

GROUP B & B2

MERCIER-HOCHELAGA-MAISONNEUVE

MORPHOLOGICAL STUDY REPORT

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Morphological Study Report

Introduction

The study site selected for the advanced urban planning studio of 2023-2024 (URBS 433) is found within the borough of Mercier-Hochelaga-Maisonneuve (Figure 1). This large borough contains various industrial, commercial, institutional, and residential lots. It is well known for its vast residential potential and logistics industry. Further, the rich history has informed the construction of this borough: notable periods include agricultural, industrial, and post-industrial phases of development and recession.

It is after two months of research that this document is compiled and presented. This analysis first outlines general morphological features of the entire Zone B, then later the analysis focuses on a smaller subdivision: Zone B2. Rich graphics help support and visualize the findings.



Figure 1

Zone B

Physical Barriers in Area B:

Early in the analysis of Area B, the prevalence of man-made barriers was a crucial observation. The distinctive pattern within the neighbourhood strongly suggests that the majority of barriers are a human-made rather than natural. However, there was initial uncertainty, particularly regarding Thomas Chapais Park. This specific location became a focal point due to its unique characteristics. Historical maps were consulted to confirm the nature of this area, revealing that Thomas Chapais Park underwent significant modifications through human urban planning efforts.

The classification of barriers is rooted in their impact on pedestrian, vehicular, or both forms of movement. Examples such as Autoroute 25, boulevards, specific streets, and railway are identified as key elements of the man-made barrier network (Figure 2). Parks and institutional spaces, occupying expansive blocks, emerge as significant barriers affecting both pedestrian and vehicular traffic. Recognizing the neighbourhood's block patterns as indicators of deliberate human planning sets the foundation for a nuanced exploration of the complex interplay between the different barriers. Also, it's important to note that not all streets are barriers, as they can

generally be crossed with ease. However, certain streets can hinder active transportation mobility, for instance Sherbrooke.

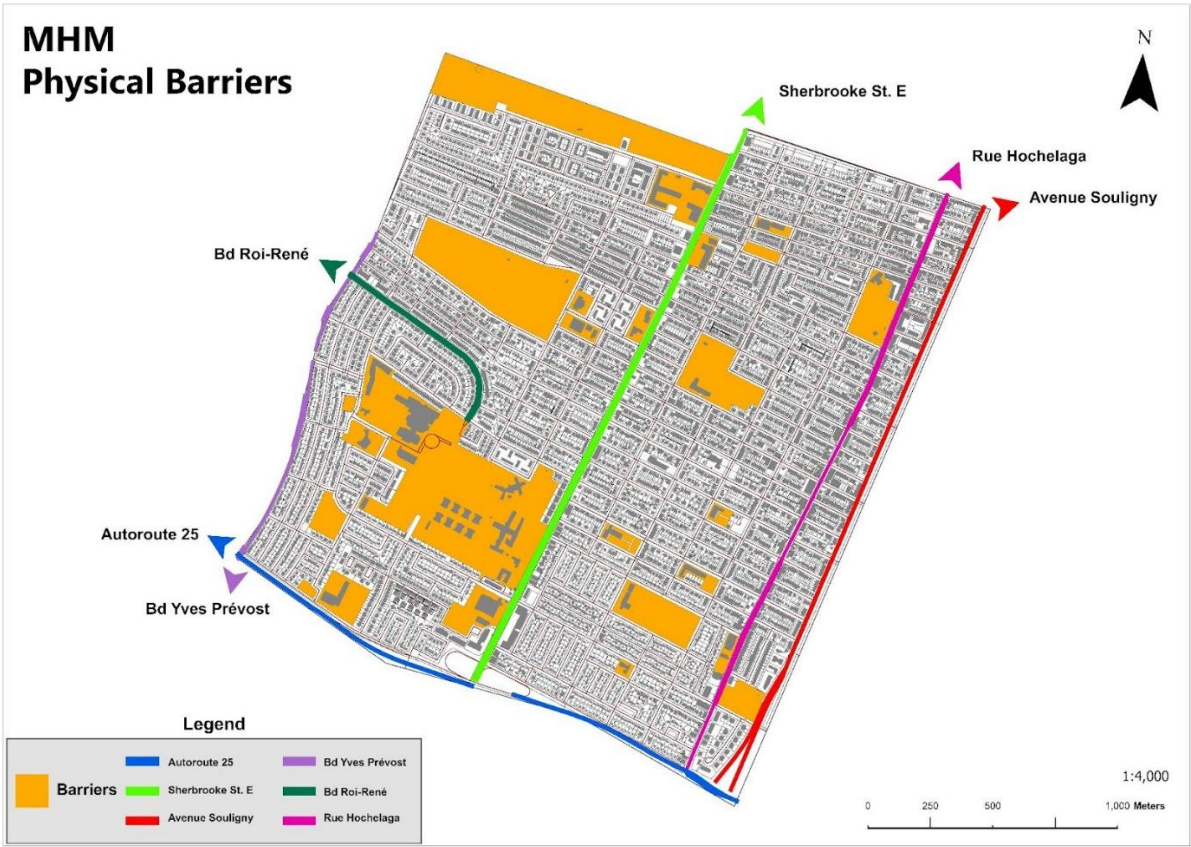


Figure 2

Residential Tissues of MHM Area B

This map (Figure 3) centers on the examination of specialized tissues within Area B. An additional layer of complexity is introduced by distinguishing between natural and unusual blocks. Natural blocks are characterized by repeating patterns, contributing to the regularity of the neighbourhood. In contrast, unusual blocks deviate from this norm, encompassing tilted face blocks or adopting various shapes. This differentiation adds depth to our understanding of the urban fabric, unveiling the diversity within the neighbourhood's architectural layout and also hints at newer development.

Furthermore, the primary objective of this map extends beyond identifying patterns; it involves a deliberate effort to locate and map specific community amenities. Schools, parks, and places of worship which are focal points in this analysis. The information for our study area was primarily sourced from Google Maps. The inclusion of these key features provides a comprehensive overview of the social and communal infrastructure within Area B, contributing valuable insights into the neighbourhood's functionality and livability. By interweaving the analysis of

tissue patterns with the identification of community assets, this map enriches our understanding of the urban dynamics within Mercier-Est.

