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Greenway (Trails) For All

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Greenway (Trails) For All

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Abstract

Using intersectionality, this research analyzed the barriers for equitable access of active transportation in rural British Columbia. There is a dearth of research on this topic, which speaks to the need for a greater investment in understanding what the barriers are to specific demographics.

While a lack of safe infrastructure and associated concerns of safety are commonly cited, when analyzing from additional perspectives, instances of harassment, racism, and anti-queer sentiments arose. These issues are systemic and can be seen through the distribution of resources within the transportation system in general. For rural communities, barriers become more challenging to address due to limited resources and capacity. For inter-community travel, the distances to install new infrastructure and then maintain that infrastructure is complicated by greater distances and multiple jurisdictions to navigate.

There are various challenges associated within each barrier, with cross-over that can have compounding effects on various groups. Flexibility, localized need, and integrated approaches are core concepts to keep in mind.

Keywords: active transportation, decolonization, transportation planning, rural transportation

Voie Verte (Sentiers) Pour Tous

Résumé

En utilisant l'intersectionnalité, cette recherche a analysé les obstacles à un accès équitable au transport actif dans les régions rurales de la Colombie-Britannique. Il y a une pénurie de recherche sur ce sujet, ce qui témoigne de la nécessité d'un plus grand investissement dans la compréhension des obstacles à des données démographiques spécifiques.

Alors que le manque d'infrastructures sûres et les préoccupations associées en matière de sécurité soient souvent citées, lors de l'analyse sous d'autres angles, des cas de harcèlement, de racisme et de sentiments anti-queers sont apparus. Ces

problèmes sont systémiques et peuvent être vus à travers la répartition des ressources au sein du système de transport en général. Pour les collectivités rurales, les obstacles deviennent plus difficiles à surmonter en raison des ressources et des capacités limitées. Pour les déplacements intercommunautaires, les distances pour installer de nouvelles infrastructures et ensuite entretenir ces infrastructures sont compliquées par de plus grandes distances et de multiples juridictions à parcourir.

Il existe divers défis associés à chaque obstacle, avec des croisements qui peuvent avoir des effets cumulatifs sur divers groupes. La flexibilité, les besoins localisés et les approches intégrées sont des concepts fondamentaux à garder à l'esprit.

Mots-clés : transport actif, décolonisation, planification des transports, transport rural

1.0 Introduction

Transportation is vital for a just and inclusive society, but the inequitable distribution of transportation infrastructure hinders individuals and communities from achieving that goal. Transportation is necessary for our daily living, such as accessing groceries, healthcare, or getting to work (Berg, 2020): people need choices in their daily transportation design (personal communication, 2020). Systemic inequities are built into our transportation systems through a history of discriminatory practices and development that can prevent or inhibit access to opportunities (Berg, 2020).

Improving access to active transportation (AT) for all is emerging as a topic of conversation (Winters et al., 2018). Inclusive design models and general awareness seek to reduce the barriers for those with mobility issues in accessing outdoor spaces (Kootenay Adaptive Sport Association, n.d.). There is a growing awareness of the inequitable distribution of active transportation infrastructure within lower-income neighbourhoods, which can lead to questions of racial or ethnic exclusion (Cahen, 2016).

In 2019, the Province of British Columbia (BC) published an AT strategy, *Move Commute Connect* (Clean BC, 2019), to improve the walking, cycling, and other active networks in the province. An intersectional lens[1] was applied to the strategy but failed to (1) bring up larger inequities involved in active transportation developments, particularly in relation to Indigenous and rural communities, and (2) mention or address systemic safety concerns that are a part of active transportation networks and contribute to individual choices.

The purpose of this research was to understand barriers to AT in rural BC with a focus on equity-seeking groups and Indigenous peoples. The term active transportation remains an elusive concept to define but is often described as any type of human-powered travel, for any activity, whether or not by choice (Province of British Columbia, 2019).

As in other Canadian provinces and territories, rural BC has a strong urban-rural divide, with many considering rural as being anything outside of metro Vancouver

[1] Intersectionality is a form of analysis that allows for understanding of how inequities impact people in different and compounding ways based on personal identity factors, including but not limited to race, socioeconomic status, gender, orientation, ethnicity, or disability.

or the Capital Regional District (Victoria) (Rural British Columbia Project, n.d.). Over 2 million people—or 40% of the population—lives outside these regions (BC Stats, 2021). This means people can often feel underheard and end up with policies that are developed for larger population centres but ill-suited for rural contexts (Rural British Columbia Project, n.d.).

Defining rural can be difficult and differs by individual, community, and governments. Federal standards divide communities into three population centres (over 100,000; 30,000–99,999; and 1,000–29,900) (Statistics Canada, 2017b), whereas the BC Rural Dividend Program defines rural as 25,000 or less (Province of British Columbia, n.d.). Instead of strictly population, this research focused on inter-community travel (between communities) in contrast to intra-community travel (within community), to reflect rural travel patterns as people commute for work, errands, or recreation between communities (Noxon Assoicates Limited, 2009).

Inquiries and analyses were made to consider how gender, socio-economic status, sexual orientation and identification (LGBTQ2S+), people of colour, people of diverse abilities, seniors, and Indigeneity can impact access to AT in rural BC. A separate pathway of inquiry was developed to recognize the unique experiences Indigenous peoples (First Nations, Metis, and Inuit; on or off First Nations reserves) have with provincial, territorial, and federal governments, including land and land-use planning.

The question that guided this research was, "What are the barriers that limit equitable access to active transportation in rural communities in British Columbia?"

2.0 Methodology

For this research, and aligning with intersectionality, equity considers the various identity factors that can prevent or inhibit a person from choosing to use active transportation. This qualitative analysis was conducted in four phases using grounded theory (Glaser & Strauss, 1967) and an ecological thinking framework (Code, 2011) with an interdisciplinary approach (Repko & Szostak, 2016). The first phase of research followed Dunne (2011), and an environmental scan of academic, government, and non-government sources provided a baseline understanding of AT. This search initially focused on rural Canada, and search terms included "active transportation in rural Canada", "transportation in rural Canada", and "rural active transportation". As resources on rural Canada became exhausted, parameters were expanded to include international sources that focused on rural and Canadian-based equity transportation studies, the latter of which were based in urban areas such as Vancouver, Montreal, or Toronto. For this phase, disciplines were predominantly within the fields of geography, transportation, and behavioural studies.

The second phase involved understanding inequities that various demographics face through a literature review. This phase formed the start of the intersectional analysis (Crenshaw, 1989; 1991) for targeted groups and their relationships with active transportation. As no publications could be found using the search terms "rural Canada active transportation (in)equity", urban-based equity studies in transportation were drawn from. This review was largely academically sourced from Google Scholar and ResearchGate to include an interdisciplinary analysis of active transportation through health, social justice, economics, political science, equity studies, and settler colonial studies.

The third phase involved interviews with stakeholders and Indigenous voices to provide unique insights into common barriers. Ten interviews were conducted. They were developed as guided conversations to allow for the systematic collection of data but created the space to explore areas that had not been considered (hooks, 1991). The interviews represented tourism, individual users, those involved in trail building, advocacy or educational groups, planners, representatives in Indigenous governance, and non-profit organizations serving equity-seeking groups.

Lastly, using the constant comparison method (Glaser & Strauss, 1967), thematic challenges emerged and were subject to an intersectional analysis and rural lens to understand inequitable access. Best practices were recorded throughout the environmental scan and literature review and underwent a rural analysis to understand potential solutions. This resulted in identifying four proponent groups who were often involved in active transportation initiatives. Focus areas were identified for each group and constitute initial and emerging solutions.

3.0 Limitations

Inconsistent definitions around both AT and rural provided difficulties in scoping, research purpose, and understanding during guided conversations. For AT, the definition can be described as any type of human-powered travel, for any type of activity, whether by choice or necessity. The span of rural definitions creates similarly varied problems, solutions, and recommendations.

