RESEARCH SHOP

"know what's out there!"

Reclaiming Our Streets: A Review of the Relationship Between Race, Street Safety, and Comfort in Public Places

Prepared for

Environment Hamilton

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Key Definitions

Active Transportation: Transportation through the use of non-motorized means, for example, walking, biking, travelling with a mobility device.

BIPOC: An acronym referring to Black, Indigenous, and People of Colour.

Green Infrastructure: Natural environmental features, such as trees and parks, that have been integrated into urban spaces.

Placemaking: The diverse ways that racial groups create and reclaim places to build up and strengthen their communities. This enables cultural traditions to be practiced and taught to younger generations, and ensures the sustainability of their respective cultures (Giancarlo, 2021).

Executive Summary

This report presents the results of a McMaster Research Shop project for Environment Hamilton. This project reviewed research regarding the intersection between race, street safety, and comfort in public places in order to provide Environment Hamilton with suggestions for a street audit tool that focuses on racial equity. Research methods for this project include a literature review and an environmental scan.

The research team conducted a literature review in order to understand the concerns of Black and racialized communities regarding street safety and comfort in public places. Additionally, we focused on understanding the methods that can be used in order to effectively engage with Black and racialized communities with respect to street planning. Our results found that concerns about street safety and comfort in public places centred around the inequitable distribution of active transportation infrastructure and the lack of Black voices in urban planning efforts. Furthermore, since tools such as peer involvement and advocacy have shown promise for other marginalized communities, they may also prove beneficial when consulting Black and racialized communities on street planning efforts.

The research team also conducted an environment scan of case studies where the experiences of Black and racialized communities were put at the centre of street planning efforts. The purpose of the environmental scan was to identify constructs and indicators that may be relevant for Environment Hamilton's street audit tool.

Through the results of the environmental scan, as well as the literature review, we developed recommendations for a revised street audit tool with a focus on racial equity for non-residential streets, residential streets, and parks.

At the conclusion of this report, we provided Environment Hamilton with two recommendations: 1) Revise the street audit to include constructs and indicators that are relevant to BIPOC communities, and consider the use of media-based tools; and 2) Facilitate focus groups and interviews with racialized communities in Hamilton in order to better understand their concerns regarding street safety and comfort in public places.

1.0. Introduction

Environment Hamilton is a community-focused non-profit organization that inspires people to protect and enhance their environment. In 2017, Environment Hamilton created the Easy Street Audit Tool, an initiative that focuses on making neighbourhood streets safer and more vibrant for active transportation. The Easy Street Audit Tool empowers local stakeholders by allowing them to evaluate the safety and comfort of their street.

Inspired by the Black Lives Matter movement, Environment Hamilton has been using a racial equity lens to inform their Friendly Streets work. Recognizing that feelings of safety and well-being in public spaces are dependent on social factors, such as race, socio-economic class, and age, Environment Hamilton would like to explore the intersectionality of race and street planning efforts. In Winter 2021, Environment Hamilton approached the McMaster Research Shop to conduct research on this topic.

The main research question for this project is:

How can the concerns of Black and racialized people in relation to active transportation and mobility be incorporated into urban planning efforts?

In addition to this research question, based on our consultation with Environment Hamilton, we developed the following sub-research questions:

- How can Black and racialized people feel safer and more comfortable in public spaces, and better enjoy these spaces?
- What are some examples of where the concerns of Black and racialized people were incorporated into street planning efforts?

The goal of this research is to provide Environment Hamilton with a plain-language review of the concerns and aspirations of Black and racialized people regarding street planning efforts. Additionally, the research team was tasked with developing recommendations for a revised Easy Street Audit Tool that is better at assessing the concerns of Black and racialized people as they relate to their level of comfort and enjoyment of their streets and neighbourhoods.

The Research Shop agreed to take on the project and this report is a summary of the team's research methods, findings, and recommendations.

2.0. Methodology

2.1. Street Safety vs. Comfort

This report aims to understand the concerns of Black and racialized people regarding street safety and comfort in public places. For the purpose of this report, street safety refers to safety not only from a traffic and street design perspective, but also from violence, crime, carding, and police brutality. Comfort, on the other hand, refers to the presence of amenities (for example, public restrooms), the cleanliness of amenities, and overall aesthetics (for example, the presence of trees and street art). Additional terms are defined in the **Definitions** section of the report.

2.2. Literature Review

To help frame the research findings, as well as the final recommendations of the report, the team looked for literature on the following topics:

- The concerns of Black people regarding street safety and comfort in public spaces
- Ways that street safety and comfort in public spaces can be improved for Black people
- How the experiences of Black people can be incorporated into street safety and consultation efforts

The team searched scholarly databases, such as the McMaster library research databases and Google Scholar. Search terms included, "street safety AND Black people" "urban safety AND Black people" "sidewalk politics," "urban race geographies," "landscape planning AND Black people," "neoliberal restructuring," "neighborhood cohesion," "mobility," "transportation," "cycling," "race," "racial justice," "racial equity" "racial inequity," "politics of race," "uneven citizenship," "street identification," "ethnic diversity," "spacial equity," "critical race theory," "African American placemaking," "Black placemaking," "Black preservation," "community engagement AND Black people," "interracial collaboration AND city planning."

For the purpose of this brief review, the team selected articles that focused on North America, Europe, and Oceania, since these regions have political and cultural climates that are similar to Canada. The team also included articles that focused on the Republic of South Africa. Although South Africa has a political and cultural climate that is different from Canada, their history of apartheid may provide valuable insight to this project. Furthermore, to ensure relevancy for this project, articles within the last ten years were prioritized. While the purpose of this literature review was to scan articles that focused on the Black community, in the absence of research to fulfil this need, the team also included research on BIPOC communities.

