# Transportation Equity Framework

Brampton Mobility Plan

March 2025

# Contents

# 1 Introduction

## 1.1 Background

Equity refers to the fairness with which impacts (benefits and costs) are distributed. Bringing this lens to a transportation project, especially at a regional scale, is complex as the outcomes of planning decisions can be of various scales and have a range of impacts. An equity lens recognizes that people are impacted by planning and policy decisions, and that these impacts can affect people differently based on a variety of factors that can lead to unfair outcomes.

Bringing an equity lens to a project like the Brampton Mobility Plan can support and inform multiple elements of the project including:

- Who and how people are engaged as part of public engagement.
- What policies or programs are used to remove barriers for underserved and underrepresented communities.
- What types of investments are prioritized.
- In what areas investments should be prioritized.

The vision, goals, and objectives for the Mobility Plan can also include concepts related to equity, such as access, affordability, safety, reliability, and health.

As part of the approach for the Mobility Plan, we developed a framework to inform considerations and decisions around different types of users. This framework can be used to guide decisions and assess how projects support equitable outcomes. The spatial analysis identifies geographic areas in Brampton where there are higher proportions of underserved and underrepresented community members. This can inform the areas in Brampton that may be prioritized for projects or investment as well as the phasing of those projects or investment. The equity lens must also consider historical and systemic injustices in the local context and consider the outcomes of those policy decisions.

## 1.2 Groups of Interest

The following are typical groups that are considered to face barriers or have transportation needs. This is a general list that should be updated and reviewed based on the context of a specific project and study area.

- Ability – persons with physical or cognitive disabilities or limited English proficiency
- Age – seniors and children
- Means – persons with low income, unemployed single parent families, students
- Gender – women, 2SLGTBQ+
- Race – racialized groups, Indigenous peoples
- Immigration status – recent immigrants, non-permanent residents
- Vulnerable road users – pedestrians, cyclists, transit users, households without a car, motorcyclists

- Geography – residents in areas with fewer services and opportunities or lack connectivity to areas of employment/jobs

**Table 1.1** shows spatial data considerations for each group, to acknowledge what data is available for consideration as part of the spatial equity analysis.

Table 1.1: Spatial Considerations by Group

| Group | Needs and Barriers | Spatial Data Considerations |
|---|---|---|
| **Ability**<br><br>Persons with physical or cognitive disabilities or limited English proficiency | May not be able to drive or may need special adaptive equipment or assistance. May experience barriers to accessing services. | No available data on where people with disabilities live. Census includes where people live who do not speak English. |
| **Age**<br><br>Seniors and children | Children are not able to drive until they are 16 years old, and seniors may not be able to drive. Both groups may face greater risk as they may be slower or have less cognition of surroundings. | Census includes data on ages of population. 0-14, 15-19, and 65+ are key segments to consider for this group. |
| **Means**<br><br>Persons with low income, unemployed, and single parent families | People with lower income or who are unemployed are more likely to face financial constraints and have greater affordability concerns. Single parent families face greater time constraints. | Census includes data on low income (LIM-AT), employment, and one-parent households. |
| **Gender and Identity**<br><br>Women, 2SLGTBQ+ | Women and 2SLGBTQ+ people may feel unsafe travelling alone, at night, or on foot based on experience or awareness of violence against. | Census includes data on gender, but not sexual orientation. |
| **Race**<br><br>Racialized groups, Indigenous peoples | Indigenous, Black, and other racialized groups face individualized and systemic racism which may impede their ability to travel comfortably and reliably using different modes of transportation. | Census includes data on population of visible minority, and Indigenous identity. |
| **Immigrant Status**<br><br>Recent immigrants, non-permanent residents | People who have become permanent residents within the past 10 years, who live in Canada on a work/study permit or who have refugee status, face administrative and financial barriers, in addition to potential racial discrimination and language barriers. | Census includes data on recent immigrants (2011-2021), and non-permanent residents. |

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| Group | Needs and Barriers | Spatial Data Considerations |
|---|---|---|
| **Vulnerable Road Users**<br><br>Pedestrians, cyclists, transit users, carless households, motorcyclists | These people have less protection and are therefore at greater risk of being severely impacted by a collision. | Census and TTS include data on mode choice but this less of a spatial factor for equity, and more of a design and network consideration. TTS includes household car ownership data. |
| **Geography**<br><br>Residents in areas with fewer services and opportunities | These people have further to travel to access services and opportunities. | The TTS includes data on trip length. |

# 2 Vision

## 2.1 Brampton's Transportation Equity Vision

Brampton Plan 2023, the City's Official Plan, recognizes transportation's role in the social and economic participation of its residents, as well as the marginalization that has resulted from existing transportation networks. Brampton Plan proposes a Mobility Framework that is inclusive, affordable, and equitable, with an increased focus on a safe and complete active transportation network, enhanced paratransit services, and the prioritization of investments in communities with lower socioeconomic status (*social equity*) and lower car ownership (*modal equity*). Brampton Plan additionally integrates land uses and transportation, supporting greater connectivity for residents to live, work, play, learn and thrive within a 15-minute radius to create complete communities.

Subsequently, City of Brampton's Council endorsed seven guiding principles for the Brampton Mobility Plan (BMP) that are presented in **Figure 2.1** below.

**Figure 2.1: Council-endorsed guiding principles for the Brampton Mobility Plan**



1. Enhance mobility and travel options for people and goods

2. Advance multi-modal transportation equity

3. Integrate transportation and land use planning

4. Protect public health and safety

5. Improve environmental sustainability

6. Leverage technology

7. Emphasize community engagement and collaboration

## 2.2    BMP Transportation Equity Objectives

Equity objectives were grouped under two categories to support the evaluation of network alternatives and the adoption and implementation of an equitable plan.

1. Procedural equity objectives that address the processes through which transportation projects are planned and implemented.
2. Distributional equity objectives that target a fair allocation of transportation amenities, their benefits, and burdens.

