

Service de l'urbanisme  
et de la mobilité

OCTOBER 2019



# McGill College, Reinventing the Avenue

International multidisciplinary  
urban design competition

PROGRAM

Montréal 



**MONTREAL**  
VILLE UNESCO  
DE DESIGN

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## Note to the reader

This program summarizes observations and analyses of the information that was available at the time of writing. The content and images are presented for information purposes to ensure better understanding of the issues raised by the project. In case of disparity between the information provided in appendices and the program itself, the program takes precedence.

The orientation of maps and the names of the cardinal points in this document are used in keeping with Montréal usage, by which Avenue McGill College points northward, rather than in keeping with geographic reality.

# 1. Introduction

## 1.1. Project mission

Avenue McGill College is an urban space that is emblematic of downtown Montréal. As well as being the site of office buildings that house businesses, organizations and government bodies playing a key role in Québec's economic and political life, it provides a singular user experience, punctuated by some of the city's most significant markers of identity and culture:

- Northbound, it offers an exceptional view of Mont Royal and of the McGill University Arts Building.
- At its southern end, it provides access to Place Ville Marie, an icon of modern architecture designed by the firm of architect I.M. Pei.
- Between the two, the avenue's built environment, heavily characterized by architectural post-modernism, is bisected by Rue Sainte-Catherine Ouest, a busy main commercial artery.

Having undergone multiple restructurings, today Avenue McGill College is experiencing a renewal, with major public- and private-sector urban renovation projects under way in the area. These include construction of a station of the Réseau express métropolitain (REM), a new light-rail public transit line spanning the metropolitan area that will link the downtown core with Montréal-Trudeau International Airport, among other things. The other projects being implemented over the short term include the redevelopment of Rue Sainte-Catherine Ouest, the revitalization of the Place Ville Marie Esplanade, and the renovation of the Eaton Centre buildings (see Section 3.9 for detailed descriptions of these projects). These large-scale projects are all directly adjacent to Avenue McGill College, and will contribute to redefining its user experience and street life.

This context provides an opportunity to carry out a large-scale project on Avenue McGill College, which the Ville de Montréal seized in April 2018, announcing plans to redesign the avenue and turn it into a vast public plaza. This project will also upgrade the avenue's underground infrastructures.

## 1.2. Historical context

Over time, as downtown Montréal has evolved, the city's makers have consistently displayed innovation in the successive phases of Avenue McGill College's development. Each historical period of development has left its mark on the avenue, every one a demonstration of local and international avant-garde thinking in urban planning and architectural practices.

The site's original topography is difficult to perceive today, owing to the many changes in land use over the years. Archeological digs conducted on the site have uncovered no signs of First Nations occupancy on what is now Avenue McGill College.<sup>1</sup> Nonetheless, the proximity of an ancient river, the area's elevated position at the foot of Mont Royal and the agriculture-friendly plateau profile likely made it an attractive destination for Indigenous peoples.

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<sup>1</sup> Ethnoscop (January 2019). Étude de potentiel archéologique: Réaménagement de la rue Sainte-Catherine Ouest - Avenue McGill College. Montréal: Ville de Montréal. 126 pages.



The first signs of modern urban development on the McGill College axis date back to the late 18th century. At that time, a path led to the Burnside estate of James McGill, a fur merchant of Scottish origin. Upon McGill's death, the Burnside estate and its adjacent lands were bequeathed to the Royal Institution for the Advancement of Learning, a public corporation whose mission was to establish non-religious schools. This legacy marked the beginnings of what would, in subsequent years, become McGill University. The southern portion of James McGill's former lands would later be given over to the Ville de Montréal for subdivision and urban development. The avenue's first layout was created in 1857 by extending the original axis of the path leading to the Burnside estate.

In the second half of the 19th century, the subdivision of the edges of Avenue McGill College was part of a gradual migration process in which the wealthy inhabitants of Vieux-Montréal moved toward "New Town," a Montréal neighbourhood that was growing along the foot of Mont Royal. To attract this bourgeois population, the area's designers employed the most innovative urban design principles then in use in the United Kingdom. Orthogonal subdivisions crossed by wide, tree-lined avenues provided a hygienic living environment quite different from the living conditions in Vieux-Montréal. These principles made it a "place where civic architecture could emerge, characterized by a unified flow of housing terraces, wide avenues, squares and elegant views." (see Appendix C, p. 25).

In the early 20th century, the Canadian Northern Railway<sup>2</sup> company began an ambitious plan that would definitively transform the role of Avenue McGill College: it built a train tunnel under Mont Royal to serve a new downtown terminal. The tunnel was dug directly underneath the Avenue McGill College axis. Canadian Northern Railway also purchased the four blocks located directly south of McGill College, those between Rue Cathcart and Rue De La Gauchetière.

That major project was only completed many years later with the opening of Gare Centrale (Central Station) in the late 1940s, followed by the Queen Elizabeth Hotel (1958; now the Fairmont The Queen Elizabeth) and Place Ville Marie (1962), and then, in 1967, by Place Bonaventure. To link these buildings to the Montréal métro system, whose first line opened in the lead-up to Expo 67, an underground pedestrian network was created between the buildings. Reyner Banham underscored the innovative character of the underground network layout—including trains, subways, pedestrian walkways and highways—linked to various urban functions. Banham used the example of Montréal and the urban complex of which Avenue McGill College is a part—since it covers underground train lines and walkways—to illustrate the potential of implementing the utopianist concept of megastructures.<sup>3</sup>

During these years of major transformations, Montrealers' awareness of the city's built heritage emerged. In 1984, a commercial development project proposed by a major building developer sparked debate around the protection of views toward Mont Royal. The grassroots mobilization in response to the possibility that the project would block one such view led to a broader process of reflection regarding the protection of the mountain (Figure 1.1). The

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<sup>2</sup> Canadian Northern was later nationalized and amalgamated into Canadian National Railways.

<sup>3</sup> Banham, Reyner (1976). *Megastructure: Urban Futures of the Recent Past*. New York: Harper & Row, 224 pages.



business community, citizens groups and heritage defenders came together to demand a public consultation. The concerns raised led to the development of a design project created by the Ville de Montréal in 1989 and funded in part by abutting property owners. That project led to the widening of the public right-of-way and creation of a tree-lined median along the avenue. In addition, in its 1992 Master Plan, the Ville de Montréal officially protected the primary sightlines toward Mont Royal.

