Visions in motion

Integrating the social dimension of transport through local participatory planning in Montreal

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II

Abstract

Urban transportation is becoming increasingly challenging in the face of growing cities, urban sprawl and a rising trend in car use. Beyond the direct impacts of motorized transports, the development of extensive car infrastructure exacerbates social differences, especially in urban areas. The social dimension of transport is however marginalized in the current model of transport planning and significant changes are called for. From a Critical Urban Theory standpoint, this thesis assesses the barriers and opportunities to trigger changes in transport planning in Montreal, through social learning and public participation. Data is collected from document analysis and semi-structured interviews in relation to the participatory process of the Local Transport Plans. The findings show that the participatory process allows the integration of social aspects into the planning process to a very limited extent. The main barriers lie in the broader planning context and the organizational structure at the borough level as well as the lack of expertise of the community groups. Nevertheless, the Local Transport Plans provide a window of opportunity for addressing the social dimension of transport. In order to take advantage of this opportunity and foster social learning towards the desired changes, the process requires the inclusion of clear social equity goals at the agglomeration level as well as a skilled facilitator that can promote the integration of diverse perspectives on transport planning. Finally, it is essential to provide community groups with resources to meaningfully participate in the process, thereby promoting social equity.

Keywords: transport planning; socially sustainable urban transportation (SSUT); sustainable mobility paradigm; local level planning; participation; social learning; critical urban theory

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1   Introduction

1.1   Research problem

Urban transportation becomes increasingly challenging in the face of growing cities, urban sprawl and a rising global trend in car use (Loukopoulos et al., 2005). Mobility needs grow constantly. Although the average travelling times stay more or less constant, urban dwellers travel further and faster (Banister, 2008). With increased travel speed and distances, the need for road infrastructures grows continually. Beyond the direct impacts of motorized transportation (air and noise pollution, depletion of resources, congestion) the expansion of road networks also reshapes the land within the cities (Jain & Guiver, 2001). It thus becomes increasingly challenging to achieve sustainable mobility, which responds to the needs of **all inhabitants** of the city.

Given the important social divide prevailing in urban contexts, benefits and impacts of transportation infrastructures are not equally distributed amongst different groups (Martens et al., 2012). Social differences are in fact exacerbated through the development of car-based transport infrastructures (Baeten, 2000; Fol, 2009). The expansion of road networks ensures, on one hand, a greater mobility for well-off populations. On the other hand, the transport-disadvantaged populations see their situation worsened. The development of car-based infrastructures, often combined with a less efficient public transportation system, brings new barriers to accessibility and mobility for the populations without access to a car (Jain & Guiver, 2001). Also, the transformation of the urban landscape, where more and more public spaces are converted into roads, is more likely to affect socio-economically deprived populations (Dodson et al., 2006). These populations who, for economic reasons, move to areas fragmented by highways and boulevards, are inevitably more exposed to the negative externalities of transport (noise, pollution, risks of accidents). Social issues are thus inherent to urban transportation development.

In this regard, urban transportation systems play a key role for urban social sustainability. The concept of social sustainability has recently gained serious attention within the field of urban studies (Ghahramanpouri et al., 2013). In the literature, the most recurrent themes relate to basic needs, quality of life, sense of community, sense of cohesion as well as social equity, inclusion and interactions (Dempsey et al., 2011; Ghahramanpouri et al., 2013). More specifically, Dempsey et al. (2011) highlight the influence of the built environment, including transport infrastructure, on social equity and social exclusion. In the same way, in their definition of urban social sustainability, Polèse & Stren (2000 as cited by Ghahramanpouri et al., 2013) emphasize the need to reduce social exclusion by increasing accessibility to services, facilities and opportunities. In a broader perspective,

the reduction of the negative externalities of transport increases the quality of life of the residents (Dempsey et al., 2011). Generally speaking, socially sustainable urban transportation is described as a transportation system "that provides equitable access to urban opportunities, minimizes social exclusion, and improves or does not overly diminish an individual's quality of life" (Boschmann & Kwan, 2008, p.139). It is thus clear that transport planning has the potential to improve urban social sustainability. However, although the contribution of transport to achieving societal objectives is now well established in the literature (Denmark, 1998; Manaugh, 2013; Stanley & Lucas, 2008), the social dimension of transport remains misunderstood amongst scholars and city planners (Dodson et al., 2006; Manaugh, 2013).

Traditionally, transport planning has been limited to the technical, and later, environmental aspects of mobility (Dodson et al., 2006). Nowadays, transport is increasingly framed as a social issue (Lucas, 2004), but the social dimension is still largely marginalized in planning process (Boschmann & Kwan, 2008; Chardonnel et al., 2012; Geurs et al., 2009; Manaugh, 2013). The environmental and economic objectives, often more tangible and easier to quantify, generally override the social concerns (Banister, 2008; Handy, 2008; Manaugh, 2013). For example, the environmental imperatives are often materialized through an increase of the modal share of public transportation (users transfer from private car to public transportation) without looking at the transport conditions of the current users of public transportation (Manaugh & El-Geneidy, 2010). In the same way, for economic reasons, public transportation is developed around the main axes, in order to increase ridership, whereas other less central routes are neglected. Besides, given the intangible nature of social issues, as well as the lack of research on this topic, there exist very few indicators, criteria or tools allowing the measurement of social objectives (Manaugh & El-Geneidy, 2010; Martens et al., 2012).The integration of the social dimension of transport thus represents a significant challenge for transport planners.

According to Handy (2008), the integration of social issues requires major changes in terms of planning. Traditionally, transport planning has been "a top-down, one-way process, expert driven and technocentric" (Booth & Richardson, 2001, p.148), which does not provide an adequate frame for addressing social issues. The conventional approach to transport planning is mainly interested in the physical dimension of transport, namely traffic (Banister, 2008). It refers to demand management, travel time minimization and economic evaluation and is inevitably biased towards private cars (Banister, 2008; Dodson et al., 2006). As a result, social needs, and with it social equity, are relegated to the background. In this regard, Koglin (2013) highlights that the rationalization behind the travel flows has lead to the marginalization of the social perspective of mobility. In

relation to this technocratic perspective of transport, Booth & Richardson (2001) and Banister (2008) point towards a paradigm change, emphasizing the need for local and participatory approaches.

1.2   Montreal – Reversing the trend of car dependency

The agglomeration of Montreal, characterized by a historical dependency on car use (Paulhiac & Kaufmann, 2006), has committed itself, in the last decade, to significantly reduce car dependency, by investing massively in public and active transportation (Ville de Montréal, 2008). The process started with the *Montreal Summit* on transport in 2002, which resulted in the *Transportation Plan* launched in 2008. This plan is meant to define the vision and strategic orientations for the next ten years and shows strong ambitions for public and active transportation, aiming at "reinventing Montreal" (Ville de Montréal, 2008, p.1). In this context, the agglomeration of Montreal shows a growing interest in local and participatory planning. The *Transportation Plan* requests each borough to develop a Local Transport Plan (LTP) in order to adapt the bigger plan to the needs of the local residents.

From a social perspective, the development of public transportation, together with the extensive road network, brings important challenges with regards to accessibility and social equity (Paulhiac, 2004). This study is thus a case of transition towards local participatory transport planning in Montreal and its implication for tackling social inequities resulting from car-based infrastructure.

1.3   Motivation, aim and research questions

The current context in Montreal opens the door towards different planning approaches, with an emphasis on local and participatory planning. It is thus interesting to examine how this opportunity will be materialized and how the social dimension will be included in this context. The aim of this thesis is thus to **assess the barriers and opportunities to trigger changes in transport planning in Montreal, through local and participative approaches.** With this thesis, I hope to provide insight on the specific case of Montreal on how to foster the inclusion of the social dimension in transport planning. In addition to this, knowledge gained from this study can contribute to understanding urban transport transportation challenges in other urban contexts around the world.

Three research questions are developed to achieve this aim.

- RQ1 looks at the **outcomes** of the participatory process in relation to the social needs of the communities.
- RQ2 assesses the **factors** influencing the outcomes of the participatory process.
- RQ3 explores the **opportunities** within the current context.

> **RQ1: To what extent does the participatory process of the local transport plan incorporate the social dimension of transport planning?**

- •1a: To what extent are social issues brought up in the participatory process?
- •1b: What is the contribution of the participatory process to the social learning?

> **RQ2: Why is the participatory process limited in triggering the desired changes in transport planning at the local level?**

- •2a: How is the participatory process conducted ?
- •2b: What is the view of local planners on transport planning that underlies the planning of the participative approach?
- •2c: What is the perspective of community groups on local transport planning that underlies their participation?

> **RQ3: What are the opportunities to trigger change in transport planning at the local level in Montreal?**

1.4   Relevance to sustainability science

As shown in section 1.1, transport planning has significant implications for urban social sustainability. With regards to social equity, sustainability requires the development of "less materially- and energy-intensive approaches to personal satisfactions among the advantaged", in order to allow meeting the needs of all (Gibson 2006). In line with Gibson, alternatives to the continuous expansion of individual mobility, based on private car use, have to be developed and implemented. This is coherent with the environmental challenges inherent to mobility, especially in terms of land-use change and greenhouse gas emissions.

According to Banister (2008), "active citizen support" is essential for fostering the transition towards urban sustainable mobility. By arguing for socially sustainable transport system and relating sustainability to the social needs of the population, it thus appears more possible to foster the desired sustainability shift away from car use.

This thesis emphasizes the processes of such a transition, from a social learning perspective. This is in line with the "process nature of sustainable development", as described by Bagheri & Hjorth (2007). From a sustainability science perspective, social learning processes are required to understand complex systems, such as urban transportation systems, and accordingly develop strategies towards sustainable alternatives (Wiek et al., 2012).

2   Case Study – Agglomeration of Montreal

The agglomeration of Montreal, delimited by the island of Montreal, is located in southern Quebec, Canada (**Figure 1**). In 2011, the population was 1 886 481 inhabitants, over a territory of 499.1 km^2 (Ville de Montréal, 2012). The agglomeration comprises of the City of Montreal, divided in 19 boroughs, as well as 15 independent municipalities (**Figure 2**).

Figure 1: Location of Montreal in Quebec, Canada. The top-right figure locates the province of Quebec (in red) in Canada. The red dot represents the position of Montreal in the province of Quebec. (Source: adapted from Natural Resources Canada, 2006)

Figure 2: The agglomeration of Montreal. Dark green: boroughs of the city of Montreal. Light green: independent municipalities (Source: Ville de Montréal, 2014)

2.1   Montreal: a car-dominated city

The agglomeration of Montreal, as most of the North-American cities, is characterized by a high dependency on cars. Together with the development of an extensive highway network (**Figure 3** and **Figure 4**), the area has undergone major suburbanization (Paulhiac & Kaufmann, 2006). Given the

historical development of the transport infrastructure, the agglomeration is nowadays dominated and shaped by car infrastructure and many people depend on private cars to ensure their mobility needs. As of 2008, the modal share attributed to the private cars on the island was 48% (Société de transport de Montréal, 2012).
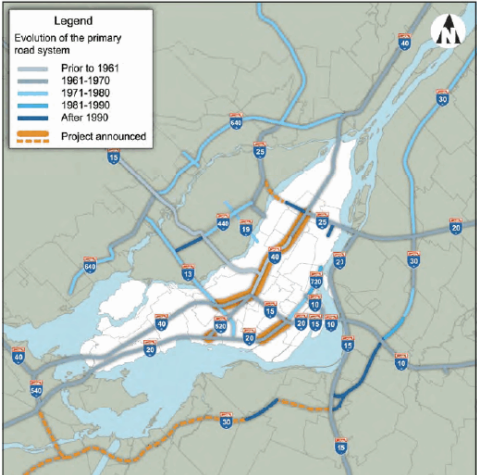
Figure 3: Primary road system in Montreal (source: Ville de Montréal, 2008, p.50)

Figure 4: Traffic jam in Montreal (source: Ici Radio-Canada, 2014)

Although Montreal is characterized by a relatively high public transportation modal share, it is still "experienced and perceived" as a North-American city in terms of mobility (Paulhiac, 2004). The existing road infrastructure and the high dependency on car use result in additional constraints for the implementation and development of an efficient public transportation and active transportation system. The core of the public transportation system consists of a subway system, with four metro lines essentially on the island of Montreal (**Figure 5**). Proximity to a subway station is generally a great advantage in terms of mobility, since the bus network is considered as less efficient and unreliable. For regional commuting, there is a network of commuter trains (**Figure 6**), which operates mainly during the rush hour. The subway system and the commuter trains are developed around the Central Business District (CBD).