2.3. Environmental Scan

For the environmental scan, the team searched for examples of case studies where the experiences of the Black community, and in the absence of research, BIPOC communities, were put at the centre of street planning efforts. In particular, we searched for case studies such as audit tools, toolkits and strategy reports that articulate an approach to evaluating street safety and comfort in public spaces for BIPOC communities. The purpose of the environmental scan was to identify gaps in the existing Easy Street Audit Tool and develop recommendations for a revised tool that focuses on racial equity. Data sources for this portion included published research, grey literature, and reports from various agencies.

The team extracted the following information when reviewing the case studies:
- Background information on the case (eg. the location, context for the project, goals).
- What kind of indicators did they use to assess street safety and comfort in public places?
- How information on the indicators were articulated (eg. a street audit tool vs. discussed in a strategy report)

Similar to the environmental scan, the team focused on case studies in North America, Europe, Oceania, and South Africa due to their relevance to Canada's context.

3.0. Limitations

The research team faced a number of constraints when conducting the literature review and environmental scan.

Applicability to Hamilton: Many of the articles and case studies that the research team reviewed were developed for large metropolitan cities in the United States, such Chicago and Los Angeles, and Detroit. Due to the large differences between these cities and Hamilton, including population density, geographical distinctiveness, and differences in the concentration of Black communities, the applicability of the research findings may be limited.

Lack of research on street safety: Many articles did not focus directly on street safety efforts, but rather on higher-level change such as policy making. In the event that street safety was discussed, the focus was primarily on outlining existing concerns rather than providing suggestions for improvements.

Lack of research on the Black community: There was often a lack of articles and case studies that focused primarily on the Black community. As a result, the team expanded the scope to include research on BIPOC communities, since the experiences of racialized people are often linked. While searching for research on how to incorporate

the experiences of Black people into street safety and consultation efforts, the team found that expanding the scope to include BIPOC communities did not produce additional results. As a result, the scope was further expanded to include other marginalized groups such as the homeless population as well as people with mental illness and disabilities.

Absence of Black voices: A common issue in urban planning is the lack of Black voices. Much of the research related to Black placemaking, street safety, and active transportation, was similarly conducted by people who are not Black. Therefore, while the findings from the literature may be relevant to this project, it is important to note that there may be additional perspectives that were not captured in the research.

As a result of the constraints outlined above, the findings presented in this research report may be limited. Further research is recommended to address these gaps.

4.0. Literature Review

This brief literature review aims to examine the intersection of race and street safety. It is divided into two sections: 1) concerns of Black people regarding street safety and suggested improvements, and 2) collaborating with the Black community on street safety efforts.

4.1. Concerns of Racialized Communities

4.1.1. Overview

For this section of the literature review, we reviewed 14 articles that discussed the concerns of Black people regarding street safety and suggested improvements. Relevant findings from each article are summarized in Tables 1-3 and are grouped into three themes: "sidewalk walkability and neighbourhood quality," "access to green infrastructure," and "black placemaking."

Table 1: Concerns and recommendations related to sidewalk walkability and neighbourhood quality.

Sidewalk Walkability and Neighbourhood Quality		
Source	**Concerns**	**Recommendations:**
Kelly, C. M., Schootman, M., Baker, E. A., Barnidge, E. K., & Lemes, A. (2007).	- Racialized communities have low access to infrastructure that supports physical activity. - Black communities in the St Louis metropolitan area were 15 times more likely to experience walking obstructions and sidewalk unevenness while walking compared to white communities.	Findings suggest that efforts to address physical (in)activity and street walkability have to address inequality in environmental access. This means that the street audit tool needs to take into account the presence of sidewalks, the degree of neighbourhood variation in sidewalk unevenness, sidewalk obstruction, and the presence of physical disorder.

Sanderson, B., Littleton, M., & Pulley, L. (2002).	● Black women living in lower walkability areas note that their neighbourhoods lack physical attributes that promote wellness. ● Major physical barriers of concern include a lack of sidewalks and street lights, lack of access to recreational facilities, sports fields, playgrounds and parks within walking distance, and poorly maintained public spaces.	● The creation of environmental features that support physical wellbeing would provide women with a safe way to be active and interact with their respective communities.
Sanchez, T., Stolz, R., Ma, J., & Change, C. (2003).	● Low-income communities with large minority populations are less likely to have access to sidewalks and bike lanes. This inequitable distribution of active transportation infrastructure jeopardizes the safety of community members.	● Ensure that low-income communities with large minority populations have access to sidewalks and bike lanes to increase the equitable distribution of active transportation infrastructure, as well as street safety.
McCullough, S. R., Lugo, A., & Stokkum, R. van. (2019).	● McCullough points out that common barriers to bicycling for Black people include theft (lack of safe places to store bikes), fear of traffic-related collisions (lack of bike lanes) and poor road conditions (pavement conditions).	● Ensure that there are safe places to store bikes, as well as quality bike lanes and road conditions.
Lowe, K. (2016).	● There is evidence of a statistically significant link between poverty level and walkability such that as income increases, walkability increases due to greater continuous pedestrian infrastructure (e.g., even and continuous sidewalks). ● When examining walkability in Black communities, there is a higher occurrence of uneven sidewalks, abandoned land or buildings, litter and graffiti.	
Greenberg, M. R., & Renne, J. (2005).	● Neighbourhood quality is defined as the presence of environmental features that facilitate physical activity and thereby improve	

	quality of life, such as footpaths, parks, and recreation centres. ● Neighbourhood quality is a strong indicator of walkability. ● The evidence suggests that neighbourhood quality is an environmental equity issue as Black community members disproportionately classify their neighbourhoods as being of poor or fair quality.	
Gallagher, N. A., Gretebeck, K. A., Robinson, J. C., Torres, E. R., Murphy, S. L., & Martyn, K. K. (2010).	● Among older, Black people, the neighbourhood features most relevant when walking include neighbourhood surroundings (e.g., attractive and peaceful), access and quality of sidewalks and presence of public walking tracks and trails. ● Common barriers to walking include litter on the ground, inadequate lighting, sidewalks that were broken or ended abruptly and poorly maintained public tracks and trails.	● Neighbourhoods with accessible parks, walking and biking paths, canopy cover, benches and well-maintained sidewalks encourage walking, which is necessary for the maintenance of physical health.
Corburn, J. (2004).	● Corburn highlights the disconnect between urban planning and public health and the need to reconnect these two fields. ● Poor environmental quality and exclusion from environmental decision-making as key contributors to adverse health outcomes among BIPOC communities.	● Urban planning and urban renewal must incorporate an environmental justice framework to ensure all environmental benefits and burdens are equitably distributed.
Fritz, H., Cutchin, M. P., & Cummins, E. R. (2018).	● Fritz highlights the intersection of trust and neighbourhood quality, whereby the deterioration of neighbourhood conditions through time (e.g., abandoned lots and unmaintained green areas) was perceived as being untrustworthy among older Black people.	