### 2.2.1    Procedural Equity Objectives

Equity objectives that address transportation planning and implementation processes include:

- Undertake inclusive community engagement
    - Provide resources that enable all community members to participate, including information on municipal democracy and the planning process, materials translation, and compensation.
    - Choose formats, tactics, and places that meet the needs and constraints of the local community.

- Use lived experience data to inform design and decisions.
    - Provide space and opportunities for meaningful dialogue.
    - Collect sociodemographic data in surveys to contextualize responses.
    - Engage early and regularly to gather community input ahead of decision-making.

- Prioritize investments that benefit equity-deserving communities.
  - Incorporate equity criteria in reports to Council.
  - Define an annual target for investments in equity-deserving communities.
    - For example, "Justice40" in the United States requires that 40% of benefits from federal investments be delivered to disadvantaged communities.

## 2.2.2 Distributional Equity Objectives

The below distributional objectives address modal equity in addition to social equity. For that reason, some of them overlap with non-equity-specific objectives that relate to active transportation and transit modes.

- Improve access to opportunities and community amenities for equity-deserving groups.
  - Plan outside the 'typical' 9 to 5 commute pattern.
  - Provide better access by transit and active modes to community services, including day care, recreational facilities, and parks.
  - Provide better access by transit and active modes to essential services such as grocery stores and healthcare facilities.
  - Provide better access by transit and active modes to employment areas and educational institutions to support multi-modal commuting.

- Build and maintain streets that are accessible and safe for all ages and abilities.
  - Reduce vehicle mode share in areas with higher prevalence of children, seniors, and people with disabilities.
  - Provide sidewalk and cycling infrastructure that supports walking/rolling and cycling of different forms.

- Improve mobility for households and individuals without access to a private vehicle.
  - Enable more reliable transit services.
  - Improve walking/rolling/cycling access to transit.
  - Create a connected active transportation network.
  - Provide bike share options and secure bike parking.

- Reduce transportation externalities for equity-deserving groups.
  - Reduce noise and air pollution.
  - Reduce construction disruption.
  - Plan and build infrastructure that is resilient to extreme weather conditions.

# 3  Building Context Through Data

## 3.1  Purpose

To support the realization of equity objectives in an evidence-based manner, spatial data and analysis tools offer an opportunity to understand where equity-deserving communities live and where there are gaps in access to key destinations and opportunities, and to identify areas of Brampton that have both high gaps in access and a high prevalence of equity-deserving communities.

Drs. Farber and Allen defined the intersection of socioeconomic disadvantage and poor access to transportation (and opportunities) as "Transport Poverty" and estimate that the phenomenon affects one million urban Canadians.[1]

A spatial analysis of equity-deserving groups in the city helps ensure that any infrastructure improvements arising from the plan offer the most benefit to historically disadvantaged groups and those most affected by transportation impacts.

## 3.2  Methodology

### 3.2.1  Social Equity Index

An index was defined to identify areas with higher equity needs, leveraging select variables that are most relevant to the equity analysis for the BMP.

The variables including in the Index relied on demographic and socioeconomic data from several reliable sources: Statistics Canada, Peel Region, and Transportation Tomorrow Survey. Weights were assigned to each variable based on feedback received from internal City of Brampton stakeholders at an Equity Framework Workshop, and based on the following guidelines:

- Youth and seniors are more likely than the general population to be reliant on public transit, walking, or biking because they are less likely to drive their own vehicles.
- People with lower incomes and zero vehicles also have limited final choices and therefore limited transportation choices.
- Unemployment is an important metric but also correlates with low-income status, so it was given a lower weight.
- Racialized communities, regardless of income or other indicators, have historically experienced underinvestment or displacement as a result of transportation projects, and deserve special focus for this reason.

The variables and weights are summarized in **Table 3.1**.

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[1] Jeff Allen, Steven Farber, Sizing up transport poverty: A national scale accounting of low-income households suffering from inaccessibility in Canada, and what to do about it, Transport Policy, Volume 74, 2019, https://doi.org/10.1016/j.tranpol.2018.11.018

**Table 3.1: Social Equity Index variables and weights**

| Variable | Source | Weight |
|---|---|---|
| Percent zero vehicle households | Transportation Tomorrow Survey, 2016 | 17.5% |
| Shelter cost-to-income ratio | Statistics Canada 2021 Census | 17.5% |
| Percent racialized ("visible minority"), Indigenous | Statistics Canada 2021 Census | 15.0% |
| Percent youth and senior | Statistics Canada 2021 Census | 15.0% |
| Percent of people who immigrated in the last five years | Statistics Canada 2021 Census | 10.0% |
| Healthy child development index | Peel Neighbourhood Index, 2015 | 10.0% |
| Unemployment rate | Statistics Canada 2021 Census | 5.0% |
| Percent with low educational attainment | Statistics Canada 2021 Census | 5.0% |
| Percent with no knowledge of official languages | Statistics Canada 2021 Census | 5.0% |

To generate the index, each primary dataset was arranged so that higher scores indicated higher equity needs or higher prevalence of equity-deserving populations and then standardized the data by using a percentile ranking. This means that the area with the highest share of a variable, such as immigrant population, would receive a percentile rank score of 99.99; this does not mean that 99.99 percent of that population is an immigrant.

Because some primary datasets were available at different geographies, for example census tracts, dissemination areas or wards, each primary dataset was spatially joined to a hexagon grid. Hexagon grids divide the city into hexagons of one hundred metres on each side, to ensure consistent mapping and comparison between equal-sized areas.

For each hexagon, we calculated a weighted average of all primary variables, which became the final composite Social Equity Index for that hexagon area. The resulting map highlights the areas with the highest Social Equity Index within the city using the hexagon grid. Because this methodology uses percentile ranking, the equity scores are relative to other areas of Brampton only.

### 3.2.2   Spatial Access Analysis

Statistics Canada's Spatial Access Measures dataset is a measure of the ease of reaching various types of destinations from a given dissemination block (DB) by various modes. The measure quantifies access on four modes of transportation: walking, biking, off-peak transit, and peak-hour transit.

