Furthermore, national political and organizational complications frequently hinder development, creating a mismatch between infrastructure availability and the willingness to build homes (Sandström, 2023).

In this article we explore these contradictions, focusing on the overlooked perspectives of Arctic residents to shed light on the broader structural and economic forces that contribute

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to housing scarcity across distinct contexts. We categorize ‘housing’ as a type of infrastructure which is dependent on and shapes relations. In doing so, we expand the understanding of infrastructure beyond that of the built environment, choosing instead to examine housing’s role in reciprocal social-relational networks (Ingold, 2000; 2021). Specifically, we explore how Arctic infrastructures influence the wellbeing and everyday lives of local residents. We address the research question: *What effects do limited housing options have on local residents in the communities of Malmfälten and Nunavut?*

The topic of Arctic housing is explored in academic literature through various interdisciplinary lenses. Some studies focus on place-based amenities (Howe & Huskey, 2022), while others examine housing histories from demographic perspectives (Heleniak, 2025a; 2025b). Additional research investigates the role of housing in attracting and retaining residents in rural regions (Kelly & Eimermann, 2024), while others adopt an architectural perspective, exploring the concept of smart Arctic cities (Rizzo et al., 2023). Anthropologists, on the other hand, often examine people’s attitudes toward their homes (Nakhshina, 2013) or perspectives on home and household (Anderson et al., 2013). From a broader built environment perspective, Schweitzer (2017) discuss the ‘right of remoteness’, Gartler et al. (2025) examine infrastructural challenges in permafrost regions, while Eriksen (2022) highlights the unintended consequences of infrastructure, emphasizing the intrinsic connection between physical structures and social relations – an issue we underscore in this article.

However, we identified a significant gap in the existing literature on Arctic housing infrastructures: (1) the lack of comparative analyses that prioritize local residents’ perspectives and (2) a relational perspective to understand the entanglements of housing infrastructures. Such an approach not only enriches the existing discourse by incorporating lived experiences but also provides insights into why housing remains a scarce resource in distinct Arctic contexts. Adding a comparative lens to our analysis allows us to concentrate on structural commonalities and differences across our case studies rather than running the risk of ‘explaining away’ contextual reasons for local housing shortages. We follow Appel et al. (2018) and Ferguson (2012) in their assertion that ethnographic studies of infrastructure are well suited to illuminate questions of materiality and sociality, shedding light on essential infrastructures and the built environment as fundamental components of the social worlds people inhabit. These worlds are shaped by colonialism (Bernauer, 2019; Tester & Kulchyski, 1994), post- and green colonialism (Sandström, 2024), gender (Quintal-Marineau & Wenzel, 2019), race (Smith, 2025), and economic and political decisions (Dahl et al., 2000; Damas, 2002), which influence not only who has access to housing but also *how*, *where*, and *when* new housing is built.

Despite the presence of infrastructure to support construction, there is a lack of incentive to invest in these communities. This stems from risks associated with declining population numbers, the absence of a housing market, and/or the rather short-term (from a housing investment perspective) nature of extractive industries. Consequently, we argue that housing scarcity in the Arctic is not solely a matter of infrastructure availability. Rather, the challenges are rooted in broader economic and structural dynamics. We demonstrate, how housing infrastructures are embedded in networks of social, economic, and institutional relations. This perspective allows us to move beyond market-based explanations without dismissing them, and to foreground the ways in which housing is shaped by – and simultaneously shapes – interactions between actors, policies, and place-based conditions.

In the following, we begin by situating our understandings of housing as a relational infrastructure within broader theoretical debates before introducing our case study

regions and methodological approach. In our empirical section, we combine examples from our field sites to illustrate the magnitude of the northern housing crisis, and the dependency of northern residents on functioning funding schemes, social-oriented governance, and local social networks, to receive and maintain their housing. We examine the relationship between the Arctic climate, climate change, and northern housing, before continuing our analysis along four categories, which we used to guide our inquiry and comparison: funding and governance, population dynamics, infrastructure and logistics, and suitability of housing in the North. In our concluding discussion we highlight how housing scarcity in the Arctic stems less from remoteness than from structural neglect, economic disincentives, and governance challenges.

Theorizing housing infrastructure's failed relations

Examining the Arctic from the perspective of the 'built environment' illuminates human-induced transformations in the North. Two key perspectives shape this analysis: the 'building perspective' and the 'dwelling perspective' (Heidegger, 1971; Ingold, 2000). The building perspective views the built environment as a collection of finished products surrounding the subject, while the dwelling perspective emphasizes ongoing processes of making, building and inhabiting, embedding the subject within a dynamic network of material relations. Building on the foundation of relational theories in social anthropology by Ingold (2017; 2021) we find it useful to apply this perspective to our case studies on Arctic housing, as our empirical data reveals a variety of relational entanglements. Ingold (2021) suggests that when people appreciate objects as part of their personal or collective histories, they form relations with them. This perspective extends to housing, as the relations people develop with their homes and housing conditions are deeply significant in their individual life-courses. Moffatt and Kohler (2008) stress the need to understand the built environment in its historical context, considering both contemporary conceptions of 'the environment', and the shifting meanings and uses of built structures over time.