There is a recognized lack of data for rural communities in Canada (Main et al., 2019), with AT having less (Smith et al., 2017). Canadian studies were largely urban-focused, such as metro Toronto, Montreal, or Greater Vancouver. Most studies are based on intra-community versus inter-community, the latter of which is more common in rural areas than urban centres. The largest vacuum of data related to Indigeneity and AT. No Canadian study nor government reference could be found on the topic. Some resources exist related to trail development on First Nations reserves, but the broader question of how colonization or decolonization interacts with AT has not yet been explored.

Lastly, the guided conversations led to the recognition of trauma triggers in Indigenous peoples, people of colour, and LGBTQ+ communities. This research was not set up to support trauma triggers so delving into this topic was not ethically possible. Trauma in AT has not been adequately researched.

4.0 Environmental Scan: What We Know About Active Transportation

Cycling as a means of transportation exists throughout the world: across genders, socio-economic ranges, topographies, and climates. Despite common beliefs, topography (Tyndall, 2019) and poor weather (Not Just Bikes, 2021) have virtually no correlation with the likelihood of cycling rates (Tyndall, 2019). Similarly, the purpose of trips or levels of physical ability are adequate predictors of cycling rates (Aldred et al., 2016).

Much of the research around active transportation is urban-centric (Smith et al., 2017), US-based (Winters et al., 2018), and structured around a work week assumed to be Monday to Friday, 9am-5pm, that takes an out-and-back route that starts and ends at home (Aldred et al., 2016). Consistently, safety issues from motorized traffic

are the biggest barriers to cycling (Aldred et al., 2016; O'Rourke & Dogra, 2020; Bigazzi & Berjisian, 2019). Safety concerns are reported as infrastructure issues, such as a lack of crosswalks and un-maintained sidewalks (Adkins et al., 2017). Pedestrians echo these infrastructure concerns (Not Just Bikes, 2021).

In areas where AT infrastructure is less supported, there are greater instances of pedestrian injuries and fatalities (Adkins et al., 2017). Infrastructure support comes from a combination of planning goals and political will: the planning, engagement, implementation, and maintenance phases of AT infrastructure are all interconnected (Tyndall, 2019; Adkins et al., 2017) and can contribute to the prevention of injuries and fatalities.

O'Rourke and Dogra (2020) found that simply building more infrastructure does not equate to an increase in overall AT rates. Furthermore, when overall rates of AT participation do rise in a community, that increase does not result in an increase in diversity (Aldred et al., 2016). There are various cultural, social, and engrained systemic inequities that exist. In the sphere of equity, there is "a difference between being included and being welcome. Just because you are welcoming to people doesn't mean you're necessarily inclusive" (Patagonia, 2020a)

5.0 Active Transportation & Inequities: An Intersectional Analysis

An intersectional analysis considers the factors that prevent access to AT and contributes to understanding why certain demographics may not choose to use AT. This section combines the interdisciplinary literature review phase that provided general understandings of systemic inequities with the targeted stakeholder interviews to better elaborate on specific inequities to AT. Particularly as it relates to demographics that have little to no transportation-related equity study, voices from the interviews were selected to provide greater clarity and examples of equity concerns.

5.1 Transportation Inequity

To understand equity barriers in AT, it is necessary to recognize that systemic inequities are embedded within the broader transportation system. Transportation planning can perpetuate social inequities of gender, socio-economic status, disabilities, and race. Globally, there is a recognition of inequity in transportation (Blomstrom et al., n.d.), particularly recognizing the interconnection between un- or under-employment and transportation (Fransen et al., 2018).

In North America, the prevalence of car culture prioritizes motorized forms of transportation, limiting available resources to invest in AT (Blomstrom et al., n.d.; Cahen, 2016; "A brave new road: How transportation might look post-pandemic", 2020). This prioritization and allocation of resources to support car culture results in favouring those with a means to afford a vehicle (Cahen, 2016; Allen & Farber, 2020b).

Echoing findings from O'Rourke and Dogra (2020) and Aldred et al. (2016) that increasing infrastructure does not automatically increase user rates, one transportation planner noted that the "build it and they will come" approach is not sufficient for mis- and under-represented groups (personal communication, 2020). This point is complemented by Allen and Farber's (2020a) and Berg's (2020)

findings that equity and social justice concepts are becoming embedded and a part of the transportation planning and land-use process decision-making conversations.

For transportation—and by extension active transportation—equity looks at analyzing how the distribution of transportation systems are impacting people (Campbell, 2019). Two terms that are increasingly being used are *horizontal equity* and *vertical equity* (Berg, 2020; Litman, 2021). Horizontal equity refers to the equal treatment and distribution of all resources, which is the current status quo of decision-making. Vertical equity allocates resources to those who need them most. An example of horizontal equity would be that everyone receives the same bicycle in a community. Vertical equity considers factors like the age of recipient, using pavement or a dirt track route, or whether an adaptive device is required.

5.2 Gender

Gender-based inequities in the transportation system are well-documented (Blomstrom et al., n.d.). Systems are designed to get a physically independent individual from their home to their place of work during a traditional North American workweek (Aldred et al., 2016). This is also the pattern that has been predominantly researched: an individual leaves home, goes to work, and returns home (Fransen et al., 2018). Women's travel patterns differ significantly (Kwan, 2008). In part, it is to mitigate personal security concerns of harassment or abuse (Blomstrom et al., n.d.)—which is heightened for women of colour—but also due to the gendered labour divide (Blomstrom et al., n.d.; Kwan, 2008). The labour divide results in different travel patterns, such as being reliant on weekend or shiftwork, or from being a stay-at-home parent and requiring multiple stops due to multiple errands (Aldred et al., 2016).

In North American cycling, there is a significant gender divide: women's rates are consistently less than half of men's (Cahen, 2016; Doran et al., 2021). In Canada, the cycling rate for women is approximately 30 percent (Aldred et al., 2016). Safety is touted as the primary reason for not choosing cycling, which is usually attributed to infrastructure concerns (Aldred et al., 2016; Cahen, 2016). However, harassment (Blomstrom et al., n.d.) or abuse due to stereotypes and cultural norms have also been reported (Aldred et al., 2016; Cahen, 2016; Doran et al., 2021).

5.3 Socio-Economic Status

Socio-economic status is an important consideration (Fransen et al., 2018). Although there are variables, when it comes to transportation choices, lower-income people have fewer transportation choices (Fransen et al., 2018). Lower rates of car ownership mean that usage rates of AT is not a lifestyle choice but a necessity (Adkins et al., 2017; Doran et al., 2021). In BC, the highest user group of AT are those with no reliable access to a motor vehicle (Ministry of Transportation and Infrastructure & BC Statistics, 2019).

Despite being the highest user group of cycling for commuting, low-income neighbourhoods have less access to safe infrastructures, such as a divided pathway (Winters et al., 2018). From an advocacy standpoint, low-income people are often "invisible" (Cahen, 2016, p. 2) and not consulted for engagement or other advocacy efforts. Advocacy groups do not necessarily represent the majority of active transportation users (Kelly, 2018) and their efforts can exacerbate inequities (Cahen, 2016). For example, bike helmet laws can negatively impact lower-income

individuals who cannot afford helmets and result in an over-policing of those neighbourhoods (explored further under People of Colour) (Cahen, 2016). Additionally, emerging evidence is showing that cycling infrastructure may be driving gentrification (Doran et al., 2021), further displacing those already in vulnerable situations.

When gender is intersected with income, additional concerns emerge. Women in BC earn less overall than men and are more likely to experience poverty. The median income for women is $27,543 in comparison to men's median of $40,370 (Statistics Canada, 2017a). Of the 1.8 million people in BC who net less than $29,000, 58% of them are women (Statistics Canada, 2017a). Gender is only one of the identity factors to consider for socio-economic status factors (Kelly, 2018). Intersections of socio-economic status and other identity factors demonstrate how inequities exacerbate vulnerabilities and access to safe AT use.