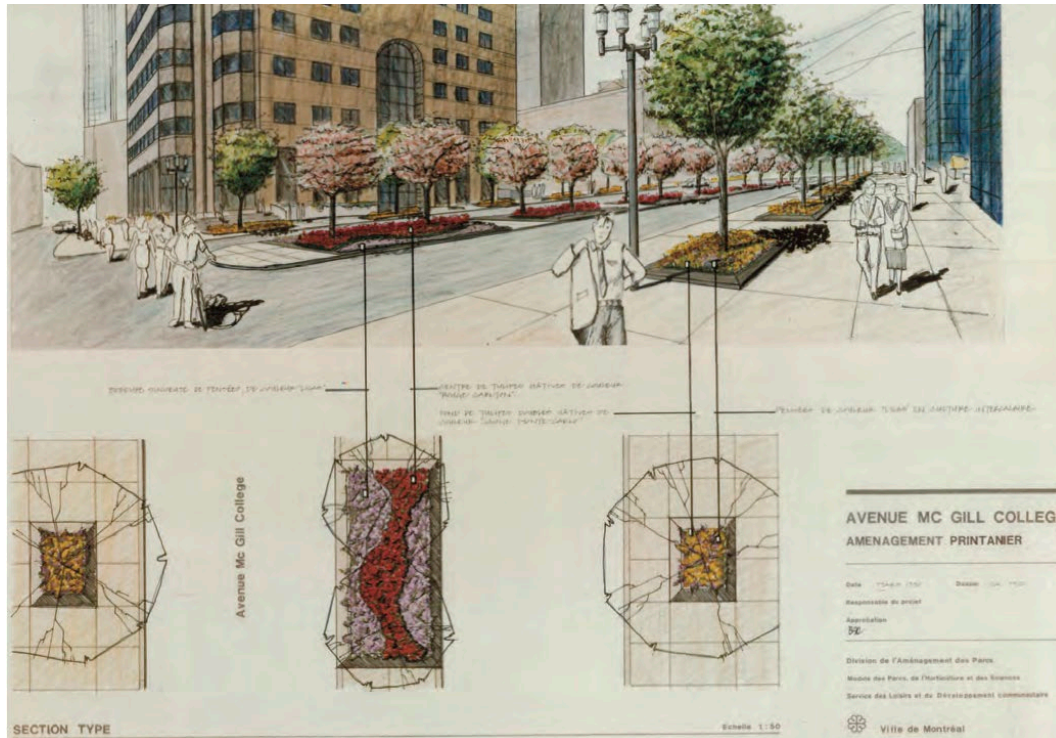


Figure 1.1: Spring fit-up of Avenue McGill College, c. 1990 (source: Archives de la Ville de Montréal).

### 1.3. International Urban Design Competition

The Ville de Montréal, a member of the [UNESCO Cities of Design Network](https://designmontreal.com/en/2018-2020-create-montreal-design-action-plan), is committed to actively implementing its design action plan, which is part of its economic development strategy<sup>4</sup>. As such, it is launching a multidisciplinary international urban design competition to redevelop Avenue McGill College. Titled McGill College: Reinventing the Avenue, the competition aims at selecting a design concept that’s exemplary in terms of the sustainability of urban public spaces.

At the competition’s conclusion, the winning multidisciplinary team will be awarded a professional services contract to implement the project. This includes, for the first phase (between Rue Cathcart and Boulevard De Maisonneuve), finalizing the design, preparing the plans and estimates, and providing technical assistance during the construction work for the surface redesign and upgrading of underground infrastructures. The winner will also be tasked with drawing up the overall plan and providing guidance to the Ville de Montréal on

<sup>4</sup> 2018–2020 “Create Montréal” action plan for design: <https://designmontreal.com/en/2018-2020-create-montreal-design-action-plan>

the detailed design for the second phase (between Boulevard De Maisonneuve and Rue Sherbrooke). This detailed design will be executed later by another consultant.

The competition has three main stages. The first consists in developing a preliminary design concept that will help determine the finalists for the second stage. At that second stage, each finalist will have the opportunity to refine their design and demonstrate the project's technical and financial feasibility. At a third, optional, step, the jury will conduct additional interviews with two grand finalists. The details of these three stages and the evaluation criteria for each are described in the Competition Rules.

## 2. Project site

### 2.1. Site location

Avenue McGill College is located in the business core of the Ville-Marie borough, the central borough of the Ville de Montréal, which itself is the biggest city in Québec, with a population of 1,942,044<sup>5</sup>. It comprises east-west roads with heavy traffic and a high volume of retail space, including Rue Sherbrooke Ouest (a regional highway) and Rue Sainte-Catherine Ouest, a prominent commercial thoroughfare.

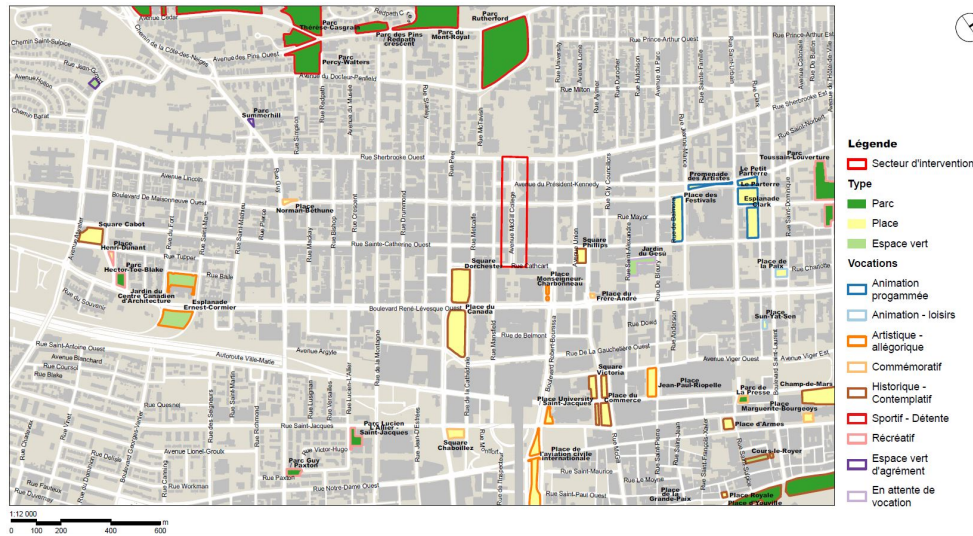


Figure 2.1: Location of Avenue McGill College within the network of downtown Montréal’s public spaces (source: BC2, 2019, p. 7).

The presence of the public transit system and the underground pedestrian network also make this a very accessible area. Two métro stations are located close to the site: McGill, the second-busiest station in Montréal, and Bonaventure. The REM’s new McGill station is also expected to be the second-busiest in that network, with nearly 25,000 daily users<sup>6</sup>. This REM station, the two site-adjacent métro stations and many of the buildings bordering the avenue are connected to Montréal’s underground pedestrian network. Commonly known as RÉSO<sup>7</sup>, this infrastructure of underground walkways, the most extensive in the world, stretches beneath a large portion of the downtown area, with some 32 km of pedestrian galleries. Typical of Montréal and its Nordic character, the “underground city” provides a way for people to get around downtown day-to-day, regardless of weather conditions.