Figure 5: The Montreal subway network. It consists of four lanes, each identified with a different colour. (source: Société de transport de Montréal, 2014)

Figure 6: Map of the five commuter lines of the metropolitan area of Montreal. The dark orange line is still a projected train line, although indicated otherwise. (Source: Ville de Montréal, 2008, p.50)

Transport planning is a shared service generally overseen by the agglomeration of Montreal. Regarding public transportation, two public agencies are in charge: the *Société de Transport de Montréal* is responsible for the bus and metro networks on the island while the commuter trains are under the responsibility of the *Agence Métropolitainte de Transport*. The boroughs are responsible for the local streets and have the decisional power for the active and public transportation physical infrastructure.

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2.1.1 Transport and social equity in Montreal

Given the dominant road infrastructure, and the limited public and active transportation infrastructure, Montreal faces significant challenges for a socially equitable transport system. Paulhiac (2004) identifies accessibility and social equity as the main challenges for public transportation developments. More specifically, Lewis (2004) and Fischler (2004) as cited by Paulhiac (2004), highlight the mismatch between public transportation and employment, and the mismatch between public transportation and the location of disadvantaged populations.

With regards to transport planning at the agglomeration level, social equity is not explicitly addressed, as highlighted by Manaugh & El-Geneidy (2010) and Paulhiac (personal communication, February 21, 2014). Although Montreal's main objective is to meet "the transportation needs of all Montreal residents" (Ville de Montréal, 2008, p.13), the environmental and economic issues dominate the plans. The *Montreal Transportation Plan* prioritizes the reduction of greenhouse gas emissions, transport safety and increased public transportation service (Ville de Montréal, 2008). In order to tackle traffic congestion and greenhouse gas emissions, the agglomeration focuses on increasing public transportation ridership (Société de transport de Montréal, 2012). Accordingly, the main axes, the central business district and the new suburbs are prioritized. In contrast, improvement of services for current public transportation users, as well as low-income central neighbourhoods, appears to be neglected.

2.1.2 Local level planning: The Local Transport Plans

Following the *Montreal Transportation Plan*, each borough and municipality on the island of Montreal is requested to develop a Local Transport Plan (LTP) addressing the specific mobility needs of its residents. The Local Transport Plans are meant to be transport planning tools based on participation and integrated land-use planning (Ville de Montréal, 2010). The aim is to develop a long-term vision of transport for the borough and identify the main interventions to be implemented. The development of a LTP should entails five phases, all including public consultation:

- Preparatory study
- Definition of the local goals of the LTP
- Detailed diagnostic
- Intervention plan
- Redaction of the LTP

The processes vary greatly from one borough to another, differing in their focus, extent, objectives, level of progress and participatory approach. Since 2008, only few boroughs have developed an extensive LTP.

3 Theoretical background

This section introduces the Right to the City and Critical Urban Theory (CUT) as a social perspective on urbanization processes. From a social equity standpoint on urban planning, CUT allows identifying features for a socially equitable transport system and is then translated into transport planning using the sustainable mobility paradigm.

3.1 The Right to the City and Critical Urban Theory

The concept of the Right to the City was introduced by French Marxist philosopher Henri Lefebvre in 1968, in his book *Le droit à la ville*. The Right to the City stems from Lefebvre's reflection on the new urban reality, following the end of the industrial city and the beginning of suburban developments. Lefebvre points out that cities have lost their social attributes and argues for an urban society, in which "the world of commodities" is limited to give space to the prioritization of the social needs of the inhabitants (Lefebvre, 1966, as cited by Brenner, Marcuse, & Mayer, 2009, p.180). In this urban society, the urban space is not subject to property rights and exchange value but to the needs of its inhabitants (Purcell, 2013). The term inhabitant (*citadin*), central in the Right to the City, refers to anyone who inhabits the space, who experiences the space on an everyday basis.

The Right to the City consists of "a cry and a demand… a transformed and renewed right to urban life" (Purcell, 2002, p.102). It not only entails the right for inhabitants to access the space and the resources of the city, but the right to be directly involved in the production of space, "the right to produce urban space so that it meets the needs of inhabitants" (Purcell, 2002, p.103). From this standpoint, inhabitants should be involved in all decisions influencing the production of space, based on their activities and use of space (Purcell, 2002). The right to the city is thus a process rather than an end in itself.

The Right to the City is closely interlinked with CUT. CUT has its roots in "leftist or radical urban scholars" in the post-1968 revolution, such as Henri Lefebvre, David Harvey, Manuel Castells and Peter Marcuse. Influenced by Marx's works and the critical theory (Frankfurter School), CUT positions itself as a critique of the current capitalistic forms of urbanization, in which urban forms are shaped through the social relations of power (Brenner, 2009). Following Lefebvre, CUT points out that the urban life and its various spheres are hypercommodified and profit-oriented, the exchange value being prioritized over the everyday life of the inhabitants (Brenner et al., 2009). In this regard, CUT rejects urban forms of knowledge based on the market, and emphasizes the social construction of knowledge to foster an "another, more democratic, socially just and sustainable form of urbanization" (Brenner, 2009, p.198). According to CUT, the "emancipatory" alternatives are

embedded in the current structures, but suppressed by the "institutional arrangements, practices and ideologies" (Brenner, 2009, p.198). CUT thus aims at excavating these alternatives by critically assessing the current system and identifying opportunities for change (Brenner, 2009).

Following the Right to the City, CUT identifies two segments of society whose rights are oppressed within the current system. Referring to the cry and the demand of Lefebvre, Marcuse (2009) differentiates between the *deprived* and the *discontented*. The *deprived*, the one whose basic needs are not fulfilled, demand for something more whereas the *discontented* cry out of necessity, as they see their opportunities for growth and creativity limited by the existing structures.

3.2 The social dimension of transport

Transport planning plays a key role in the urbanization processes of modern cities. Through road and public transportation networks, it shapes the urban structure and the mobility patterns. Transport infrastructures also influence the everyday life of local inhabitants, shaping their neighbourhoods as well as their everyday routines. In that sense, following CUT, **transport planning should aim at meeting the social needs of the inhabitants.** Drawing from the literature and the theoretical background, the following features are identified in this study to characterize the social dimension of transport: accessibility, quality of life and involvement of the inhabitants, together forming social equity.

3.2.1 Accessibility

Within the field of transport planning, social needs are mainly expressed in terms of accessibility to opportunities. In this regard, accessibility looks at the meaning of the trips, rather than at the trips themselves (Denmark, 1998). More specifically, Foth et al., (2013) define accessibility as the potential to reach the desired destinations, such as employment zones, services and shopping facilities. In this regard, the "access to social opportunities" influences the capacity of an individual to participate in civil society, which thus contributes to his or her social inclusion (Preston & Rajé, 2007). In the same way, Polèse & Stren (2000, as cited by Ghahramanpouri et al., 2013), when defining urban social sustainability, insist on the need to reduce social exclusion by improving access to services and opportunities.

3.2.2 Quality of life

From a broader perspective, quality of life is also often discussed in the literature on socially sustainable transportation, defined as the fulfilment of the values and needs of an individual (Boschmann & Kwan, 2008). For the purpose of this thesis, the term quality of life is used to refer to the direct impacts of transport infrastructure on the individuals. It excludes accessibility, which is

conceptualized as a feature on its own. The direct impacts of transport lie mainly in health and safety issues as a result of the externalities from car use, such as noise and air pollution, safety, and use of public space (Jain & Guiver, 2001). Accordingly, any measure aiming at reducing these negative externalities, such as traffic calming measures, but also green infrastructure, contribute to increasing the quality of life of the local residents. In this sense, transport plays a "supporting role in improving the quality of life in the city" (Banister & Hickman, 2006, p.276).

3.2.3   Involvement

Citizen involvement is also a key feature for meeting the needs of the citizens in transport planning. Beyond the practical issues of accessibility and the impacts of car-based infrastructure, transport planning has a great influence on the production of space within the boroughs. It influences how inhabitants experience the urban space, in their everyday life. Based on the Right to the City, all inhabitants should be able to have their voices heard in the decisions relative to the urban space, thereby allowing them to produce the space they inhabit. Additionally, participation has the potential to promote social equity by supporting the interests of socially disadvantaged groups Hampton (1999).

3.2.4   Social equity

Following CUT and the Right to the City, social equity is central to alternatives forms of urbanization. In terms of transport, social equity is understood as an "equitable distribution of impacts (benefits, disadvantages and costs)" (Litman & Brenman, 2012). However, the term "equitable" in planning leads to different interpretations (Martens et al., 2012). Aligned with CUT, I use the concept of vertical equity, which suggests that disadvantaged groups should intentionally be favoured over other populations (Foth et al., 2013). Broadly speaking, the literature on transportation identifies low-income and unemployed people, children and youth, disabled, outer urban dwellers and ethnic minorities as potentially disadvantaged groups (Dodson et al., 2006). From a CUT perspective, these groups correspond to the *deprived*, those whose needs are not fulfilled in the current structure. In this thesis, I use the term **marginalized groups** to refer to the transport disadvantaged populations, with an emphasis on low-income populations. The production of space, the involvement into decision-making, also appeals to the *discontented*, who request different patterns and use of space, different forms of urban life. These groups however fall outside the scope of this research.

Coming back to the three features of the social dimension of transport, a socially equitable transportation system should thus (**Figure 7**):

- Ensure equitable access to opportunities;
- Reduce negative externalities of transport for all;
- Ensure representative involvement in decision-making, with an emphasis on marginalized groups.
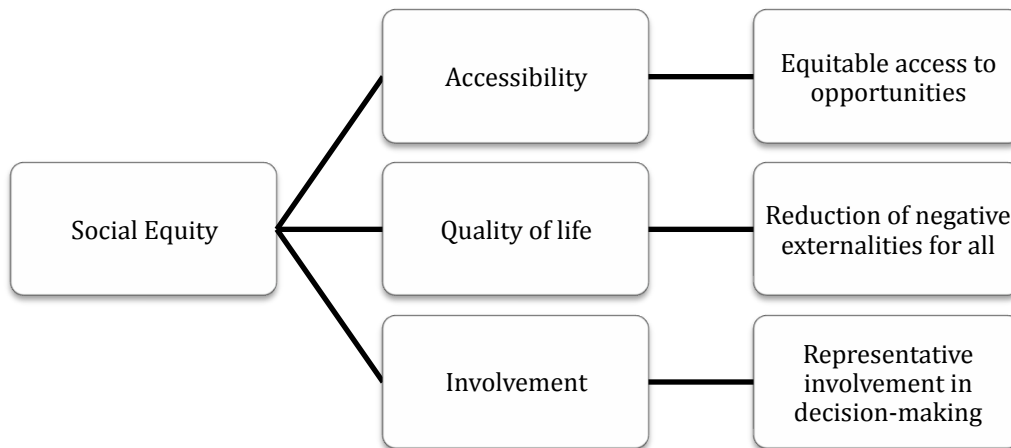
Figure 7: Features for a socially equitable transport system. The middle column represents the three dimensions that should be addressed to achieve social equity in transport planning. The column to the right briefly defines these dimensions.

In sum, CUT argues for radical changes through a critical assessment of the system in order to build a city that meets the social needs of its inhabitants. Accordingly, it emphasizes citizen involvement and the social construction of knowledge. Transport planning is thus understood as a mechanism to the Right to the City, in its broad meaning. It must respond to social needs such as accessibility and quality of life, but also empower inhabitants to produce the space they inhabit.

3.3   The sustainable mobility paradigm

Given the traditional planning paradigm, as described in the introduction, significant changes are needed to address the above-mentioned issues. In response to the technocratic transport planning, the sustainable mobility paradigm (Banister, 2008) provides relevant guidelines for an alternative planning, fostering more democratic, just and sustainable form, aligned with the Critical Urban Theory. The sustainable mobility paradigm emphasizes the social dimension of transport, focusing on accessibility and people, rather than mobility and traffic. **Table 1** summarizes the contrasts between the conventional approach and the sustainable mobility approach.