To understand the intersection of access gaps and equity needs, a Spatial Access Score was developed, leveraging the following seven access-related variables from the Spatial Access Measures dataset:

- Access to healthcare facilities
- Access to employment
- Access to sports and recreation facilities
- Access to post-secondary facilities
- Access to primary and secondary education facilities
- Access to cultural and arts facilities
- Time in minutes to reach the third closest grocery store

Time to the third closest grocery store was used a representation of grocery store access, and the variables "time to reach the closest grocery store" and "time to reach the 5th closest grocery store" were excluded from the analysis.

Values were provided in the database as a normalized index that shows the dissemination block's value for that variable relative to the rest of Canada. Each variable was percentile-ranked relative to only the rest of Brampton, to ensure that all Brampton DBs are using variables on the same scale.

For each DB, access to each of the above seven destination types is calculated for each of four travel modes. Thus, each block group had 28 (7 times 4) spatial access values associated with it; for example, "access to healthcare facilities by walking" or "access to cultural facilities by bike" each had an access value for every dissemination block.

To calculate the composite access score for each DB, we averaged the percentile-ranked value of all 28 variables. Therefore, the Spatial Access Score reflects access to key destinations by non-driving modes at the DB-level.

As a final step, to align the Spatial Access Score with the Social Equity Index, in which a value of 0 represents the best outcome and 1 the worst, we defined a Spatial Access Need attribute for each DB, as *1 - spatial access score.*

## 3.3   Findings

### 3.3.1   Transport Poverty in Brampton

To visualize results, a bivariate map was created showing both spatial access and equity needs, shown in **Figure 3.1**.

The map shows that in some areas, high equity needs correlate with high spatial access needs, while in many areas it does not. The areas in dark purple/brown, situated in western Brampton along Mississauga Road and Mayfield Road as well as around Wildfield and Castlemore, experience both higher socioeconomical marginalization and poorer access to essential services and key destinations.

Many areas of central Brampton, in red, have higher equity needs but lower spatial access needs, as they are in the densest part of the city with ample amenities. In contrast, the sparsely populated areas of south Brampton, in blue, have low equity needs but high spatial access needs as they are in a more rural area.

**Figure 3.1: Spatial Access and Equity Needs in Brampton**
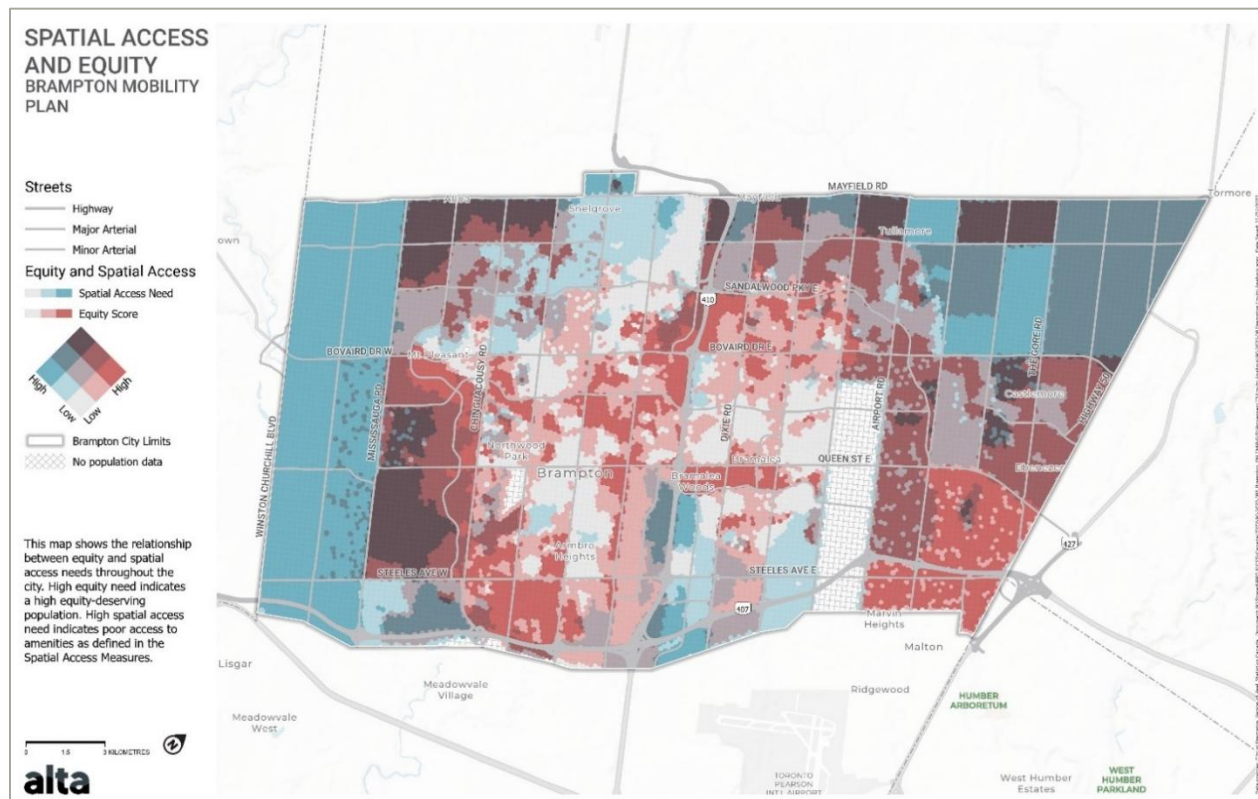


### 3.3.2  Population Density

While the Social Equity Index considers percentages of equity-deserving groups, the Spatial Access Need score does not incorporate any population data.

To provide more context, a spatial analysis was undertaken to illustrate both composite scores along with population density. This approach can help with prioritization between different areas as it helps understand where in Brampton a larger number of equity-deserving people are located or have inadequate spatial access and could be positively affected by a transportation project.