Table 2: Concerns and recommendations related to access to green infrastructure.

Access to Green Infrastructure[1]		
Source	**Concerns**	**Recommendations**
Venter, Z., Shackleton, C., Van Staden, F., & Selomane, O. (2020).	● While everyone has the right to quality urban nature, as it improves overall human wellbeing, Black and BIPOC communities have less access to, and often reside much further away from, green spaces.	● Ensure that the Black community has access to quality urban nature and green infrastructure. ● Assess how far Black people live from green infrastructure (e.g. tree cover, public parks, etc.) and advocate to the City of Hamilton to plant trees/build parks.
Heynen, N., Perkins, H. A., Roy, P. (2006)	● Communities made marginal that mostly live in inner-cities and are unable to maintain trees on their properties remain largely underserved. Urban trees elsewhere in the city fail to produce sufficient benefit for their local environments and may impact the wellbeing and quality of life of residents. ● This has led to poor access to green spaces and canopy cover, as well as an increase in urban-forest inequity between Black communities and affluent neighbourhoods.	● Ensure that Black communities also benefit from urban trees, as many Black people in Milwaukee live in inner cities and are, therefore, unable to maintain trees on their properties.
Sanderson, B., Littleton, M., & Pulley, L. (2002).	● Frequently mentioned as an environmental barrier is the lack of green spaces and poor access to trails for walking and biking.	● Improve access to green spaces and trails to promote wellness and a pleasant walking experience.

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[1] Green infrastructure refers to natural environmental features, such as trees and parks, that have been integrated into urban spaces.

Table 3: Concerns and recommendations related to Black placemaking.

Black Placemaking[2]		
Source	**Concerns**	**Recommendations**
Giancarlo, A. L. (2021).		- Black placemaking occurs through social interactions that create sites of cultural durability through: - Community sports teams, - Protests against violence, - Neighborhood reunions and - Homebound journeys (cultural memory performances). - These social interactions allow Black people to share intergenerational wisdom and create spaces to strengthen and reflect their cultural identities.
Williams, T. (2020).	- Environmental policies are seen as tools used to perpetuate anti-Black spaces and exacerbate existing racial inequalities. - Neighbourhood revitalization projects and urban renewal limit Black placemaking and often displace Black and low-income communities.	

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[2] Black placemaking is used by Black people to cultivate and build community in order to create and reclaim spaces for themselves.

4.1.2. Neighbourhood Quality and Sidewalk Walkability

Neighbourhoods with predominantly Black residents are disproportionately classified as being of fair or poor quality (Greenberg & Renne, 2005; Kelly et al, 2007). These neighbourhoods often lack access to sidewalks, streetlights, recreational facilities and parks (Lowe, 2016). Areas that have access to sidewalks often have a higher occurrence of uneven sidewalks, poor road conditions and poorly maintained public spaces (Sanderson et al, 2002). In addition, low-income communities with large minority populations are less likely to have access to sidewalks and bike lanes (Sanchez et al., 2003). The resulting inequitable distribution of active transportation infrastructure jeopardizes the safety of community members (Sanchez et al., 2003).

Gallagher et al. (2010) note that among older Black people, the most relevant neighbourhood features include neighbourhood surroundings (e.g., attractiveness and peacefulness), access and quality of sidewalks and presence of public walking tracks and trails. Furthermore, for older Black people in Detroit, living in a community with an adequate physical environment was viewed as essential for residents (Fritz et al., 2018). Fritz et al (2018) highlights that the deterioration of neighbourhood conditions through time (e.g., abandoned lots, unmaintained green areas and new residents) was perceived as an indicator of poor neighbourhood quality among older Black people.

Studies show that, to improve neighbourhood quality and sidewalk walkability for Black people, a sustained effort needs to be made to address inequality in access to urban nature and active transportation (Corburn, 2004; Gallagher et al., 2010; Kelly et al., 2007; Sanchez et al., 2003). Corburn (2004) recommends that urban planning efforts should incorporate an environmental justice framework to ensure that all environmental benefits and burdens are equitably distributed between diverse communities. In order to do that, the creation of environmental features that support physical wellbeing is necessary (Sanderson et al., 2002).

Examples of environmental features include the degree of neighborhood variation in sidewalk unevenness, sidewalk obstruction, accessibility of sidewalks, accessibility of bike lanes, presence of quality bike lanes, sidewalks and roads, presence of safe places to store bikes, presence of street lights, accessibility of and proximity to recreational facilities, sport fields, playgrounds, parks, walking and biking trails, canopy cover, and benches (Corburn, 2004; Gallagher et al., 2010; Kelly et al., 2007; McCullough et al., 2019; Sanchez et al., 2003; Sanderson et al., 2002). Using an environmental justice framework, the construction and/or enhancement of these environmental features can improve sidewalk walkability, neighborhood quality, street safety and physical wellness for Black people, and especially Black women, who are disproportionately affected by street dangers (Corbun, 2004; Kelly et al., 2007; Sanchez et al., 2003; Sanderson et al., 2003).

4.1.3. Access to Green Infrastructure

Green infrastructure refers to natural environmental features, such as trees and parks, that have been integrated into urban spaces. While everyone has the right to urban green infrastructure, Venter et al. (2020) explain that green spaces are less abundant and less accessible in predominantly Black neighbourhoods as these communities often have poorer access to green spaces, canopy cover and trails (Heynen et al., 2006; Sanderson et al., 2002). Since green infrastructure can be linked to health, the inequitable distribution of green spaces may impair the quality of life and wellbeing of Black residents (Heynen et al., 2006).