Table 1: The sustainable mobility paradigm. The table presents the main differences between the conventional and the alternative approaches to transport planning. The highlighted elements are the most relevant to this thesis. (Source: Banister, 2008)

The conventional approach—transport planning and engineering	An alternative approach—sustainable mobility
Physical dimensions	Social dimensions
Mobility	Accessibility
Traffic focus, particularly on the car	People focus, either in (or on) a vehicle or on foot
Large in scale	Local in scale
Street as a road	Street as a space
Motorised transport	All modes of transport often in a hierarchy with pedestrian and cyclist at the top and car users at the bottom
Forecasting traffic	Visioning on cities
Modelling approaches	Scenario development and modelling
Economic evaluation	Multicriteria analysis to take account of environmental and social concerns
Travel as a derived demand	Travel as a valued activity as well as a derived demand
Demand based	Management based
Speeding up traffic	Slowing movement down
Travel time minimisation	Reasonable travel times and travel time reliability
Segregation of people and traffic	Integration of people and traffic

In order to address the social dimensions of transport, Banister (2008) prioritizes a transport system based on local concerns and favours active and public transportation. This hierarchy (from pedestrians to cars) is essential for more equitable urban transportation systems. While public and active transportation have a great potential to increase social equity and accessibility (Stanley & Lucas, 2008), car dependency, in a society, is seen as a major barrier for some populations (Jain & Guiver, 2001). Although the car allows greater individual mobility, its extensive use influences the urban structure and land-use patterns and leads to a less extensive public transport system (Stanley & Lucas, 2008). As a result, other alternatives are further limited or more costly. Moreover, extensive car use increases the negative externalities of transport, and often leads to higher discrepancies in this regard (Boschmann & Kwan, 2008).

Since CUT aims at excavating alternatives within the current system, the Local Transport Plans are seen as an opportunity to transition towards the sustainable mobility paradigm, thus including the social needs of the inhabitants. The participative approach provides an opening for discontented and deprived groups to question the norms and values, the current planning paradigm, by bringing about social and local concerns.

CUT and the sustainable mobility paradigm provide us with a desirable vision of transport planning, promoting equity, democracy and sustainability. It however does not indicate a step-by-step approach on how to bring these changes about.

4   Conceptual framework

Following the theoretical background, it is necessary to define a framework that will allow us to assess the current planning process and identify barriers and opportunities for change. In this section, I develop a hybrid framework for social learning through participation. It is inspired from the triple-loop learning concept, as adapted by Pahl-Wostl (2009), and applied to citizen participation in local transport planning. The focus of the hybrid framework lies on the contribution of the participatory process to trigger changes in the planning paradigm.

In line with CUT, the framework conceptualizes change through social learning, emphasizing the social construction of knowledge. Furthermore, social learning through participation frames transport planning as a process and allows addressing participation in transport planning as a mechanism to the Right to the City, rather than as a fixed static goal.

4.1   Social learning: the concept of triple-loop learning

The concept of triple-loop learning defines social learning as a step-by-step process, which moves through the different phases of learning, from the single to the double and triple-loop (**Figure 8**). The outcomes are the results of actions that are constrained within a certain frame, which in turn is set by the overarching context. The feedback loops represent cyclic and iterative changes. It is assumed that higher levels of learning are more costly. Consequently, the regime progresses within the single-loop learning phase until it reaches the boundaries and constraints of this level, and only then it proceeds to the next learning step (double-loop and then triple-loop).
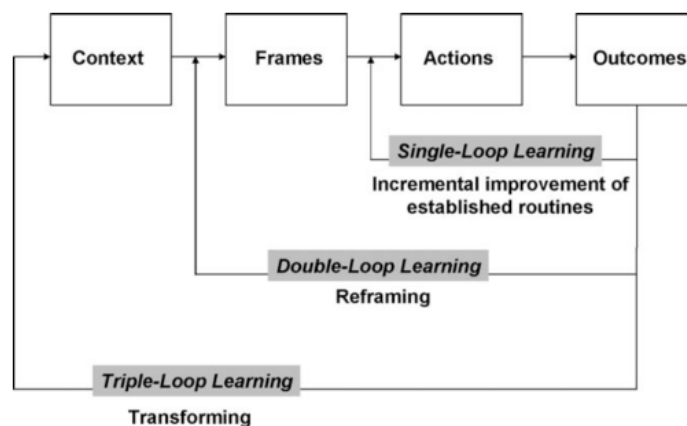
Figure 8: The concept of triple-loop learning, as adapted by Pahl-Wostl (2009). Each loop represents a learning phase, the triple-loop being the highest level of social learning. (Source: Pahl-Wostl, 2009)

According to Pahl-Wostl (2009, p.359), the single-loop learning is defined as an "incremental improvement of action strategies". It stays within the set frame and aims at achieving the defined goals, without questioning them. The double-loop learning addresses the frames, questioning the

underlying assumptions and the established goals. It is characterized by new approaches and measures. The third-loop learning refers to a transformation of the context and a change of paradigm, implying a questioning of the underlying values and norms. It leads to new regulatory frameworks and changes of boundaries and power structures.
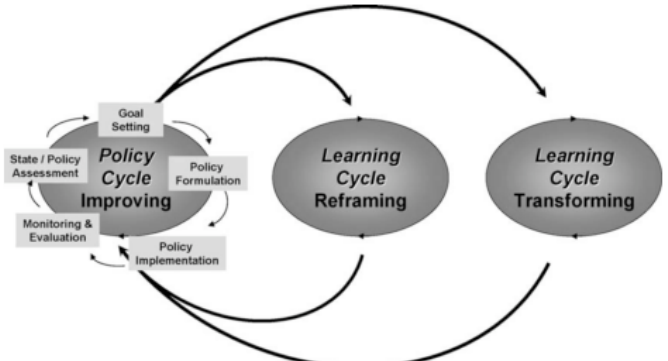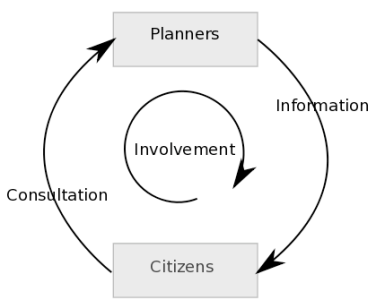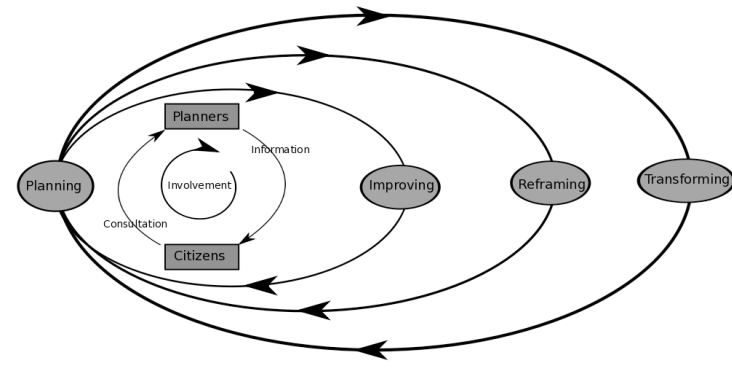
Using the concept of triple-loop learning, Pahl-Wostl (2009) conceptualizes changes in governance regimes as social learning. **Figure 9a** illustrates the different cycles applied to governance regimes. The policy cycle (single-loop) is differentiated from the learning cycles (double and triple-loop learning).

4.2   The role of participation in social learning and local transport planning

Local participatory approaches are regarded as essential for a paradigm change in transport planning (Hull, 2008; Banister, 2009). Participatory methods, which are a recent trend in transport planning (Gil et al., 2011), aim at gaining a better understanding of the social needs of the different social groups (Gil et al., 2011; Lucas, 2006). Participation is also seen as essential from a moral and ethical standpoint, as highlighted in the Right to the City in the theoretical background.

From a social learning perspective, it is also assumed that citizen participation is essential in order to reach higher level of learning and eventually lead to a change of paradigm. Pahl-Wostl (2009) highlights that double and triple-loop learning are generally characterized by higher levels of participation. However, the framework developed by Pahl-Wostl (2009) does not go into detail regarding the quality of the participatory process that should be conducted to overcome the policy cycle. Participation is seen as part of the social learning, but not necessarily as the triggering factor.

Since this thesis looks at how participation itself can foster social learning, I develop the framework further to better conceptualize the contribution of participation to social learning. The participation cycle, illustrated in **Figure 9b**, is based on Pahl-Wostl's previous work (Ridder & Pahl-Wostl, 2005) and other scholars on participation in transport planning (Bickerstaff et al., 2002; Booth & Richardson, 2001). It provides us with an understanding of different participatory processes and identifies features for successful involvement of citizens in transport planning at the local level.

  Figure 9a: The concept of triple-loop learning applied to governance regimes by Pahl-Wostl (2009) (Source: Pahl-Wostl, 2009)	Pahl-Wostl (2009) applies the concept of triple-loop learning to governance regimes. She differentiates the policy cycle (improving) from the learning cycles (reframing and transforming). The framework is limited in providing an understanding of the contribution of participation to social learning.
  Figure 9b: The participation cycle, developed by the author	The participation cycle represents the three levels of participation: Information, Consultation, and Involvement (Ridder & Pahl-Wostl, 2005). The arrows represent the flow of information between the planners and citizens. Three features are identified for achieving citizen involvement: inclusivity, broad boundaries of the debate and empowerment.
  Figure 9c: Hybrid framework for social learning through participation	The hybrid framework for social learning through participation combines the framework developed by Pahl-Wostl (2009) with the participation cycle. Participation is at the centre of each learning loops, emphasizing the contribution of participation to social learning.

Figure 9: Description of the frameworks for participation and social learning. Figure 9a represents the framework developed by Pahl-Wostl (2009) for multilevel learning governance regimes. Figure 9b illustrates the participation cycle with the interactions between the local planners and the citizen. Figure 9c is the hybrid framework combining the two previous ones.

To start with, participation is broadly defined as the "involvement in decision-making with the purpose of influencing the choice(s) being made" (Bickerstaff et al., 2002). Originally, Arnstein (1969, as cited by Booth & Richardson, 2001) defines seven levels of participation on the ladder of participation, different levels of participation referring to different levels of knowledge and power attributed to the different stakeholders. For the purpose of this thesis, I use the three levels defined by Ridder & Pahl-Wostl (2005) for participation in local level planning: information, consultation and

involvement (**Figure 9b**). In the lower level of participation (information), planners simply supply information to citizens and stakeholders. At the consultation level, the planners gather information from the citizens and stakeholders. Both at the information and consultation levels, exchange and dialogue are limited, and the decision-making process stays within the hands of the planners. The third level of participation is the involvement of the stakeholders and citizens, which directly engage the public in decision-making. The involvement, understood here as a reinforcing loop between the planners and citizens, is central to this framework.

Although it is agreed that citizen involvement is essential for improving local planning, there seems to be no well-established principles for participation at the local level (Chaskin et al., 2012; Ridder & Pahl-Wostl, 2005). However, some guiding principles are predominant in the literature. Based on Bickerstaff et al. (2002), Booth & Richardson (2001) and Ridder & Pahl-Wostl (2005), I identify three principles for successful involvement of citizens in local transport planning: inclusivity, wide boundaries of the debate and citizen empowerment. Inclusivity refers to the involvement of all stakeholders early in the process. It assesses the timing of the involvement, as well as the groups that are included or excluded. Regarding the boundaries of the debate, they should be broad enough to give space to new ideas and knowledge, leading to an increase of the range of possible solutions. Finally, citizen empowerment refers to the acquirement of new skills and influence in decision-making. In this regard, participation should allow citizens to learn and enhance their capacity.

4.3   Framework for social learning through citizen involvement

Based on the framework of triple-loop learning for resource governance regimes and the participation cycle defined earlier, the framework for social learning through citizen involvement is established (**Figure 9c**). It places participation at the centre of social learning, looking at the quality of participation as a key factor to progress in the learning phases. It is important to note that the participation cycle is central to each learning-loop, not only the single one.

4.3.1   Operationalization of the framework and the research questions

The framework for social learning through citizen involvement allows analysing the relationship between the quality of participation and social learning. In the case of transport planning in Montreal, the participation cycle relates to the participatory process taking place within the frame of the LTPs. The planners (**Figure 9c**) are the local planners in charge of the LTP in each borough. Regarding the citizens (**Figure 9c**), it refers to the inhabitants of the borough, with a focus on the community groups and the marginalized populations.

The change of paradigm is conceptualized through social learning and defined based on the theoretical background. The single-learning loop is defined as a minimal participation of citizens, which targets specific issues within the (traditional) goals of the planners. The double-learning loop refers to a questioning of the goals. In terms of socially sustainable transport, this means the inclusion of broader social goals in the planning process. Besides, it also brings into play new approaches and tools to transport planning. Finally, the triple-learning loop corresponds to a change of paradigm, a transformation of the planning processes (**Figure 9c**). This entails the prioritization of social needs, with new regulatory frameworks including social equity indicators. Transport planning is then seen as a social policy tool, thereby integrating different disciplines.