**Figure 3.2** shows the equity analysis. Areas in purple indicate both a high population density and a high share of equity-deserving population.

**Figure 3.3** shows the spatial access analysis. Similarly, areas in purple indicate both a high population density and a high spatial access need. These maps.

**Figure 3.2: Equity Needs and Population Density**



**Figure 3.3: Spatial Access Needs and Population Density**
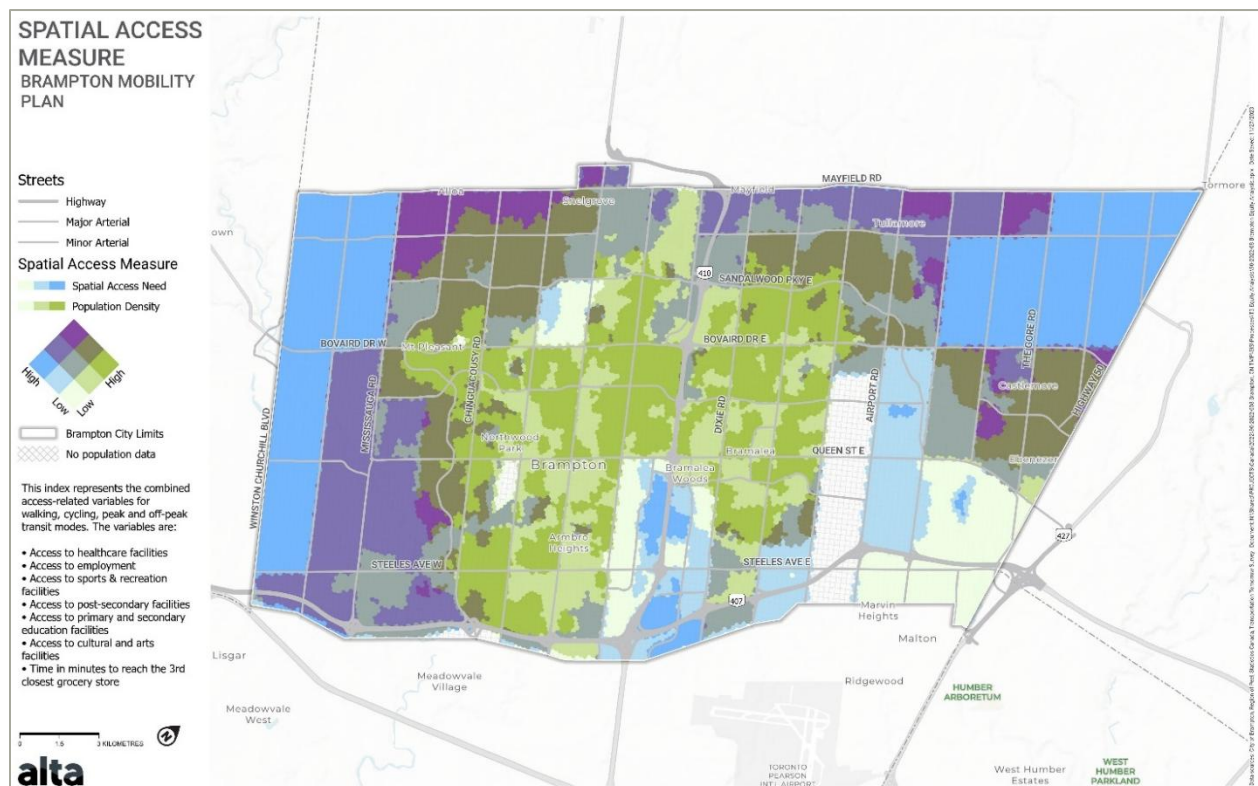
# 4 Equity Evaluation and Prioritization in the BMP

## 4.1 Evaluation of Alternatives

To help evaluate the network alternatives for the BMP study and subsequent project-specific analysis studies, we developed metrics based on the distributional equity objectives in **Section 2.2** (BMP Transportation Equity Objectives).

Table 4.1: Equity-based Evaluation Metrics

| Outcome | Metrics |
|---|---|
| Improve access to opportunities and community amenities for equity-deserving groups | • Average # of jobs and education opportunities accessible without driving by equity-deserving individuals, compared to non-equity deserving individuals. |
| Increase accessibility and safety of streets for all ages and abilities | • Kilometres of cycling facilities divided by total kms of roads.<br>• Percentage of cycling facilities in top equity priority areas.<br>• Kilometres of sidewalks on both sides of roads divided by total kms of roads.<br>• Percentage of sidewalks in top equity priority areas. |
| Improve mobility for households and individuals without access to a private vehicle | • Transit travel time improvements for equity-deserving groups.<br>• Kilometres of rapid transit corridors divided by total kms of roads (modal equity) AND percentage of those corridor-kms in top equity priority areas (social equity).<br>• Proportion of equity-deserving population within 800 m of rapid transit (higher order transit) stops. |
| Reduce environmental burdens for equity-deserving groups | • In areas with high prevalence of equity-deserving individuals:<br>  – Change in VKT or GHG emissions.<br>  – Qualitative assessment of noise impacts and construction disruptions related to proposed network changes.<br>  – Qualitative assessment of change in protection from and mitigation of extreme weather conditions. |

## 4.2   Implementation Phasing and Prioritization

Once a preferred network has been identified, a phased implementation plan will be developed, which requires that projects be assigned different levels of priority. A holistic prioritization approach will be adopted to support phasing decisions. The below is proposed to support equity-driven prioritization efforts.

### 4.2.1   Assign Priority Levels to Brampton Areas Depending on Level of Transport Poverty

Traditionally, public investments have been lower in neighbourhoods with a higher prevalence of equity-deserving communities, thus leading to further marginalization. Therefore, to achieve transportation equity objectives, it is essential to focus new investments in those communities that are home to households with low socioeconomic status that face mobility barriers.

To do so, we propose to define an Equity Priority Score to rank Brampton areas based on the level of transport poverty that their population experiences. The score aggregates the BMP Social Equity Index (**Section 3.2.1**) and the BMP Spatial Access Need score (**Section 3.2.2**), as well as population size. This approach enables Brampton to support the communities with the current highest social and accessibility needs through the growth and development of their neighbourhoods.