5.4 2SLGBTQ+

The overall body of research on the systemic inequities faced by the 2SLGBTQ+ communities in Canada is low (Egale, 2020). For Two Spirit people, the research is even less as the bulk of research and resources on gender and sexuality have been conducted from a settler colonial perspective, and decolonizing these perspectives have been peripheral (Hunt & Holmes, 2015). There is little that incorporates 2SLGBTQ+ considerations into active transportation (Kelly, 2018), although some exist on 2SLGBTQ+ youth and safety concerns walking to school (Ahmed et al., 2016).

Employment indicators demonstrate the socio-economic inequities of LGBTQ2S+ people. In Canada, employment indicators show that gay and bisexual men and bisexual women earn less than their heterosexual counterparts. There are significant employment barriers within the LGBT2S+ community, such as receiving fewer interviews, losing promotions or raises, and experiences not fitting in (Waite et al., 2019). In Canada, it is estimated that between 25–40% of homeless youth identify as LGBTQ2S+ (Ross & Khanna, 2017). Other data shows that 26% of bisexual people live below the poverty line and that 49% of transgender Canadians earn less than $15,000 per year (Egale, 2020). Workplace facilities and infrastructure can exacerbate safety issues. For example, the continued use of gender-binary symbols in bathrooms are often viewed as a microaggression (personal communication, 2020).

Other disciplines and indicators expand on understanding the intersecting factors of AT and 2SLGBTQ+ communities, such as health and safety. Personal safety concerns include phobic-triggered aggressions and systemic discriminations. In Canada, nearly half (47%) of post-secondary students witnessed or experienced discrimination based on gender, gender identity, or sexual orientation (Burczycka, 2020), and Two Spirit people face higher rates of discrimination, harassment, and violence.(Egale, 2018) Within sports, discrimination, harassment, and abuse are rampant for LGBTQ2S+ athletes (Egale, 2020). In a BC-based study, it was found that lesbian, gay, and bisexual youth are half as likely to be participating in sports and physical activity as their hetero- and cis-identifying cohorts (Doull et al., 2018). For safety, it was only in December 2020 that the Canadian Association of Chiefs of Policy issued an apology for the historical mistreatment of 2SLGBTQ+ communities ("Canada's police chiefs apologize for opposition to decriminalize homosexuality", 2020). Health equity studies routinely demonstrate that the 2SLGBTQ+ community is ostracized (Egale, 2020). Within the Canadian healthcare

system, inequities related to transgender health care persist (Senett, 2021) and Two Spirit people see a 10% higher suicide rate than other Canadians (Egale, 2018).

These two systems—health and justice—are relevant for AT as they (1) create an understanding of the overall systemic oppression that 2SLGBTQ+ communities have experienced in Canada and (2) may be directly involved when an incident occurs. For example, if a transgendered person is hit by a car while cycling, one interviewee questioned whether the attending officer or medical professionals would mistreat the victim, such as delaying medical services or a refusal to use correct pronouns (personal communication, 2020). At minimum, individuals may conceal who they are as there is an implicit "expectation of danger because of [their] queerness" (personal communication, 2020).

5.5 People of Colour

Multiple and intersecting factors exist for people of colour (POC) in Canada (Kelly, 2018). With most bike advocacy groups being largely homogenous and comprising of white, wealthy men, concerns by immigrants and POC are often erased or excluded (Cahen, 2016; Doran et al., 2021). For Canadian studies, the authors could not find any study that considered the intersection of AT and POC, neither rural nor urban. Doran et al. (2021) corroborated this in their 2021 systemic literature review of active transportation plans and equity in Canada.

Several US-based studies have demonstrated a lack of infrastructure investment in racialized—and disproportionately low-income—communities (Cahen, 2016; Winters et al., 2018). Despite being the largest user group of AT, racialized communities are often overlooked and ignored in planning departments and processes (Cahen, 2016; Doran et al., 2021). While more likely to have a major thoroughfare through these neighbourhoods, studies have found that there are fewer traffic-calming measures and that roads and surfaces are in greater disrepair, creating a more dangerous cycling and walking environment (Cahen, 2016). Studies have also shown that racism bias simultaneously means drivers are less likely to stop for a pedestrian who is a person of colour than a white pedestrian (Cahen, 2016).

There is a knowledge gap about racism in Canada. There is a "denial…a refusal to take a look at the information that exists" (Bridges, 2020, Deadly force | Fatal encounters with police in Canada: 2000-2017 section), and racism is a factor that white organizations simply do not consider (Kelly, 2018). Racism is not relegated to the past and issues of power and oppression cannot be adequately explored here. In Canada, deadly police force continues to disproportionately impact racialized people (Singh, 2020). In BC, anti-Asian and white supremacist related hate crimes have been on the rise during the COVID-19 pandemic (British Columbia's Office of the Human Rights Commissioner, 2020). What these indicators demonstrate is that racism continues to exist in Canada, and all-white advocacy groups are not able to fully comprehend the oppressions that exist. It provides context that seemingly well-intentioned policies developed by white advocacy groups may exacerbate inequities. For example, an increase in police presence in a neighbourhood due to a helmet law may instil greater fear, anxiety, or could even result in death due to systemic racism (Cahen, 2016).

Within the outdoor recreation culture, "living in a white gaze" (personal communication, 2020, see also Yancy, 2013) is evident for people of colour at events where music or food is organized by white organizations. In a crowd of white faces,

theirs is the only one of colour (Patagonia, 2020a). One stakeholder highlighted this concern of trail use by noting the inequity in accessing the outdoors for recreation. Despite the outdoors being free and theoretically accessible to all, a history of the Ku Klux Klan and an association of lynching in the forests results in an extreme uneasiness for some POC to enter the outdoors. Summed up, they said, "bad things happen in the woods" (personal communication, 2020). A lack of representation means initiatives and policies can perpetuate power structures (Yancy, 2013) that exclude people of colour and contribute to inequitable access.

5.6 Persons With Diverse Abilities

6.2 million Canadians—22% of the population—are reported to have at least one disability (Government of Canada, 2017). Often, people will report having more than one type of disability (Government of Canada, 2017). Addressing the barriers for all disabilities was not feasible within this research as disability spans physical, to cognitive, to acquired, to invisible. Despite the large proportion of people reporting having a disability, BC does not have published data on disability rates.

For physical activity rates among people with disabilities in Canada, the information is nearly non-existent (Martin Ginis, 2020; Gamache et al., 2017). In a 2012 report to the Standing Senate Committee on Human Rights (Jaffer & Brazeau), the physical activity participation rate was as low as 3% for people with disabilities, noting barriers such as a lack of facilities and programs; increased costs for specialized equipment and transportation; and a lack of coaches or others who can help train athletes. There are infrastructure-related barriers that exist for people with physical mobility issues, such as curb cuts or a poor transition from sidewalk to the road; uneven or unmaintained surfaces; narrow and cluttered sidewalks or no sidewalks at all; poor lighting; and inadequate or absence of rest areas (Gamache et al., 2017). There is a large body of research that highlights barriers to mobility concerns for people with a physical mobility limitation, but few are Canadian-based. Looking for information internationally, it is recognized that people with a disability are often absent from the cycling discussion, which puts them at a disadvantage for advocacy efforts (Wheels for Wellbeing, 2020).

In Canada, disability and socio-economic status are closely intertwined. This provides insight into individual choices or the perception of choice when it comes to AT use. 1.6 million Canadians who have a disability are unable to afford necessary living costs, such as prescription medications. The employment rate for persons with disabilities is at 59%, compared to 80% for persons without a disability (Government of Canada, 2017). Costs for specialized equipment to participate in physical activity, such as cycling, have been identified as a barrier to participation (Kelly, 2018; Wheels for Wellbeing, 2020). For someone experiencing income insecurity, there is no real choice between spending money on immediate needs, such as shelter, food, or medication, versus aides to assist in utilizing AT, such as an e-bike.