Infrastructure, as part of the built environment, navigates the temporalities of becoming, breakdown, and repair throughout its 'lifetime' (Gupta, 2018), shaping and being shaped by its relational context. Appel et al. (2018) argue that from an anthropological perspective, infrastructure is a terrain of power and contestation: controlling infrastructure means controlling the distribution of resources, people, and ideas. In 'The Promise of Infrastructure', the authors question who benefits from infrastructure and who must fight for essential services. Our analysis of housing infrastructures aligns with these debates, particularly regarding which relations necessitate a responsibility for Northern housing, and whose voices influence housing policy.

The absence of infrastructure, or the maintenance of them, bring neoliberal reconfigurations into the spotlight (Appel et al., 2018), redefining relationships and social norms (Schwenkel, 2015). Infrastructure studies thus serve as a conceptual tool for a critique of capitalism (Appel et al., 2018; Gansauer et al., 2025) by revealing relations between different stakeholders such as municipalities, companies, businesses, residents and services. The analysis of our empirical material shows how conventional housing market models do not suffice for housing provision in the Arctic. Instead, we draw on Larkin (2013), who highlights that infrastructures are significant not only for their material functions but also for what they symbolize about the future. Housing, in particular, reflects these aspirations as it profoundly affects people's everyday lives.

Similar to a human life-course, Gupta (2018, p. 62) explores the temporalities of infrastructure by focusing on the relations between futurity and ruination throughout their lifetimes. Such dynamics of future and ruin, desire and decay, are especially evident in our case studies illustrating the relocation of entire neighborhoods in Malmöfalten, as well as the generally dire housing conditions in Nunavut. For Gupta (2018), infrastructure is not static but a shifting, decaying process sustained through repair. While we align with this view, we emphasize the importance of framing infrastructures as relational, shaped by interactions between humans, non-humans, and the built environment, with housing serving as one crucial component.

Infrastructure reflects broader inequalities – class, gender, race and kinship influence access to essentials like housing, water, and electricity (Appel et al., 2018; Ferguson, 2012). Settler colonial infrastructures have marginalized certain groups, relegating them to areas with inadequate services, while benefiting others (Spice, 2018). In place of such destructive developments, LaDuke and Cowen (2020) advocate for ‘alimentary infrastructure,’ in reference to infrastructure which is nurturing, sustaining, and regenerating in its intent, such as renewable energy projects, local food systems, and Indigenous-led economic alternatives. Unlike colonial infrastructures, focused on land development and profit, alimentary infrastructure fosters, grows and supports good relations. In our context, housing is an infrastructure which shapes relations reaching beyond the house’s inhabitants to reflect broader political, economic, and environmental conditions. By connecting the study of northern housing with an anthropological analysis of infrastructural relations, we highlight dependencies and desires between northern residents, and those who plan and build their homes.

Contextualizing the shift from iglus to apartments: case study regions and methods

Because of their stark differences in settlement patterns, infrastructure, governance structures, and demographic compositions, comparing the Malmöfalten region and Nunavut offers a lens through which to examine how distinct northern contexts shape, and are shaped by, similar Arctic challenges. Their contrasts illuminate how varying colonial legacies, degrees of state involvement, and their different degrees of Indigenous populations, influence responses to shared issues such as housing. These communities can be seen as exemplary of many other Arctic communities that struggle with similar issues, and a comparative study allows for the articulation of underlying relations and causes of the housing crisis.

The comparative ethnographic approach (Abramson & Gong, 2020; Palmberger & Gingrich, 2013) for this work was guided by conversations within the ERC Advanced Grant project ‘Building Arctic Futures: Transport Infrastructures and Sustainable Northern Communities – InfraNorth’, which led us to realize how different the housing situations are in Malmöfalten and Nunavut. Candea (2019) argues that comparison functions as a heuristic yet imperfect tool that produces valuable insights if used with awareness of its limitations. The comparative framework which we use for our analysis is structured around thematic analysis (Silverman, 2014). Through discussions, housing emerged as a key topic in the research of Arctic transport infrastructures in both case study regions. By employing a comparative lens set on a single topic across various field sites, we were able to examine differences and similarities not only across local contexts, but in the overarching structures which lead to housing shortages in each region.

Similar topics and terminology that appear in all cases were leading us to question the varying expressions of these housing crises in each region. If transportation infrastructure is not the determining factor in northern housing availability, what is? In Malmö, our case study regions are well connected to national and international transportation networks which enable swift transmission of goods, materials, and people, while Nunavut is not connected to any of the national infrastructure networks and must rely on annual shipments from Southern Canada to each community. Yet, in both regions, the housing crisis – understood as the lived experience of housing precarity – emerged as one of the most frequently discussed concerns among residents.