The analysis will be undertaken at the Traffic Analysis Zone (TAZ) level to align the equity data with other analysis.

Thus, the score can be defined as follows and will be expressed out of 100:

$$\frac{Social\ Equity\ Index(TAZ)}{Spatial\ Access\ Score(TAZ)} \times 2021\ population(TAZ)$$

Three priority levels will be defined:

- *High Equity Priority* Areas are TAZs with Equity Priority Scores in the 80th to 100th percentiles.
- *Medium Equity Priority Areas* have scores between the 40th and 80th percentiles.
- *Low Equity Priority Areas* have scores below the 40th percentile.

**Figure 4.1** below shows the results of the analysis to support equity-driven prioritization of Traffic Analysis Zones in Brampton.

**Figure 4.1: Equity Prioritization Score at the Traffic Analysis Zone Level**
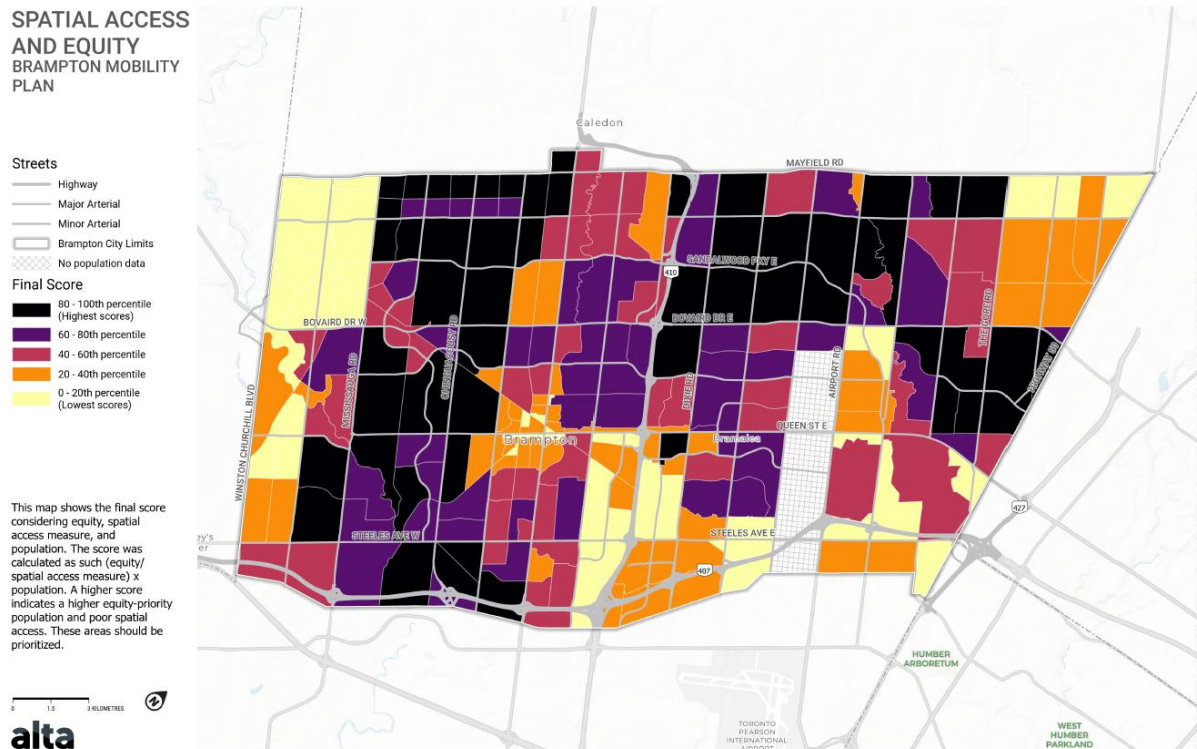


## 4.2.2 Implementation Framework

It follows that investments that serve and benefit High Equity Priority Areas are assigned the highest priority and so on. Understanding that other aspects of investments are evaluated outside of equity in order to support implementation phasing, the Equity Priority Areas framework can be applied as a last step screening.

# 5 Transportation Equity Framework

To enable equitable outcomes through transportation planning, it is essential to embed equity into the processes themselves. Procedural equity is the meaningful, inclusive, and representative engagement of the community in decision-making processes, and it lays the foundation for distributional equity – the fair distribution of resources, benefits, and burdens.

This section will provide tools and guidance to implement procedural equity and equity-based methodologies in the various phases of the transportation planning process.

## 5.1 Conduct Meaningful and Inclusive Community Engagement

Traditionally, transportation planning, engineering, and operations have relied on quantitative data with a focus on feasibility and measurable performance under the assumption that all users are equal. In order to identify and address transportation equity needs in Brampton, we must acknowledge the value of qualitative data, especially *lived experience*, in understanding the needs of varied users and human impacts of transportation.

*Lived experience* refers to an individual's first-hand knowledge of a situation; it is a testimonial. In the context of transportation, incorporating lived experience can help us assess issues that we are unable to measure or experience ourselves as professionals.

To access community knowledge and experience, it is essential to engage the community meaningfully and inclusively, by following these three principles:

**Intentionality.** Too often, public consultation is treated as a simple requirement, rather than a sincere effort to listen to the community and influence project decisions. As a first step, set clear and realistic goals for community engagement, depending on the project context, budget, and milestones. IAP2's Public Participation Spectrum, shown in **Figure 5.1**, can be used to determine the level of engagement appropriate for the study goals and to guide the development of questions and materials for the community. Questions should invite the public to provide information on their experiences and needs while supporting the specific engagement goals. Lastly, engaging with intention means scheduling community engagement opportunities early enough before milestone decisions to enable community input to be thoroughly reviewed and leveraged to influence said decisions.