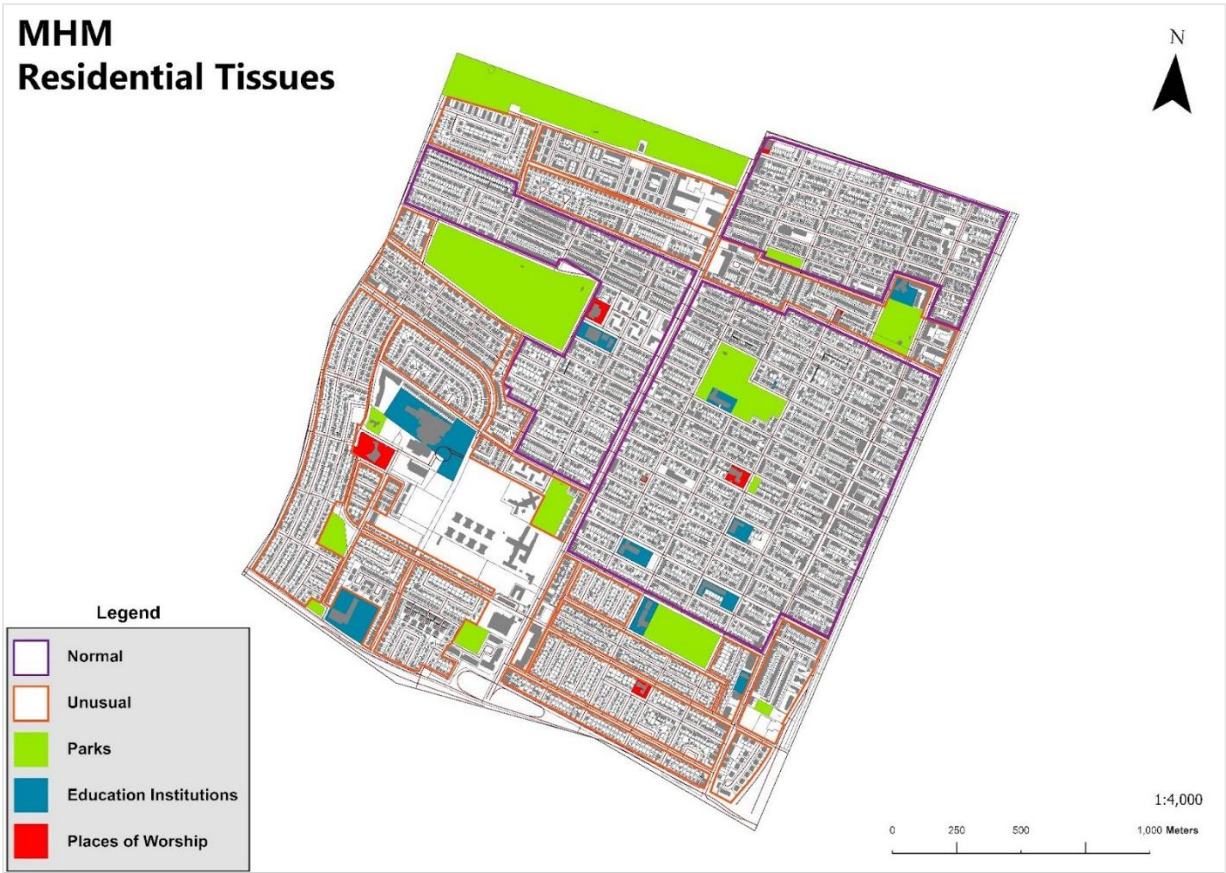


Figure 3



Figure 4

Thoroughfares

Two classes of thoroughfares are distinguished in this analysis (Figure 4). Minor thoroughfares have a high level of connectivity. They tend to span over several morphological regions and cross barriers. Saint-Donat and Roi-Rene together have high arteriability. This arteriability between these two linked roads extends beyond the zone, into the morphological fabrics of Anjou: both the industrial and suburban tissues are connected by Roi-Rene. Their combination is essential for the analysis and their impact on Zone B is non-negligible. Des Ormeaux and Hochelaga have the same characteristics, however, they travel multiple morphological regions continuously without changing roads.

Major thoroughfares have the same characters as minor thoroughfares; however, they are also conduits for economic activities such as the logistics sector and construction sector. Sherbrooke road is important for trucking. In fact, this section of Sherbrooke connects the quarry and oil refineries to highway 25. While not all economic activities pass through Sherbrooke (acknowledging Notre-Dame Road), it would be wrong to neglect its crucial role in economic activities inside and outside the zone.

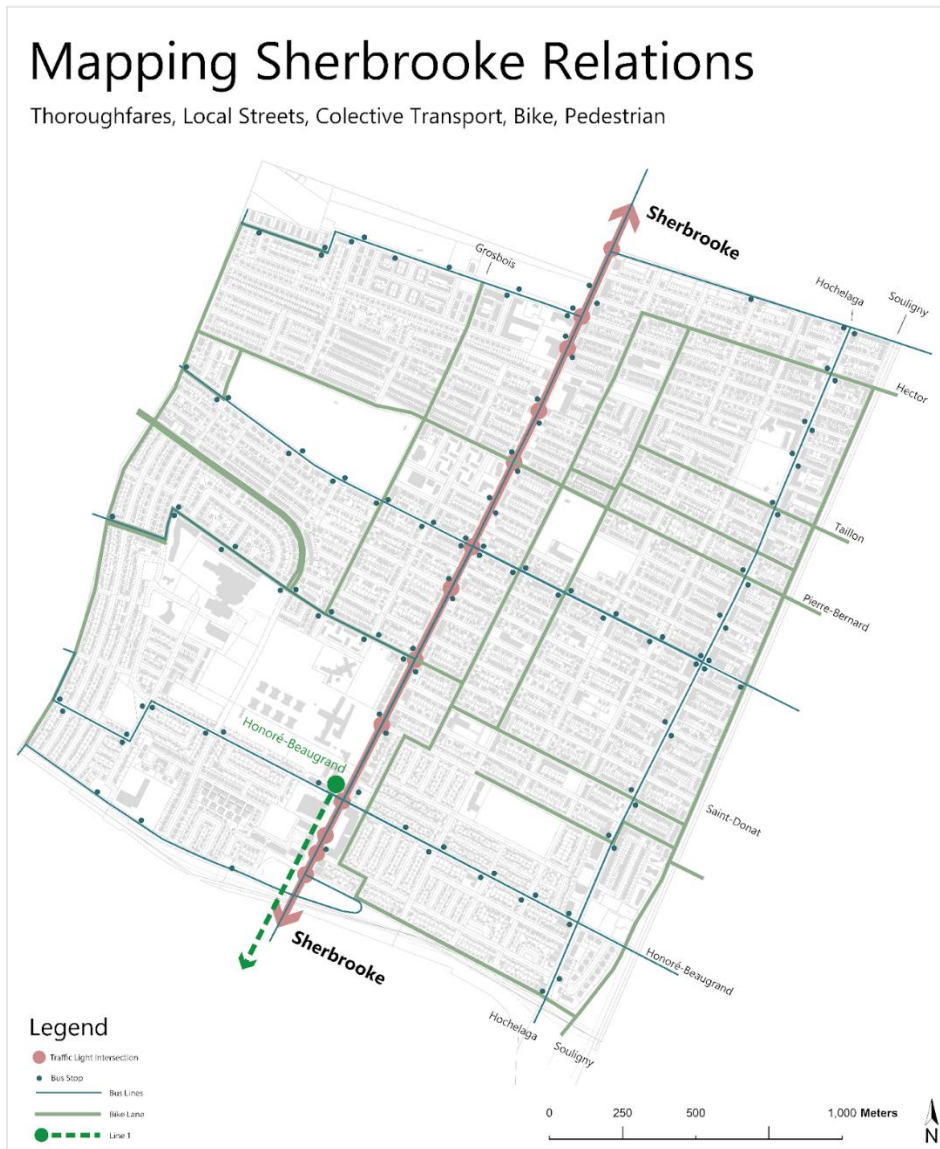


Figure 5

Bus and Cycling Networks

Sherbrooke's arteriability goes beyond heavy transport and economic activities. First, the study area features one metro station: Honoré-Beaugrand. This is the last station to Line 1 (Figure 5). The rest of the zone is devoid of rapid transit options. Previous studies in this class have shown that areas beyond the metro stations have a significantly lower public transit mode share than the areas near the metro station. The bus network has some regular distribution along thoroughfares and other routes. Bus stops intervals in the zones are less than 400m (average), meaning that stations are very close (Walker, 2012). There are 3 Bus lines and 4 Bike lanes that pass the CN rail boundary. Bike lane distribution across the zone is not homogenous. Bike lanes tend to avoid thoroughfares like Sherbrooke, Hochelaga and Des Ormeaux. Sherbrooke possesses 19 traffic light intersections in Zone B. These traffic lights help create safer and formal crossing points for pedestrians and vehicles who want to cross the busy traffic lanes.