The indicators for urban green infrastructure present in the literature include access and proximity to trails for walking and biking, sport fields, playgrounds, public parks, urban forests, and canopy cover (Heynen et al., 2006; Sanderson et al., 2002; Venter et al., 2020).

In order to ensure that Black communities have access to quality urban green infrastructure, which Venter et al. (2020) argue is a human right, the distance between the residences of Black people and green infrastructure should be assessed (Venter et al., 2020). Such an assessment could measure the extent to which Black communities benefit from urban nature, enabling relevant stakeholders and advocacy groups to identify where Black people experience disproportionate access to, and reside much further away from, urban nature. Additionally, assessments can used to advocate for improved access to urban green spaces and, by extension, increased wellness and quality of life for Black communities (Heynen et al., 2006; Sanderson et al., 2002; Venter et al., 2020).

4.1.4. Black Placemaking

Black placemaking is used by Black people to cultivate and build community in order to create and reclaim spaces for themselves. Giancarlo (2021), defines Black placemaking as the diverse ways that Black people recreate and reclaim places by inscribing them with their own interpretations, meanings and cultural significance. The process of placemaking is enabled in places where cultural practices and intergenerational wisdom are embraced, practiced, taught and learned (Giancarlo, 2021). When Black people create and maintain these places, they are in the process of ensuring the durability and sustainability of their cultures (Giancarlo, 2021).

Giancarlo (2021) states that Black placemaking can be achieved through the following means:
- Community sports teams:
  - Community sports teams nurture the community's youth, emphasize their longstanding connections with the city's physical spaces, and sustain kinship ties.

- Protests against violence:
  - Protests against violence affirm Black survival based on resistance and cultural endurance. These protests provide 1) a form of resistance against a world that has casted Black people as victims of socioeconomic deprivation, and 2) opportunities to reclaim places by incorporating their own interpretations and cultural significance.
- Neighbourhood reunions:
  - These reunions re-emphasize kinship ties and a shared cultural identity. They also solidify intergenerational family ties and affirm Black survival.
- Cultural memory performances:
  - These performances give places identity by employing ritual commemorative practices that aim to sustain Black heritage. This involves transferring intergenerational traditions and family narratives through storytelling and performances from older to younger generations.

All of these practices create new spaces to affirm Black life, Black struggle, and Black survival (Giancarlo, 2021).

4.2. Consulting with Racialized Communities

For this section of the literature review, we reviewed four articles that aim to answer the question, "How can the experiences of Black people be incorporated into street safety and consultation efforts?"

Historically, Black communities have been regularly excluded from mainstream social planning considerations (Mohamud et al., 2021). In order to effectively include Black voices in consultation efforts, there must be a focus on inclusivity and respect (Cook, 2002). Black community members should be involved in all stages of the consultation and decision-making process, provided with feasible opportunities to bring forward concerns or recommendations, and given the option to remain anonymous with their concerns (Jami & Walsh, 2017; Cook, 2002). A systematic yet inclusive consultation process should focus on population needs and preferences, concerns, complaints and compliments, as well as overall outcome satisfaction (Cook, 2002).

Research suggests that as a result of systemic racism, oppression and overall mistreatment in society, Black people might fear sharing their experiences through public consultation (Voronka et al., 2014). Peer involvement, which allows Black researchers to engage with their own community, can be valuable since it stems from a foundational level of trust and shared lived experiences (Jami & Walsh, 2017; Voronka et al., 2014).

Voronka et al. (2014) recommend the following tools for peer involvement:

- Community networking
- Snowballing, which requires existing research participants to recruit future research participants
- Focus groups
    - Research shows that population-specific focus groups, in this case for Black people, are useful in fostering collective support and reflection about relevant experiences. The use of lived experiences, from a storytelling approach, allows for an in-depth narrative understanding of people's lives and the influence of societal inequalities.
- Personal interviews
- Paper-based consultation
- Photovoice
    - This tool is particularly meaningful in capturing in-depth individual experiences since it allows participants to share their experiences through photographs.

In addition to peer involvement, an advocate can act as a liaison between Black people and community stakeholders, thereby fostering professional collaboration and encouraging ongoing dialogue (Cook, 2002). Research recommends that individuals involved in city planning should seek advocates who accurately and appropriately represent the Black population. Furthermore, when there is a lack of available Black advocates, efforts can be made to create opportunities for Black people to become empowered leaders within their communities (Cook, 2002) suggests that these efforts can be supported in the following ways:

- Recruit and work at the local, community level
- Empower Black people to engage in a participatory action research approach
- Involve Black people in all stages of consultations
- Provide self-efficacy and leadership training
- Promote and encourage diversity within the Black community

5.0. Environmental Scan

The following section contains the results of our environmental scan. Through our scan, we reviewed 11 case studies where the experiences of BIPOC communities, particularly Black people, were put at the centre of street planning efforts. The purpose of the environmental scan was to collect information on constructs and indicators related to street safety and comfort in public places. The case studies included the following:

- Audit tools (4/11 case studies)
- Guidelines, strategy reports, and research papers (4/11 case studies)
- Media based tools such as videos, heat maps, and Photovoice (3/11 case studies)

Table 4 provides an overview of the features of each case study, including background information, the goals of each project, and information on how constructs and indicators were communicated. Table 5 details the constructs and indicators that were extracted from each case study, as well as information on how the indicators were measured.