The avenue is also part of a network of diversified public spaces including Square Dorchester, Place du Canada, Square Phillips, Place Monseigneur-Charbonneau, Place du Frère-André, and Place des Festivals<sup>8</sup>.

<sup>5</sup> Number of residents at the time of the 2016 census (in French)

([http://ville.montreal.qc.ca/portal/page?\\_pageid=6897.67887840&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=6897.67887840&_dad=portal&_schema=PORTAL))

<sup>6</sup> <https://rem.info/en/news/start-work-mcgill-station>

<sup>7</sup> [https://ville.montreal.qc.ca/portal/page?\\_pageid=7317.79977650&\\_dad=portal&\\_schema=PORTAL](https://ville.montreal.qc.ca/portal/page?_pageid=7317.79977650&_dad=portal&_schema=PORTAL) (in French)

<sup>8</sup> See Appendix B (p. 6-16) for a full description of the purposes of the public spaces in downtown Montréal.

Immediately to the north is the McGill University campus, with buildings arrayed around a vast, grassy plain, known simply as “the field” and historically centred on the axis of Avenue McGill College.

With the creation in 2017 of the Promenade Fleuve-Montagne<sup>9</sup>, Avenue McGill College also provides access to a north-south guided walkway that links Parc du Mont-Royal, Square Victoria, Square des Frères-Charron, Place d’Youville, and the Old Port of Montréal.




Montréal  AVENUE MCGILL COLLEGE PLAN DE LOCALISATION PROGRAMME D'AMÉNAGEMENT FONCTIONNEL ET TECHNIQUE FORMAT : 6.5x11" ÉCHELLE : 1:2000 ANNÉE : 2019

Figure 2.2: Map of the project area borders (source: Groupe Rousseau-Lefebvre, 2019).

## 2.2. Project area

With a surface area of about 16,000 square metres (1.6 hectares), the project work area includes the entire public right-of-way of Avenue McGill College from the southern sidewalk of Rue Cathcart to the northern sidewalk of Rue Sherbrooke Ouest (Figure 2.2). Defined as

<sup>9</sup> <https://ville.montreal.qc.ca/fleuve-montagne/en>



such, the Place de l’Avenue McGill College site is split into four sections demarcated by each of the public roads that cross it: from south to north, Rue Cathcart, Rue Sainte-Catherine Ouest, Boulevard De Maisonneuve Ouest, Avenue du Président-Kennedy, and Rue Sherbrooke Ouest.

Each of Avenue McGill College’s sections has a distinct identity owing to the range of commercial establishments found there, the characteristics of the built environment, the topography, and the various privately owned buildings. Generally speaking, the buildings located along the sections south of Boulevard De Maisonneuve Ouest are mixed-use. The shopping malls along and numerous cafés and restaurants with outdoor terraces contribute strongly to the vibrant street life. Some of the buildings, mainly those adjacent to Rue Sainte-Catherine Ouest and Rue Cathcart, were built in the 1920s and 1930s. By contrast, the two northern sections are distinct from the southern portion because of their more formal, institutional character, and because some of the buildings are set back from the street. Office towers predominate, along with some shopping establishments (see Appendix B for a complete description of the area).

## 3. Detailed site description

This section provides a detailed description of the current configuration of Avenue McGill College in order to better inform professionals about the elements to be considered in the design process.

### 3.1. General configuration of Avenue McGill College

#### 3.1.1. Topography

Avenue McGill College is characterized by a significant elevation difference of more than 10 metres between Rue Sherbrooke Ouest and Rue Cathcart (Figure 3.1). The section located between Avenue du Président-Kennedy and Boulevard De Maisonneuve Ouest is the steepest, with a 4.6% grade. This has an impact on runoff waters when it rains, which can create overflows, particularly in the lower sections, such as Place Ville Marie.

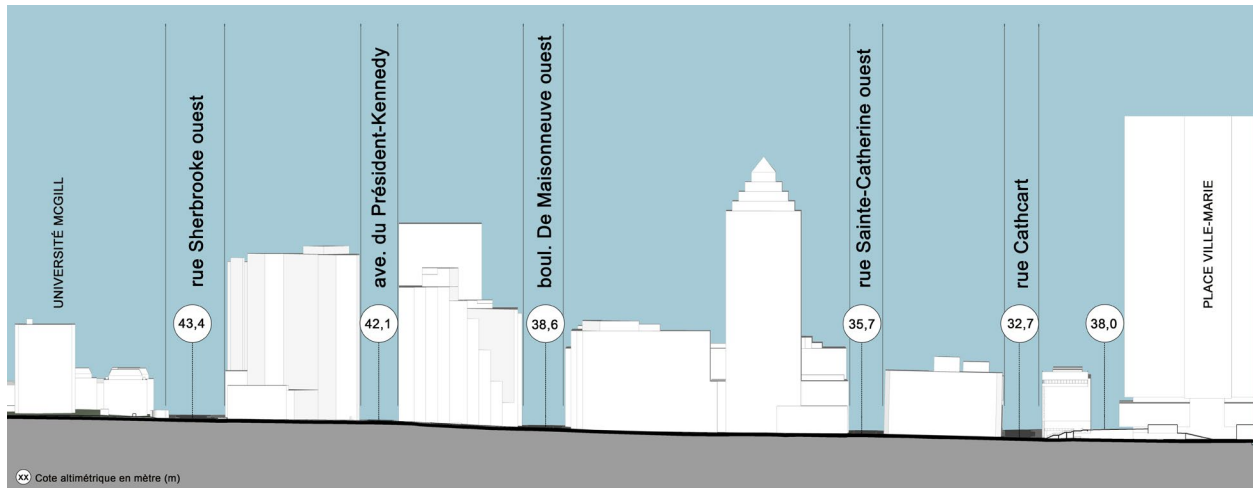


Figure 3.1: Elevation levels of Avenue McGill College (source: Groupe Rousseau-Lefebvre, 2019).

#### 3.1.2. Design features

Designed in the late 1980s and echoing a classic avenue landscape<sup>10</sup>, Avenue McGill College features wide traffic lanes (6.8 metres each) and sidewalks located on either side of a central tree-lined walk. The avenue is distinct from nearby public streets in terms of its width and the presence of the central tree-lined walk. The average width of right-of-way is 37.3 metres, which is nearly double that of its cross streets (except for Rue Sherbrooke Ouest).

The central tree-lined walk features a line of crab apple trees whose flowering defines the spring landscape experience. They have acquired a distinctive and strongly symbolic role in the Montréal urban landscape, since in 1995, some six years after they were added to the design project, the Ville de Montréal chose the crab apple as the city's floral emblem.

<sup>10</sup> According to Merlin and Choay, an avenue is a "wide urban road lined with trees. Emerging from the art of parks and gardens, the avenue is a creation of the classical age; it welcomed coach traffic, military parades and urban festivals, and was characterized by equipment." Merlin, Pierre and Françoise Choay (2005). *Dictionnaire de l'aménagement et de l'urbanisme*. Paris: Quadrige/PUF, p. 13 [freely translated].