Local Commercial Streets

The map's purpose is to locate and identify the local commercial streets of area B in Mercier-Hochelaga-Maisonneuve (Figure 6). The main commercial streets are Sherbrooke, Hochelaga, and Rue Des Ormeaux as pictured in red. The minor commercial areas are the small spots of commercial activity on Rue de Grosbois and the small spot further east on Hochelaga. The major commercial areas are there to serve the entire area, as they feature grocery stores, clinics, pharmacies, stores and restaurants. The minor commercial areas are more so there to serve the local neighbourhoods, and they usually contain small depanneurs, local family restaurants and a grocery store.

It is also important to note the type of commercial areas these are. They can be classified as mixed use. This means the commercial store is located on the first floor accessible to the public, and the top floors are residential.

There are few big-name stores: grocery stores (IGA and Inter-Marche), pharmacies, and one local small Rona. There is no area dedicated to big box plaza, these big-name stores are distributed in the neighbourhood. Further, there are a few

businesses located all around area B which operate within the business owners’ home, like aesthetician and hairdressing services.

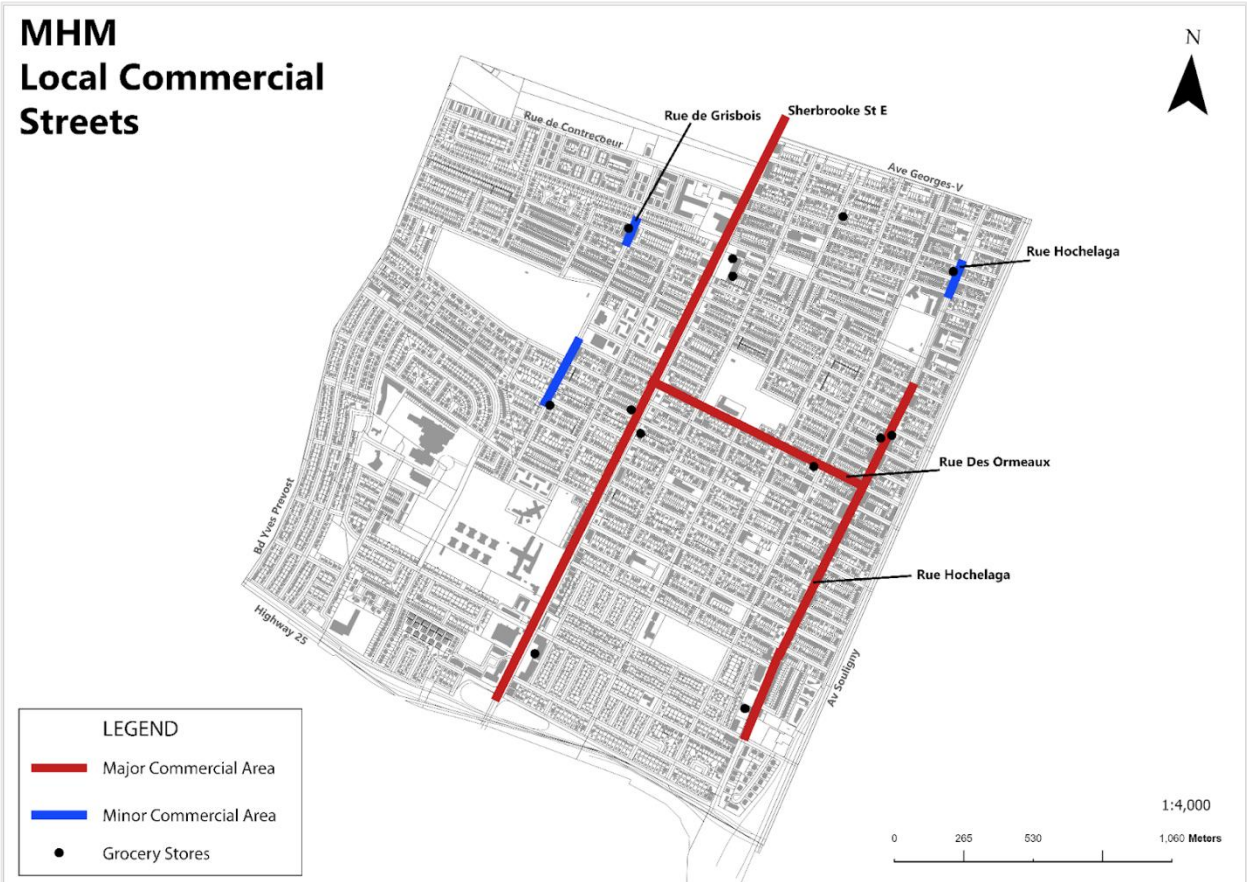


Figure 6

Historical Map

The historical map presents an overlay of the area's pre-urban development phase, showcasing the original agricultural lots from 1879 with the modern being in the background (Figure 7). Through the overlay of this historical lot map onto the current landscape, a visual narrative emerges, vividly illustrating the transformation from agricultural lots to the contemporary urbanized environment. Notably, Souigny and Railway, both of historical significance, are seamlessly integrated into this map, offering a nuanced understanding of their enduring presence since that early period.

The remarkable evolution of the region is key insight gleaned from the historical map: the juxtaposition of the original agricultural lots (Figure 8) with the present urban fabric underscores the profound shift from rural to urban development. Despite this transformation, the enduring shapes of the original lots continue to wield influence over contemporary residential spaces. Souigny and Railway, having been present since that time, not only add context to the map but also stand as living testaments to the area's historical continuity. This historical perspective enhances our appreciation of the area's journey, emphasizing the lasting legacy of its agricultural past on the current urban landscape. The presence of Souigny and Railway, woven

into both historical and modern contexts, reinforces their enduring significance in shaping the identity of Mercier-Est (Figure 9, 10 & 11).