Our research builds on three ethnographic case studies conducted between February 2022 and December 2024. Schmid conducted fieldwork in five communities in the Qikiqtani region of Nunavut, which vary in population size and density: Iqaluit, Kimmirut, Pond Inlet, Resolute Bay, and Grise Fiord. Schmid's fieldwork stays included a six month stay and four additional short-term visits spanning between one to four months, during which she continued research and discussed her findings. In Nunavut, Schmid spoke with around 180 people during informal conversations documented in fieldnotes, and recorded 60 semi-structured interviews. Adams conducted fieldwork in the Malmö region, in the Swedish mining towns of Gällivare and Kiruna. These sites were visited seven times, with stays ranging from four days to two weeks. During this time, Adams engaged in 74 informal conversations, which are documented in the fieldnotes and eleven formal, semi-structured interviews were recorded.

Throughout our fieldwork, we took fieldnotes and supplemented them with photographs and videos, as well as additional notes capturing our observations and experiences. Interviewees included local politicians, administrators, hunters, and business owners, as well as a broad spectrum of residents differing in age, gender, socio-economic status, ethnicity, and nationality.

For the comparative thematic content analysis (Braun & Clarke, 2006; Nowell et al., 2017), each researcher independently returned to their empirical material – transcripts and fieldnotes – to inductively develop five categories which were prominent in both regions: funding and governance, population dynamics, infrastructure and logistics, and suitability of housing in the North. These categories were then integrated with pre-existing analytical frameworks from previously examined materials. A collaborative process followed, where the combined categories were refined in relation to the research question and theoretical considerations.

Constructing scarcity: housing governance, funding, and relations

Nunavut, formerly part of the Northwest Territories, is Canada's youngest territory, located in the Eastern Canadian Arctic and home to a majority Inuit population. The territory is accessed by airplane or ship, as there are no roads connecting it to other parts of Canada. Currently, the territory's economy is dominated by administrative and resource extraction activities. Malmö, located in the far north of Sweden within the Arctic region of Norrbotten County, is a mining district shaped by some of Europe's largest iron ore deposits. The area includes towns such as Kiruna, Gällivare, and Malmberget, where communities have long been intertwined with large-scale extractive industries. Unlike other remote Arctic regions, Malmö is connected by road and rail to the rest of Sweden.

Although both regions face a housing crisis, its nature differs significantly. In Malmö, the crisis stems mostly from the mining industry's need to expand into residential zones, prompting the relocation of entire neighborhoods. As such, the lack of housing is a condition that is a consequence of industrial activity. In contrast, Nunavut's crisis is a result of inappropriate government policies and discrimination, resulting in an acute housing shortage, with too few homes to accommodate current and future populations. Severe housing shortages persist, leading to overcrowding with entire families share single rooms in Nunavut, while in Sweden, people often commute long distances or rely on fly-in fly-out arrangements before securing permanent housing often after being enrolled in waiting lists for several years. Although LKAB (2025) plays a major role in funding housing projects driven by mining expansion, urban planning remains the responsibility of municipalities, with elected governments tasked with developing long-term strategies to ensure these towns remain sustainable beyond the mining era (Malmgren et al., 2022). In this transformation process, involving local citizens in the relocation, design, and planning processes is a high priority, with municipalities emphasizing a participatory approach grounded in collaboration rather than top-down decision-making.

Funding and governance

When asked what infrastructural challenges her community faces, a woman from Kimmirut replied, 'One of the examples is units, or buildings: the ones that were built in the 1960s aren't being properly maintained. We're not given enough funding to take care of them.' Financing housing in the North is one of the most pressing challenges in both Sweden and Canada, and each country has attempted different solutions. A Swedish interlocutor emphasized the sheer lack of available housing: 'I think more people would be willing to move here, but they can't because there's nowhere to live at a reasonable price. And it's not only the price – it's just simply impossible to find anything.'

Nunavut's housing crisis is deeply marked by colonial and paternalistic attempts at directing Inuit lives without involving Inuit in the policy or decision-making; these dynamics continue to influence relations in the territory today. In Frobisher Bay, later renamed Iqaluit, in the 1960s, many Inuit built multi-room cabins out of improvised materials stemming from the town dump (Honigmann & Honigmann, 1965). While housing provisions have since changed, the policy of leaving Inuit to fend for themselves occurred throughout the territory during the 1940s-1960s. An interviewee who was forcibly relocated from Inukjuak to what is now Grise Fiord, explained to Schmid during a conversation in April 2023 how little support the federal government provided upon their arrival in 1953: 'We were to become reintroduced to our very own culture. To be self-reliant Eskimos once more. We were expected to have no assistance. No housing of any kind. We were to live off our own wit.' These scenes illustrate the Canadian policy of dispersal in place during the first decades of federal interest in the region, aimed at keeping Inuit in seasonal hunting lifestyles to sustain the fur trade. The government resisted providing housing, fearing that permanent dwellings would lead Inuit to abandon trapping and rely more on the state (Tester, 2006). Yet by this time, the fur trade had largely collapsed (Wenzel, 2017).

With increasing Qallunaat (non-Inuit) presence in the region came first attempts at housing policies, beginning with the 1959 rent-to-own scheme 'Eskimo Housing Loan Program', administered by the Department of Northern Affairs and Natural Resources

(Tester, 2009). Today's Nunavut Housing Corporation (NHC), is partly funded by the Canada Mortgage and Housing Corporation, the Government of Nunavut (GN) capital budget and the federal government National Housing Strategy. The majority of NHC's projects are related to public housing, however, the corporation also deals with houses on the market for purchase, house renovations, and repairs (Government of Canada, 2006; Nunavut Housing Corporation, 2024a).