Based on the theoretical background and the framework developed above, the research questions are operationalized to assess the influence of the LTPs on the planning paradigm in Montreal. **Figure 10** illustrates the research question in relation to the theoretical background and the conceptual framework.
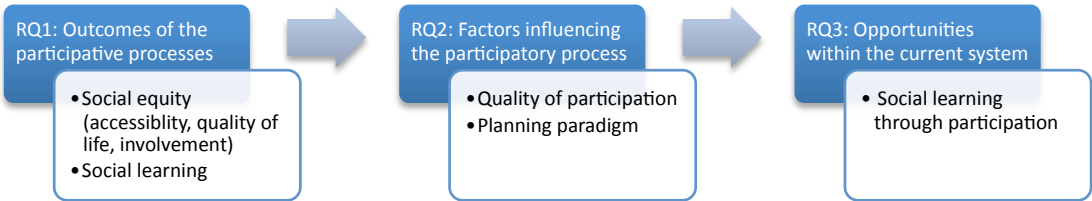
Figure 10: Operationalization of the research questions. The white boxes identify elements of the theoretical background and conceptual framework used to analyze the results of each research question.

The first research question assesses the outcomes of the participatory process in relation to a potential paradigm change. Based on the theoretical background, the change of paradigm desired for transport planning refers to the prioritization of social needs, from a social equity perspective, based on the following criteria: accessibility, quality of life and involvement. The first sub-question aims at identifying the outcomes of the participatory process and assessing how they relate to the social needs of the local community. The outcomes of the participatory process are then discussed in terms of social learning, following the three learning-loops described above.

Research question 2 looks at the factors that influence the outcomes of the participative process. On one hand, it assesses the way the participatory process was conducted in two boroughs of Montreal, and how the views of the local planners influenced it. On the other hand, it analyzes how the perception of the community groups of the LTP influenced their contribution to the process. The

features used to analyze the participative process follow from the participation cycle developed above: type of participative process, inclusivity, boundaries of the debate, and empowerment of the citizens. The understandings and perceptions of transport are analyzed in relation to the sustainable mobility paradigm. In light of research question 2, research question 3 looks for opportunities within the current system. It addresses the relationship between participation and social learning, and assesses the top-down and the bottom-up approaches.

4.4 Limitations

This thesis focuses on the participatory process at the local level, with an emphasis on local planners and community groups. It does not assess the implementation of the local transport plan following its development and the related power structures and network of actors that will come into play. The focus is on the understandings and views of transport planning in relation to its social dimension, which is central to the planning process.

5 Research design

5.1 Research philosophy and strategy

Through the lens of CUT and social learning, this thesis takes a critical realist standpoint and studies the "social world" (Bryman, 2004, p.12) around transport planning. Transport infrastructure is understood as "the reality of the natural order" (Bryman, 2004, p.12), but the focus of the study is on the social significance and implications of transport. Accordingly, a social research approach is taken, with the use of qualitative methods to undercover the underlying perceptions on transport planning. From a sustainability science perspective, although critically assessing the current planning paradigm, the approach is mainly oriented towards problem-solving, aiming at increasing "the efficiency of the existing institutional framework" (Jerneck et al., 2011, p.77).

The research strategy is based on a case study (Montreal) with two settings (Montreal-Nord and Rosemont-La-Petite-Patrie) aimed at gaining a full understanding of the case (Silverman, 2010). The case study looks into participatory transport planning in Montreal, with a focus on the participatory processes of the LTPs. The two settings are used together to draw information on the general participatory planning context. The choice of the settings is mainly based on practical reasons, that is that they were both developing a LTP at the moment of writing the thesis.

Qualitative methods are used to answer the three research questions. When possible, especially regarding the quality of the participatory process was conducted, different sources (documents,

interviews with consultant, planners and community groups) were used to validate the data, as indicated by Gomm (2004).

5.2   Description of the settings of the two Local Transport Plans

The two settings correspond to two boroughs of Montreal, presenting distinct geographical and socio-demographic characteristics. Montreal-Nord is a semi-peripheric borough facing important socio-economic challenges, while Rosemont-La-Petite-Patrie is a central borough with generally higher socio-economic conditions. **Table 2** summarizes the main demographic and mobility characteristics whereas **Figure 11:** Location of the two boroughs, including the metro lanes (source: created by the author on *Googlemaps Platform*)shows the location of the two boroughs.

Table 2: Demographic and mobility statistics for the two boroughs and the agglomeration of Montreal. (Source: Demographic data: Montréal en statistiques, 2013; Ville de Montréal, 2012. Mobility data: Agence métropolitaine de transport de Montréal, 2008)

	Montreal-Nord	Rosemont-La Petite-Patrie	Agglomeration of Montreal
Geographic and demographic data (2011)			
Area (km^2)	11.1	15.9	499.1
Population	83 868	134 038	1 886 481
Unemployment rate (%)	14.1	8.8	10.0 *
Population above 15 years old with a university degree (%)	9.7	31.3	28.1 *
Immigrant population (%)	37.6	21.8	33.4 *
Mobility data (2008)			
Car ownership (number of car per household)	0.88	0.73	0.96
Private car (modal share in %)	54.3	48.1	56.1
Public transportation (modal share in %)	26.5	30.2	25.4
Active transportation (modal share in %)	17.0	21.2	17.1

* Data for the City of Montreal only, not for the whole agglomeration.
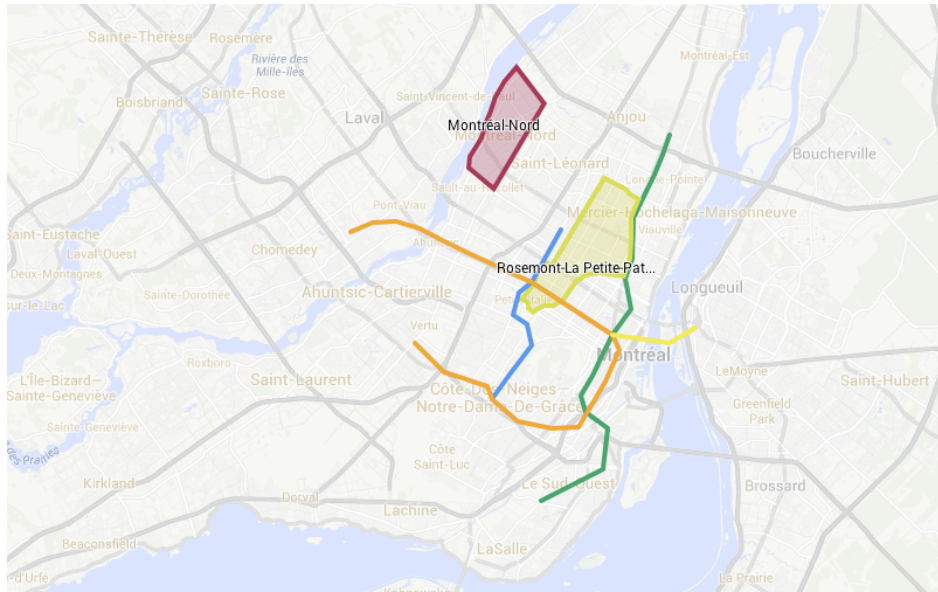
Figure 11: Location of the two boroughs, including the metro lanes (source: created by the author on *Googlemaps Platform*)

5.2.1 Borough of Montreal-Nord

In terms of socio-economic conditions, Montreal-Nord cumulates a lot of socio-economic issues, with generally high levels of poverty and unemployment, and low education level (**Table 2**). Two specific areas are significantly deprived socio-economically. One of them is officially recognized as an Integrated Urban Revitalization Area[1]. In terms of transport, the borough has limited access to efficient transport infrastructures and is crossed by many main roads and boulevards. As shown on **Figure 11**, the metro network does not serve the borough. Two major public transportation projects are planned for the years to come. The first one consists of a Bus Rapid Transportation line on one of the major boulevard, linking the suburbs to downtown. The other one is the *Train de l'Est* (train linking the eastern suburbs to downtown) with two stations in Montreal-Nord. In terms of motorization, one out of three household does not have a car (Agence métropolitaine de transport de Montréal, 2008). However, the use of active transportation is also quite limited (**Table 2**).

5.2.2 Borough of Rosemont-La-Petite-Patrie

Rosemont-La-Petite-Patrie[2] is a central district, with generally higher socio-economic conditions (**Table 2**). However, although poverty is not a generalized issue, there are clusters of material and social deprivation that do not appear in the aggregated statistics and some quarters, such as Rosemont-Est, are more deprived than others (Décider Rosemont Ensemble, 2012). Rosemont-La Petite-Patrie is characterized by a relatively good public and active transportation infrastructure.

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[1] The integrated urban revitalization program is a program of the city of Montreal. It aims at supporting massively some specific areas cumulating many socio-economic difficulties in order to tackle a diversity of issues. The City of Montreal identified eight of these zones on its territory.

[2] The borough is divided in two districts, Rosemont and La Petite-Patrie.

However, the provision of public service and active transportation infrastructure is unevenly distributed across the territory. There are only two metro stations at the west extremity of the territory. Besides, the borough is crossed by many big roads, which create problems of pollution and safety.

5.2.3   Description of Local Transport Plans process

In both boroughs, an engineering consulting firm was hired to work on the LTP. In Rosemont-La-Petite-Patrie, a public consultation firm was also hired. **Table 3** identifies the main activities and tools used throughout the participative process.

Table 3: Activities and tools of the participative process in Montreal-Nord and Rosemont-La-Petite-Patrie

Montreal-Nord	Rosemont-La-Petite-Patrie
- Consultation meeting opened to the citizens and community groups - Focus groups with experts and community groups (to come) - Survey *Mobiligo*[3] for employees and employers (at least for one health centre) - Information website	- Local quarter meetings held in three different places (kiosk booths on commercial streets) - Citizen forum - Consultation meeting with community groups in Rosemont - Survey *Mobiligo* for employees and employers - Information website with a platform for citizens to comment on transport issues in the borough

5.3   Methods: data collection and analysis

5.3.1   Documents

In order to assess the direct outcomes of the participatory process (RQ1), I analyzed the documents reporting on the different meetings with the citizens and community groups (**Table 4**). The outcomes are understood here as the discussion and issues addressed in the different meetings.

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[3] *Mobiligo* is an external consultant specialized in mobility management. It conducted mobility surveys regarding the employees' mobility around the main institutions and employment zones.

Table 4: List of the documents used to analyze the outcomes of the participatory process[4]

Montreal- Nord	Rosemont-La Petite-Patrie
- Report of the consultation meeting with the citizens	- Report of the local quarter meetings - Report of the citizen focus group - Report of the meeting with the community groups - *PowerPoint* presentations used for the focus group and the meeting with the community groups

I used a conventional qualitative content analysis (Hsieh & Shannon, 2005) also referred to as inductive category development by Mayring (2000), deriving categories directly from the analyzed documents. The categories are not predefined, in order to allow all interesting categories to come up (Gomm, 2004), and to gain direct information from the documents. Following the identification of categories, I developed a tree diagram to illustrate the relationship between the different categories. This method allows identifying how transport is understood in the participatory process. The results represent a general assessment of all the documents.

5.3.2 Interviews

In order to gain a better understanding of the planning process and the underlying perspectives on transport planning (RQ2 and RQ3), I conducted semi-structured interviews with local planners and representatives of community groups. Interviews were chosen over survey since they allow studying understandings and perspectives (Gomm, 2004), which are central to my research questions. The interviews were complemented with informal phone discussions.

Table 5 shows the planners and community groups that were interviewed (formally or informally). The respondents were purposively selected[5], based on the groups that are relevant to my research problem (Silverman, 2010). Community groups were targeted in order to reach disadvantaged groups, especially from a socio-economic point of view, but also in terms of transport (elderly and disabled people). The respondents are referred to anonymously, since some of them expressed this preference. They are identified based on their position or the community group they represent. For direct quotes, LP1 and LP2 represent the local planners while CW1 to CW4[6] refer to four of the representatives of the community groups that were interviewed. Additionally, the name of the community group is explicitly mentioned only when relevant.

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[4] The documents were provided by the local planners. The reports of the local quarter meetings and the citizen focus group in Rosemont-La-Petite-Patrie can be found online at www.plandedeplacementrpp.com/. The other documents were not publicly available at the moment of writing and are thus not directly referenced in this thesis.
[5] More details on the respondents and selection process can be found in Appendix C.
[6] CW stands for community worker.

Table 5: Local planners and community groups represented in formal and informal interviews for each borough. For Rosemont-La-Petite-Patrie, the community groups in bold are the ones that attended the consultation meeting of the LTP[7].