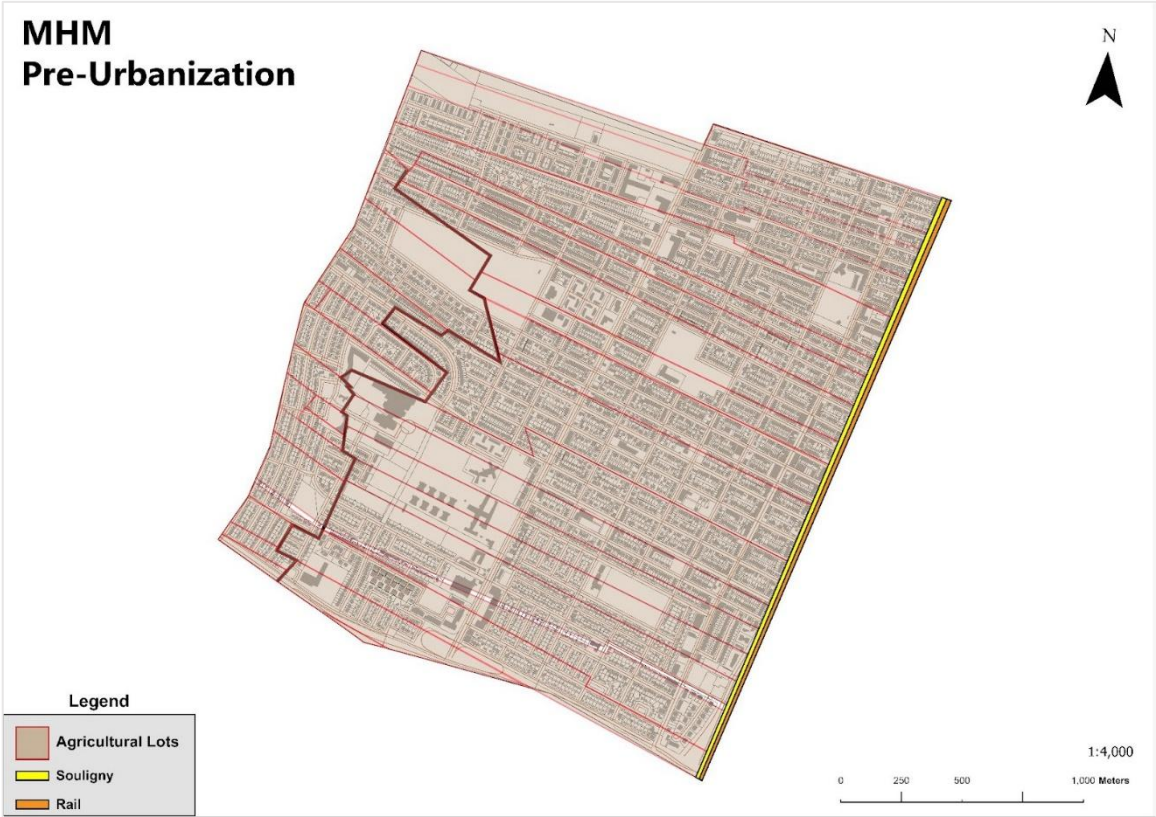


Figure 7



Figure 8: Map of agricultural lots 1879 (Hopkins, 1879)

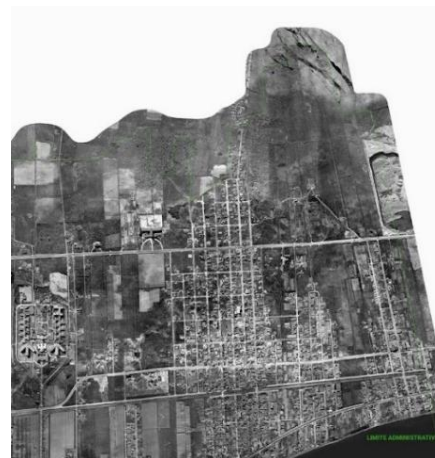


Figure 9: Areal Picture 1947 (Atelier d'Histoire, 2023)



Figure 10: Areal Picture 1973 (Atelier d'Histoire, 2023)



Figure 11: Areal Picture 1990 (Atelier d'Histoire, 2023)

MHM
Major Urbanization
1947-1990

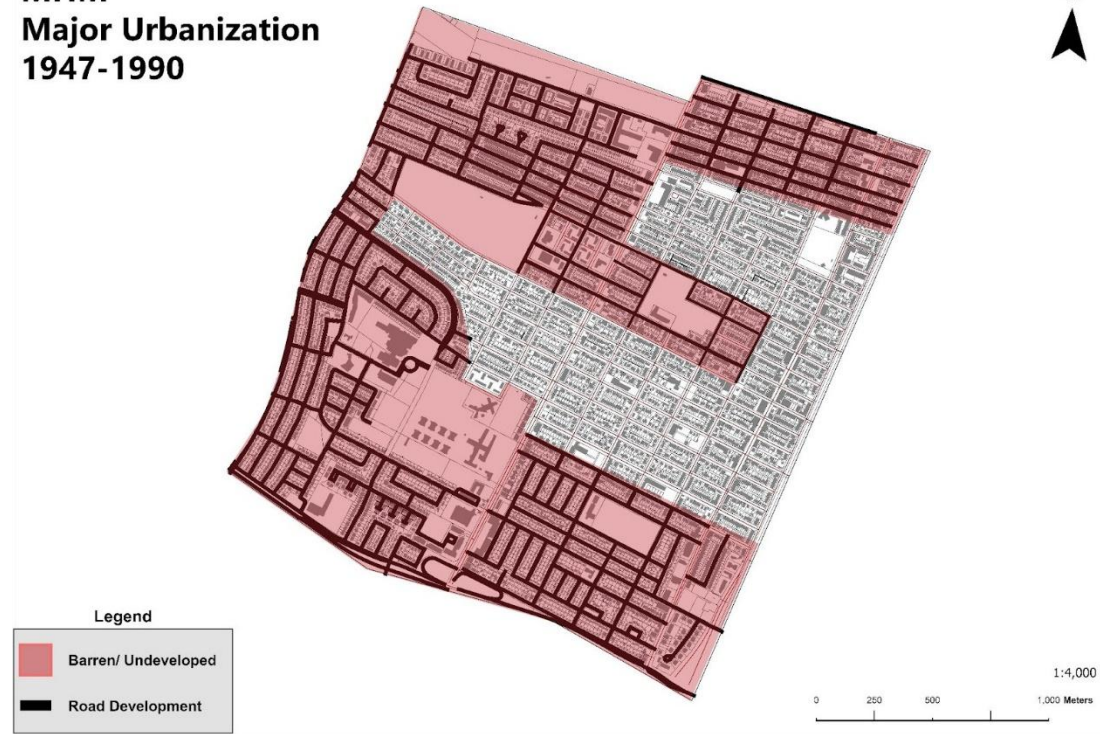


Figure 12

Urban Restructuring from 1947 to 1990:

This comprehensive map (Figure 12) meticulously examines the urban restructuring of Area B in Mercier-Est, spanning key years such as 1947, 1972, and 1990. This chronological exploration unveils substantial changes in both land use and residential development, offering a nuanced and holistic understanding of the

evolving urban landscape. A pivotal milestone in this transformation is the establishment of Autoroute 25 in 1967, a monumental infrastructure project that played a central role in reshaping the region and setting the stage for subsequent urban development.

Areas highlighted in red have undergone notable and transformative changes due to urban restructuring. It particularly Figure 12 directs attention towards zones experiencing pronounced growth, emphasizing the emergence of new radical tissues (emphasized by black lines).