5.7 Seniors

A complicating and limiting factor of analyzing seniors as a standalone demographic is that the term encompasses a wide range of ages and needs, from active and independent retirees to those in need of supportive, full-time care. Those needs will dictate the level and ability of individual AT choices.

Ample studies have demonstrated that age alone does not dictate the participation level of AT (Aldred et al., 2016; Not Just Bikes, 2021; O'Rourke & Dogra, 2020), although it is recognized that mobility issues will likely substantially increase with age (Bizier et al., 2016). Mobility issues and safety concerns from unmaintained sidewalks (O'Rourke & Dogra, 2020) are the most commonly cited barriers to seniors

Intersecting seniors with gender yields additional concerns, particularly related to socio-economic status, which speaks to the benefit of considering seniors from an intersectional perspective that considers multiple factors. In BC, 18.3% of the population is over 65, and women comprise 53% of that age bracket. That percentage increases as the age increases, with women making up 62.5% of the population over 85 years (Statistics Canada, 2017a). Senior women also make up a larger share of seniors within the low-income tax measure bracket (Statistics Canada, 2017a); they also have an increased likelihood of mobility issues compared to men (Bizier et al., 2016).

5.8 Rural Context

As consistent throughout Canada, information on rural BC is limited (Main et al., 2019) and AT studies in rural Canada has less (Smith et al., 2017). The resources available considered how intra-community travel is conducted—how people travel within the community—which overlooks the realities of rural travel patterns where people travel outside their immediate community for needs and recreation (Noxon Associates Limited, 2009). The lack of data is noticeably missing within mis- or under-represented groups, such as those in low-income situations, within 2SLGBTQ+ communities, people of colour, those living with a disability, and Indigenous peoples.

Looking at countries such as Denmark, Finland, or Germany with similar inclement weather patterns and seasons demonstrate that weather is not a fundamental barrier to year-round AT use (Not Just Bikes, 2021). In these countries, infrastructure, safety, and convenience have been embedded within planning and can account for the larger share of the population embracing AT use (Not Just Bikes, 2021).

Infrastructure, safety, and convenience are exacerbated in rural contexts as inter-community travel often involves highway travel (Noxon Assoicates Limited, 2009), where few or no protective barriers exist. In comparison to a municipal neighbourhood, higher speeds combined with commercial trucking traffic on these travel routes translates into a higher likelihood that a person is more likely to be injured or involved in a fatal incident in rural areas than urban settings (Noxon Assoicates Limited, 2009). On secondary or tertiary routes, surfaces can be unmaintained, and a person may find themselves walking or cycling on a dangerous unprotected or poorly maintained shoulder (personal communication, 2020).

In rural BC, there are multiple jurisdictions and governments that may need to be navigated for AT infrastructure. The Trails Society of BC is a provincial organization that has extensive experience in navigating the jurisdictions and conveys the numerous bodies involved in developing a trail (Trails Society of BC, n.d.). For example, creating a connector trail from a First Nation reserve to a nearby municipality may require three local government bodies (First Nations government, regional district, and municipality), waterway concerns (federal jurisdiction), and crossing over a portion of Agricultural Land Reserve (provincial jurisdiction). These

complications require extensive communication, coordination, and navigation skills across multiple ministries and regulations (Trails Society of BC, n.d.).

While often thought to be homogenous, rural communities have a diversity of residents that includes Indigenous peoples, immigrants, as well as various orientations and genders (Brooks, 2015). However, population density often means that for mis- or under-represented people, there are fewer services or organizations that are available to offer supports and networks (Rich, et al., 2021) to facilitate a sense of inclusion in rural communities. One interviewee noted that when on a trail in a rural community, the issue of safety is brought into question when a recognized social justice sticker (e.g., rainbow flag, medicine wheel) has been shot out or defaced. Conversely, when these stickers and symbols are seen in the community, it facilitates more inclusive and safe perceptions (personal communication, 2020).

6.0 Indigeneity and Active Transportation: Why separate Indigenous Issues?

Exclusive to Indigenous peoples are the impacts of land dispossession that continue as a structure today (Macoun & Strakosch, 2013). Indigenous peoples encompass First Nations, Métis, and Inuit peoples who have had ties to the land since time immemorial (Weir, 2013). In comparison to the rest of Canada, BC is relatively young, having entered confederation in 1871. It is the colonial ideal of land rights, access, and ownership that guides current land-use models in BC (Harris, 2002). The combined differences in land connectedness and the continued impacts of colonization have created unique experiences for Indigenous peoples that require a separate pathway to analyze how Indigenous peoples may feel exploited on their sovereign and unceded territories (Harris, 2002; Madill, 1986).

Free, prior, and informed consent (FPIC) stipulates that Indigenous peoples are provided with decision-making power for developments undertaken on their lands (Martin & Bradshaw, 2018). This is an important component of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (Martin & Bradshaw, 2018). On March 30, 2022, the Provincial Government released the Declaration on the Rights of Indigenous Peoples Act Action Plan, applying policies set forth by UNDRIP within a provincial lens (BC Ministry of Indigenous Relations and Reconciliation, 2022). This includes FPIC, which reinforces Indigenous people's rights to self-determination and Aboriginal Rights and Title (Martin & Bradshaw, 2018). Establishments, such as Provincial Parks, have developed public spaces without FPIC and have contributed to the dispossession of lands from Indigenous peoples (Gagnon et al., 2010). Ignoring FPIC and establishing trails or AT systems with the purpose to serve tourists perpetuates and advances colonization: it dispossesses Indigenous people from their lands in order for those lands to be repurposed for settler-descendent peoples (Lucas, 2019).

6.1 Unique Considerations

Prior to colonization, trails were established to travel from region to region and to access areas throughout a nation's territory (Lucas, 2018). In recent history, the relationship Indigenous peoples have with trails is now linked to colonization and intergenerational trauma. Through colonization, trails were established as a result of fur traders entering BC and to exploit the resources and lands of Indigenous peoples (Harris, 2002). This led to the development of railways, which increased the rate

settlers came to BC to further exploit resources (Longworth, 2009). The railway was implemented through the dispossession and relocation of Indigenous peoples as they were placed within reserves throughout Canada (Truth and Reconciliation Commission of Canada, 2015). While experiences vary by nation and individual, there are cases where Indigenous children were transported to and from residential schools by rail (Jackson, 2015). There is inherent trauma linked to dispossession, attending residential school, and colonization events (Crown-Indigenous Relations and Northern Affairs Canada, 2017). This trauma is exclusively experienced by Indigenous peoples (Bombay et al., 2014).

These railways are being repurposed as rail trails, often called rails-to-trails initiatives (Oswald Beiler et al., 2015). Rail trails are emblematic of the dispossession of Indigenous peoples and the removal of Indigenous peoples from their lands. Repurposing these railways into trails does not rid Indigenous people's trauma linked to these events.

AT needs to be understood from a decolonial framework: this means incorporating Indigenous perspectives within the context of AT. Indigenous peoples have been traversing their territories since time immemorial, using traditional AT routes (Lucas, 2018). An example of this is the transportation of oolichan grease through the Nuxalk-Carrier Grease Trail. Today, this traditional AT route is recognized and preserved for its inherent value as an Indigenous AT route and is thus seen and understood from a decolonial framework (Sam et al., 2021).

Moreover, there are examples of decolonizing urban AT routes to incorporate Indigenous perspectives, languages, and traditional knowledge. The čičməhán trail in Port Townsend, Washington, is an example of both a trail and active transportation network that incorporates traditional knowledge systems as well as Indigenous history. This was done in conjunction with the Jamestown S'Klallam nation and the municipality of Port Townsend by incorporating the traditional knowledge of the S'klallam peoples within the context of the čičməhán trail (Scruggs, 2020). The čičməhán trail operates as an AT network that was established using a decolonized framework.