Montreal-Nord	Rosemont-La-Petite-Patrie
Planners	
Local planner in charge of the LTP	Local planner in charge of the LTP Public consultation firm
Community groups	
Démarche-action RUI (integrated urban revitalization zone program)	- **Rosemont Community Development Corporation** - **Rosemont Citizen Transport Committee** - **Tandem (urban safety)** - **Carrefour Montrose (elderly people)** - **Société de développement Angus (urban renewal)** - Rosemont Housing Committee - La Maisonnée (resources for immigrants) - RTCPP (inter-sectoral discussion forum)

6 Results and Discussion

The aim of this thesis is to assess the participatory process of LTPs, in Montreal, in relation to a change of paradigm in transport planning. In the first place, I assess the extent to which the participatory process incorporates the social needs of the community and contributes to a social learning at the local level. I then examine the factors that influence the outcomes of the participative process to finally identify opportunities for triggering the desired changes.

6.1 Contribution of participation to social learning

6.1.1 Transport issues reported by the community groups

The main issues that came up when talking with the representatives of community groups[8] are related to questions of accessibility. The cost of public transportation for low-income people appears to be the main issue to access public transportation. However, this falls outside the power and responsibility of the local planners. Regarding local planning, accessibility to employment zones and employment services with public transportation was a common issue in both boroughs, especially for low-income people. Accessibility to health services and food supply was also identified as a major issue in Rosemont-La-Petite-Patrie. For example, the health centre is situated at one extremity and some people (mainly from Rosemont-Est) need to take 3 busses to get there (and thus pay 2 tickets). Regarding food shopping facilities, the spatial access to food banks was brought up, as well as the

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[7] More details on the community groups can be found in appendix C.
[8] The results presented in section 6.1.1 are a general assessment of the interviews and discussion conducted with the representatives of community groups working with marginalized populations, namely the RTCPP, the Rosemont Housing Committee, La Maisonnée, Démarche-Action-RUI, Carrefour Montrose and CDC Rosemont.

lack of food shopping facilities in Rosemont-Est. Although this last issue is not directly related to transport infrastructure, it brings up the question of integrated land-use planning.

The lack of public transportation was also reported as an important concern by the community groups. More specifically, the poor public transportation provision outside the main axes, and outside the rush hour, was decried. For example, in Rosemont-La-Petite-Patrie, public transportation on the North-South axes, in rush hour (towards and from the CBD) is perceived as very efficient in contrast to the East-West axes, as well as the service in opposite direction to rush hour. Both in Montreal-Nord and Rosemont-La-Petite-Patrie, respondents pointed out that the service within the boroughs, and between the boroughs, have to be improved to meet the needs of the people they work with, rather than increasing the access to the CBD. In this regard, the representative of *démarche-action-RUI* in Montreal-Nord criticizes the emphasis put by the borough on the new transportation projects, the Bus Rapid Transportation System and the *Train de l'Est*. In her opinion, these projects will not serve the low-income local residents. In Rosemont-La-Petite-Patrie, the lack of public transportation in more deprived area was also identified as an issue. It was pointed out that socio-economically deprived areas had less access to efficient public transportation while more people with higher incomes lived near metro stations. Prior to the fieldwork, the impacts of transport infrastructure on quality of life, as defined in the theoretical background, was hypothesised to be a key issue, especially regarding social equity. However the interviews revealed that it was not a major issue for the community groups. Only one respondent mentioned the lack of green alleyways (back streets) in some deprived areas in Rosemont-La-Petite-Patrie.

Finally, there was a consensus on the lack of information on the specific needs of the different social groups. More specifically, the representatives of the RTCPP, Tandem and the CDC Rosemont, although not aware of specific issues experienced by the groups they serve, mentioned the lack of studies and reflection on the topic as well as the relevance of conducting future studies to find out more about their needs.

6.1.2 Outcomes of the participatory processes

Based on the analysis of the reports of the participatory processes, four main categories emerged: infrastructure, impacts, places and groups (**Table 6**). Infrastructure is understood here in a broad way to include physical infrastructure, but also organizational characteristics, such as the frequency of busses. Impacts relate to the consequences of transport infrastructure on individuals.

Table 6: Categories emerging from the documents analysis of the reports of the participative processes. The predominant categories are the transport infrastructure and the impacts of transport. Examples of comments from the reports are included to illustrate the sub-categories.

Sub-Categories	Definition	Examples
INFRASTRUCTURE		
Public transportation infrastructure	Physical infrastructure or services (frequency, network, comfort, reliability)	Public transportation provision should be improved around the employment zones.
Active transportation infrastructure	Physical infrastructure or services influencing walking and biking in the borough	The width of the sidewalks is insufficient.
Motorized vehicles infrastructure	Physical infrastructure or services influencing traffic (car sharing, parking)	There is always traffic jam at this intersection.
IMPACTS		
Safety	Issues of safety, security, and danger.	Some big intersections are unsafe.
Accessibility	The potential or the challenges to reach certain destinations	Access to the new train stations is important
Quality of life	Reduction of negative externalities of transport and improvement (heat island, green spaces)	Greening of alleyways is desirable
PLACES Employment zones Parks Schools Hospitals Train and bus stations Quarters (Rosemont-Est)		**GROUPS** Elderly people Disabled people Pedestrians Cyclists

The analysis of the documents reveals that most issues are expressed in terms of transport infrastructure. Most ideas and comments reported in the documents refer to the infrastructure, as defined in **Table 6**. For example, citizens request better public transportation (more frequent and reliable bus services), better bicycle paths (maintenance and separation from the cars) as well as safer infrastructure for pedestrians (special crossing and street lights).

Moreover, as illustrated in **Figure 12** and **Figure 13**, the categories stem mainly from the transport infrastructure. For example, a line between public transportation infrastructure and employment zone shows that issues of public transportation are discussed in relation to an employment zone (see example for public transportation infrastructure in **Table 6**). The same applies for groups. In Rosemont-La-Petite-Patrie, most of the outcomes relate to the provision of public transportation, both for specific places and specific groups. Additionally, safety of pedestrians and cyclists is discussed in relation to the active transportation and motorized vehicles infrastructure. In Montreal-Nord, a broader variety of issues are addressed. The impacts of car infrastructure (heat island and boulevards near to green spaces) on the quality of life are discussed. Issues of accessibility to parks and school are also explicitly addressed in relation to public transportation infrastructure and safety.
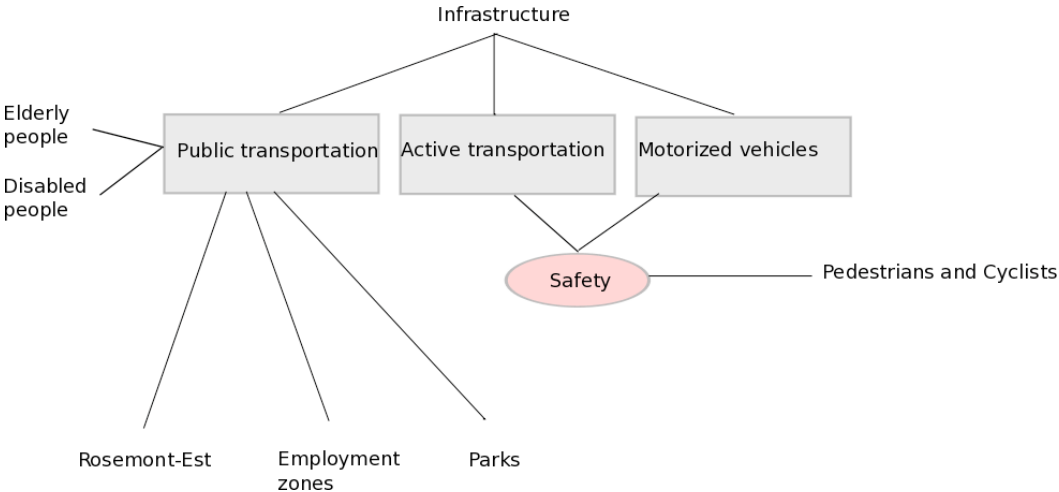

Figure 12: Issues reported from the participative process in Rosemont-La-Petite-Patrie. The grey squares relate to infrastructure and the red ellipse to the impacts of transport.
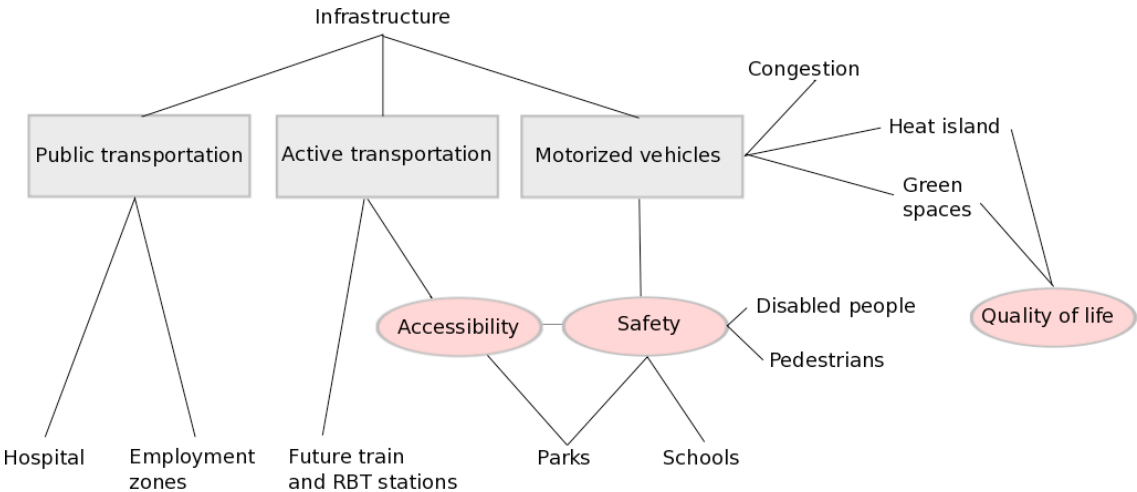

Figure 13: Issues reported from the participative process in Montreal-Nord. The grey squares relate to infrastructure and the red ellipses to the impacts of transport.

The analysis of the reports shows that the impacts of transport are mainly discussed from a technical perspective. Safety is an important concern in both boroughs, but it is perceived as a rather technical issue (traffic lights, crossing). With regards to accessibility and quality of life, they are only explicitly addressed in Montreal-Nord. As for the safety issue, they are mainly discussed in terms of infrastructure, rather than with regards to the needs of the community.

6.1.3 Marginalization of the social dimension of transport planning

In both boroughs, the participatory process is limited in addressing the social dimension of transport. The questions of accessibility, quality of life and involvement, identified in section 3.2, are marginally addressed and the focus lies mainly on technical aspects, such as the infrastructure, rather than on the needs. Furthermore, from a social equity perspective, it can be observed that social impacts are not differentiated between social groups.

With regards to accessibility, the social needs of the local residents are not addressed in the participatory process. The debates focus rather on specific places rather than on the accessibility needs of the different groups. From a social perspective, the potential to reach employment zones and services is key for social inclusion (Polèse & Stren, 2000, as cited by Ghahramanpouri et al, 2013). This is especially relevant in Montreal-Nord, where unemployment is a blatant problem for socio-economically deprived populations. However, the debate focuses mainly on the new transport projects linking the borough to the CBD, rather than on the improvement of the access to services and employment within the borough or to neighbouring boroughs. Also, in both boroughs, the discussions about employment zones concern mainly the attraction of qualified workers in the borough, rather than the access of local residents to employment. In the same way, access to food and health services for marginalized populations is not addressed, although it is identified as an issue by many community group representatives. The lack of access to opportunities for marginalized populations, as emphasized by Preston & Rajé (2007), is thus not investigated in the participatory processes.

In terms of quality of life, the broader implications of car traffic and infrastructure on local residents are superficially addressed. As for accessibility, issues are mainly related to the types of places (parking zones, green spaces) rather than targeting specific deprived geographical locations. In the same way, safety is expressed as a concern for pedestrians, cyclists and youths in general, but not as a concern for residents living in high traffic areas. However, as highlighted by Jain & Guiver (2001), motorized traffic has significant implications on the health and well-being of the local residents. Furthermore, socio-economically disadvantaged populations are generally more affected by negative transport externalities, their neighbourhoods experiencing "higher levels of vehicle emission air

pollution, traffic congestion, noise pollution, and loss of land to highway construction" (Boschmann & Kwan, 2008, p.144). It is thus essential to investigate the concerns of residents living in high traffic areas regarding the reduction of negative impacts of transport.

With regards to the representative involvement of citizens, the outcomes reflect a limited influence of the marginalized groups. As mentioned above, the specific needs of the low-income or unemployed populations are not specifically addressed. Besides, issues of involvement in decision-making are not discussed. For example, no citizen or groups requested a greater involvement in decision-making. The issues of involvement are further discussed in section 6.2.1 with regards to the quality of the participatory process.