By pinpointing areas of substantial change, this map serves as a valuable tool for understanding the dynamic nature of urban restructuring within Mercier-Est. It functions as a visual narrative, vividly capturing the dynamic shift from conventional or underdeveloped urban spaces to a reimagined and restructured residential community (post-war American suburban ideals). The introduction of new boulevards and streets signifies not only infrastructural additions but also reflects intentional efforts to shape a novel urban space, showcasing deliberate and strategic urban planning strategies that have shaped the contemporary identity of Area B.

Process of Urbanization

This map (Figure 13) details the process of urbanization for the totality of zone B in Mercier-Hochelaga-Maisonneuve. The green shaded region represents some of the older structures in this area, those being built in the 1910s. The black shaded portion represents a cluster of neighbourhood blocks that were built between 1900s to 2010s. This does cover a large period, however, when you compare the black area with the developed land from the MHM Pre-Urbanization map (Figure 12), you will see a very similar shape. This is due to this MIX area having a very large majority of homes built in the early 1900s. This shaded area's development started down by the Saint-Lawrence River, then Souigny and travelled towards Anjou (North-West). The red-shaded region represents structures built between the 1950s and the 1960s, when the majority of development happened in this region. The orange shaded region represents structures built between the 1970s-1990s, there was not much development. The yellow shaded region represents structures built in the 2000s. Development in this yellow shaded zone is mostly represented by condo developments along Rue de Contrecoeur. The process of urbanization in this case would be characterized as taking place between the 1950s to the 2010s (Red, Orange

and Yellow). This wave of development started at the base of Highway 25, and moved north towards Pointes-aux-Trembles.

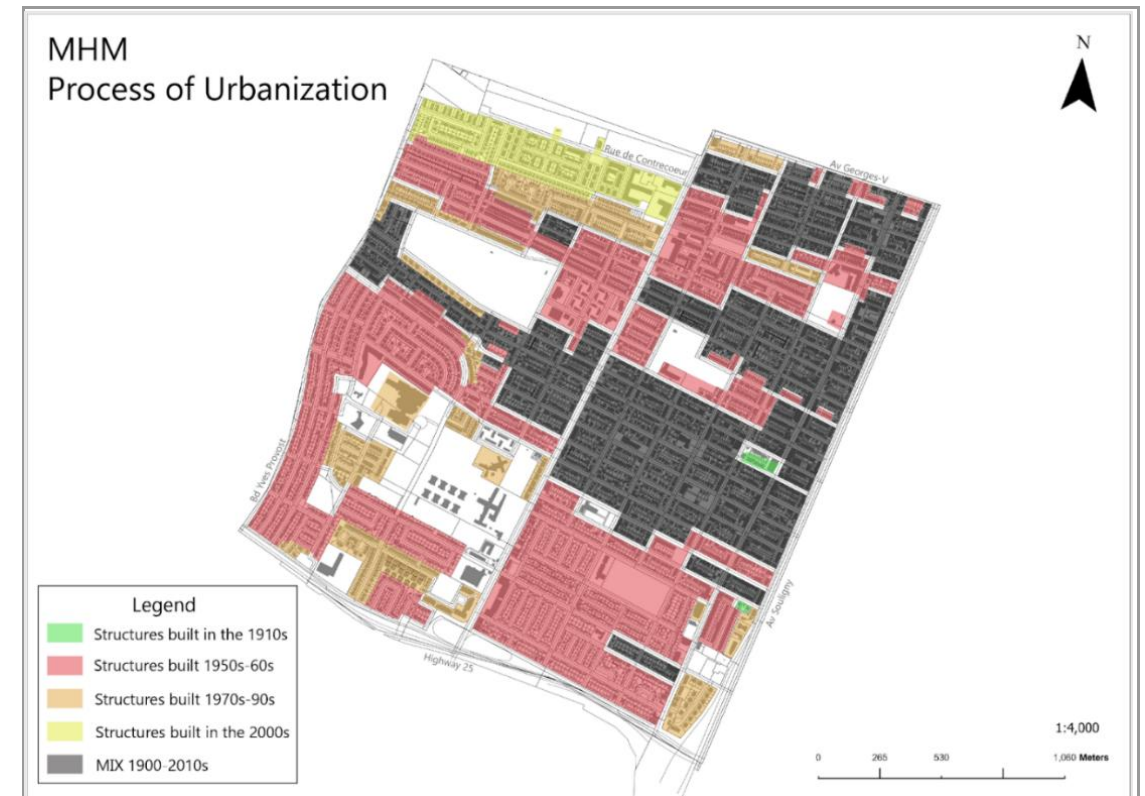


Figure 13

Area B Structures of Permanence:

This map (Figure 14) represents the structures of permanence. Structures of permanence references to all the structures that were built that will remain within MHM for a very long time. Matrix roads represent streets that have existed for a long time, and overtime, through urbanization, have remained important streets that serve their neighbourhoods. The railway located to the south (along Souigny) is a permanent structure that carries cargo through the port and travels towards the north end of the city.

Other permanent structures include religious, educational and health institutions. These are important pillars for the area as they help serve the residents needs (educational, spiritual, and health). Further, there is a block of housing (highlighted in green) that originally comes from the early 1900s. This is important, as these houses ought to be preserved for their historical significance and architecture of that period.

Equally agricultural lines are highlighted in blue. The full agricultural lines are featured in the pre-urbanization map (Figure 7). The dark blue lines represent the old agricultural lines that are still present in road patterns and orientation.