A brief look into Swedish colonial history shows how in the early seventeenth century, authorities intensified colonial policies in Norrbotten, forcing Sámi to attend Swedish churches and schools. These actions were driven by a European mindset that perceived the Arctic as a blank slate, ready for the imposition of colonial, imperial, extractive and scientific agendas (Klinger et al., 2023). The existence of iron ore bodies in the region had been documented as early as the seventeenth century, with the first test mines being conducted in the eighteenth century. During this period, the Sámi and Tornedalians living in the area primarily utilized the land for hunting, fishing, cattle-based agriculture, and reindeer herding. In the early twentieth century, the first two decades of mining, LKAB did not employ Sámi and Tornedalians. After the First World War the mining company employed first Tornedalians, while Sámi were excluded until after the Second World War (Malmgren et al., 2022).

The completion of the railway linking Luleå, on the Gulf of Bothnia, and Narvik, on the Arctic Ocean, in 1902 facilitated efficient ore transport from both towns (Malmgren et al., 2022), but disrupted Sámi reindeer herding practices (Klinger et al., 2023; Malmgren et al., 2022). These problems persist until today, as various groups, ranging from tourism to Swedish Space Cooperation, and new mining operations, seek to establish a presence on the land.

With both public housing and various homeownership programs, Nunavut's NHC offers housing as a social good, largely independent of one's ability to pay, and as a market commodity, depending on which program residents are eligible for. Currently, the minimum rent in public housing is set at \$60/month with an annual income below \$33,280 (Nunavut Housing Corporation, 2024d). Writing in 2009, Frank Tester noted that 60% of the population was living in public housing, of which 98% were Inuit (Tester, 2009, p. 137). By 2021, 85.9% of tenant households in Nunavut resided in subsidized housing (Statistics Canada, 2022). Amidst this crisis, federal funding for social housing across Canada has steadily declined since the 1980s (Gaetz et al., 2014), leaving Nunavut with drastically increased construction costs, which reached \$670 per square foot in February 2024 (Beers, 2024). Although limited, today's federal funding flows through programs such as the Canadian Mortgage and Housing Corporation (CMHC), or the Canada Housing Infrastructure Fund. Further support in Nunavut is provided by the national Inuit association to Nunavut Tunngavik Incorporated (NTI), which is the legal representation of Inuit in the territory. As former Nunavut Senator Glenn Patterson noted in an interview, the various streams of funding complicate processes and lack transparency. Compiling this is the horizontal, multilevel, governance model practiced in Nunavut, where the GN is a public government responsible for all residents and NTI the legal representation for the majority, but not entirety, of the territorial population. These overlapping and at times conflicting governmental bodies work against each other as often as they work together, delaying policies and developments in a fog of jurisdictions (Rodon, 2014).

Allocation of Nunavut's public housing is dependent on one's standing in a territorial point-rating-system administered by the local housing associations. According to a report on the 2022–2023 bilateral agreement between CMHC and NHC, points are awarded according to factors such as the following: total time on the list, domestic violence, or separated families (CMHC-Nunavut, 2023). And yet, residents complain about not knowing what their ranking is. While sitting at a café in Iqaluit, one woman without housing explained that she has applied for a spot at the women's shelter for years but she still does not have enough points. She said she can accrue points by applying each time she receives income support, but in the meantime, she sleeps at the dam shelter.

Even after securing public housing, higher incomes can disqualify residents, forcing them out and discouraging job-seeking. Instead, people adapt to raise their chances of getting housing (Ikey, 2021), for example by having more children, as a young woman from Resolute Bay described:

To get a house you need to have, like, five kids, or you're practically homeless, so you can go on the list. But then it would take five years, or you would have to room with other people. Because there's only houses with, like, four, five rooms, three rooms. Never one or two.

The physical construction of homes therefor stands in direct relation to family sizes for many Nunavummiut. The homes themselves seldom have five or more bedrooms, yet the more children one has, the more likely one is to receive public housing. These examples clearly showcase how housing as an infrastructure has social effects extending beyond its walls to influence demographics, education, or employment.

While overcrowded family homes are not an issue and the stakes are significantly lower, similarly unreliable processes for attaining housing can also be found in Sweden. While the outcome may be similar, the housing crisis in Gällivare and Kiruna largely stems from recent urban transformation. Despite the presence of high-quality, newly built housing, demand continues to outpace supply, with waiting times ranging from anything between 18 months (for those with work contracts) to eight years, depending on the eligibility criteria for different queues. In Gällivare a resident spoke about three main housing cooperatives with waiting lists: HSB, Sweden's largest federation of cooperative housing; Topbostäder AB, a local housing company; and LKAB, which manages a separate queue for apartments they control. Despite efforts to expand the housing supply, demand still outpaces availability. LKAB has funded housing projects, but relocations of entire town sections, including the entire area of Malmberget in Gällivare and parts of the old city center in Kiruna, intensify shortages. A resident explained the challenges of the queue system:

I have a small apartment and joined the most popular queues for a larger apartment, but in order to stay in the queue, you need to log into the system at least once a year. I forgot and lost my spot. (...). There is no system within the queuing system to know what number you are in the current list, which is annoying.