The recreation sector directly benefits from the removal of Indigenous peoples from their lands (Lucas, 2020). Recreation allows for and reinforces the continued dispossession of sovereign, unceded Indigenous lands in BC to be repurposed for settler-descendent peoples. As individuals travel throughout BC to explore, they often disregard the lands they are on as unceded and sovereign (Lucas, 2019). Being able to traverse lands on these networks and explore new areas is a privilege that is made possible due to the dispossession and forced expulsion of Indigenous peoples from their territories (Lucas, 2019).

There are no Indigenous-led trail organizations in BC (Lopez, 2020). There are already gaps in terms of AT infrastructure within Indigenous communities in comparison to their non-Indigenous counterparts, yet there is nobody present to advocate on their behalf (Lopez, 2020).

It is important to note the hierarchy of issues within reserve communities within BC and how this links to AT. Indigenous reserve communities have a variety of different factors that affect their well-being, such as housing (Office of the Auditor General of Canada, 2018), access to safe water (Castledon et al., 2015), or health issues (Chambers & Burnett, 2017). This can lead to prioritizing issues that affect immediate health and well-being over AT infrastructure.

7.0 Barriers and Decolonization

The environmental scan and the targeted literature review provided a baseline of common elements that represented barriers to equity-seeking groups and Indigenous peoples in accessing active transportation. The interviews served as a cross-reference to confirm these common elements, and the elements were then grouped into themes, following the constant comparison method. This resulted in the development of four themes plus a separate section for Indigenous considerations. As is common in grounded theory, the need to revisit and revise themes was ongoing and occurred consistently throughout the research.

While Indigenous considerations had been pulled out as a separate line of analysis, during the comparison process, similarities, such as a lack of representation or trauma-related safety concerns, emerged. Given the legislated requirements for reconciliation in BC through the Declaration on the Rights of Indigenous Peoples Act (DRIPA), Indigenous considerations must be a part of any AT planning in the province. Thus, the themes were revised to ensure that Indigenous considerations are a grounding factor and became included in the barrier development process. The five thematic barriers identified were: (1) safety and security concerns, (2) lack of representation, (3) limited capacity in rural areas, (4) lack of data, and (5) lack of Indigenous considerations.

7.1 Safety & Security Concerns

Safety concerns consistently emerged as the top barrier for choosing AT over other modes of transit. Traditionally, these concerns have been viewed as a lack of adequate infrastructures, such as lighting, poor maintenance, crosswalks, rest areas, and separated lanes or pathways from motorized traffic.

However, this research has yielded the need to reconsider safety beyond just infrastructure needs. Advocacy groups that focus on infrastructure often overlook the intersecting factors that exist. Feelings of security can be impeded by social and cultural factors. Systemic racism, misogyny, and phobic-driven aggressive behaviours can impede personal security, creating a barrier to accessing or using AT.

7.2 Lack of Representation

Improving infrastructure to address safety concerns is often driven by advocacy groups dominated by wealthier, white men. These efforts can fail to recognize other issues. Limited diversity leads to (1) a general exclusion for individual participation, (2) systemic discrimination that perpetuates inequities through ill-informed policies or initiatives, and (3) the inequitable distribution of resources. These outcomes generate feelings of insecurity and social exclusion and can also lead to harmful outcomes, such as increased police presence in racialized neighbourhoods, ignoring the need to distribute resources for those with greater needs, or retraumatizing a First Nation community.

7.3 Limited Capacity in Rural Areas

Rural communities face resource capacity limitations of staff, expertise, money, and services. For example, a city planner is a major component in AT networks, and they work across departments to ensure adequate resources and needs are aligned. In

urban centres, having a planner on staff is the status quo, whereas rural governments, including First Nations governments, may not have one.

Maintenance of infrastructures, such as snow removal and upkeep of surfaces, is complicated by the distances required for inter-community travel, multiple jurisdictions to navigate, and the limited staffing or resources available. Rural AT networks in BC must address the safety concerns of inter-community travel along highways or single-option routes. Within a municipality, a less-busy thoroughfare may be an option for safer routes; however, for inter-community travel in rural areas, limited options combined with highway travel means AT users are routinely exposed to highway speeds and industrial traffic without protective barriers.

Systemic issues of racism or anti-LGBTQ2S+ sentiments are amplified in rural communities due to fewer resources and a greater homogeneity within the population. The *white gaze* may feel outright hostile when combined with target practice on social justice movement symbols. Land-use conflicts between Indigenous and colonial ontologies may contribute to reduced communication or collaboration.

7.4 Lack of Data

As noted earlier, there is limited data on the topic of inequities in active transportation in rural Canada. Where participation rates are available, it is presented in aggregate form, which limits the ability to understand unique barriers to different demographics. In addition, solutions are urban-centric and do not take into consideration travel patterns associated with rural communities. This report has yielded unique issues for different groups because of a disaggregated approach. However, the large scope of the research combined with limited resources to conduct the research resulted in interview sample numbers that are not sufficiently robust to constitute a statistically relevant sample. Thus, while the research represents a contribution to this field, this information may not be transferable to other rural Canadian communities. As one stakeholder stated, “without data, we can’t see the truth” (personal communication, 2020), and developing and implementing solutions is constrained.

7.5 Lack of Indigenous Considerations

Fundamental to AT in BC is the need to recognize inherent Indigenous rights, as set out by the DRIPA Action Plan. As stated in section 2.6 of the Action Plan, there is a need to “co-develop strategic-level policies, programs and initiatives to advance collaborative stewardship of the environment, land, and resources, that address cumulative effects and respects Indigenous knowledge” (BC Ministry of Indigenous Relations and Reconciliation, 2022). To implement meaningful actions on decolonizing AT land-use planning, a concentrated shift for planners and senior orders of governments must occur. Co-developing AT pathways with local Indigenous community members and leaders allows for that decolonized lens by embedding Indigenous knowledge systems within the process from the very beginning. The current process for working with First Nations in BC is underdeveloped and requires further review. There are no province-wide, Indigenous-led trails organizations in BC. This creates an inference that all organizations are managed using a settler-focused process which puts the onus on organizations’ staff, volunteers, and boards to decolonize their knowledge and processes. In addition, trauma in relation to railway access and associated fatalities

or injuries have not been explored, let alone addressed, by organizations or governments. This trauma may impact a First Nation reserve community's acceptance of a rail trail development in or near their community, thus impacting the potential uptake of Indigenous people in that area from choosing active transportation. As noted, co-developing AT frameworks from the beginning can alleviate some of the historical concerns pertaining to railway usage – although this would need to be further explored from a trauma-informed lens.

A complicating factor with AT and First Nations communities is the systemic injustice that continues to pervade and is noticeable in reserve communities. Trails and AT projects may not be welcomed as communities deal with housing crises, lack of safe drinking water, food insecurity, and other immediate health concerns.

8.0 Emerging Solutions by Proponent Group

Best practices are examples of solutions that have been implemented and have contributed to addressing a particular challenge. Throughout the research, best practices were recorded; however, as has been explored, the lack of rural-specific AT data has resulted in inferences from other literature and disciplines to better understand equity concerns and develop solutions, as well as applying a rural lens and consideration to urban practices. Due to the exploratory nature of this research, this section begins the discussion on emerging solutions that may, in time, become a best practice. During the constant comparison of barriers and the rural lens application to best practices, the need to understand the parties involved in developing or planning AT and AT networks became apparent. These parties—the proponents—are involved and can directly influence the access to AT. There are four proponent groups of AT that have differing levels of responsibility and jurisdiction, with the recognition that there are permutations of responsibility within these categories. The four groups are:

1. Organizations
2. Rural local government
3. First Nations government
4. Senior-level government

As summarized in Table 1, each proponent has key areas they should focus on to contribute to the equitable access of AT use. For organizations, such as trail groups, the priority should be identifying internal policies, practices, and biases that prevent the inclusion and limit the understanding of equity in AT advocacy or development. This includes updating policies, educating staff and volunteers, and actively engaging in participatory methods of consultation and engagement with mis- and under-represented groups.