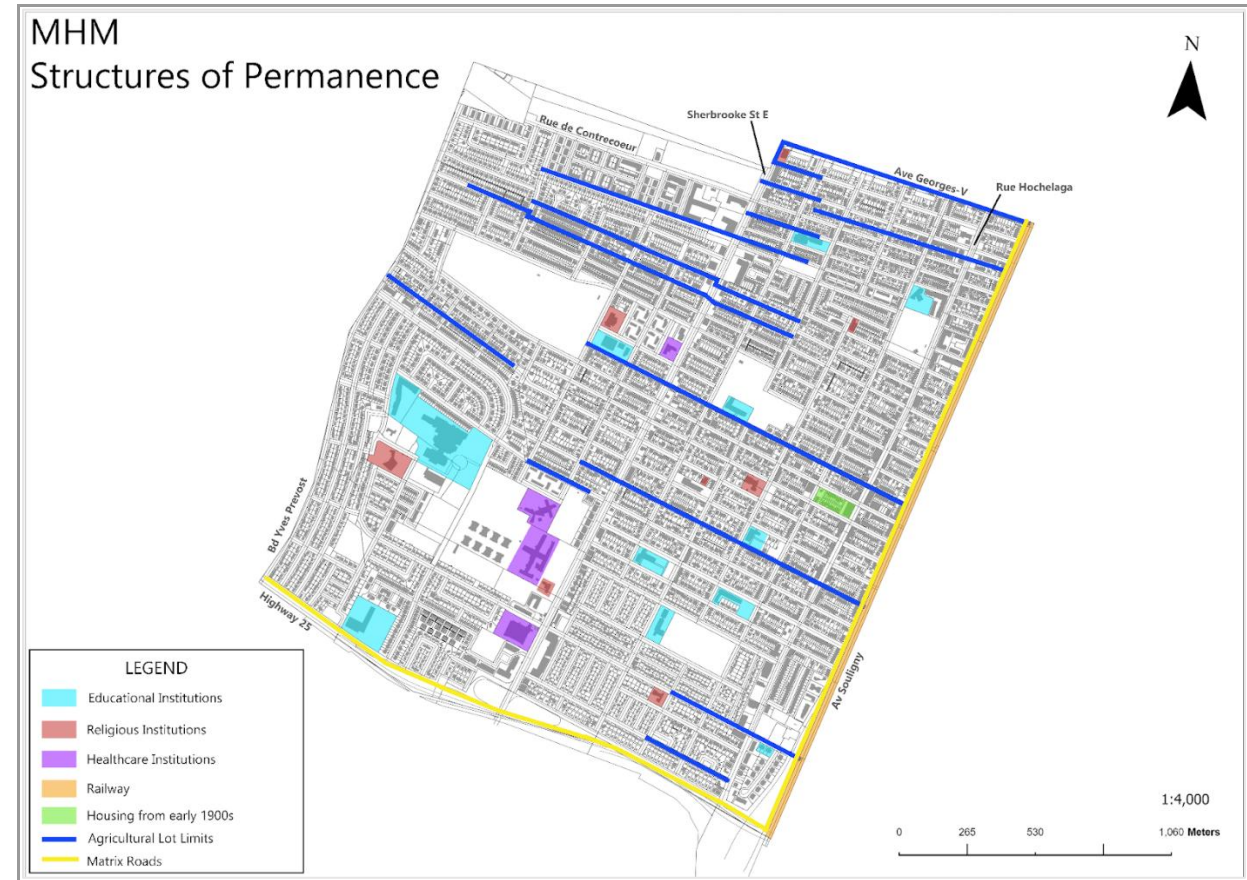


Figure 14

Zone B2

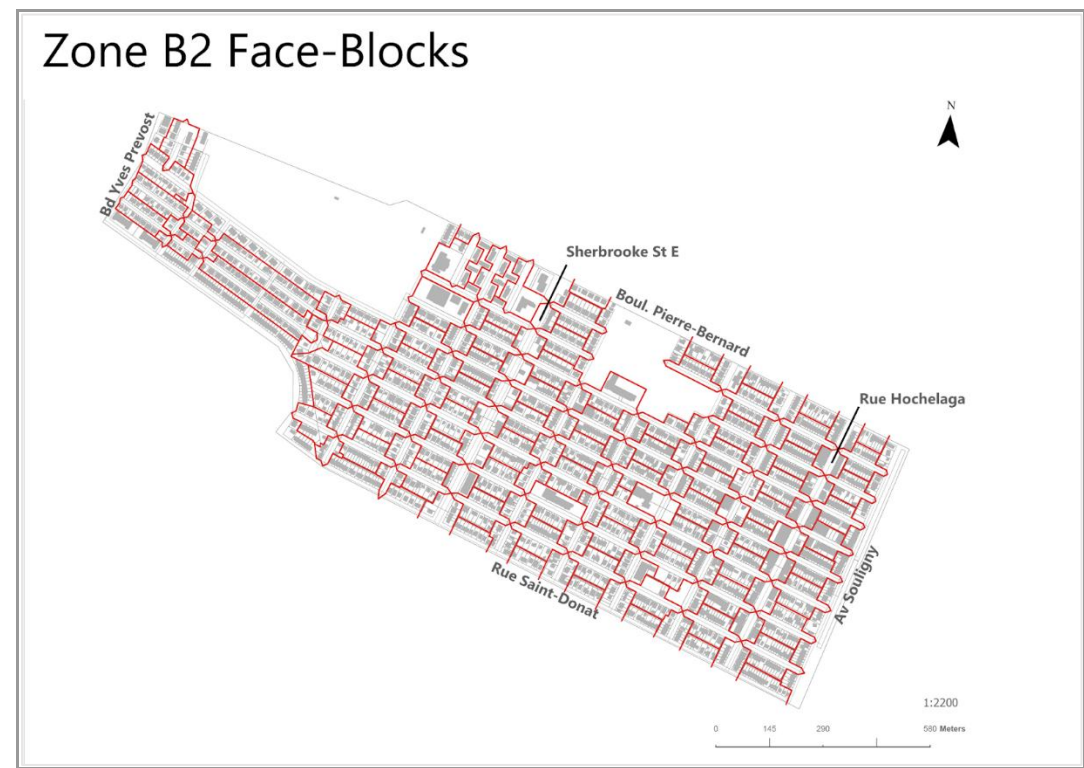


Figure 15
Face-Blocks

These are the face-blocks for area B2 (Figure 15). Notably, the face-blocks piece together like puzzle pieces. A distinct pattern emerges from Figure 15 since this sub-area is majorly residential. In most cases, all four sides of blocks have a face blocks.

There are some exceptions: institutional buildings and barriers break the pattern. Then again, there are continuous strips of face blocks along Sherbrooke and Hochelaga.