While some wait for a spot in accommodation that has already been built, others wait for housing that has been planned but not completed. One of the most significant recent setbacks in Gällivare's construction is the stalled multicenter project in the city center. The municipality estimated the building costs, which were then covered by LKAB. However, prices have since gone up, and the project remains stagnant. Local residents express frustration, noting that the municipality lacks sufficient funds to proceed with construction. Despite efforts to find builders and secure offers, no progress has been made recently. A

local resident shared, ‘The entire project is on ice – nothing is happening. They don’t have the money to finish it.’

By uncovering Arctic residents’ relations to their housing systems and situating them within historical contexts, we demonstrate how current housing conditions are shaped by both industrial legacies (Sweden) and colonial bureaucracies (Canada). These forces influence not only the availability and accessibility of housing but also people’s choices to move. The way housing is funded and governed locally plays a crucial role in shaping residents’ well-being and the long-term sustainability of their communities.

Population dynamics

Nunavut has a population of about 39,000, 80% of whom identify as Inuit (Statistics Canada, 2022, p. 2024). Despite its vast geography, the territory’s 25 towns and hamlets are bursting at their seams. In the coming years, the current housing crisis is likely to worsen due to Nunavut’s exceptionally high birth rate: Canada’s national average is 1.33 births per female, while Nunavut’s is at 2.22, with the high fertility projection rising to 3.43 by 2048 (Government of Canada, 2024). Of Nunavut’s 9,925 private households, 33%, live in overcrowded and unsuitable conditions (Statistics Canada, 2022), as opposed to 5.4% nationally (Government of Canada, 2022). Such extreme overcrowding expedites the spread of diseases – tuberculosis remains an active epidemic – and increases domestic violence, directly impacting primarily Inuit physical and mental health (Knotsch & Kinnon, 2011; Perreault et al., 2023).

In Sweden, overcrowding of individual buildings does not present as a problem. In Malmöfalten, the demand for iron ore follows cyclical fluctuations, with booms and busts that directly impact local population dynamics. A notable example of this phenomenon is the steel crisis of the late 1970s, which had severe ramifications for Kiruna and Gällivare, resulting in significant population decline exceeding 10% in the 1980s (Malmgren et al., 2022, p. 232). This led to a housing surplus, forcing the community to maintain empty buildings at a cost. Declining tax revenues weakened municipal services, prompting further outmigration. In response, the municipality reduced the housing stock, sparking preservation efforts that saved culturally significant buildings (Avango et al., 2022). Today, surging world-wide steel demand has reversed the trend.

While Nunavut and Malmöfalten are concentrating on upgrading houses and building new homes, the regions cannot provide the necessary skilled labor, requiring the majority of workers to be flown in from the South. Nunavut’s capacity issues stem partly from inadequate training opportunities within the territory: Former mayor of Iqaluit, Kenny Bell, noted at the Nunavut Trade Show in September 2022, the North has a ‘human deficit’, not just in construction workers, but also in government positions. Qallunaat employees generally stay around two years before returning South, creating a highly transitory atmosphere without continued investment. This delays progress on projects or policies, and makes finding people who are motivated to do good work with impact beyond the time they plan to live in Nunavut or Malmöfalten challenging. There is an urgent need for adequate housing for workers, construction crews, and in the tourism sector, which in Sweden grew sixfold in winter and fourfold in summer between 2006 and 2016 (Klinger et al., 2023).

While in Nunavut there is next to no private rental market, in Sweden, the rental market is influenced by private landlords who, as one resident pointed out, ‘They can ask for basically whatever rent.’ In both towns, trades workers are often housed at the few existing

hotels, with average nightly prices of around 400 Canadian Dollars or 2500 SEK, adding significantly to construction costs. In the Swedish Arctic, such costs also pose a major obstacle to new housing development as one resident explained:

To build a similar house here and in the south – the price is about double. It's difficult to have labor here because it's really expensive to find housing for the construction workers. The hotel prices are so high, and there is simply no space to accommodate the workers. Also, housing companies think people live here just temporarily, and because the mine is emphasizing automation processes. They think that the housing demand wouldn't stay for a long time. LKAB should build more because they also need more living space for their own workers.

All over the Arctic, fly-in workers, along with permanent employees from the South, often receive employer-provided housing. The GN, one of the biggest employers in Nunavut, offers staff housing, but employees only receive GN housing if they do not already have housing in the community they work in. Most people who fall into this category come from the South, creating the impression for some Nunavummiut that staff housing is unfairly allocated. One interviewee lamented, 'They [Southerners] get a house, furniture, even a truck sometimes.' A resident of Resolute Bay further described the situation in her community:

There's a lot of people that come in for work. ... Cause like the military that comes in, the workers that come in for ATCO, for management jobs, like at the Hamlet, at the store. Just a lot of people that have to get flown in. And then they take housing.