Local and First Nations governments should focus priorities on updating policies, processes, and by-laws to explicitly recognize the value and importance of active transportation within their respective communities. Simultaneously, improving relationships with neighbouring governments and regional organizations will assist in advocacy efforts for senior-level government agencies.

Senior levels of government have two key areas to focus on. The first is to address systemic racism, anti-queer, and misogyny that exists within the various systems of policing, health, and transportation, as well as the government body as a whole. The

second is to increase supports to local governments, First Nations governments, and organizations to conduct local research and implement locally developed solutions that address the unique needs of rural communities.

Table 1: *Priority Areas of Focus by Proponent*

Proponent Group	**Focus**
Organizations	▪ Identify and address internal policies that limit/prevent inclusion ▪ Adopt inclusion and diversity policies ▪ Update consultation and engagement practices
Rural Local Government	▪ Prioritize AT in planning, policies, and by-laws ▪ Adopt intersectionality and vertical distribution process for decision-making
First Nations Government	▪ Prioritize AT in planning, policies, and by-laws ▪ Adopt intersectionality and a vertical distribution process for decision-making
Senior-Level Government	▪ Address systemic racism, anti-LGBTQIA+, and misogyny within policing, health, and transportation ▪ Increase supports to rural local and First Nations governments to: o Conduct research o Implement locally-developed solutions

Equitable access to AT in rural communities relies on the cooperation of multiple agencies, governments, and organizations. This collaboration is a strength in rural communities where strong social networks facilitate relationships and relationship development (Li et al., 2019; Vodden & Cunsolo, 2021). Solutions related to inclusion and equity must be conducted in an integrated and collaborative approach that has been explicitly prioritized by the organization or government. Efforts must emerge from within the organization or government to effect the change, and these efforts must be grounded in decolonizing the organization or government's approaches and frameworks.

9.0 Conclusion and Implications

As what typically happens with exploratory research, more questions have arisen than answers supplied, and an equally varying array of pathways to consider future research for policy recommendations has emerged. Using intersectionality, this research analyzed the barriers to the equitable access to active transportation in rural

BC. Although ample research has been done to assess rates of cycle commuting, it is largely from the perspective of the white, able-bodied, income-secure male that has focused on cycling commuting for work. This research limits multiple other experiences of AT, including mobility issues, patterns of travel, personal security, and trauma. There is a dearth of research on equity and AT, even less that is based in Canada, and this research represents a starting point for conversations around equity and active transportation in rural Canada.

While a lack of suitable infrastructure and concerns of safety are cited as primary barriers in the available body of work, when analyzing using intersectionality, questions related to harassment, racism, and anti-queer sentiments arose that affect individual security concerns. Trauma and the impacts of colonization and land dispossession have been ignored from research and the current planning of AT systems. For rural communities, hurdles become more challenging due to limited resources and capacity. For inter-community travel, installing and maintaining new infrastructure is complicated by greater distances and multiple jurisdictions to navigate.

Implications of this research include informing organizational and government policies on engagement processes, diversity and inclusion, and planning and land-use processes. Resource allocation, improving collaboration, and applying intersectional considerations are within the scope of all orders of governments and organizations to address many social barriers related to racism, 2SLGBTQ+ discrimination, and colonizing impacts. Greater supports to rural communities for active transportation initiatives from senior orders of government are required to facilitate the greater distances and complications involved in project development.

Barriers to active transportation in rural British Columbia are complex and need to be considered from an integrated perspective. There is a much-needed response from governments and organizations to actively support work with mis- and under-represented groups to identify solutions. Flexibility, localized need, and collaborative approaches are core concepts. Equitable access to AT encompasses the cooperation of multiple agencies, governments, and organizations. Although efforts should be made collectively, leadership must emerge from within the organization or government to effect change. In other words, an organization or government should not wait for others to address inequitable access to AT: actions can be taken to address issues that exist within their respective capacity.

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Recognition

The authors wish to explicitly recognize that there is no “one” Indigenous group, person, or Nation: the breadth of heterogeneity that exists is vast and complex. There is no implication that any assumption in this research encompasses all Indigenous Nations in British Columbia. The authors acknowledge that the land on which we live and learn was first touched by the thousands of First Nations, Inuit, and Metis peoples before us.

The intention of this research is to further the discourse on inequities groups face, and, as the research progressed, the authors realized that little exists on what

decolonizing active transportation means. The historical and ongoing displacement of Indigenous peoples by settlers, contemporary issues of land rights and access, along with governance and decision-making, are based on the colonial ideal of ownership, use, and the justifications of power over others. The authors recognize that exploration is an inherently colonial activity, and we thank the Indigenous peoples whose lands we have explored for their generosity to date.

The primary author, Tara Howse, acknowledges she is a white settler and is gracious to her co-author as we jointly delved into this topic of Indigeneity and active transportation. Concepts of trauma and decolonizing how active transportation may be viewed through a reconciliatory lens are valuable for all users of active transportation networks: from the individual to the trails associations/organizations to governments. We hope this research can provide a starting point for having those conversations.

I am Damyn Libby, I acknowledge my background as a white-passing cis-male of mixed Indigenous and settler ancestry. I do not know which community I am from, or which nation I belong to—this was stripped away from me under provisions of the Indian Act. I was raised knowing that I am Indigenous and that this is a component of my identity. I am still pursuing my journey of reclaiming my identity and understanding who my ancestors are. My perspective as an Indigenous-male is present throughout this work.

References

A brave new road: How transportation might look post-pandemic. (2020, June 5). *CBC News*. https://www.cbc.ca/radio/spark/a-brave-new-road-how-transportation-might-look-post-pandemic-1.5600952

Adkins, A., Makarewicz, C., Scanze, M., Ingram, M., & Luhr, G. (2017). Contextualizing walkability: Do relationships between built environments and walking vary by socioeconomic context? *Journal of the American Planning Association*, *83*(3), 296–314. https://doi.org/10.1080/01944363.2017.1322527

Ahmed, H., Adam, K., Clark, K., Wesaw, F., Gollust, S., & Nanney, M. S. (2016). Hear our voices: Case study connecting under-represented communities to research legislators on safe routes to school and active transportation. *Journal of Community Engagement and Scholarship*, *8*(2), 59–64. https://doi.org/10.54656/PODT2467

Aldred, R., Woodcock, J., & Goodman, A. (2016). Does more cycling mean more diversity in cycling? *Transport Reviews*, *36*(1), 28–44. https://doi.org/10.1080/01441647.2015.1014451

Allen, J., & Farber, S. (2020a). Planning transport for social inclusion: An accessibility-activity participation approach. *Transportation Research Part D: Transport and Environment*, *78*(1), 1–29. https://doi.org/10.1016/j.trd.2019.102212

Allen, J., & Farber, S. (2020b). Suburbanization of transport poverty. *Annal of the Association of American Geographers*, *1*, 1–24. https://doi.org/10.1080/24694452.2020.1859981

BC Stats. (2021, October 1). *Quarterly population highlights*, (Issue # 21-03). https://www2.gov.bc.ca/assets/gov/data/statistics/people-population-

community/population/population_highlights_2021q3.pdf

Berg, A. (2020). *Incorporating equity into transportation plans: The case of pedestrian master plans*. Kansas State University.

Bigazzi, A., & Berjisian, E. (2019). Electric bicycles: Can they reduce driving and emissions in Canada? *Plan Canada*, *Fall*, 39–42. https://civil-reactlab.sites.olt.ubc.ca/files/2019/10/Bigazzi_2019_PlanCanada_Ebike-effects-on-driving-and-emissions.pdf

Bizier, C., Fawcett, G., & Gilbert, S. (2016). *Canadian survey on disability, 2012. Mobility disabilities among Canadians aged 15 years and older, 2012*. Ottawa: Statistics Canada.

Blomstrom, E., Gauthier, A., & Jang, C. (n.d.). *Access for all series: Policies for inclusive TOD*. Brooklyn, NY: Women's Environment and Development Organization.