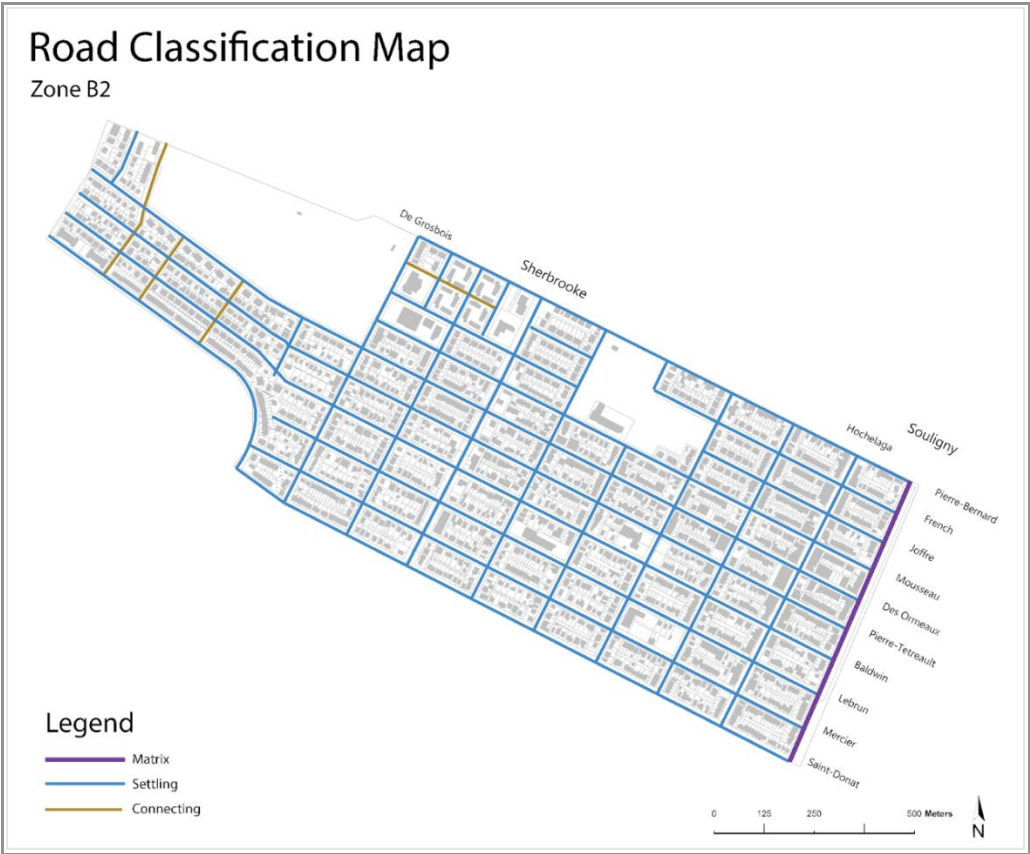


Figure 16

Classifying Roads

The road classification (Figure 16) was heavily influenced by the face block analysis (Figure 15). Settling streets were identified by their important and large face-blocks. In fact, most streets parallel to Souigny were identified as settling, since the historical allotment system dedicated those roads to have residential structure (to be settled). In contrast, lack of significant face-blocks flagged the roads for its role as a connecting street. These connecting streets are interestingly found within the urban fabric that has significantly thinner blocks and institutional buildings. Souigny is identified as a Matrix Road due to historical facts. Most notably, Souigny was the first street to cross the Mental Hospital's lot, allowing this area to connect to the rest of the region. While Notre-Dame was a crucial road for the development of settler agriculture, Souigny was the vector for urbanization of Zone B. In the same light, Sherbrooke is not a breakthrough route not a matrix, its width was planned. By 1949 (Figure 29), 9 pertinent strips were corrected to plan for Sherbrooke's width: this is not a significant change. In addition, Sherbrooke is not a matrix route as it was not a vector for urbanization (Figure 29).

Residential Tissues

The residential tissues can be categorized into two: unusual tissues (no alleyway) in orange, and normal tissues (alleyway) in purple (Figure 17).

Normal tissues represent all the blocks that contain alleyways (Figure 19). In relation to the urbanization period, these blocks tend to contain older homes, most notably, built between 1910s-1960s. The alleyways run perpendicular to the lots, as pictures in Tissue Type A below. There are three lanes and they form an 'I' shape. This tissue has a deeper lot type, as well as having a mix of detached and semi-detached housing.

The unusual tissue does not feature any alleys and they were generally developed in the 1970s, to later. These lots are also squarer in nature and the lots are connected through their fences with the adjoining neighbour (Figure 18). The lots are shallow and also contain detached and semi-detached homes (with the exception of certain multi-plexes).

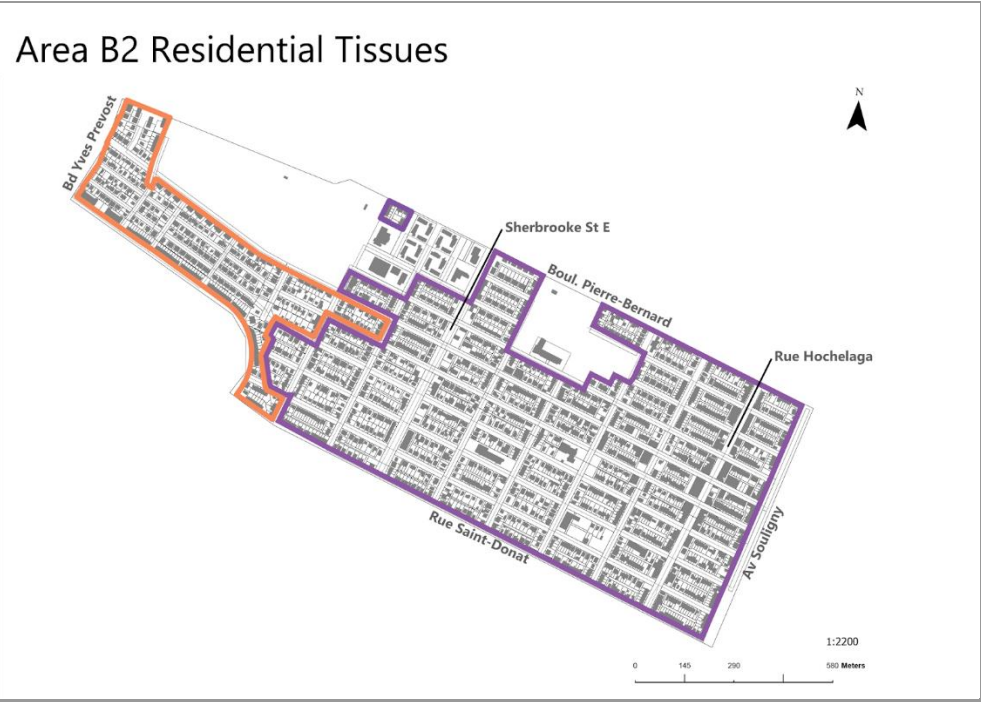


Figure 17:

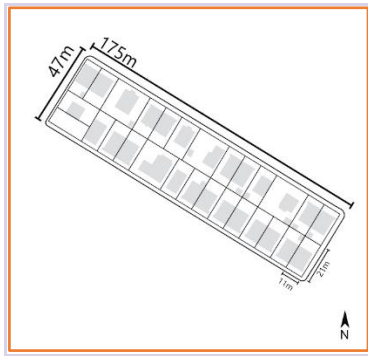


Figure 18: Unusual Block Type

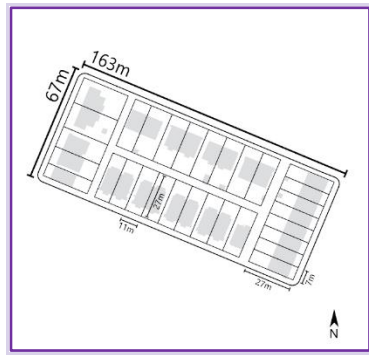


Figure 19: Usual Block Type

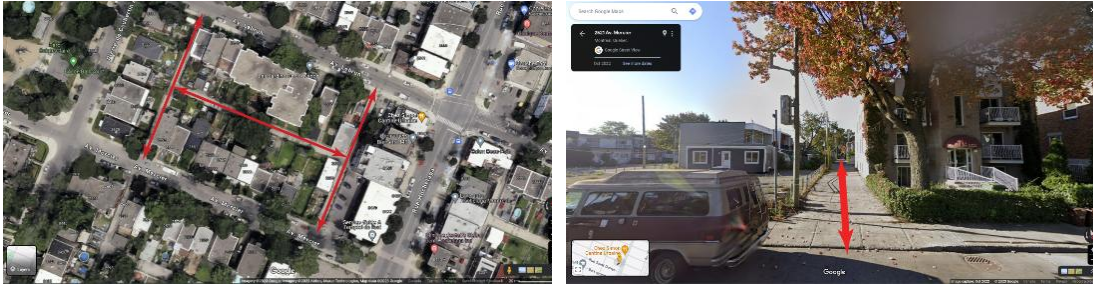


Figure 20: The collage above showcases the usual block type. To the left is an aerial shot of the alleyway pattern (I shape). The image to the right showcases the entry to the alley way.



Figure 21: The collage above showcases the unusual block type. The image to the left shows the lack of alleyways. The centre image shows how the fences connect. The right image shows the distance between neighbours.