The lack of differentiation between social groups has significant implications for social equity in transport planning. To start with, the needs of marginalized groups are not represented in the debate, as discussed above. This is crucial since local knowledge is essential to develop measures that meet transport-related social needs. The social dimension of transport is a complex one that requires the involvement of local residents, especially in terms of accessibility (Handy, 2008). Accordingly, if socially disadvantaged groups are underrepresented in the outcomes of the debate, it is very unlikely that measures resulting from the participatory process will specifically target their needs. According to Denmark (1998), "the problems of the outsiders remain because of inadequate information about and understanding of both the problems and their effect". In this regard, it is essential to put information regarding the social needs of the marginalized groups forward, especially in terms of vertical equity. As highlighted in the theoretical background, equity planning should offer greater opportunities to the ones presented with less options (Foth et al., 2013). However, without acknowledging and investigating the transport discrepancies between the different social groups, it is not possible to address them.

Finally, an interesting insight from these results is the discrepancy between the issues identified through interviews with community groups and the issues brought up in the participatory process. The interviews with the community groups allowed uncovering specific social needs that did not come up in the participatory process. Additionally, most social issues that came up in the participative process were brought up by community groups. Community groups thus seem to be an appropriate vehicle for addressing the social dimension of transport and representing marginalized populations. In that sense, Hampton (1999) highlights the role of community groups for promoting environmental equity.

6.1.4   Limited social learning through participation

From a general perspective, the outcomes of the participative process stays within the traditional planning paradigm, as described by Banister (2008) (**Table 1** in section 3.3). The focus lies within the physical dimension of transport. The street is solely seen as a road, and the use of public space is not debated. In this regard, the outcomes are quite limited in terms of vision. However, some aspects of the sustainable mobility paradigm are integrated in the LTPs. The LTPs are by definition based on a local and participatory approach and thus promote a greater emphasis on people, compared to conventional transport planning. Furthermore, the LTPs follow the hierarchy of transport modes of the sustainable mobility paradigm, prioritizing active and public transportation over cars. Nevertheless, these aspects come mainly from the design of the planning process itself, rather than from the input of the inhabitants.

In terms of social learning, the analysis of the content of the reports reveals that the participatory process stays mainly in the single-loop learning phase. It allows an improvement of transport planning, in the sense that it identifies specific transport issues. The participatory process provides planners with information to develop targeted interventions, but remains very technical. Partitipation is however rather superficial and does not enter the double or triple-learning loops. Indeed, the approach stays quite traditional, within the same frame, and the goals are not questioned. Furthermore, the debate does not address the underlying values or beliefs, such as the role of transport in the society. The challenge thus remains on how to overcome the single-loop learning phase and the policy cycle.

6.2   Factors influencing the outcomes of the participatory process

6.2.1   Quality of the participatory process

In relation to the participation cycle described in section 4.2, participation is framed within very specific boundaries following the goals established by the local planners, and as result, is limited in including and empowering the citizens and community groups. According to the local planners, the main objectives of the participatory process are the identification of transport issues based on the experience of local citizens and the public acceptance of the LTP. Based on these goals, citizens are not directly involved in decision-making, and participation remains within the information and consultation levels.

In line with the objectives mentioned above, the boundaries of the process are quite narrow. In both boroughs, the meetings are structured around predefined categories (mainly active and public transportation, safety and quality of life, and road network and parking) and questions. The case of

Rosemont-La-Petite-Patrie illustrates the limited range of themes addressed during the process. For example, the quarter meetings focused on a survey on the transport habits of the citizens and on the identification of problematic intersections on a map. Between others, the participants were asked the following questions:

- What mode of transport did you use to get here today?
- Why did you choose this mode of transport?
- What would encourage you to use another mode of transport?
- In which locations do you feel especially unsafe?

Similarly, the focus group was mainly directed towards specific questions such as:

- Which intervention would have the greater impact on car use reduction in the borough?
- What are the main issues affecting the safety of pedestrians and cyclists with regards to road traffic?

Finally, the meeting with the community groups was also characterized by narrow boundaries. Representatives perceived it as a very technical process, as described below:

"It was more at the geographic level, [the planners] want to know that this route has a problem because…, it's mainly really in terms of infrastructure, that there we feel unsafe, there is no traffic light there […] it was rather a technical profile rather than sociological problem"[9] (CW2)

In addition to this, some representatives pointed out that the borough came with a plan already in hand. The plan was presented to the community groups for feedback, but as highlighted one representative, the priorities and orientations were already set and as a result, it did not allow the community groups and the borough to identify new axes or priorities. Generally speaking, in both boroughs, the meetings with the citizens and community groups evolved around specific rather technical issues, and did not allow them to be included in the definition of the broader goals and orientations of the LTPs and thus contribute to the essence of the plan.

Following the narrow goals and boundaries, the inclusivity of the process is also limited. In both boroughs, the citizens and the community groups are not included from the beginning of the process and are overall marginally involved. The two settings illustrate how the top-down planning of the participatory process influences the involvement of the citizens and community groups.

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[9] All quotes are translated from French by the author.

In the case of Rosemont-La-Petite-Patrie, the citizens were mainly included towards the end of the diagnostic phase and at the beginning of the intervention plan phase. According to the local planner and the public consultation firm, the local quarter meetings were used as a validation tool and the focus group was used to explore the acceptance of the different interventions. In this sense, citizens were not given the chance to contribute to the broader definition of the LTP from the beginning. Regarding the community groups, many representatives indicated that they would have liked to be included, or at least to be informed, earlier in the process. In their perspective, they were informed too late about the LTP, and also about the meeting itself, as expressed as follows: "*It seems to me that the delay was quite fast, and it was leaving us with not so much time for mobilization.*" (CW4). As a result, the groups had limited time to reflect on the transport issues experienced by their members and phrase their requests. For example, the Rosemont citizen transport committee, with regular meetings every month, pointed out that the delay did not allow them to discuss the LTP prior to the consultation meeting. In addition to the short delay, the community groups mentioned that the communication and publicity strategy was not adapted to their reality. As highlighted by one of the community worker, "*[the planners] did it by the book […] they didn't find communication lines very sexy for me to go*" (CW1). The general strategy (delay and communication) was brought up as an explanation to the low response of the community groups[10]. Although the community groups felt that the borough was genuinely interested in consulting them, many of them consider that the participatory process was not adapted to the reality of the community groups and thus failed in successfully involving them.

Similarly, in Montreal-Nord, the citizens, and especially the community groups, have not been included at the beginning of the project. The two first phases, the preparatory study and the definition of the goals, were about to be completed when I conducted the interviews. However, only one consultation meeting with citizens had taken place and expert or community groups had not been included yet. As it was the case in Rosemont-La-Petite-Patrie, the top-down approach did not foster significant involvement of the citizens and community groups until now and limited their contribution to the general definition of the LTP.

Regarding the representativeness of the process in Rosemont-La-Petite-Patrie, the planner and the community groups seemed to agree that different social groups participated. However, no systematic analysis was conducted and marginalized groups were not specifically targeted. One representative insisted that the partner for the LTP *"was more Mobiligo, rather than to target*

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[10] Only few community groups attended the meeting in Rosemont and no meeting was held in La-Petite-Patrie because not enough representatives responded to the invitation sent by the borough.

organizations that are linked to poverty" (CW2). The focus appeared to be rather on the business and institutions, "*on the people that are working*" (CW2). Although the borough was open to hear the concerns of the marginalized populations, it did not ensure that all voices were heard. In that sense, another representative (CW1) stated: "*naturally, it's always the same that we don't hear, those who don't speak loud enough, or those who have less skills and opportunities to do so*".

Finally, the empowerment of community groups was also very limited in the processes. Very few community groups have been involved after all, and thus very few have been given the opportunity to learn and increase their capacity in relation to transport issues. Besides, the groups that participated in the consultation meeting in Rosemont-La-Petite-Patrie emphasized the fact that they were not very well prepared and could not really do a serious reflection with their members about their transport needs. They highlighted that they would have needed more resources and more time ahead of the consultation to significantly involve their members in the process. Additionally, the community groups only took part in one short meeting throughout the process. This inevitably leads to limited learning opportunities.

6.2.2   Local planners' view of transport planning

Local planners appear to have a traditional understanding of transport planning, focusing on the technical aspects and marginalizing the social dimension. This perspective follows the planning paradigm of the agglomeration and is constrained by the planning context at the borough level.

For the local transport planners, transport planning is mainly understood in terms of trips and means of transport (cohabitation and diversification). These concerns dominate their discourse with regards to the aims and goals of the LTP. The emphasis is on facilitating the trips of the residents, by improving the infrastructure and reducing conflicts between the different users. In relation to the priorities of the borough for local transport planning, one local planner explains: "*certainly, the issues is to favour walking trips first [...], to favour the use of active transportation [...] and also public transportation, the busses and the subway, and after that, there is cars and parking*" (LP1). In both boroughs, the hierarchy between the different modes of transport is central, starting with the most vulnerable users (from active to public transportation, to private motorized vehicles). However, although active and public transportation are favoured, the focus remains mainly on traffic and flows, rather than on the people and on their needs.

The link between social issues and transport appears to be somehow unclear to the local planners, and quite marginal in their discourse. In Montreal-Nord, the category *quality of life* was referred to as the social dimension of transport. This category refers mainly to traffic calming measures that reduce

negative externalities of transport. In a broader perspective, the planners did not identify accessibility or social equity as social issues related to the LTP. Coming back to vertical equity, as defined in the theoretical background, there appears to be no clear criteria for prioritizing some social groups over others. When asked how the borough establishes the priority for the transport projects, one local planner responded: *"so after all, prioritisation is done according to what is realist"* (LP1). In relation to the general objectives of the LTP, he also stated that *"[their] priorities, it's really from the most vulnerable user to the most protected user"* (LP1), the most vulnerable users being the pedestrians and cyclists. However, as the main focus is on safety, marginalized populations were not identified as vulnerable groups. Only the elderly, the disabled people and the children were implicitly or explicitly identified as disadvantaged groups by the local planers. It is however important to note that, in both boroughs, planners mentioned that some bigger projects (green corridor for example) were implicitly developed in the more deprived areas. With regards to participation, it is rather seen as a planning tool, to identify specific issues, than a broad involvement of stakeholders and a social goal. Finally, although both local planners agree that the current planning does not explicitly address social issues and social equity, they acknowledge the potential relevance of integrating them further in transport planning: "*maybe we don't tackle the right problem, maybe we should look at the needs of the communities, of the people*" (LP2).

The marginalization of the social issues appears to stem mainly from the broader planning paradigm in which the local planners evolve. In both boroughs, the LTP is based to a large extent on the general guidelines provided by the agglomeration of Montreal. Both planners emphasize the priorities that were established by the agglomeration as guiding principles for the development of the LTP. Accordingly, since the social dimension is not explicitly addressed at the agglomeration level and that transport planning is seen as a partitioned expertise (Manaugh & El-Geneidy, 2010; Paulhiac, personal communication, 21 February 2014), local planners, who rely largely on the guidelines of the agglomeration, have a similarly traditional view on transport planning. Furthermore, the local planning context appears to be quite inflexible. The planners themselves recognized the difficulty to change the way transport is viewed and planned in the borough. In relation to the width of the sidewalks, the planners expressed the limitations as follows:

> "*I am with people working with the pavements and often, I come and I tell them:*
>> *- have you thought about stopping to do 1m50 wide sidewalks?*
> *But then they say:*
>> *- you're annoying with this, here, we have always done that this way*"

<div align="right">(LP2)</div>

"Yes, the transport [department] also have this capacity [to say they want larger sidewalks], but it's maybe less instinctive because we're more technical" (LP1)

Generally speaking, the local view on transport planning is still dominated by a technocratic perspective, focusing on infrastructure and flows rather than needs. Although quality of life emerges as a significant concern at the local level, the social dimension is still neglected to a large extent.

6.2.3 Community groups' view of transport planning

Generally speaking, there is a lack of expertise and interest on transport amongst the local community groups. In both boroughs, there is no organization working specifically with transport issues, and transport is not amongst the priorities of the community groups, especially not the ones working with marginalized populations. The representatives of the Rosemont Housing Committee and the RTCPP insisted that transport was not amongst their priorities, and accordingly they had no information about the transport needs of their members. The representative of the RTCPP also highlighted that the LTP did not come from a need from the community, but was an initiative coming from higher administrative levels. With regards to mobilization, community groups have limited time and resources and thus focus on their priorities, as expressed by one representative:

"[The mobilization] can come from the community groups, but we don't necessarily, with regards to priorities, to the time we have, well if it's really an issue, we want to prepare it ahead of time, but it's not something we can really do [with regards to transport]" (CW2)

As a result, transport is often "neglected" in the agenda of the community groups. The lack of interest and resources is thus seen, together with the approach of the borough to the participative process, as a main reason for the low involvement of the community groups.