Table 4: Overview of Case Studies

Case Study	Bike Equity Block Tool	Change Lab Solutions	City of Urbana	Community Toolbox
Location	Chicago, IL	Oakland, CA, USA	Urbana, IL, USA	Lawrence, KS, USA
Background information	The tool assesses equity in bicycling opportunities by comparing scores in racialized and upscale neighbourhoods. Results from the tool found significantly lower scores for awareness, accommodation and acceptability in racialized neighbourhoods.	Change Lab Solutions provides research and analysis support to organizations and communities in order to improve public health.	In August 2020, the City of Urbana developed a pedestrian master plan with a focus on racial equity.	Developed by the University of Kansas, Community Toolbox provides resources that can be used to develop healthier communities and bring about social change.
Goals of the project	Collect the lived experiences of cyclists in order to understand and address barriers related to bicycling.	The organization created guidelines on how to develop an equitable parks system.

The purpose of these guidelines is to ensure that communities plan and develop a parks system that benefits all community members. | The master plan aims to improve all substandard areas, especially areas of concentrated racial and ethnic minorities, lower income areas, and areas with transit-dependent populations. | The organization created a practical guideline on how to plan and implement a neighbourhood beautification program in order to improve quality of life. |
| **How were the indicators communicated?** | Indicators were communicated through their audit tool. | Indicators were communicated through guidelines and audit tools.

Several indicators from these guidelines and audits focused on racial equity and were thereby included in this project. | Indicators were communicated through the Pedestrian Master Plan. | Indicators were communicated through a guideline. |

Case Study	Equiticity	Hamilton's Ward 3 Surveys: Foul Odours and Sidewalks	Minneapolis Parks and Recreation Board (MRPB)	People for Mobility Justice
Location	Chicago, IL, USA	Hamilton, ON	Minneapolis, MN, USA	Los Angeles, CA, USA
Background information (eg. context for the project)	Community organization working towards racial equity and mobility justice for people of colour.

Host mobility justice tours and educational programing on active transportation. Lead community engaged research to support livable cities. | In 2020, Hamilton's Ward 3 councillor released a number of online surveys to gather feedback on issues that residents were facing such as foul odours, sidewalk hazards, and insufficient bike parking

Ward 3 has a large population of racialized residents | In 2016, MRPB approved the 20-Year Neighborhood Park Plan (NPP20) to reverse years of underfunding in neighbourhood parks.

NPP20 aims to reduce racial and economic inequality by ensuring that capital investments target underserved parks and communities. | Community organization working to document and address the transportation needs of Los Angeles' communities of colour.

Developed a bilingual and culturally relevant bike safety curriculum. Lead community rides to increase visibility, advocate and build community. |
| Goals of the project | Empower Black community to be a part of the transportation planning process.

Build community and share lived experiences through rides and walks.

Eliminate discriminatory enforcement practices in Vision Zero plans. | The goal of the sidewalk audit tool is to determine accessibility barriers created by sub-standard sidewalks

The foul odour survey aims to monitor pollution in Ward 3. Working in partnership with Niagara College the results of the survey will be used to policies regarding foul odors caused by air pollution. | NPP20 developed a criteria-based funding system that focuses on racial and economic inequality - the first of its kind in the United States.
The purpose of the criteria-based funding system is to provide a quantifiable evaluation of regional parks and trails. | The organization engages youth and elders in the urban and transportation planning process.

Focus on cultivating mobility leaders.

Combine safety education with community history in order to connect and uplift residents. |
| How were the indicators communicated? | Indicators were communicated through a number of action-oriented qualitative research studies. | Indicators were communicated through the use of audit tools. | Indicators were communicated through a report published on the MRPB website. The criteria are internally evaluated by MRPB staff. | Indicators were communicated through a series of videos and webinar presentations from community members that highlighted the lived experiences of communities of colour. |

Case Study	**Regional Equity Atlas**	**Residential Environmental Assessment Tool 2.0 (REAT)**	**Student Transportation Equity Map**
Location	Portland, OR, USA	Cardiff, UK	Boston, MA, USA
Background information (eg. context for the project)	Use maps, policy analysis and community based research to evaluate access to essential resources for residents of different neighbourhoods.	Developed by researchers from Cardiff University to assesses urban residential environments. REAT 2.0 was redeveloped as part of a project that analyzes the health benefits of a housing regeneration program. Since the tool focuses on housing regeneration, which focuses on housing rehabilitation and neighbourhood revitalization, it can be inferred that the communities it targets are usually low-income and may include BIPOC communities.	Student Transportation Equity Coalition hosted a PhotoVoice workshops for students in middle and high school in order to make student transportation more equitable across the city Although this project did not have a racial equity lens, the methodology of PhotoVoice can be useful when engaging with racialized communities
Goals of the project	Through their maps, focus on promoting greater regional equity.	The purpose of the tool is to provide a contextual measure of the quality of a neighbourhood's environment.	
How were the indicators communicated?	Indicators were communicated through a series of maps entitled "Proximity to Greenspace and Outdoor Recreation in Relationship to Demographic Patterns." In these maps, the Regional Equity Atlas identified that certain greenspaces have limited public access since they are only available during designated hours.	Indicators were communicated through a street audit tool.	Indicators were derived from qualitative information regarding barriers and positive features of students' daily travel to school. The use of a technique called PhotoVoice provided insight on how community members can share their experiences regarding street safety, street comfort, and active transportation.

Table 5: Constructs and Indicators

Tool name	Level of urban environment	Construct	Indicator	How were the indicators measured?
Bike Equity Block Tool	Non-residential streets, residential streets	Availability	Presence and quantity of facilities that support cycling transportation (e.g. bike share stations, bike parking locations)	Criteria are measured with 4 response options and given a corresponding number of points from 0-3.