Sherbrooke Face-blocks Analysis

The face-blocks of Sherbrooke showcase a distinctive urban landscape characterized by 2 to 3-story residential buildings, featuring buildings spanning from the early 1900s all the way to the 2010s (Figure 22). This temporal diversity provides insight into the area's development. Some residential buildings incorporate shops on the first floor or the basement, contributing to the mixed-use characteristic of Sherbrooke, creating a multifunctional urban environment.

On our map, residential areas are highlighted in yellow, while mixed-use areas in a darker shade of yellow, and institutions in purple. The presence of the 7-story CHSLD Judith-Jasmin building stands out among predominantly 2 to 3-story structures (Figure 23, 24 & 25). Lot sizes vary in width, maintaining consistent length, indicative of thoughtful urban planning.

This analysis aims to offer a concise and focused overview of the physical attributes and spatial organization of the face-blocks of Sherbrooke to gain a better understanding of the B2 Area.



Figure 23: A wide variety of restaurants and store places within the area



Figure 24: 2 to 3 Story Building with Shops.



Figure 25: The 7-story apartment and CHSLD have distinct features, deviating from the predominantly 2 to 3-story structures in the area. Their varying heights and lot size contribute to a diverse urban fabric of B2.

Sherbrooke Permeability Analysis

In zone B2, there are 3 pedestrian safe crossings (green) (Figure 26). These pedestrian crossings also host bus stops. There are two bus stops at the intersection of Rue Joffre and Sherbrooke that aren't served by pedestrian crossings. Along Sherbrooke there

are two lanes reserved for buses. However these transition into turning lanes near appropriate intersections. There is a median all along Sherbrooke, but this median breaks at every intersection, allowing vehicles to cross six lanes of traffic on converging streets. There are dedicated left turning lanes at Sherbrooke/Des Ormeaux intersections.

Notes on the Cross-Section

This cross section of Sherbrooke (Figure 27) contains both residential (left) and commercial (right) land uses. The residential setback is 7m from the busy street, while the commercial building on the right has a setback of 15m. This commercial strip has space for two rows of parked cars with a middle lane. Sherbrooke has 6 lanes in this sector, each measuring 3.6m in width. Two of the lanes are dedicated bus lanes (Red). Pedestrian crosswalks are 1.8m wide. Notably, there are no large trees in this sector, only small bushes create a delineation between public space and private residential lots.



Figure 26: Characterize Sherbrooke Street (Ville de Montréal, 2018)

Cross Section Sherbrooke

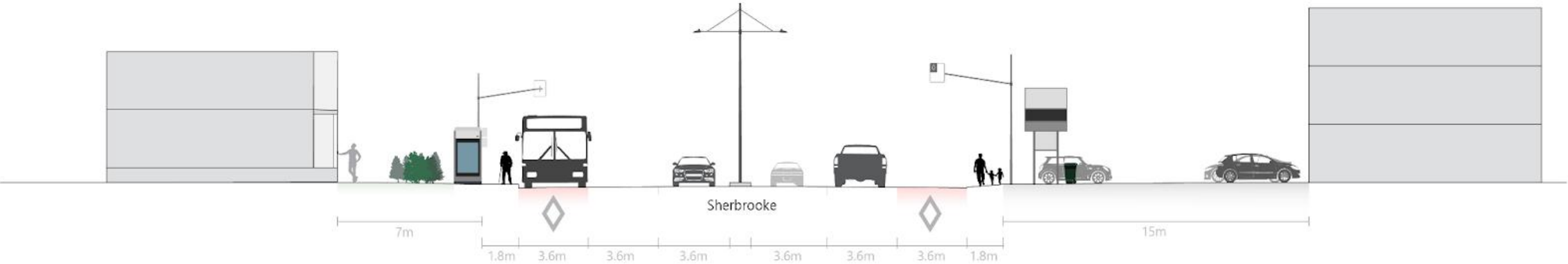


Figure 27: (Ville de Montréal, 2018)

Burgage Cycle Analysis

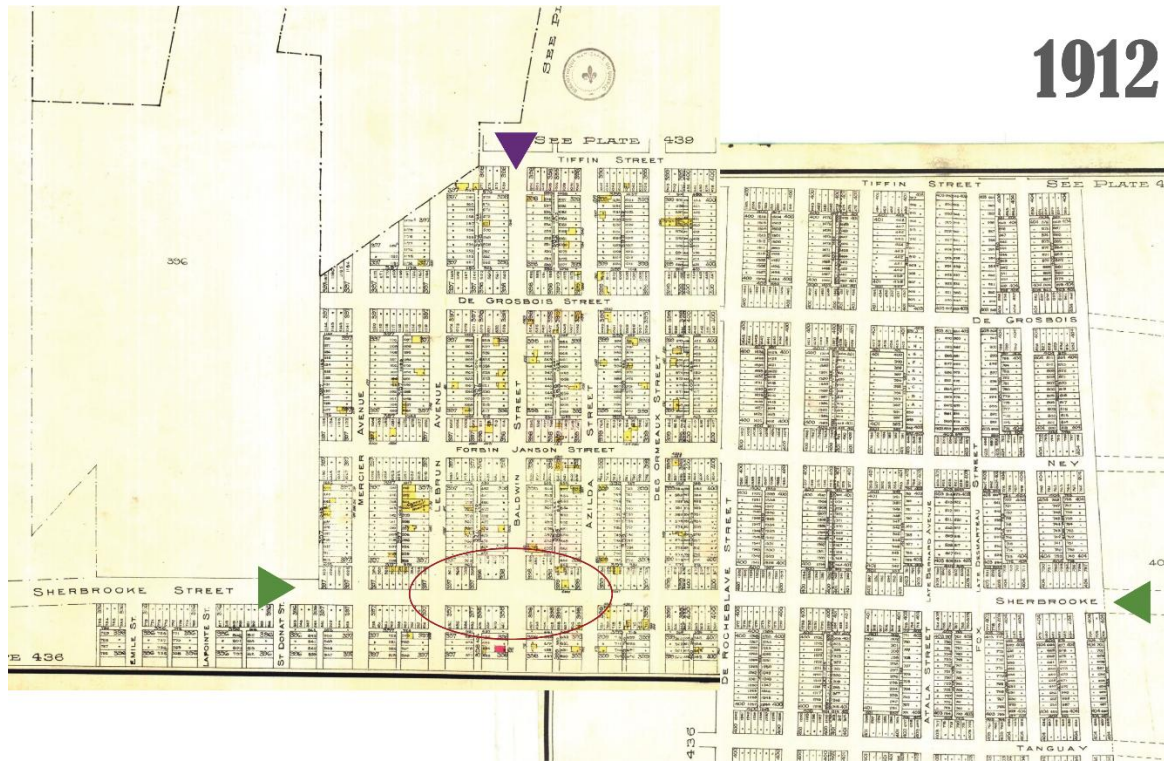


Figure 28: Insitutive Phase (Chas. E. Goad Co., 1912)

As reflected in Figure 28, urbanization started in the study zone around 1912. The allotment system is devised, and buildings start growing from Souigny. By 1949, 9 pertinent strips are corrected to plan a uniform Sherbrooke (width). While few

buildings are affected, the lots tend to have a very thin backyard compared to neighbouring lots (Figure 29).



Figure 29: Insitutive Phase (Ville de Montréal, 1949)

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