Bombay, A., Matheson, K., & Anisam, H. (2014). The intergenerational effects of the Indian residential schools: Implications for the concept of historical trauma. *Transcultural Psychiatry*, *51*(3), 320–338. https://doi.org/10.1177/1363461513503380

Bridges, A. (2020, January 16). Q&A: Founder of Black Lives Matter in Canada explains the call to defund police. *CBC News*. Retrieved December 15, 2020, from https://www.cbc.ca/news/canada/saskatoon/question-answer-sandy-hudson-black-lives-matter-defund-police-1.5613280

British Columbia's Office of the Human Rights Commissioner. (n.d.). *Hate and the rise of white supremacy*. Key Issues. Vancouver: Author. Retrieved December 15, 2020, from https://bchumanrights.ca/key-issues/hate-and-white-supremacy/

Brooks, M. (2015, June). *Advancing equity and inclusion: A guide for municipalities*. City for All Women Initiative. https://www.cawi-ivtf.org/sites/default/files/publications/advancing-equity-inclusion-web_0.pdf

Burczycka, M. (2020). *Students' experiences of discrimination based on gender, gender identity or sexual orientation at postsecondary schools in the Canadian provinces, 2019*. Ottawa: Statistics Canada. Retrieved December 15, 2020, from https://www150.statcan.gc.ca/n1/pub/85-005-x/2020001/article/00001-eng.htm

Cahen, C. (2016). "More than paint on concrete": The winding path toward bike equity. *Global Journal of Community Psychology Practice*, *7*(3), 1–9. https://doi.org/10.7728/0703201605

Campbell, D. (2019, November). What does transportation equity mean? U of T researcher on why it's too important to ignore. *U of T News*. https://www.utoronto.ca/news/what-does-transportation-equity-mean-u-t-researcher-why-it-s-too-important-ignore

Canada's police chiefs apologize for opposition to decriminalize homosexuality. (2020, December 11). *CBC News.* https://www.cbc.ca/news/canada/kitchener-waterloo/canada-police-chiefs-apologize-lgbtq-historical-mistreatment-1.5838033

Castledon, H., Crooks, V. A., & Van Meerveld, I. (2015). Examining the public health implications of drinking water-related behaviours and perceptions: A face-to-face exploratory survey of residents in eight coastal communities in British Columbia and Nova Scotia. *The Canadian Geographer*, *59*(2), 111–125. https://doi.org/10.1111/cag.12169

Chambers, L., & Burnett, K. (2017). Jordan's principle: The struggle to access on-reserve health care for high-needs Indigenous children in Canada. *American Indian Quarterly*, *41*(2), 101–124. https://doi.org/10.5250/amerindiquar.41.2.0101

CleanBC. (2019). *Move commute connect: BC's active transportation strategy*. Province of British Columbia. https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/activetransportationstrategy_report_web.pdf

Code, L. (2011). Ecological thinking as interdisciplinary practices. In R. Foshay (Ed.), *Valences of interdisciplinarity: theory, practices, pedagogy* (pp.191–221). Athabasca, Canada: Athabasca University Press.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Form*, *1*(8), 139–167.

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, *43*(6), 1241–1299. https://doi.org/10.2307/1229039

Crown-Indigenous Relations and Northern Affairs Canada. (2017). *First Nations in Canada*. Retrieved Jan 3, 2021. https://www.rcaanc-cirnac.gc.ca/eng/1307460755710/1536862806124

Doran, A., El-Geneidy, A., & Manaugh, K. (2021). The pursuit of cycling equity: A review of Canadian transport plans. *Journal of Transport Geography*, *90*, 102927. https://doi.org/10.1016/j.jtrangeo.2020.102927

Doull, M., Watson, R. J., Smith, A., Homma, Y., & Saewyc, E. (2018). Are we leveling the playing field? Trends and disparities in sports participation among sexual minority youth in Canada. *Journal of Sport and Health Science*, *7*(2), 218–226. https://doi.org/10.1016/j.jshs.2016.10.006

Dunne, C. (2011). The place of the literature review in grounded theory research. *International Journal of Social Research Methodology*, *14*(2), 111–124. https://doi.org/10.1080/13645579.2010.494930

Egale. (2020). *National LGBTQI2S action plan executive summary*. https://egale.ca/awareness/nationalactionplan/

Fransen, K., Boussauw, K., Deruyter, G., & De Maeyer, P. (2018). The relationship between transport disadvantage and employability: Predicting long-term unemployment based on job seekers' access to suitable job openings in Flanders, Belgium. *Transportation Research Part A: Policy and Practice*, *125*(July), 268–279. https://doi.org/10.1016/j.tra.2018.01.023

Gagnon, N., Langdon, S., & Prosper, R. (2010). Two paths one direction: Parks Canada and Aboriginal Peoples working together. *The George Wright Forum*, *27*(2), 222–233.

Gamache, S., Routhier, F., Morales, E., Vandersmissen, M. H., Leblond, J., Boucher, N., James McFadyen, B., & Noreau, L. (2017). Municipal practices and needs regarding accessibility of pedestrian infrastructures for individuals with physical disabilities in Québec, Canada. *Journal of Accessibility and Design for All*, *7*(1), 21–56. https://doi.org/10.17411/jacces.v7i1.122

Glaser, B. G., & Strauss, A. L. (1967). *Discovery of grounded theory*. Aldine.

Government of Canada. (2017). *New data on Disability in Canada* [Poster]. Ottawa: Statistics Canada.

Harris, C. (2002). *Making native space: Colonialism, resistance, and reserves in British Columbia*. Vancouver: UBC Press.

Hooks, bell. (1991). Theory as liberatory practice. *Yale Journal of Law and Feminism*, *4*(1), 1–12.

Hunt, S., & Holmes, C. (2015). Everyday decolonization: Living a decolonizing queer politics. *Journal of Lesbian Studies*, *19*(2), 154–172. https://doi.org/10.1080/10894160.2015.970975

Jackson, K. (2015). Aboriginal children herded like cattle onto "train of tears." *APTN National News*. https://www.aptnnews.ca/national-news/aboriginal-children-herded-like-cattle-onto-train-tears/

Jaffer, M. S. B., & Brazeau, P. (2012). *Level the playing field: A natural progression from playground to podium for Canadians with disabilities*. Ottawa, Canada: Standing Senate Committee on Human Rights.

Kelly, A. (2018, June 30). The adventure gap: Why minorities are less likely to pursue outdoor recreation. *CBC News*. https://www.cbc.ca/news/canada/british-columbia/the-adventure-gap-why-minorities-are-less-likely-to-pursue-outdoor-recreation-1.4726872

Kootenay Adaptive Sport Association. (n.d.). *Trail consulting and projects*. https://kootenayadaptive.com/trail-consulting-and-projects/

Kwan, M.-P. (2008). Feminist perspectives on geographic information systems: Implications for geographic research. In L. Schiebinger (Ed.), *Gendered innovations in science and engineering* (pp. 97–108). Standford University Press.

Li, Y., Westlund, H., Liu, Y. (2019). Why some rural areas decline while some others not: An overview of rural evolution in the world. *Journal of Rural Studies*, *68*, 135–143.

Litman, T. (2021*). Evaluating transportation equity: Guidance for incorporating distributional impacts in transportation planning*. Victoria, British Columbia: Victoria Transport Policy Institute.

Longworth, H. A. (2009). Tracks, tunnels and trestles: An environmental history of the construction of the Canadian Pacific Railway, 1883-1885. *The Graduate History Review*, *1*, 70–77.