For their part, the sidewalks are enhanced by tree- and flower-planting trenches. The avenue nonetheless features few large trees, and only the crab apple trees remain from the late-1980s project.

Beyond its lines of trees, one of the current design’s distinctive features is the shape and size of the granite borders that define the planters. These slightly curved borders raise the planters. Apart from their granite borders, the sidewalks are covered in concrete (Figure 3.2).

### 3.1.3. Furniture

There is little existing street furniture on Avenue McGill College; it mainly comprises Morris columns and a few bicycle racks<sup>11</sup>.

Since 2002, during the summer, public photography exhibitions, known as the “Vitrines de Montréal” (“Windows onto Montréal”), have been installed on the western sidewalk of Avenue McGill College. The photographs are drawn from the collections of the McCord Museum, inspired by Montréal’s history and collective memory. In recent years, the panels have been positioned between Boulevard De Maisonneuve Ouest and Avenue du Président-Kennedy.

In 2017, the Promenade Fleuve-Montagne project enhanced available seating on the avenue, with the addition of temporary benches. Altitude measuring posts and discreet signage, installed on streetlights, are also part of the project, marking the gradual increase in elevation from the river to the top of the mountain.



Figure 3.2: Surfacing, planters and streetlights on Avenue McGill College (source: Groupe Rousseau Lefebvre, 2019).



Figure 3.3: Nighttime ambience during the Holiday season (source: Groupe Rousseau Lefebvre, 2019).

### 3.1.4. Lighting

The lighting on the avenue’s public right-of-way is mainly functional, comprising streetlights along the sidewalks and light posts in the central tree-lined walk. Some buildings also have their own atmospheric lighting schemes, which contribute to the nighttime mood.

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<sup>11</sup> The detailed description of the avenue’s current street furniture is available in the Étude de caractérisation de l’Avenue McGill College (Appendix B).



During the Holiday season (December and January) the avenue is specially highlighted by the creation of a large, festive lighting display made up of signs and light posts. These winter additions contribute to the seasonal experience (Figure 3.3).

### 3.1.5. Public art

Works of art and installations are located all along Avenue McGill College, and mainly found on private properties bordering the public way. Most are located in the avenue's northern sections. The pieces vary in terms of theme, materials, dimensions, visibility, and artistic discipline.

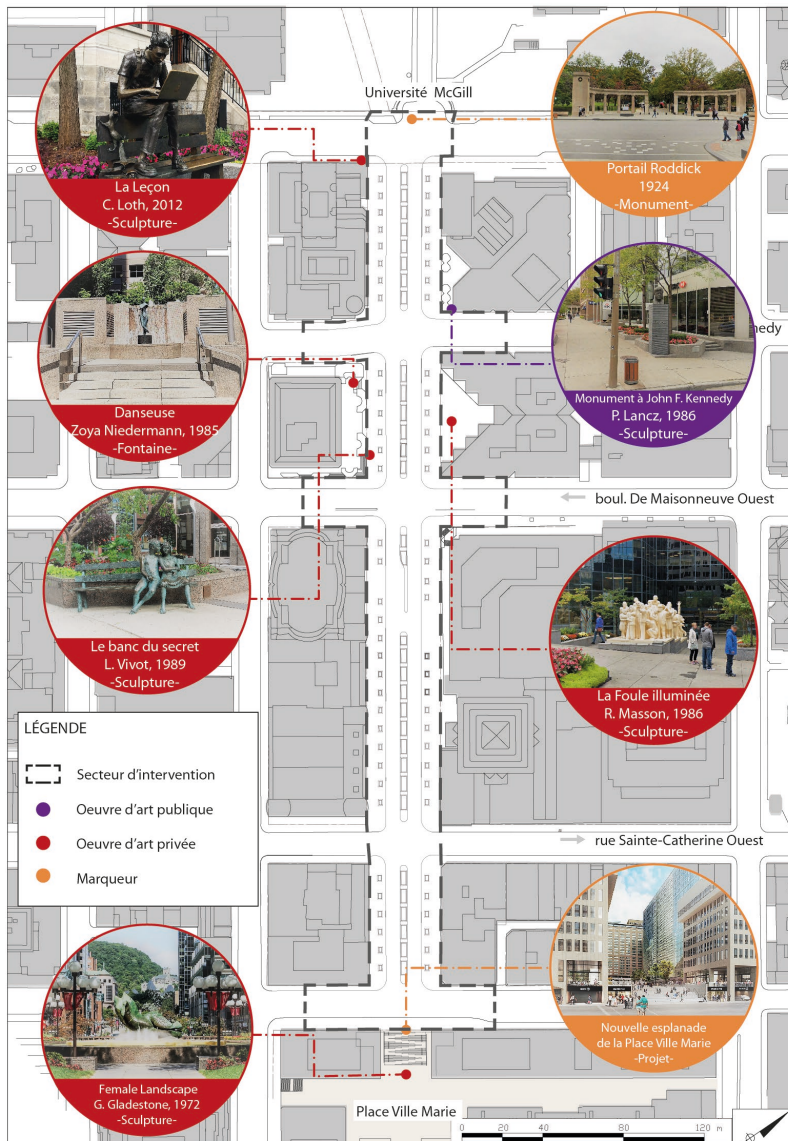


Figure 3.3: Map of artwork locations (source : Groupe Rousseau Lefebvre, 2019).

The following works are displayed on Avenue McGill College:

- Female Landscape, G. Gladstone, 1972;
- Danseuse, Z. Niedermann, 1985;

- The Illuminated Crowd, R. Mason, 1986;
- Monument to John F. Kennedy, P. Lancz, 1986;
- The Secret Bench of Knowledge, L. Vivot, 1989;
- The Lesson, C. Loth, 2012.

## 3.2. Specific configuration of Avenue McGill College for each of the sections

### 3.2.1. Cathcart / Sainte-Catherine Ouest section

The southern section of Avenue McGill College is the shortest, and has minimal difference in ground level. It is bordered to the east by a neoclassical-style building constructed by architects Ross and Macdonald. Its ground floor is occupied by restaurants with terraces contributing to busy urban street life. On the west side is an office building, its retail podium also home to several restaurants. Place Ville Marie is located directly south of Rue Cathcart. Its elevated Esplanade (plaza) will soon connect with Avenue McGill College by means of a monumental staircase leading to Avenue Cathcart.

### 3.2.2. Sainte-Catherine Ouest / De Maisonneuve Ouest section

This section is the avenue's longest. Its eastern and western façades are mainly occupied by indoor shopping malls, the Eaton Centre and Place Montréal Trust, with office space on their upper floors. Vehicle access to the Eaton Centre parking garage (on the east side of Avenue McGill College) is one of the major design constraints in this section.