Fly-in-fly-out workers pose an additional challenge for Swedish municipalities: while they may contribute to the local economy, they are not counted as permanent residents, leading to reduced tax revenues for the municipalities. A Kiruna resident shared their own calculations on what would best benefit the town:

If everyone working here also would live here, we could have around 30,000 residents, closer to the 32,000 we had in the late 1970s. Right now, we have about 22,000, and we would like to be around 25,000, but that depends on how things at LKAB go.

This statement was opposed by an LKAB employee who noted during an interview in 2022:

There is lots of talk in town that LKAB relies on fly in- fly out workers, but 95% of LKAB workers live where they work, we know it from their addresses. From the company's perspective it's important to have people here. Our goal is to have more houses here than when we started tearing down.

It should be noted that the suggested 95% reported in the interview refers to personnel directly employed by LKAB, and does not encompass all contractors or entrepreneurs engaged in the mining industry.

Examining population dynamics reveals housing's direct relationship to health, which can influence residents' educational opportunities and employability, impacting their income and capacity to make decisions about their own lives. Fly-in fly-out workers make the housing crisis visible by exposing the gap between labor demands and local housing capacity, revealing deeper strains on already limited infrastructure.

Infrastructure and logistics

Communities in Nunavut depend on annual sealift resupply by cargo ships, or expensive air freight deliveries for construction materials and machinery. Without any roads connecting hamlets, each of the 25 communities is dependent on their own local infrastructure with

minimal outside support. However, a new housing project announced by the GN in October 2022 aims to build 3000 homes across Nunavut by 2030. The project is to be completed in collaboration with Nunavut construction company, NCC Development, and the NHC. Yet skepticism around the ambitious project's funding and timeline is high among residents.

During a dinner with friends in Iqaluit, the feasibility of Nunavut3000 was discussed. When asked to rate their skepticism about the plan, one interlocutor chose 9.5 out of 10, arguing that the infrastructure is not yet available for them to build that many homes in the envisioned period of time. They continued, explaining that the lack of energy sources is a true hindrance to construction in Nunavut. Communities do not have enough energy available to power the machines and trucks needed to build so many structures at once. Everything runs off diesel, and they would have to transport all the building materials up to each community by sealift, which takes time and you can only fit so much on a cargo ship. The communities that only get one sealift a year cannot support a sudden drastic increase in sealift area taken up by construction when they need that space for food supply and other necessities. Trucks and other construction vehicles would need diesel or gas to run, and the more of them there are up in a community, the more diesel and gas they need. Compounding this challenge, each community only has tanks of certain sizes, which need to last until the next sealift. The dinner guests suggested it was likely that if Nunavut3000 actually wants to build 3000 homes by 2030, some of the communities will have to build second or third fuel tanks. This again takes construction: sealift, materials, space, and manpower.

In Sweden, once a project moves forward, efficient road, rail, and air networks ensure quick delivery and integration of materials. Once apartments are completed they fill rapidly. When housing shortages become critical, people tend to adopt creative solutions that, while initially intended to be short-term, can end up lasting much longer than planned. In Sweden's mining towns, temporary solutions like living in caravans at camp-sites are sometimes the only affordable and available option. A local bus driver told Adams that some people live in run-down cottages in remote areas outside the city, relying on private cars to commute long distances to work. Many of the buildings are in need of maintenance and repair, as one young Kiruna resident reflected:

'When things get cracky, it's not a big deal if it's something like this' (pointing to a column).
'But it's very bad when it's infrastructure like gas. The old high school had a huge problem. But all the experts said, 'No, it's fine, it's just below the danger level. There are a lot of cracks in buildings around the city ... you have to watch out for them! Haven't you seen them?'

Despite the challenges, mining investments have provided valuable infrastructure for the towns where one interlocutor described the company's contribution to the community.

Our comparison thus highlights the stark differences in the fundamental infrastructure and logistics required for delivering building supplies and operating essential machinery on construction sites, making it visible that the problem of Arctic housing shortages does not lie solely in the challenges of transporting materials to the regions.

Arctic climate and climate change

The harsh Arctic climate determines when construction can begin and when it must end for the season, directly impacting the pace and cost of development. Generally, construction in the Arctic region occurs in a flurry of activity over four or five months. In Malmöfalten, the construction season typically spans from May to early November. This schedule is

influenced by the region's harsh winter conditions, which can make construction challenging or impossible during the colder months. Buildings are designed for Arctic conditions, yet construction and design failures still emerge at times, as seen in the case of the newly built Kiruna city hall:

This building isn't very popular with some people. If you look up, you can see white spots—mould. The architects are often from the South, they don't know how to build for the Arctic. There's mould everywhere. In spring, they put out buckets to catch the dripping water.

Although this perspective doesn't capture the full picture – many residents take pride in the new city hall – it highlights the challenges of building in Arctic climates. The hall was carefully planned with local engagement, incorporating elements from the old building, and now includes accessible spaces for community use. In Nunavut, construction seasons vary with latitude. In southern Baffin Island, construction may continue year-round, with exceptions during blizzards or extreme cold, while hamlets in the High North are often forced to pause between October and May. Climatic conditions also pose challenges for maintenance and repair of houses, with February as a notorious month of burst pipes and indoor floods in Nunavut, displacing residents for weeks to months before temperatures rise enough to fully repair the damage.