**Figure 5.1: Spectrum of Public Participation**
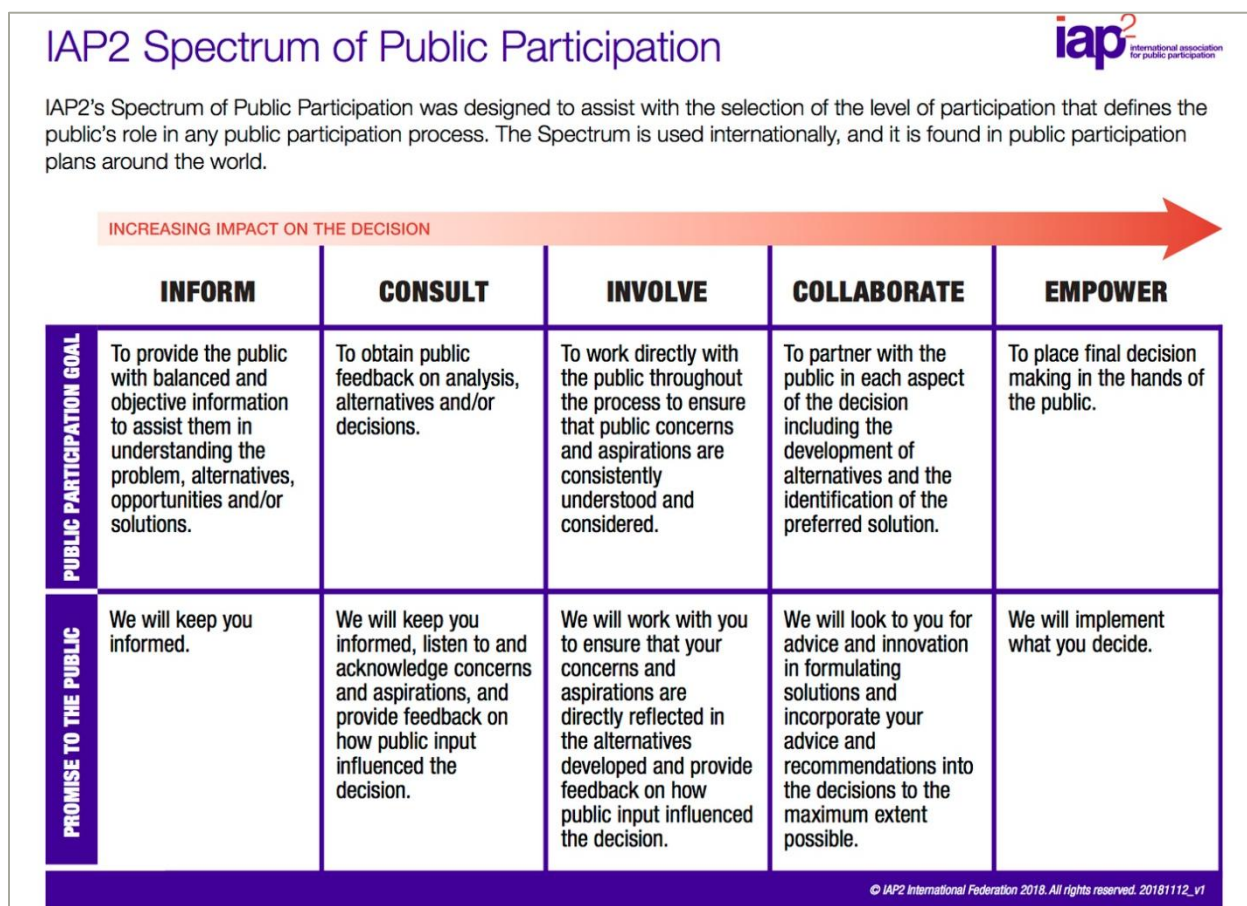


Source: International Association for Public Participation, https://www.iap2.org/

**Accountability.** Transparency and trust are pivotal to successful civic participation. This can be achieved in part through the provision of comprehensible information on Brampton's municipal decision-making processes, as well as clear explanations on how community input is expected to influence outcomes. Input received needs to be properly recorded and incorporated, while still acknowledging the limitations of its influence on professional and political decision-making. Additionally, a long-term relationship must be built with the community beyond individual projects in order to garner trust and better engagement.

**Accessibility.** To develop an inclusive engagement strategy, it is important to identify the socioeconomic makeup of the local community and current barriers to engagement. The goal should be to receive attendance and responses that are representative of the community, by facilitating and incentivizing engagement from equity-deserving individuals. Community engagement sessions should be held at locations that are easily accessible by equity-deserving individuals using various modes of travel or where particular community groups of interest already gather.

**Table 5.1** shows examples of barriers to engagement faced by equity-deserving groups and engagement tactics to lift the barriers:

Table 5.1: Barriers to Engagement and Engagement Tactics

| Marginalized Groups and Barriers | Inclusive Engagement Tactics |
|---|---|
| Recent immigrants and temporary residents likely have limited knowledge of local processes and opportunities to provide input. | Provide more detailed information on community engagement and the municipal decision-making process. |
| People with no knowledge of English or French are unable to understand materials and respond. | Provide materials in most spoken languages in study area and hire interpreter. |
| Single-parent household or low-income households with children may lack childcare support and have limited schedule availability to participate in public engagement sessions. | Offer childcare or children activities at events, host during the day and at community hubs, provide at-your-own-pace online materials and surveys. |
| Individuals who experience disabilities may be unable to access or engage with content in traditional formats. | Pick accessible venues, provide closed captioning for virtual meetings, design materials accessible to screen readers, host focus group meetings. |
| Low-income individuals or shift workers may risk losing earnings to spend time engaging or may experience digital poverty with limited access to online materials. | Offer compensation for engagement attendance, provide mail-in surveys with pre-stamped envelopes. |
| Racialized individuals, Indigenous individuals, and other marginalized individuals may mistrust government | Connect with trusted community leaders and representatives. Indigenous engagement strategies should be developed on a case-by-case basis with support of the Indigenous Relations working group. |

## 5.1 Embed Equity into All Stages of the Transportation Planning Process

Transportation planning follows a standard process regardless of the type of project. Each step can be undertaken using an equity-driven approach that recognizes the diverse needs of the communities and aims for fairness in the distribution of burdens and benefits.