### 3.2.3. De Maisonneuve Ouest / Président-Kennedy section

This section is distinct from the rest of the avenue. To begin with, it is the section with the steepest angle. In addition, the buildings alongside it, constructed in the 1980s, provide semi-public piazzettas in their front courtyards. This area also offers a good view of Mont Royal as a backdrop to the avenue's visual perspective.

### 3.2.4. Président-Kennedy / Sherbrooke Ouest section

The fourth section of Avenue McGill College, stretching between Avenue du Président-Kennedy and Rue Sherbrooke Ouest, is bordered by buildings of great architectural variety both in terms of construction period and height. The abundant vegetation on the McGill University campus partially obstructs the view of Mont Royal. As such, this area creates a greater sense of human-scale proximity than do the other sections. The Montréal offices of the Premier of Québec (the head of the provincial government) are located at the intersection of Avenue McGill College and Rue Sherbrooke Ouest.

North of Rue Sherbrooke Ouest, the Roddick Gates open onto the vast McGill University campus. The gates and the central campus corridor were historically aligned on the same axis as Avenue McGill College. The successive widenings of the avenue have resulted in a slight difference in alignment. McGill University's Arts Building, located at the end of the main corridor, remains one of the key landmarks of the northward view from Avenue McGill College.

### 3.3. Visual experience

Avenue McGill College features a visual perspective that helps showcase Mont Royal. Generally speaking, the east side of the avenue provides a fuller view of the mountain and its profile, while from the west side, the view of the mountain is obstructed by the built environment. Notwithstanding this general structure, the visual experience on the avenue varies depending on the point of view. The closer the viewer is to Rue Sherbrooke Ouest, the tighter the view becomes, with the trees on the McGill University grounds obstructing the mountain. The sequences below show the diversity of perspectives on Mont Royal based on the observer's position.

The best place to observe the mountain is from the belvedere on the Place Ville Marie Esplanade, and this is one of the most popular places from which to photograph the avenue.

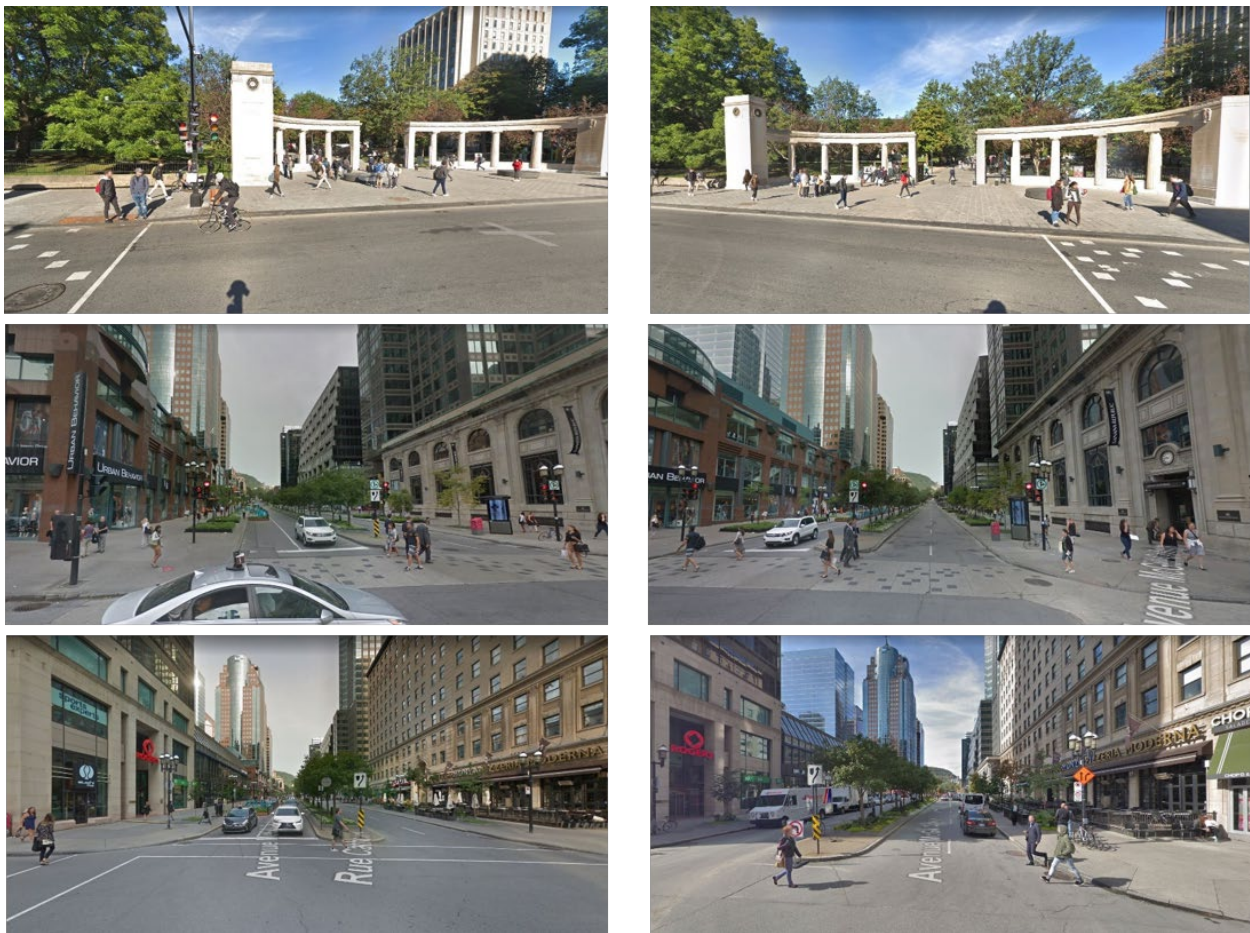


Figure 3.5: Northbound visual progression (source: Groupe Rousseau Lefebvre, 2019).

Looking southward, the visual progression provides a more urban experience, mainly framed by tall buildings. The closer an observer comes to Place Ville Marie, the more the visual field is bounded by the presence of the Fairmont The Queen Elizabeth hotel building located on the south side of Boulevard René-Lévesque. The construction of a monumental staircase connecting Avenue McGill College to Place Ville Marie will help open up the southbound view from the Rue Cathcart / Rue Sainte-Catherine Ouest section.