Response categories include a reference such as "No" followed by 3 levels of increasing supportiveness for cycling (e.g. Is there bicycle infrastructure? (0) No bicycle infrastructure, (1) Shared lane, (2) bike lane, (3) protected bike lane) |
		Accessibility	Presence of nearby destinations and (e.g. Bus stops, train stops, green spaces, grocery stores, other destinations or services [e.g. library, community centre])	
		Awareness	Indicators that cyclists are uncomfortable cycling on the street	
			Wayfinding signage for cyclists or signage directed at other road users to increase awareness about presence of cyclists	
			Presence of intersection treatments or signage for cyclists	
			Quantity (number) of cyclists	
			Number of people riding on sidewalks

Research by Winters et al. (2012) found that cyclists perceive riding on sidewalks as safer than certain roadways despite increased relative risk compared to separated bike lanes and low traffic residential streets. | |

			Number of people riding their bikes in the wrong direction on the street or in a bike lane *This indicator that cyclists are unaware of rules of the road or face barriers to complying with them.*	
		Accommodation	Presence of and type of bike lanes	
			Condition/maintenance of cycling infrastructure	
			Presence of parking adjacent to cycling infrastructure *Without sufficient buffer space this can put cyclists at risk of being hit by a driver opening their door ("dooring").*	
			Street traffic volume	
			Street traffic speed	
			Presence of driveways alone bikeway *This can create obstructions for cyclists as cars pull into/out of driveways.*	
		Acceptability	Condition of road surface	
			Perceived comfort level of respondent with regards to cycling on the street alone	
			Perceived comfort level of respondent with regards to cycling on the street with children	
			Perceived comfort level of respondent with regarding to making a turn as a cyclist at the upcoming intersection	

Change Lab Solutions	Parks	Accessibility	Presence of facilities that are accessible for people with disabilities (eg. ramps, benches, drinking fountains)	Criteria are measured using aggregate level data that is accumulated by the city, audits by city staff, and surveys with local residents. The specific questions that are used for the audits and surveys are not specified.
			Access to parks by walking, biking	
			Number of people who visited the park in the last 3 months	
			Percentage of park entrances within walking distance to key destinations, such as transit stops, schools, medical clinics, etc.	
		Safety	Risk of traffic related injuries nearby the park	
			Feelings of safety from crime and violence *Change Lab Solutions states that parks that serve communities of colour and low-income neighbours are more likely to have safety concerns than parks that serve white or affluent areas.*	
		Inclusivity	Presence of park signs and communication material in a language that is appropriate for a resident population	
		Aesthetics	Cleanliness of park facilities (eg. bathrooms, water fountains) *Research by Smiley (as cited in Change Lab Solutions, 2018b) found that people of colour were primarily concerned about the presence of basic park amenities and the maintenance of park facilities.*	
City of Urbana	Non-residential streets	Walkability, safety	Presence of sidewalks, curb ramps, pedestrian signals and crosswalks in urban areas	Since the criteria are outlined in a strategy report, they are measured

			Connectivity of routes to and through all neighbourhoods	by the City's ability to achieve those criteria within a span of 3-years.
		Accessibility	Access to local trails from low and moderate income neighbourhoods	For example, the presence of sidewalks is evaluated by the number of pedestrian infrastructure programs that were initiated over a period of 3-years.
		Safety	Presence of a Walking School Bus Program	
Community Toolbox	Non-residential streets, residential streets	Walkability, aesthetics	Presence of litter, graffiti, grime	Criteria are explained through a report however measures are not identified.
			Harmony and variety of buildings	
			Condition of individual buildings	
			Presence of unused or potentially dangerous sites along a walking route (eg. eg. bridges, abandoned industrial sites, out-of-service railroad tracks) *Community Toolbox gives the example of a local garden club that turned an unused bridge into the Bridge of Flowers. Today, the bridge is a tourist attraction that beautifies the neighbourhood and supports the local economy.*	
			Presence of green elements (eg. trees, plants)	
			Presence of greenspaces	
			Presence of appropriate signage *Community Toolbox states that signs should be appropriate for their location. For example,*	

			a flashing neon sign may be inappropriate for a suburban subdivision while a small, hand painted sign may be inappropriate in front of a hospital.	
			Presence of appropriate lighting *According to Community Toolbox, Mercury-vapour or sulfur lamps can cast green or bright yellow light in all directions and distort colours. Alternatively, smaller lamps with white light cast downwards onto a street are more desirable since they create visibility without sacrificing the attractiveness of a neighbourhood.*	
			Presence of heavy traffic and unpleasant odours	
			Presence of regulated parking	
			Presence of public art *Community Toolbox states that public art should reflect the character of a neighbourhood. For example, a memorial of a cultural figure or a mural that reflects the ethnic and racial diversity of a neighbourhood.*	
Equiticity	Non Residential Streets	Accessibility	Frequency of bus service	Indicators are measured by participant description during a series of focus groups aimed at understanding transportation inequities in Chicago's South and
			Financial burden of accessing public transportation	
			Household access to a working vehicle	

			Access to protected cycling infrastructure	Southwest neighbourhoods as well as the impact on Job Seekers
			Share of population within a certain distance of frequent transit service*	Additional quantitative indicators (marked with *) measured on a continuous scale were extracted from a report on the prioritization of equity in transportation projects
			Mode Share (Proportion of pedestrians vs cyclists vs drivers vs other)*	
			Distance and time to essential jobs and destinations (e.g. grocery stores)*	
		Inclusivity	Transit accessible for people with disabilities and people speaking different languages	
			Transit accessible without the need for a smartphone	
			Transit accessible using cash or without the need for a banking account	
		Safety	Self-described feelings of safety	
			Self-described feelings of safety from police violence	
			Tendency to want to suppress trips or alter when a trip is performed out of fear	
			Number of vehicle, pedestrian and cyclist crashes*	
			Level of greenhouse gas, carbon monoxide and small particulate matter emissions*	
		Walkability	Amount of roadway noise	