Figure 5.2: Overview of Traditional Transportation Planning Process

Existing Conditions Review → Problem and Opportunity Statement → Alternatives Development → Evaluation → Recommen-dation

### 5.1.1 Existing Conditions Review and Problem and Opportunity Statement

To incorporate an equity lens into the initial stages of the planning process, two actions are recommended:

1. Undertake an analysis of demographic and socioeconomic data in the existing conditions review to contextualize current conditions.
2. Engage the community and incorporate their insight and lived experience into the existing conditions review and problem and opportunity statement.

### 5.1.2 Alternatives Development

To guide the development of alternatives that address the needs and barriers of equity-deserving communities, the Equity Lens Tool shown in **Table 5.2** can be used as a complement to feedback from community members.

The Equity Lens Tool groups marginalized communities based on the types of barriers they experience rather than based solely on their identities.

**Table 5.2: Equity Lens Tool**

| Equity-Deserving Group | Physical Infrastructure | Network and Service | Wayfinding and Information | Payment and Fares | Process |
|---|---|---|---|---|---|
| **Identity-Based Barriers**<br><br>• Racialized People<br>• Women<br>• LGBTQ+ People<br>• Indigenous People<br>• Houseless People | **Barriers:**<br><br>More likely to be subjected to street harassment or assault. Being forced to travel in isolated or unobserved areas augments those risks.<br><br>**Sample Responses:**<br><br>• Include adequate lighting around roads, bike lanes and sidewalks.<br>• Build paths and vehicle/bike parking in areas that are casually observed (not isolated). | **Barriers:**<br><br>More likely to be subjected to street harassment or assault. Being alone in a place that one cannot easily leave augments those risks.<br><br>**Sample Responses:**<br><br>• Arrange schedules and physical infrastructure so that travellers do not need to be alone / in small numbers.<br>• Allow emergency stop requests on surface transit, including ones that can be triggered subtly. | **Barriers:**<br><br>No specific Information Access barrier. However, lack of information around safety measures or programs can lead to worse outcomes for groups that are subject to harassment.<br><br>**Sample Responses:**<br><br>• Publicize information about personal safety programs (e.g. TTC's nighttime stop request program) and tools frequently and in multiple formats and make it available where users are more likely to encounter it. | **Barriers:**<br><br>Statistics Canada finds that women, racialized, and Indigenous people earn lower wages. In addition, for groups who have historically and continue to face increased police scrutiny and violence, the presence of fare enforcement or police officers may also create unsafe situations.<br><br>**Sample Responses:**<br><br>• Create fare discount programs.<br>• Preserve cash payment options.<br>• Use alternative community safety and fare enforcement methods when possible. | **Barriers:**<br><br>Often underrepresented in decision-making roles in transportation, making it less likely for their needs to be considered in planning and met in implementation. Members of this group might find it difficult or even risky to speak up about issues and concerns in their communities.<br><br>**Sample Responses:**<br><br>• Prioritize this group in consultation, including through paid and targeted outreach.<br>• Investments in and partnerships with the community.<br>• Distributional evaluation frameworks. |
| **Age-Based Barriers**<br><br>• Children and young adults<br>• Seniors | **Barriers:**<br><br>More likely to require extra space, due to reliance on caregivers, mobility devices, or strollers. Seniors and young children walk at slower paces.<br><br>**Sample Responses:**<br><br>• Design physical infrastructure (signal timings, sight lines, etc.) to account for users who are slower or smaller or have poor balance.<br>• Provide room on public transit, and in bike lanes and on sidewalks for strollers and carriers.<br>• Provide seating in public spaces and on vehicles. | **Barriers:**<br><br>Less likely to work or have a 9-to-5 jobs, therefore travel at different times and to different destinations than many working-age adult. Less likely to be able to drive and therefore more reliant on transit services.<br><br>**Sample Responses:**<br><br>• Provide off-peak transit services to both essential locations (school, grocery stores, medical offices) and recreational locations. | **Barriers:**<br><br>Less likely to have any or independent access to the internet, and digital information. Children are more likely to be using a system, route, or service independently for the first time, and seniors may have sensory or cognitive issues that make systems, routes, and services hard to comprehend.<br><br>**Sample Responses:**<br><br>• Provide clear and legible wayfinding.<br>• Provide information in physical forms and have staff accessible in person or by phone to provide information.<br>• Provide information on how the system works at all points of entry. | **Barriers:**<br><br>Fixed or no income sources. Less likely to have access to digital payment methods, and children are less likely to have access to credit/debit cards or digital banking.<br><br>**Sample Responses:**<br><br>• Provide (and publicize) senior and children/student rates.<br>• Continue to provide options for cash payment, tickets, and tokens for city services. | **Barriers:**<br><br>Children cannot participate in civic decision-making, although they are directly affected. Seniors may not be comfortable with digital technology or not be digitally literate.<br><br>**Sample Responses:**<br><br>• Offer informational sessions and consultation offline.<br>• Consult and provide information through seniors' programs, community centres, and retirement homes.<br>• Consult and provide information through schools.<br>• Keep very young children and non-independent seniors in mind. |