Nunavut's entire landmass is made of permafrost, which is now thawing due to global climate change, further challenging northern development. Permafrost requires specific construction techniques, such as drilling long steel poles through the active soil layer and into the frozen ground to stabilize the structure, or buildings raised on poles to avoid destabilization from flooding or erosion. Thawing permafrost limits land available for development, causes erosion, and even destabilizes current houses, which then require repair. Gartler et al. (2025) examine how infrastructure failure, mobility disruptions, and supply chain interruptions, among other factors are linked to permafrost thaw – insights that also apply to our Canadian examples. When a young man from Pond Inlet was asked what he would prioritize if he were given the chance to make decisions for his community, he responded,

I think it would be to focus more on adaptation. We drill giant metal rods to make sure that the permafrost melting won't affect the buildings in the long term. What if we can figure out a way to build a house on top of the land? Something that you can put on the land and it'll just maintain its stability while the permafrost, like, melts and stuff.

There are initiatives working on providing housing that is more adaptive to climate change conditions, such as cabins made out of sea cans in Pond Inlet, which sit on a gravel foundation and can be moved easily, but the majority of structures require deep stabilization and continue to use 'giant metal rods', skyrocketing the cost of their construction.

Our comparison underscores the need for Northern housing to be designed with full consideration of local climatic conditions, which continually shift and shape the very ground on which structures stand. At these latitudes, adapting construction and maintenance practices to rapidly changing environments is essential and citizen participation should be integrated at every stage of the building process, as residents possess deep, place-based knowledge and understand how to live with and adapt to the climate.

Building suitable houses

Building on the importance of local knowledge and climate-adapted practices, it becomes clear that simply increasing the number of homes in the Arctic is not enough. Sustainable

housing must also align with the specific needs and values of northern communities. Yet, what constitutes ‘suitability’ in housing varies: in Sweden, it often means well-located homes with pleasant views, well connected neighborhoods, and walkable streets, accessible services and recreation possibilities, while in Nunavut, it centers on availability, functionality, and cultural relevance. In Sweden, buildings are known to have excellent quality and are mostly well-adapted to Arctic conditions, supported by strong infrastructure and a state system which supports public-sector spending based on welfare systems. Community-engaged approaches that prioritize incorporating local residents’ voices into town planning are central to the planning process. Still, not all housing is considered suitable due to the emotional attachment to former homes that has not had time to grow in the new houses. While most residents in Kiruna and Gällivare acknowledge the necessity of the move due to the expansions of the mines, others struggle with the emotional impact of seeing the town they knew begin to disappear. An elderly female resident of Gällivare described, ‘I lived 16 years in a house from where we had to relocate. Three years ago, we got a compensation house from Boliden. For me, it was okay to move. I got a really nice new house.’

However, relocation experiences vary. An elderly resident spoke of the difficulty of leaving a home built by her father to move into a much smaller apartment who considers her home to be Malmberget. In Kiruna, one interlocutor reflected, ‘Of course, I would mind moving if I had to, but it’s necessary for the town to survive.’ Many who lived in the old town center, especially those with a long history in the area, feel the loss more keenly. For them, the view of the mine and the mountains from their homes was important. This sense of loss is even more palpable for those who are reluctant to fully embrace the changes. An elderly man claimed to have visited the new city center only three times: twice to vote, and once to check out the new shops. Some residents, like him, are resistant to the idea of moving, despite understanding its necessity: ‘In the new city, you can’t see anything. The buildings block your view of the mountains.’ The loss of the iconic buildings, especially those designed by Ralph Erskine (see for details Luciani & Poma, 2023), is deeply felt, with one resident describing the old town as ‘almost like a ghost town’ now, filled with fences and reminders of what once was. Another resident has decided to document the town’s transformation by taking pictures of changes and posting them on Facebook to share with friends and family.

In both Swedish towns, a program of preservation and relocation of historical buildings is being undertaken by LKAB, while others are being demolished and compensated for, either through payments or relocation. One long-time resident in Kiruna explained in 2023:

‘Tourists and people from outside sometimes ask about the lack of public protests regarding the relocations. But most of the people work for the mining companies. You wouldn’t fight your own employer. If we didn’t have these mining companies, the town would be much smaller. So we understand how important they are for the town.’

In Nunavut, suitability issues stem from housing decay, mold, and disrepair. Heavy maintenance is needed in such cases, but the skilled labor to conduct repairs is limited. The reliance on seasonal resupply further delays repairs, leaving many with broken windows to fight -40°C or more with the help of plastic garbage bags taped across window frames, for example. These compounded factors lead to the current reality: There are simply not enough buildings to house Nunavut’s residents. While housing development is accelerating through initiatives such as Nunavut3000, which help provide more

housing by constructing new buildings or renovating old ones, the buildings themselves are still largely built for Nunavummiut, but without taking their wishes into account. Such an approach is highly paternalistic and settler colonialist in its intent, constructing destructive styles of infrastructure in the long-term (LaDuke & Cowen, 2020).