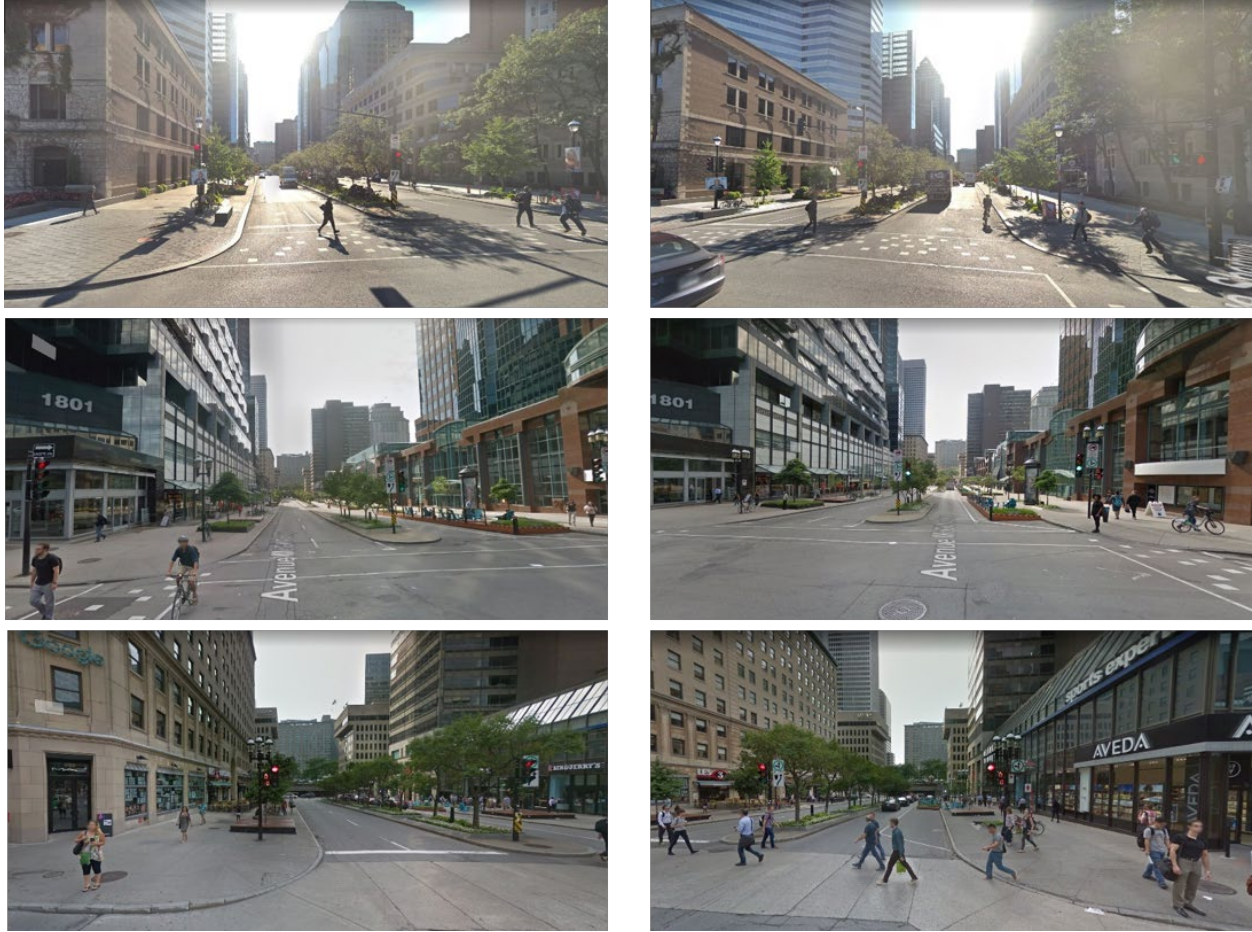


Figure 3.6: Southbound visual progression (source: Groupe Rousseau Lefebvre, 2019).

### 3.4. Heritage

A number of elements speak to the history and evolution of Avenue McGill College. Figure 3.7 lists the significant features of Avenue McGill College and its urban context, which today mark the landscape of this public space.

Apart from the view of Mont Royal, described in Section 3.3, the main heritage components are:

- The disalignment with the central corridor of the McGill University campus and the Roddick Gates due to the gradual widening that created the avenue as it is today;
- The heavily forested McGill University campus and the toponymy that recalls James McGill’s bequest for the creation of an institute of higher learning;
- The presence of buildings from various eras as markers of the construction of “New Town” in the 19th century, the birth of the modern downtown area, and the establishment of a key business district;
- The presence of Montréal’s underground network, here denoted by the underground passage between buildings in the Sainte-Catherine Ouest / De Maisonneuve Ouest section;

### TRACES HISTORIQUES

— — — Ancien ruisseau

Trame viaire d'origine du plan de lotissement d'Henri-Maurice Perrault :

— Rue

— Ruelle

— Parcelle conservé de la New Town

— Emprise d'ancienne ruelle

### TRAME VIAIRE ET TRANSPORT

⋯ Tunnel du Mont-Royal

— Ligne verte du métro et quai de la station McGill

▨ Rue University : entrée de ville moderne du centre-ville

▨ Boulevard René-Lévesque : axe principal du centre-ville moderne

### CADRE BÂTI

— Édifice ancien des années 1880-1930

— Projet architectural des années 1950-1960 et îlot du CN

— Projet architectural des années 1970

— Projet architectural contemporain des années 1980-1990

— Bâtiment intégré

### ÉLÉMENTS PAYSAGERS

— Axe visuel et planté vers le pavillon des Arts et le mont Royal

← Vue ancienne vers la cathédrale depuis la rue Belmont, conservée à travers l'ensemble moderne de la gare Centrale

— Campus de l'Université McGill

### SOUTERRAINS

— Couloir des centres commerciaux et des édifices à bureaux, et passage souterrain