Lopez, X. (2020). *BC trail survey findings*. Vancouver, Canada: Outdoor Recreation Council. https://drive.google.com/file/d/1k6fQ_5F9ti3Tidz-j3qE0MRQxT2D5S0j/view

Lucas, P. (2018). How mountain bike trails are changing the First Nations experience. *Kootenay Mountain Culture*. https://mountainculturegroup.com/first-nations-building-mountain-bike-trails/

Lucas, P. (2020). The myth of the great mountain bike saviour. *Patagonia*. https://www.patagonia.com/stories/the-myth-of-the-great-bike-savior/story-90295.html

Lucas, P. (2019). *Working in a good way: A best practices guide for engaging and working with Indigenous Peoples on trails and outdoor recreation projects in British Columbia*. Vancouver: Outdoor Recreation Council of BC. Retrieved December 9, 2022, from https://static1.squarespace.com/static/6169b9b7f9862761042c7c05/t/61e4239780afe51b5a6a72b9/1642341368141/2019_ORC_Working-in-a-Good-Way_Aug-2021-update.pdf

Macoun, A., & Strakosch, E. (2013). The ethical demands of settler colonial theory. *Settler Colonial Studies*, *3*(3–4), 426–443. https://doi.org/10.1080/2201473X.2013.810695

Madill, D. F. K. (1986). *Treaty research report – Treaty Eight (1899)*. Ottawa: Treaties and Historical Research Centre, Indian and Northern Affairs.

Main, H., Breen, S.-P., Collins, D., & Gaspard, V., Lowery, B., Minnes, S., & Reimer, W. (2019). *State of rural Canada III: Bridging rural data gaps.* Canadian Rural Revitalization Foundation.

Martin, E. M. W., & Bradshaw, B. (2018). Free, prior, and informed consent (FPIC) in the Yukon: Established practice or untravelled path? *Northern Review (Whitehorse)*, *47*(47), 113–134. https://doi.org/10.22584/nr47.2018.006

Martin Ginis, K. A. (2020, March 1). We need data on physical activity among people with disabilities. *Hamilton Spectator*. https://www.thespec.com/opinion/contributors/2016/04/05/we-need-data-on-physical-activity-among-people-with-disabilities.html

Ministry of Indigenous Relations and Reconciliation. (2022). *Declaration on the Rights of Indigenous Peoples Act Action Plan 2022-2027*. Victoria, British Columbia, Canada: Author.

Ministry of Transportation and Infrastructure & BC Stats. (2019). *Active Transportation Strategy: General Population Survey 2019*. Victoria, Canada: Author.

Not Just Bikes. (2021). *Why Canadians can't bike in the winter (but Finnish people can)* [Video]. YouTube. https://youtu.be/Uhx-26GfCBU

Noxon Associates Limited. (2009). *Improving travel options in small & rural communities*. Ottawa: Transport Canada. https://www.fcm.ca/Documents/tools/GMF/Transport_Canada/ImprovingTravelSmallRural_EN.pdf

O'Rourke, N., & Dogra, S. (2020). Constraints to active transportation in older adults across four neighbourhoods: a descriptive study from Canada. *Cities & Health*, 1–10. https://doi.org/10.1080/23748834.2020.1833282

Office of the Auditor General of Canada. (2018). *Socio-economic gaps on First Nations reserves*. Ottawa: Indigenous Services Canada.

Oswald Beiler, M., Burkhart, K., & Nicholson, M. (2015). Evaluating the impact of rail-trails: A methodology for assessing travel demand and economic impacts. *International Journal of Sustainable Transportation*, *97*(7), 509–519. https://doi.org/10.1080/15568318.2013.825035

Patagonia. (2020a). *Becoming Ruby: Including, bikes and hand-drawn heroes*. https://www.patagonia.ca/stories/becoming-ruby/video-85848.html

Province of British Columbia. (n.d.). *BC rural dividend*. https://www2.gov.bc.ca/gov/content/employment-business/economic-development/support-organizations-community-partners/rural-economic-development/rural-dividend

Repko, A., & Szostak, R. (2016). *Interdisciplinary Research, Process, and Theory* (3rd ed.). Thousand Oaks, California: Sage.

Rich, K., Hall, H., & Nelson, G. (2021). *State of Rural Canada 2021: Opportunities, Recovery, and Resiliency in Changing Times*. Canadian Rural Revitalization Foundation.

Ross, L. E., & Khanna, A. (2017). What are the needs of lesbian, gay, bisexual, trans, and queer (LGBTQ+) people that should be addressed by Canada's Poverty Reduction Strategy (CPRS). *Homeless hub.* https://www.homelesshub.ca/resource/what-are-needs-lesbian-gay-bisexual-trans-and-queer-lgbtq-people-should-be-addressed-canada

Rural British Columbia Project. (n.d.). *What does rural B.C. need to succeed?* [Discussion Paper]. Author.

Sam, J., Schmeisser, C., & Hare, J. (2021). Grease Trail Digital Storytelling Project: Creating Indigenous digital pathways. KULA: Knowledge Creation, *Dissemination, and Preservation Studies*, *5*(1). https://doi.org/10.18357/kula.149

Scruggs, G. (2020, November 26). With this trail honoring a S'Klallam leader, Port Townsend works toward decolonizing its history. *The Seattle Times*. https://www.seattletimes.com/life/outdoors/with-this-trail-honoring-a-sklallam-leader-port-townsend-works-toward-decolonizing-its-history/

Senett, K. (2021, February 11) The financial cost of being LGBTIQ2S in Canada. *Morningstar*. https://www.morningstar.ca/ca/news/209486/the-financial-cost-of-being-lgbtiq2s-in-canada.aspx

Singh, I. (2020). 2020 already a particularly deadly year for people killed in police encounters, CBC research shows. *CBC News.* https://newsinteractives.cbc.ca/fatalpoliceencounters/

Smith, L. N., Mitra, R., Hess, P., Loewen, N., & Culp, D. (2017). *Active transportation planning beyond the greenbelt: The Outer ring of the Greater Golden Horseshoe Region*. Toronto, Canada: Clean Air Partnership.

Statistics Canada. (2017a). *British Columbia [Province] and Canada [Country] (table). Census Profile.*

Statistics Canada. (2017b). *Population Centre and Rural Area Classification 2016*. https://www.statcan.gc.ca/eng/subjects/standard/pcrac/2016/introduction

Trails Society of BC. (n.d.). *The Great Blue Heron Way Vision*. Retrieved September 14, 2022 https://trailsbc.ca/the-great-blue-heron-way-vision-gbhw/

Truth and Reconciliation Commission of Canada. (2015). *The final report of the Truth and Reconciliation Commission of Canada*. Montreal, Canada: McGill-Queen's University Press.

Tyndall, J. (2019, May 26-29). *Cycling to work: Is geography destiny?* 54th Canadian Transportation Research Forum. Vancouver, Canada. https://ctrf.ca/wp-content/uploads/2022/08/201962Tyndall.pdf

Vodden, K., & Cunsolo, A. (2021). Rural and Remote Communities. In F. Warren & N. Lulham (Eds.), *Canada in a changing climate: National Issues Report* (pp. 105–184). Government of Canada.

Waite, S., Ecker, J., & Ross, L. E. (2019). A systematic review and thematic synthesis of Canada's LGBTQ2S+ employment, labour market and earnings literature. *PloS ONE*, *14*(10), 1–20. https://doi.org/10.1371/journal.pone.0223372

Weir, L. (2013). "Time immemorial" and Indigenous Rights: A genealogy and three case studies (*Calder, Van der Peet, Tsilhqot'in*) from British Columbia. *Journal of Historical Sociology*, *26*(3), 383–411. https://doi.org/10.1111/johs.12028

Wheels for Wellbeing. (2020). *A guide to inclusive cycling* [4th ed.]. Author.

Winters, M., Fischer, J., Nelson, T., Fuller, D., & Whitehurst, D. G. T. (2018). Equity in spatial access to bicycling infrastructure in mid-sized Canadian cities. *Transportation Research Record*, *2672*(36), 24–32. https://doi.org/10.1177/0361198118791630

Yancy, G. (September 1, 2013). Walking While Black in the 'White Gaze'. *The New York Times*. Retrieved January 26, 2021 https://archive.nytimes.com/opinionator.blogs.nytimes.com/2013/09/01/walking-while-black-in-the-white-gaze/