Policies are beginning to change to reflect northern needs and desires, slowly shifting to becoming consent-based, alimentary, nurturing infrastructures. One example is Nunavut entrepreneur Alex Cook's project 'The Qammaq House', which integrates shipping containers to lower costs and reduce reliance on fly-in workers. Cook advocates for development plans that connect with local vocational trainees to build housing more sustainably. His blueprint of the Qammaq House supports local laborers while conceptualizing the home in a more culturally appropriate manner, attending to the ways Inuit have commonly used their homes (see [Government of Canada; Crown-Indigenous Relations and Northern Affairs Canada, 2019](#) for a discussion of culturally appropriate housing). Another example is the August 2024 reintroduction of the Nunavut Homeownership Assistance Program, led by the NHC, which offers 'residents who can afford the cost of owning and maintaining a home in Nunavut' a loan for construction materials (Nunavut Housing Corporation, 2024c). While this initiative still limits who is able to build their own home, successful residents will eventually leave the rental market, freeing up housing, and creating homes according to their own needs and desires in the process.

Discussion and conclusion

We illustrate key challenges of providing housing infrastructure by describing how climate, funding and governance, population dynamics, infrastructure and logistics, and housing suitability relate to housing development and maintenance in the North. The situations in Nunavut and Malmö differ drastically in regard to demographics, governance, funding schemes, and what (transport) infrastructure is available, yet both regions struggle to provide accommodation for their populations. The interrelations between our chosen categories of analysis demonstrate how northern housing scarcity is not determined by one single factor, but by how these factors interrelate in daily life.

Funding programs and governance styles heavily influence housing availability and suitability in our case studies. Tester (2006, p. 249) argues that housing in the North does not adhere to capitalist principles. He points out that some state actors hesitate to fund Inuit housing adequately, treating it as a market commodity instead of a social responsibility. This reluctance suggests that, within the welfare state, the universal logic of capitalist economies remains influential. The same could be applied to our Swedish case, where capitalist market economies are the obvious reason for a housing shortage. The Swedish model is a distinctive blend of market economics and state regulation, designed to balance social welfare with market-led economy. The welfare state known as 'folkhemmet' has influenced all sectors since the end of World War II, including housing (Sandström, 2023). While traditionally state-regulated, Sweden's rental housing market has been gradually deregulated since the 1990s to encourage competition. This shift has led to growing challenges such as segregation, rising rents, tenant displacement, and evictions (Sandström, 2023, p. 2).

As both case study regions show, it is highly risky to build in the Arctic from an economic perspective. There is a lack of incentive to invest due to the diminishing population in Swedish communities. In Nunavut, communities' populations are increasing rapidly, yet the absence of a housing market disincentivizes developers from investing. Our comparison

thus shows that housing is not directly tied to increases or decreases in population, but is determined by economic factors and a political unwillingness from central governments to undertake anything contrary to the market economy. Furthermore, this suggests that decision-makers fail to recognize housing as a relational infrastructure central to maintaining a mentally and physically healthy population, which could potentially increase market interest in the region.

In Sweden, the infrastructure and logistics to support construction processes are given, yet the towns of Gällivare and Kiruna are still dealing with a housing crisis. Housing, as a limited resource, is not directly connected to the availability of infrastructure – though it accelerates the building process once funding and human capacity are in place, lowering the overall cost by decreasing transportation costs and contracting times. The infrastructure housing development depends on, is at the whim of the Arctic climate, which can easily put important logistics routes out of commission for months, stalling projects and leaving people with homes in disrepair. As global climate change accelerates warming in the North, the housing industry is faced with the challenge of not only building enough new housing to accommodate the population, but to maintain or renovate older homes to avoid further destruction due to shifting land, or unpredictable waterways. The suitability of northern housing is as much dependent on population and climate as it is on adequate funding and governance. As such, housing infrastructures' relations are inextricably tied to the agenda of governing parties and the dreams of market economists.

In thinking of housing as an expression of infrastructural relations, we draw on Simpson (2017), who underlines the necessity of consent and mutual responsibility in maintaining good relations. Consent is based on the opportunity to make a free and informed decision prior to any project moving forward, which speaks for the necessity of more inclusive planning practices. This understanding of relations can also be applied to consultation efforts, funding schemes, and maintenance provisioning for northern housing. Without good relations, official systems fail, and when official systems fail, local social relations help to cushion the fall. As such, infrastructure failure is simultaneously a social failure. Here we do not mean a failure of the infrastructure itself when it works with its intended purpose, we are far more referring to infrastructure as a magnifying glass of the failure of the state to support certain groups and take these groups' and communities' needs seriously.

By framing infrastructure as a set of relations rather than simply a network of objects in our built environment, we have redirected infrastructure discourse to center on reciprocity and nurture, rather than extraction and dispossession. Following this understanding of infrastructure necessitates consent and Indigenous and local governance in infrastructural decision-making, especially when it comes to Arctic housing. Decolonizing processes of housing development are not just about resistance to, or rejection of, harmful projects, but about creating (alternative) housing options that reflect Northern values and needs.

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