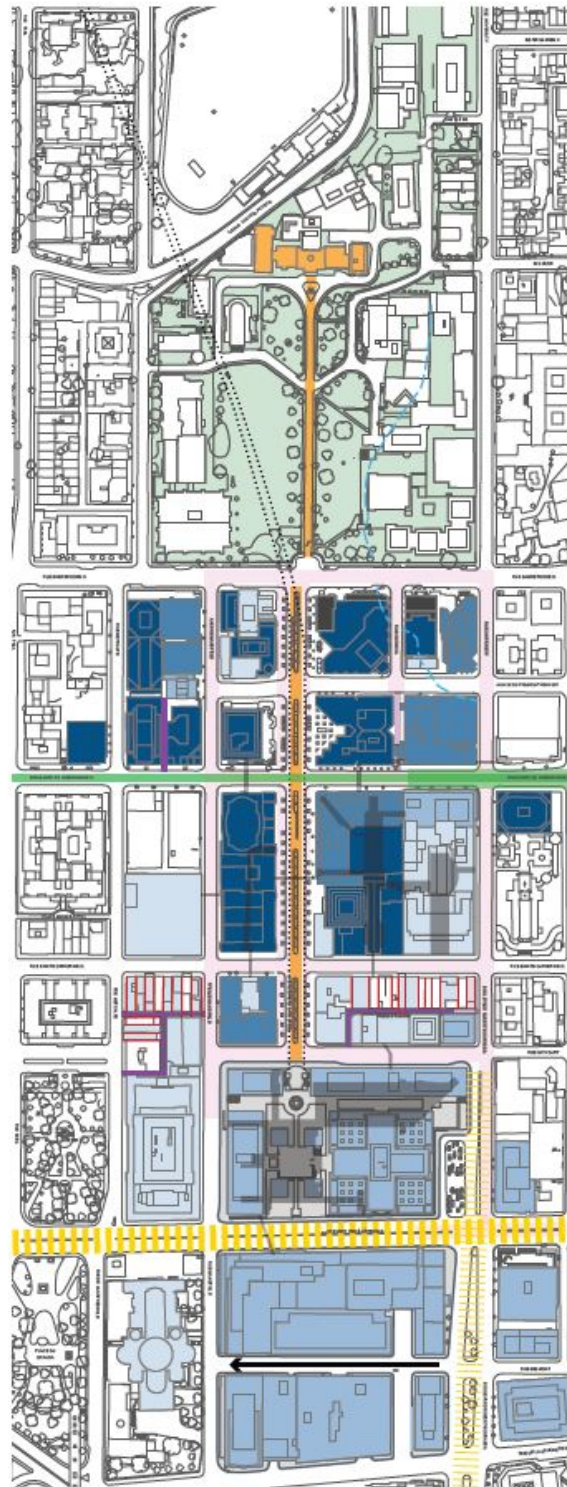


Figure 3.7: Map of the significant features of Avenue McGill College and its urban context (source: Cha, 2017, p. 378).

- The postmodern architectural expressions and integration of older buildings into construction projects, which reflects the evolution of heritage awareness.



Though less visible on a map, the presence of seasonally dictated design elements along Avenue McGill College also emerged in public consultations as a key feature of the space.

### 3.5. Usage and users

The area welcomes more than 23,000 workers active in scientific and technical professional services, finance, insurance, corporate management, and business every day. As well, McGill University, with its main campus entrance at the north end of the avenue, has some 40,000 students.



Figure 3.8: Outdoor restaurant terraces in the Cathcart / Sainte-Catherine Ouest section (source: Groupe Rousseau Lefebvre, 2019).

The intensity of commercial activity along Rue Sainte-Catherine Ouest and in the nearby shopping centres generates a constant flow of pedestrians at the street's intersection with Avenue McGill College.

Avenue McGill College mainly serves as a transit area as well as a meeting point for everyday users who work or study nearby. The area featuring restaurant terraces, in the Rue Cathcart / Rue Sainte-Catherine Ouest section, is one of the main generators of vibrant street life in this public space.

The presence in the avenue's northern sections of major financial institutions, consular operations, and the office of the Québec Premier means the area is occasionally the scene of political and citizen protests.

## 3.6. Access and traffic

### 3.6.1. Building access

Most of the buildings lining the street include one or more entrances on the avenue. Figure 3.9 shows the location of building entrances. Note further that in the Sainte-Catherine Ouest / De Maisonneuve Ouest section, the entrances to the Eaton Centre and to Place Montréal Trust also serve as entrances to the RÉSO (Montréal underground pedestrian network) and the McGill métro station, and will connect to the future REM station as well.

Service doors and delivery docks are located at the backs of buildings, except in the Cathcart / Sainte-Catherine Ouest section, where there are delivery areas on both the east and west sides of the avenue.

### 3.6.2. Foot traffic

The number of pedestrians on Avenue McGill College is relatively high, with weekday averages of between 14,000 and 19,000 people, depending on the section<sup>12</sup>. For comparison, the weekday average on Rue Sainte-Catherine, one of Montréal's busiest commercial thoroughfares, is 25,000.

On the two southern sections of Avenue McGill College, the highest traffic is between noon and 1 p.m., with an average of some 2,000 pedestrians per hour. On the two northern sections, the peak is between 5 and 6 p.m., with 1,600 to 2,200 pedestrians per hour, depending on the section. On weekends, the volume of foot traffic is greatly diminished, with daily averages of between 5,000 and 7,500 pedestrians depending on the section. The peak is between 3 and 4 p.m., with averages of 700 to 1,100 pedestrians per hour<sup>13</sup>.

On weekdays and weekends alike, the busiest section is that between Rue Sainte-Catherine and Boulevard De Maisonneuve, which is bordered by the Eaton Centre and Place Montréal Trust. With the arrival of the REM and its many transiting users, the number of pedestrians in this section is likely to increase.

To complete the picture of foot traffic in the Avenue McGill College area, it is also important to keep in mind that a significant number of pedestrians use the underground corridors.

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<sup>12</sup> Counts carried out continuously from August 29 to November 20, 2018, on all eight sections of Avenue McGill College.

<sup>13</sup> A comprehensive picture of surface-level foot traffic can be found in the Étude de caractérisation de l'Avenue McGill College report (see Appendix B).