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| Equity-Deserving Group | Physical Infrastructure | Network and Service | Wayfinding and Information | Payment and Fares | Process |
|---|---|---|---|---|---|
| **Information-Based Barriers**<br><br>• New Immigrants<br>• Non-English-Speakers<br>• People with Cognitive or Sensory disabilities | **Barriers:**<br><br>Those with cognitive or sensory disabilities may struggle to navigate complex or crowded infrastructure and systems. So may new immigrants due to lack of familiarity.<br><br>**Sample Responses:**<br><br>• Use universal design principles.<br>• Include accessible pedestrian signals. | **Barriers:**<br><br>New immigrants and non-English speakers may need to rely on their communities and newcomer services more.<br><br>**Sample Responses:**<br><br>• Provide links between and within communities of new immigrants and communities of non-English speakers to support communal life. | **Barriers:**<br><br>Less likely to be familiar with the system or to be able to access information in English or in standard formats.<br><br>**Sample Responses:**<br><br>• Provide clear and comprehensive wayfinding including symbolic communication.<br>• Provide clear instructions and information at every point of access to a system.<br>• Provide online and offline information in commonly spoken languages other than English or French, and through community organizations people already use.<br>• Provide online information in ways that are compatible with modern assistive technology like screen-readers. | **Barriers:**<br><br>More likely to have difficulties navigating fare systems and payments.<br><br>**Sample Responses:**<br><br>• Make payment systems clear and intuitive where available, include symbolic cues that note when payment is needed, how much, and how to pay.<br>• Include flexibility in payment options to minimize inability to travel due to lack of knowledge or planning. | **Barriers:**<br><br>Being unable to understand consultation, notices, or other participants makes it difficult to participate in decision-making.<br><br>New immigrants may not yet be familiar with civic processes, avenues for complaint, etc.<br><br>**Sample Responses:**<br><br>• Prioritize this group in consultation, including through paid and specialized support.<br>• Work with community organizations to provide proactive education on civic processes and transportation. |
| **Resource-Based Barriers**<br><br>• Low-Income People<br>• Time-Constrained People (single parents, shift workers)<br>• Post-Secondary Students | **Barriers:**<br><br>Financial and time constraints limit transportation choice, further limiting access to economic and social opportunities.<br><br>**Sample Responses:**<br><br>• Develop safe multimodal infrastructure for first/last mile to rapid transit. | **Barriers:**<br><br>Less flexibility in mode choice, time of travel, and less likely to have access to paid support.<br><br>**Sample Responses:**<br><br>• Prioritize rapid transit and minimize transfers on routes between low-income neighbourhoods and key destinations.<br>• Increase reliability for non-auto modes, so that people do not need to add extra time to their commute. | **Barriers:**<br><br>Seeking out information may require resources such as time, the ability to pay for internet access, and the ability to forgo paid work in order to learn about a project or initiative.<br><br>**Sample Responses:**<br><br>• Provide information physically and in mobile-friendly online formats.<br>• Provide information where people will see it without special effort or time expenditure. (E.g. route change pamphlets on Brampton Transit buses) | **Barriers:**<br><br>Low-income people cannot afford to choose travel modes based on convenience; those who are time-constrained may need to pay higher costs for faster or more convenient travel.<br><br>**Sample Responses:**<br><br>• Create fare and shared mobility discount programs.<br>• Develop fare integration programs. | **Barriers:**<br><br>Less flexibility to take time off work or personal duties to respond to surveys, come to outreach events, etc. May not have time to read detailed information packets, letters, or articles.<br><br>**Sample Responses:**<br><br>• Prioritize this group in consultation, including through paid engagement.<br>• Provide ways to participate in decision-making and get information which are convenient and accessible at any time.<br>• Prioritize maintenance and reliability processes, especially in low-income areas. |

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| **Mobility-Based Barriers**<br><br>• Non-drivers<br>• People with Physical Disabilities and Chronic Illnesses | **Barriers:**<br><br>Limited in their choice of mode. May be able to use some modes with accommodations, but not without.<br><br>Those with physical disabilities may be less safe when walking and cycling because they may not be as visible to drivers or able to react as quickly in a dangerous situation.<br><br>**Sample Responses:**<br><br>• Prioritize physical accessibility across all modes – bike paths that accommodate adult tricycles, wide sidewalks with smooth curb cuts, accessible transit vehicles that allow service animals, etc.<br>• Implement physical infrastructure like tactile walking surface indicators and clearly detectable edges that allow easier movement for Blind and Low-vision people. | **Barriers:**<br><br>Complex or inexistent first/last mile solutions can remove ability to take the trip at all.<br><br>**Sample Responses:**<br><br>• Provide multi-modal access to essential services like groceries and medical appointments, as well as for recreational and cultural activities.<br>• Create contiguous and fine-grained active transportation networks.<br>• Provide specialized transportation services. | **Barriers:**<br><br>Access to information about specialized services may be more difficult.<br><br>**Sample Responses:**<br><br>• Make information easily accessible and visible. | **Barriers:**<br><br>People with disabilities or chronic illnesses are more likely to receive lower wages. Specialized transit services can place a high burden of proof on interested users.<br><br>**Sample Responses:**<br><br>• Create fare discount programs.<br>• Reduce barriers to booking. | **Barriers:**<br><br>Physical and sensory disabilities can make it difficult to participate in civic processes, especially without accommodation.<br><br>Those with physical disabilities or chronic illnesses may not be able to use transit or even sidewalk space if an area is crowded.<br><br>**Sample Responses:**<br><br>• Prioritize this group in consultation, including through paid engagement.<br>• Make events as physically accessible as possible and account for a variety of sensory needs and respond promptly to requests for additional accommodation.<br>• Provide sufficient space and appropriate scheduling to prevent crowding that forces mobility-aid users off sidewalks or out of transit vehicles. |

### 5.1.3   Evaluation of Alternatives

*A qualitative component to equity evaluation* is necessary to verify whether the alternatives address the needs and barriers of the communities. The Equity Lens Tool can be tailored to specific projects or study areas based on context and community input and used to guide qualitative evaluation.

*Quantitative equity evaluation* can be leveraged to measure impacts of the alternatives on distributional equity. That is to say, it can estimate the distribution of benefits and burdens before and after implementation of the alternative. Positive outcomes occur when equity-deserving communities see an increase in benefits and a decrease in burdens.

Examples of distributional evaluation criteria are provided below:

- Access to jobs for priority areas or for equity-deserving groups compared to the rest of the population.
- Travel time savings for priority areas or for equity-deserving groups compared to the rest of the population.
- Greenhouse Gas Emissions in priority areas compared to other areas.