Hamilton's Ward 3 Surveys	Non-residential streets, residential streets	Walkability and Aesthetics	Level of pollution and air quality including a qualitative description of types of foul odours and how they impact residents	Yes or no questions, multiple choice questions with the option to select more than one response, open-ended questions that allow participants to elaborate on their responses. Participants can also choose to provide photos.
		Safety	Description, location and photos of sidewalk obstructions and damage (e.g. uneven sidewalk, sidewalk consistently blocked by snow or ice)	
		Accessibility	Recommended locations of increased bike parking infrastructure (photo optional)	
Minneapolis Parks and Recreation Board	Parks	Accessibility	Presence of facilities that are accessible for people with disabilities (eg. ramps, benches, drinking fountains)	Criteria are evaluated on a 3-point scale (low, moderate or high/poor, fair, good).
			Access to the park by walking	
		Aesthetics	Presence of green elements (eg. trees, plants)	
			Intensity of use of a park or trail	
			Overall condition of a trail	
		Safety	Feelings of safety from crime and violence	
People for Mobility Justice	Non Residential Streets	Accessibility	Travel time to key destinations (e.g. transit, community hubs)	Dichotomous assessments (yes/no) for compliance with National Association of City Transportation Officials (NACTO) Recommendations. Continuous measures for quantitative variables (i.e. vehicle speed)
			Connectivity of bike routes to other important bikeways	
			Continuity of bikeways such that there are no abrupt stops or gaps in the network	
		Safety	Vehicle speed	

			Number of road conflicts (i.e. vehicle and cyclist crashes and near misses)	Qualitative assessment for ability to address subjective measures (i.e. connectivity)
			Presence of traffic calming measures around schools	
			Presence of traffic calming measures around intersections	
			Intersection treatments (e.g. raised crosswalks, extended and protected curb cuts, painted bike boxes)	
			Transit stops designed to avoid conflict with bikeways (i.e. island boarding to avoid buses crosses into bikeway)	
			Parking is not directly adjacent to bikeways; adjacent parking has sufficient buffer space of 3 feet *This reduces the risk of a motorist hitting a cyclist as they open their door ("dooring")*	
		Accommodation	COVID-19 and physical distancing accommodation - sidewalks and bikeways are sufficiently wide to accommodate passing with maintaining separation of 6 feet (recommended width of 10-14 feet for temporary bikeways and sidewalks)	
		Acceptability	Cyclist and pedestrian counts	
Regional Equity Atlas	Non-residential streets, residential streets	Accessibility	Access to public parks	Access and proximity was evaluated using a scale of 1 to 5. A score of "1" indicates that proximity is greater than 1 mile, whereas a
			Access to natural spaces	
			Access to water points	

			Proximity to recreation facilities, such as sports fields and swimming pools	score of "5" indicates that proximity is less than ¼ miles.
			Proximity to greenspaces that are available to the public but during limited hours	The data was visualized using a heat map.
Residential Environmental Assessment Tool 2.0 (REAT)	Residential streets	Aesthetics	Presence of litter in public spaces	Yes or no questions, rate the criteria on a four-point scale (eg. how much vandalism is present on the street - none, some, moderate, extensive), option to provide additional observations
			Presence of vandalism/graffiti in public spaces	
			External beautification of private properties (eg. maintenance of buildings, gardens)	
			Presence of trees and vegetation in front gardens	
		Natural surveillance, safety	Ability to view the windows and doors of properties *Research by Foster et al. (as cited by Poortinga et al., 2016) shows that residences with elements of natural surveillance discourage "physical incivilities in suburban neighbourhoods."*	
			Presence of neighbourhood watch signs	
		Accessibility	Presence of non-green recreational spaces for children to play on	
Student Transportation Equity Tool	Non-residential streets, residential streets	Student transportation	Safety of route to school	Criteria are explained through student experiences resulting from PhotoVoice activity however specific measures are not identified.
			Frequency of transit service	
			Affordability of transit service	
			Time and distance of travel to school	

The following themes were highlighted through the environmental scan:

- 8/11 case studies included indicators related to safety (Change Lab Solutions, City of Urbana, Equiticity, Hamilton's Ward 3 Surveys, Minneapolis Parks and Recreation Board, People for Mobility Justice, REAT, Student Transportation Equity Map). Indicators of safety included:
  - o Crime and violence
  - o Nearby traffic
  - o Sidewalk obstructions – for example, snow, uneven infrastructure
- The City of Urbana and the Student Transportation Equity Map further addressed traffic safety issues for children and youth during their route to school.
- 8/11 case studies (Bike Equity Block Tool, Change Lab Solutions, City of Urbana, Equiticity, Minneapolis Parks and Recreation Board, People for Mobility Justice, Regional Equity Atlas, REAT) include indicators related to accessibility. These indicators can include convenient access to key destinations such as greenspaces, parks, community centres, grocery stores, transportation facilities, and biking infrastructure (eg. share stations).
- 5/11 case studies included indicators related to aesthetics (Change Lab Solutions, Community Toolbox, Hamilton's Ward 3 Surveys, Minneapolis Parks and Recreation Board, REAT). Aesthetics can be further categorized into the cleanliness of streets and park facilities, the presence of green elements, the overall quality of a street, and the presence of street art.
- 3/11 case studies (City of Urbana, Community Toolbox, Equiticity) focused on walkability. This construct includes indicators such as the presence of sidewalks and the connectivity of routes to and through all neighbourhoods. This construct further includes indicators such as the presence of potentially dangerous sites on a walking route.
- 3/11 case studies focused on indicators related to bicycling, including the presence of facilities that support bicycling (eg. share stations, parking locations) and appropriate infrastructure on the road (eg. presence of bike lanes).
- 2/11 case studies (Change Lab Solutions and Equiticity) highlighted the importance of signs and communication material that are in a language that is relevant to the resident population
- 2/11 case studies (Community Toolbox and Hamilton's Ward 3 Surveys) addressed the issue of unpleasant or foul odours. While Community Toolbox focused on foul odours due to traffic pollution, Hamilton's Ward 3 Survey provided the option for residents to specify the source of odours – for example, sewer, garbage, or exhausts.

6.0. Recommendations

6.1. Recommended Revisions to Easy Street Audit Tool

6.1.1. Constructs and Indicators

Sidewalks

Environment Hamilton currently places significant emphasis on the presence of adequate sidewalks. This construct is supported by research in the literature which shows that the presence of sidewalks, including appropriate maintenance and overall condition is a concern for Black and racialized communities (Corburn, 2004; Gallagher et al. 2010; Kelly et al. 2007; Lowe, 2016; Sanderson et al. 2002). This finding is corroborated by the environmental scan, since the presence of adequate sidewalks was highlighted through several case studies, including the City of Urbana, Community Toolbox, and Equiticity.