In addition to this, the impacts of transport planning at the local level are unclear for the community groups. The community groups mentioned that they did not understand the role of the Local Transport Plan and how it would affect them. In the same way, one of the local planners described the LTP as "*something that is not intuitive*" (LTP2) for the community. One representative also stated that "*[he] did not, at the beginning, felt concerned by the LTP*" (CW1), although he is involved with some transport projects. Accordingly, even the community groups working on transport issues had few requests, and limited interest in participating in the LTP.

6.2.4 Barriers to change transport planning at the local level

The analysis of the results highlights the influence of the top-down planning on the quality and outcomes of the participatory process. To start with, following the traditional vision of the planners,

the participatory process had clear predefined objectives and narrow boundaries. Together with the limited inclusivity of the process, this lead to a low involvement and limited empowerment of the citizens. As emphasized by Handy (2008), successful public involvement fosters a broader range of transport planning goals. In our case, citizens and community groups did not participate in the definition of the goals of the LTP and thus did not contribute to broadening the scope of the process. Furthermore, issues of social equity were not explicitly stated as objectives of the LTP by the local planners. As a result, the planning of the participatory process did not incorporate social equity and conducted to a low representation of the interests of marginalized groups. In this sense, Chaskin et al. (2012) argue that the participative process should ensure the representation of disadvantaged social groups in order to promote social equity. Similarly, Sirianni (2007) emphasizes the need for a qualitative stakeholders analysis. Based on an inclusive vision, the analysis aims at identifying and targeting groups with different perspectives. The absence of stakeholder analysis in the case of Montreal reveals the lack of an inclusive vision. The planners did not make sure that the interests of marginalized groups were sufficiently represented, which is a reason for the marginalization of some perspectives in the debates. Besides, the methodology of the participatory process needs to be "appropriate for all stakeholders", as highlighted by Hampton (1999, p.166), and to make use of flexible methods (Sirianni, 2007). In our case, the results show that local planners are not aware of many challenges related to the inclusion of the community groups in the debate and did not adapt their strategy adequately to reach these groups.

From a broader perspective, the planning context in which the local planners evolve represents a significant barrier to:

a) including the social dimension of transport planning in the planning process, and
b) meaningfully involving local residents, especially the marginalized groups.

The marginalization of the social dimension by the local planners does not seem to result from an opposition to do so. Local planners appear to be open to it, but it is rather a question of mentality and habits. To start with, the absence of explicit social goals and indicators at the agglomeration and local levels does not foster the integration of this dimension in the planning. In this regard, Handy (2008) views the goals and the larger vision as central to transportation planning, guiding the specific planning targets. Moreover, the results show that the traditional planning structure at the borough level limits the emergence of new approaches. The local planners identified some *technocratic* habits that are difficult to overcome. In this regard, Pahl-Wostl (2009) refers to the inertia of institutions as a main barrier to change. In the same vein, the discipline limitation arising from the broader planning context constitutes a major barrier to the integration of social objectives. As shown in section 6.2.2,

in Montreal, the field of transport planning is viewed mainly as a technical, isolated one, and LTPs are limited to traditional transport issues. Booth & Richardson (2001, p.148) criticize the "isolated policy stance" of LTPs "ignoring its relationship with other fields of activity". More generally, Pahl-Wostl (2009) identifies sectoral fragmentation as a major barrier to change in governance regimes. This appears to be the case for local transport planning in Montreal, the LTPs being perceived and used as transport tools, neglecting the broader implications of transport planning. This discipline limitation leaves out the potential to integrate broader interrelated issues within this process, such as social inclusion, land-use planning and neighbourhood democracy.

With regards to public involvement, Booth & Richardson (2001) refer to the organizational culture as a major barrier to successfully involve citizens into transport planning. They identify the traditionally expert-driven process as a factor for the marginalization of participation. This is coherent with the case of Montreal, in which transport planning is mainly driven by engineers and transport expert consultants and participation is a supplement to the LTP planning process.

To a lesser extent, the lack of expertise and interest of the community groups is identified as a barrier that hinders the quality of participation. Avelino & Rotmans (2009) identify the access to resources and the willingness to use them as major conditions for mobilization. In our case, the analysis of the results shows that local transport planning is not of significant interest for most of the community groups and reveals a lack of motivation to proactively get involved in the participative process and in transport planning in general. Additionally, the lack of resources (time and skills or expertise) limits their participation.

6.3 Opportunities to trigger change in this context

6.3.1 Political will

In both boroughs, there seems to be a consensus that changes are more likely to come from the politicians and the administration, than from a bottom-up movement. The local planners and community groups identified the political will as the key factor for initiating a LTP and prioritizing active and public transportation. The need for a LTP did not arise from the community, as mentioned earlier, but rather from a top-down strategy, starting at the agglomeration level. Also with regards to the implication of the community groups, one representative asserts that *"it would rather be the responsibility of the borough"* (CW2) to include the community groups in the process.

Regarding the local political context, it is seen as favourable to a shift towards active and public transportation, especially in Rosemont-La-Petite-Patrie. In general, the borough is open to new

approaches and shows a strong will to become a "greener" borough. In relation to the green initiatives, one representative describes the borough's interest as follow:

"*so it's good marketing for them, namely for their [political] platform that is very green, […] Projet Montréal[11] is very very green, is very much in sustainable development, so it's a good showcase for them*" (CW3)

Beyond the environmental incentives for active and public transportation, both boroughs perceive efficient public transportation as an advantage to attract qualified labour. They both conducted extensive surveys on mobility around the main employment centres. With regards to the survey conducted around health centres, LP2 emphasizes that it is important to reflect on what needs to be done in terms of public transportation *"to attract doctors, nurses and health specialists so that they come and work [in the borough]."* Similarly, the Société de Dévelopement Angus highlighted that transport is a key selling point for attracting new business in the borough and in that sense, the Société de Développement Angus, which represents many businesses and employees, has a strong leverage with the administration.

From a top-down perspective, there is thus a significant political and economic motivation for the local politicians and administration to support the development of an efficient and active public transportation network. Although this is coherent with the sustainable mobility paradigm, it does not imply that the social needs are prioritized over economic or environmental incentives, or that the needs of marginalized groups are taken into account in order to promote social equity. It is thus also essential to look at the potential contribution of the community groups.

6.3.2 Mobilization of the community groups

The mobilization of the community groups can be fostered if the link between transport and the interests of marginalized groups is made clearer, especially with regards to employment. The representatives of *démarche-action-RUI* pointed out that access to jobs and job services through public transportation has to be emphasized to reach the marginalized populations. Besides, although most of the respondents had not made a reflection on the transport needs of their members, the process initiated a reflection for many of them. To start with, the LTP process itself raised awareness amongst some community groups. One representative mentioned that the LTP "*forces [them] to think, and to consult [their] members*" (CW4). Additionally, I could observe that the interviews allowed representatives to reflect more deeply on the social issues related to transport. Accordingly,

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[11] Political party in power at the borough level.

there is a potential, through employment concerns and in-depth discussions, to foster the interests of some community groups on local transport planning.

Finally, the strong tradition of citizen participation through community groups, especially in Rosemont-La-Petite-Patrie, is perceived as an opportunity to build on. Although the contribution of the community groups was limited in the case of transport planning, community groups generally have the potential to represent marginalized groups. As mentioned by two representatives in Rosemont-La-Petite-Patrie, it is in the mentality of the community groups to give a voice to their members. In relation to citizen participation, one representative stated: "*The big difference, it's really on the side of the community workers, I mean, everyone is willing for projects*" (CW1). There also seems to be a consensus on the development of active and public transportation, as emphasized here:

> "*I think there is a consensus in Rosemont that we want to go green, and that we want to go towards new ways of working with the pedestrian. That's what I feel with regards to the organizations and the population. So, this kind of initiatives are welcome and, after all, they are the pride of the quarter.*" (CW3)

In Montreal-Nord, although the general community context is less favourable, there are many community groups representing low-income residents and marginalized populations. Generally speaking, community groups thus present a substantial potential, if meaningfully involved, to steer transport planning towards more equitable and sustainable goals.

6.3.3 Building on opportunities: the need for an improved participation

Based on Critical Urban Theory, it is essential to look at the opportunities within the current planning context in Montreal to foster alternative planning processes. From a top-down perspective, the initiated participative process, although limited in its contribution, represents a unique window of opportunity towards more significant changes. Regarding the bottom-up approaches, the community groups are relevant actors to represent the interests of marginalized populations and the community context is a favourable ground for including them further.

Interventions are however needed to take advantage of the current opportunities and thus bring the participatory process further in terms of social learning. In light of the results, the following actions are recommended:

a) Including clear social equity goals at the agglomeration level
b) Assisting the process of social learning with a facilitator
c) Providing community groups with resources

In the first place, it is essential to include and define clear social equity goals at the agglomeration level. As emphasized in section 6.2.4, goals are central to the definition of more specific objectives in transport planning. In this case study, it has been shown that the boroughs are strongly influenced by the guidelines provided by the agglomeration. Accordingly, the inclusion of the social dimension at the agglomeration level is very likely to percolate at the borough level. It is also important to mention that top-down strategies have been identified as more likely to foster change in transport planning in both boroughs.

The local participatory process emerging from the LTPs constitutes a first step towards a broader involvement of citizens in transport planning. Described as a reinforcing loop between planners and citizens, involvement arises from a dialogue between the two parties (Ridder & Pahl-Wostl, 2005). The results show that the LTPs opened the communication between the citizens and the planners and triggered interest amongst some community groups. Further exchanges are however essential for a greater involvement and greater learning. In this regard, the continuity of the process defined by Bickerstaff et al. (2002) as the ongoing participation throughout and after the development of the LTP is central to social learning. **Figure 14** illustrates the interactions between planners and community groups, reinforcing each other towards a greater involvement of citizens in decision-making. Greater involvement is based on a combination of bottom-up and top-down approaches, which as highlighted by Pahl-Wostl (2009), characterizes higher level of social learning.
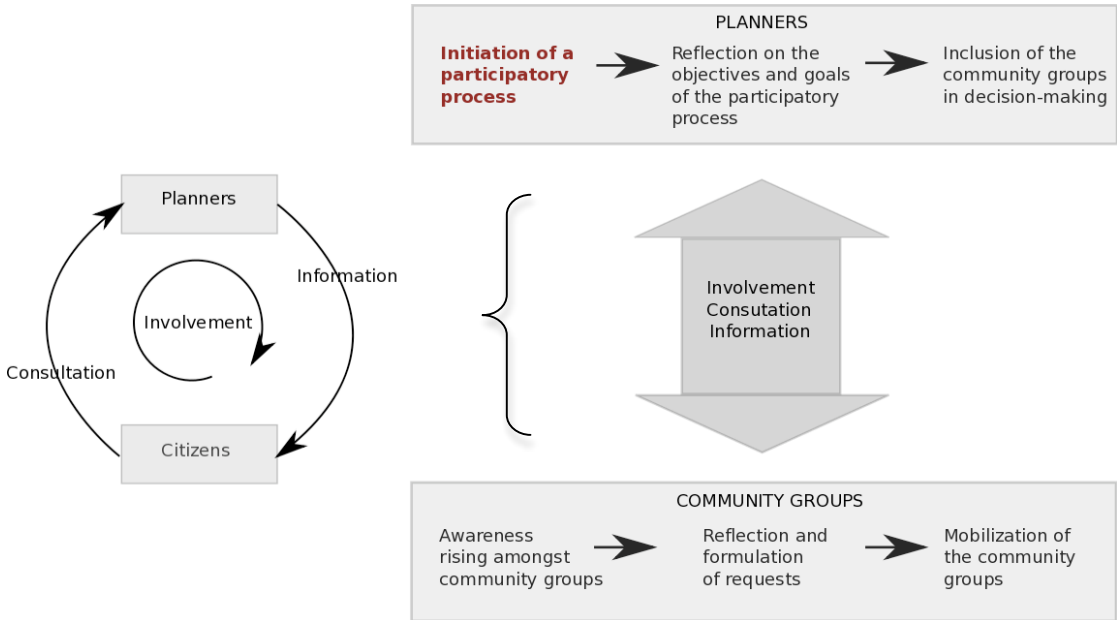

Figure 14: Combined top-down and bottom-up process leading to a greater involvement of the community groups. The initiation of the participatory process by the planners, in red, is perceived as the triggering element. The figure was created by the author.