For the revised Easy Street Audit tool, we recommend the following indicators:
- Sidewalks connect to and through all neighbourhoods
- The route is safe from unused or potentially dangerous sites (eg. bridges, abandoned industrial sites, out-of-service railroad tracks)

Safety

Another major theme in the Easy Street Audit Tool is street safety. This construct is supported through findings from the literature review (Gallagher et al. 2010) as well as the environmental scan. To supplement the Easy Street Audit Tool, we recommend that Environment Hamilton add the following indicators:

- There are neighbourhood watch signs
- There is a clear view of the windows and doors of each property

Enjoyableness

The presence of restrooms, green elements, and other attractive street features are currently categorized under enjoyableness in the Easy Street Audit Tool. Our research demonstrates that these indicators are important to the Black and racialized community. In particular, the literature speaks to the importance of restrooms along a route (Gallagher et al. 2010), while the environmental scan addresses indicators such as the cleanliness of a street, as well as the presence of green elements and street art.

Our research shows that the following indicators can be used to supplement the Easy Street Audit Tool:

- The street has benches that are accessible for children, older adults, and people with mobility limitations
- Thee street looks clean (eg. lack of graffiti, grime?)
- The street does not have unappealing smells (eg. due to traffic, trash)
- Street signs are attractive, legible, easily visible, and placed strategically to maximize impact
- Signs and communication materials in languages that are relevant to the resident population

Biking

Through the literature review, we found that the presence of bike lanes is important for Black and racialized communities (Corburn, 2004; McCullough et al. 2019; Palm et al. 2020). This finding is corroborated through the environmental scan, which demonstrated that the presence of biking infrastructure and signage in racialized communities is necessary for street equity. Based on our research, we found that the indicators currently in the Easy Street Audit Tool are appropriate for Black and racialized communities.

Access to Key Destinations

While the Easy Street Audit Tool does not currently include indicators related to this construct, the results from our research show that access to desired destinations is a significant concern for Black and racialized communities. In the literature, this construct includes access to greenspaces, parks, sports fields and playgrounds (Corburn, 2004; Gallagher et al. 2010; Kelly et al. 2007; Ray, 2017; Sanderson et al. 2002; Venter et al. 2020) as well as access to services such as community centres and recreation facilities (Gallagher et al. 2010; Kelly et al. 2007; Nickele, 2018, 2019; Ray, 2017; Sanderson et al. 2002). Through the environmental scan, we found that the majority of case studies highlighted issues related to accessibility to key destinations. As a result, we recommend that Environment Hamilton include this construct in the Easy Street Audit Tool in addition to the following indicators:

- There are parks or green spaces nearby (eg. within 10 minutes walking distance).
- There are desired destinations and services nearby (eg. community centre, recreation facility library)?
- There are transportation facilities nearby (eg. bus stop, train stop)?
- There are grocery stores nearby?
- There are key destinations nearby (workplaces, schools, healthcare services)?

6.1.2. Alternative Methods

Environment Hamilton should consider the use of media based audit tools in order to expand the methods through which residents can share their active transportation experiences. Our findings indicate that media based tools such as PhotoVoice and VideoVoice can be effective in highlighting barriers to transportation equity. Additionally, these tools can influence municipal action and policy change while simultaneously empowering Black and racialized residents to participate in community building.

In order to incorporate media into the street auditing process, Environment Hamliton can develop a media submission campaign. This campaign will encourage residents to submit media on barriers or facilitators to equitable active transportation in Hamilton. Environment Hamilton can take the following steps while developing the media submission campaign:

- **Identify target audience**: The campaign may be directed at a particular group such as Black-identifying Hamiltonians, the City at large, or a particular neighbourhood.

- **Encourage diverse media forms:** Although PhotoVoice principles should be applied, submissions should not be limited to photos or videos, particularly given that all residents may not have access to photo-enabled devices. Descriptions, audio recordings, drawing and artistic creations should also be encouraged.

- **Develop prompting questions:** Guiding questions can be incorporated into the campaign order to help residents identify the theme of their experience.

- **Use social networking:** Social Networking platforms such as Twitter, Facebook, and Instagram should be used to help gather public support and awareness. A project-specific hashtag can also ensure that all shared posts are identified.

- **Permit anonymous submissions:** Residents may not all feel safe exposing a barrier publicly. Therefore, anonymous submissions should be available for both the online form and in-person drop box.

6.2. Focus Groups and Interviews

Environment Hamilton should engage with BIPOC communities through focus groups and stakeholder interviews in order to better understand their perspectives on street safety and comfort in public places. Our findings show that facilitating conversation with the BIPOC communities can develop trust, create opportunities for meaningful change, and break the cycle of excluding racialized communities from street planning efforts. While this project provided Environment Hamilton with recommendations for a revised Easy Street Audit tool, the perspectives of racialized communities in Hamilton is essential in order to adequately address the concerns of local residents.

7.0. Conclusion

This project reviewed research regarding the intersection between race, street safety, and comfort in public places. Findings from our literature review show that some of the concerns that Black and racialized people have regarding street safety and well-being in their neighbourhoods include access to green infrastructure, sidewalk and neighbourhood walkability, and placemaking. While researching the potential for engaging with racialized communities on the topic of street planning, we found that greater peer involvement and advocacy is necessary to factor these concerns into urban planning initiatives. Our environmental scan focused on analyzing case studies where the concerns of Black and racialized communities were put at the centre of street planning efforts. Through this report, we provided Environment Hamilton with recommendations for a revised easy street audit tool, as well. Additional recommendations include the use of focus groups and interviews to better understand the concerns of racialized communities in Hamilton regarding street safety and comfort in public places. This study had several limitations, primarily the lack of research on street safety for racialized communities in Canada. Nonetheless, findings from this report are intended to support Environment Hamilton as they seek to incorporate racial equity into street planning efforts.

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