Following the participative process initiated by the planners, a facilitator is essential to bring the process further and foster social learning towards the inclusion of the social dimension in transport planning. With regards to the facilitator, Pahl-Wostl (2009) highlights the roles of boundary spanner and knowledge broker as necessary to overcome the single-learning loop. As shown in section 6.2.4, the inclusion of a broader range of issues requires diverse disciplinary and sectoral perspectives to engage with the topic of transport planning. Accordingly, the facilitator must ensure the integration and collaboration of different disciplines, outside the realm of technical planning. Furthermore, the facilitation process has the potential to "maintain the orientation" towards the social goals identified above (Pohl et al., 2008). The facilitator must allow planners and citizens to develop a better understanding of the social implications of transport planning and the impacts of a LTP. In that sense, the results show the potential for community groups to engage deeper in the topic, with appropriate guidance. Between others, the facilitator could be someone from the municipality, ideally with a multidisciplinary perspective, who is willing to take up the issue. It could also be a representative from one of the regional non-governmental organizations specialized in transport and citizen participation.

Finally, even in the presence of a facilitator and clear social goals, social equity remains a challenge in participatory planning. As indicated by Chaskin et al. (2012), participation at the local level presents significant challenges for representing low-income residents. Accordingly, although change in local transport planning is unlikely to be triggered by the community, the contribution of community groups is essential from a social equity perspective. As shown in section 6.1.3, it seems appropriate to target community groups to represent marginalized populations in the borough. It is however argued that groups must be provided with resources and expertise to allow them to participate effectively in the process (Chaskin et al., 2012; Hampton, 1999; Sirianni, 2007). It is thus essential to provide groups representing marginalized populations with enough resources so that they can meaningfully get involved in the process, and thus promote social equity of the outcomes of participation.

In sum, the LTPs have the potential to further include the social dimension of transport under the following conditions: clear social equity goals are set at the agglomeration level, the participatory process is facilitated based on these goals, and the community groups are empowered with resources and through the facilitation process.

The challenges identified in section 6.2.4 are not unique to the case of Montreal. Similar barriers to the successful implementation (from a social equity standpoint) of the LTPs in the UK and the PDUs[12] in France have been identified (Hull, 2008; Lucas, 2012; Reigner, 2012). The recommendations mentioned above can thus benefit planners in other contexts by allowing greater social learning towards more equitable urban transportation, through the LTPs.

7 Broader implications and further research

This thesis highlights the challenges associated with participation at the local level, which is often seen as a panacea for solving sustainability issues. In that sense, Bagheri & Hjorth (2007) argue that "triggering a social learning process with full involvement of all stakeholders and planners in the process would be the most suitable strategy for sustainable development." Although social learning through participation seems appropriate to steer transport planning towards meeting social needs and sustainability, the mechanisms of local participation are still largely misunderstood and very much context dependent. As highlighted by Pahl-Wostl (2009), there is need for developing more common interdisciplinary conceptual frameworks in social sciences.

The hybrid framework for social learning through participation provides insight on the relationship between the quality of local participatory processes and their contribution to social learning. Features of participation as well as interventions to foster social learning are identified based on the given conceptualization of change. Further investigations need to be conducted in different settings, building on the developed framework and recommendations, to gain a deeper understanding of the mechanisms of local participation and social learning.

8 Conclusion

This thesis examined the barriers and opportunities for including the social dimension of transport planning through participation in Montreal, as a result of social learning. The results highlight the limited contribution of the participative processes, which remain mainly within the single-loop learning phase. The overarching traditional planning paradigm as well as the local organizational culture of the boroughs are identified as the major barriers to achieve higher levels of learning. Local planners stay within a technical perspective, based on a sectoral and discipline fragmentation. Additionally, communities do not perceive transport as a central issue and thus do not get significantly involved in the process. Changes are likely to come from a combination of top-down and bottom-up actions, initiated by the agglomeration through the LTPs. In order to take advantage of

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[12] *Plans de déplacements urbains* (Urban mobility plan)

this opportunity and to foster social learning, participatory process should follow clear social goals established at the agglomeration level, with the help of a skilled facilitator. Additionally, community groups should be provided with resources to promote social equity of the process and outcomes. Finally, participation, as a recent trend in transport planning, provides planners with new tools to address the social dimension of transport, but further steps are required to foster an equitable and sustainable transportation system.

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Appendices

Appendix A – Interview guide for local planners

1. Introduction

- Presentation of my project
- Objective: assessment of the participatory processes of the LTPs
- Themes:
    - Transport planning in the borough
    - Local Transport Plan
    - Participative process
    - General questions

2. Transport planning in the borough

2.1. How does transport planning work in the borough?

- What are the responsibilities and power of the borough in terms of transport? What are the responsibilities and power of the city?
- How do urban planners and transport planners work together?
- What are your specific tasks and responsibilities?

2.2. What are the main transport issues targeted by the borough?

- What are the current priorities? What interventions need to be done and why? How are the main orientations of the LTP established?
- What are the main impacts of transport planning on the residents of the borough?
- What are the main conflicts with regards to transport planning?

2.3. What is the vision of the borough in terms of transport?

- What are the specific objectives, criteria or indicators for transport planning?
- How are interventions prioritized?

2.4. Was there important debates related to transport interventions or projects until now?

3. Local Transport Plan

3.1. What will be the influence of the LTP on transport planning in the borough?

- How will the LTP be used? Implemented? Is it a binding document?
- Why did the borough initiate the process? What is the main objective of the LTP?

3.2. Who is in charge of the LTP?

- Who are the main partners?
- What are their roles?

4. Participative process

4.1. What are the objectives with regards to the participative process and what have you done to achieve these objectives?

- Why are you using a participative approach? What do you hope to get from it?
- How was the process planned?
- What activities and methods have you used? For what purpose?

4.2. Which stakeholders participated in the process?

- Who did you contact and how? Citizens? Community groups?
- How did you contact them?
- Who participated in the process?
- Which groups have you met (institutions, businesses, community groups) and what were the results?

4.3. In your opinion, was the participative process representative of the population?

- If so, how did you ensure that all interest groups were represented?
- In your opinion, what are the different interest groups related to transport in the borough?
- Was there any conflicts between different groups? Do you feel that some groups disagree with the main orientations of the borough?
- Do you prioritize some groups over others?

4.4. What are the main outcomes of the participative process?

- Did you see new problems in light of the participative process? Problems that you were not aware before? If so, which ones?
- Did you establish new priorities based on the participative process?
- How will the outcomes of the participatory process be included in the final LTP?

4.5. What where the main advantages of conducting a participative process?

4.6. What were the main challenges of the process?

- Were there groups that more difficult to include?

5. Final questions

5.1. Are there any disadvantaged groups in terms of transport?

- Are there any social groups that experience more difficulties in terms of transport?
- Are there districts that are more deprived socio-economically? In terms of transport?
- How would you describe the transport system in terms of social equity?
- Do you address the following criteria: accessibility, quality of life, involvement?

Appendix B – Interview guide for community groups

1. Introduction

- Description of my project
- Objective : assess the contribution of community groups to the LTP
- Why this interview with you
- Themes :
    o General question on the organization
    o Transport and LTP
    o Participative process

2. General questions on the organization

2.1. What is your main mission?

- What are your priorities?
- What are your fields of action?

2.2. Which populations do you represent or work with?

- What is your role with regards to them?
- How do you communicate/interact with your members?
- What are the main issues that affect your members?

3. Transport and Local Transport Plan

3.1. What are the main transport issues in the borough?

- What changes are needed in terms of transport?
- What are the priorities of the borough in your opinion?
- In your opinion, what would be the ideal transport system? How there any criteria that should be included?

3.2. How do transport issues relate to your mission?

- How does transport influence the population your represent?
- What difficulties do your members experience with regards to transport?
- What are the implications of the LTP for you?

4. Participative process

4.1. How were you involved in the participative process of the LTP?

- Did you participate to the consultation meeting and why? (or why not)
- What is the importance of participating in the process for you?
- Did you get involved other than at the meeting?
- Were you involved in other transport projects before?
- What opportunities does the LTP represent for you?

4.2. How was the process conducted?

- What was well done?
- How could it be improved? What could have been done better?

4.3. What is the purpose of the process in your opinion?

- Why is the borough using a participative approach in your opinion?
- What does the process allow?

4.4. To what extent do you feel you can influence the LTP?

- Do you feel that the borough is open to your comments?
- Do you feel that you influenced the LTP? In what way?
- How could you increase your influence?
- Generally speaking, what is the influence of the participative process?

4.5. Was the process representative?

- Do you feel that certain groups had more influence than others?
- Do you feel that certain groups were not present in the debate?

4.6. What are the broader implications of the participative process for the community groups?

- What are the positive impacts of the process?
- What are the negative ones?

5. Final questions

5.1. Do you see any social issues in relation to transport in the borough?

- Are some groups disadvantaged in terms of transport? In terms of accessibility, quality of life?
- Are there districts that are more deprived socio-economically? In terms of transport?

Appendix C – Respondents and community groups

The respondents and types of interviews are presented in **table C1**. All interviews were conducted in February and March 2014. Interviews were recorded when possible. **Table C2** provides a description of the community groups represented by the different respondents.

The respondents were purposively selected. For the local planners, I interviewed the person in charge of the LTP in each borough. Additionally, in Rosemont-La-Petite-Patrie, I interviewed the consultant firm in charge of the citizen meetings (Acertys). Regarding the community groups, my first criterion was their participation in the planning process. In Rosemont-La-Petite-Patrie, I first interviewed representatives of community groups who attended the consultation meeting based on the information provided by the local planner. I then conducted more interviews with representatives of other community groups to meet a broader range of interests. These representatives were mainly referred to me by the first interviewees. In the case of Montreal-Nord, community groups had not been formally involved in the participatory process, which only consisted of one information meeting. I however interviewed one community worker who has a good knowledge and understanding of the local social context. This interviewee was referred to me by the local planner.

Given the status of the process in Montreal-Nord the data collected for this borough is limited, in the sense that they only partially assess the participatory process in Montreal-Nord. Nevertheless, it provides relevant insight regarding the perspectives on transport planning and the quality of the process.

Table C1: Description of the respondents

Respondent	Type of interview
Local planners and external consultants	
LTP project manager, Public Works Department of Montreal-Nord	Recorded interview
LTP project manager, Technical Studies Departement of Rosemont-La-Petite-Patrie	Recorded interview
Project manager at Acertys, consultant in stakeholder relations for the LTP of Rosemont-La-Petite-Patrie	Recorded interview
Representatives of community groups	
Coordinator of the *démarche-action-RUI* for the Secteur Nord-Est Montreal-Nord	Unrecorded interview
Development officer of the Rosemont Community Development Corporation and facilitator for the Rosemont Citizen Transport Committee.	Recorded interview
Coordinator of Tandem in Rosemont-La-Petite-Patrie and facilitator for the Rosemont Citizen Transport Committee	Recorded interview
Development advisor at the *Société de développement Angus* (SDA)	Recorded interview
President of the advisory board of the Rosemont Community Development Corporation and director of the Carrefour Montrose	Recorded interview
Mobilization officer of the RTCPP	Informal phone discussion (unrecorded)
Coordinator at La Maisonnée	Informal phone discussion (unrecorded)
Coordinator of the Rosemont Housing Committee	Recorded interview
Others	
Florence Paulhiac, Professor at the department of urban and touristic studies (Université du Québec à Montreal), specialized in mobility and social inequities	Informal discussion (unrecorded)

Table C2: Description of the community groups

Community groups	Description
Démarche-action-RUI	Program for urban integrated revitalization in the North-East area of Montreal-Nord.
Rosemont Community Development Corporation (Rosemont CDC)	Inter-sectoral discussion forum. The Rosemont CDC regroups the different citizen action and consultation groups and promotes collaboration between the different community groups.
Rosemont Citizen Transport Committee	Citizen committee reflecting and acting on transport issues in Rosemont.
Tandem	Program supporting citizen action with regards to urban safety.
Société de développement Angus (SDA)	Social-economy enterprise working with urban renewal projects. As the property owner of the *Technopôle Angus* (employment cluster in Rosemont), the SDA represents the 2000 employees and 52 businesses of the area.
Carrefour Montrose	Voluntary support group for elderly people in Rosemont.
RTCPP	Inter-sectoral discussion forum. RTCPP regroups the different citizen action and consultation groups of La-Petite-Patrie and promotes collaboration between the different community groups. *(Regroupement des tables de concertation de La-Petite-Patrie)*.
La Maisonnée	Resource centre for new immigrants in Montreal.
Rosemont Housing Committee	Housing rights association. The Housing Committee works with tenants living in Rosemont and mainly people with low-income.