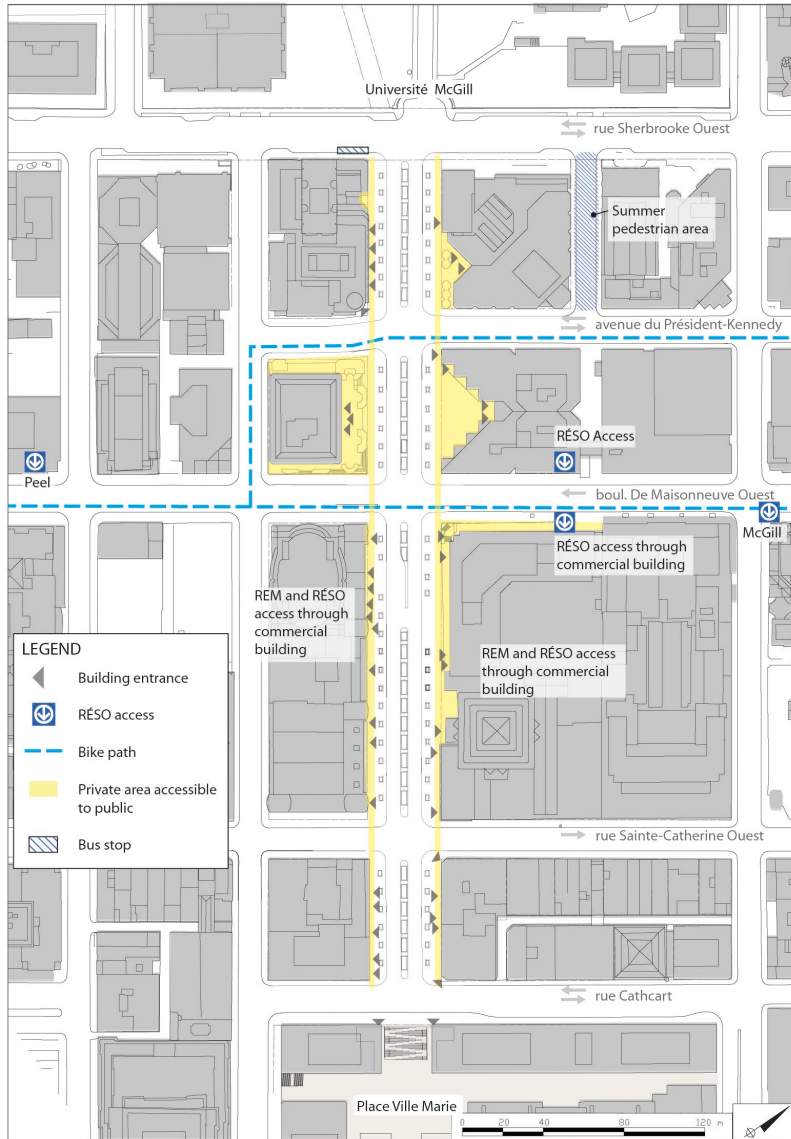


Figure 3.9: Map of locations of main pedestrian and vehicle access points to buildings along Avenue McGill College. (source: Groupe Rousseau Lefebvre, 2019)

### 3.6.3. Vehicle traffic

Avenue McGill College currently has two lanes of traffic in each direction. Parking and stopping are forbidden at all times, except in the delivery area on the west side at the corner of Rue Cathcart. The avenue is crossed by five east-west streets, two of which have heavy traffic flow: Rue Sherbrooke Ouest (16,000 to 32,000 vehicles a day) and Rue Sainte-Catherine Ouest. Avenue du Président-Kennedy, Boulevard De Maisonneuve Ouest and Rue Cathcart have less vehicular traffic.

A 2009 analysis of vehicle counts conducted on Avenue McGill College suggested that most drivers using it intended to access the area itself and were not simply passing through<sup>14</sup>. The two major generators of vehicular traffic on the avenue are the entrances to the underground parking garages at the Eaton Centre (Sainte-Catherine Ouest / De Maisonneuve Ouest section) and Place Ville Marie (south of Rue Cathcart), with daily high peaks of 220 and 290 vehicles per hour respectively. There are some 1,400 parking spaces in total in the two parking garages.

#### **3.6.4. Bicycle traffic**

Avenue McGill College is crossed by the Boulevard De Maisonneuve Ouest bikeway, a major east-west cycling route through downtown Montréal with average daily flow of more than 3,000 cyclists (measured between Rue Peel and Rue Stanley). There is another bikeway on Avenue du Président-Kennedy; it is considered temporary, but no date has yet been set for removing it<sup>15</sup>. As the cycle path network is upgraded across the Ville de Montréal as a whole, the number of bike path users has been growing, and the popularity of this mode of transportation is rising<sup>16</sup>.

A number of buildings located on Avenue McGill College provide indoor bicycle parking spaces. This includes the indoor parking garages at Place Ville Marie (350 spaces) and the Eaton Centre (100 spaces), both accessible directly from Avenue McGill College. In total, more than 700 indoor bike parking spots have been catalogued, and a number of abutting property owners report that this number is likely to increase in the coming years. Avenue McGill College also has some 50 outdoor bike parking spots.

### **3.7. Vegetation**

Before construction work on the REM began, there were 104 trees on the central tree-lined walk and sidewalks of Avenue McGill College. The crab apple trees in the central walk made up nearly 50% of them, creating a mass effect, especially at spring flowering. However, many of the trees in the central tree-lined walk and along the west side of the Sainte-Catherine Ouest / De Maisonneuve Ouest section were removed to make way for the REM infrastructure work. Currently, there are 78 trees remaining on Avenue McGill College.

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<sup>14</sup> Ville de Montréal (April 20, 2015). Avis technique – Sens de circulation à maintenir sur l’avenue McGill College. Montréal: Ville de Montréal - Division sécurité et aménagement du réseau artériel. 12 pages.

<sup>15</sup> The map of Montréal’s bike paths can be found at

[https://ville.montreal.qc.ca/pls/portal/docs/page/transports\\_fr/media/documents/reseau\\_cyclable\\_montreal\\_2019.pdf](https://ville.montreal.qc.ca/pls/portal/docs/page/transports_fr/media/documents/reseau_cyclable_montreal_2019.pdf)

<sup>16</sup> The Montréal, City of Cyclists Cycling Master Plan is available at

[https://ville.montreal.qc.ca/pls/portal/docs/page/transports\\_fr/media/documents/plan\\_cadre\\_velo\\_ang\\_final\\_lr.pdf](https://ville.montreal.qc.ca/pls/portal/docs/page/transports_fr/media/documents/plan_cadre_velo_ang_final_lr.pdf)

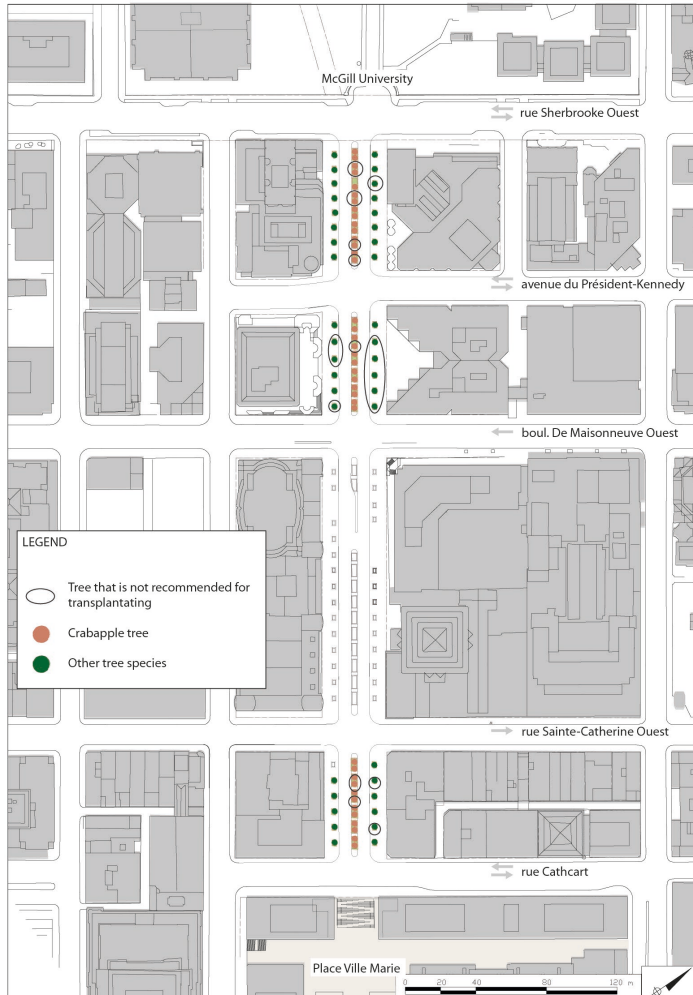


Figure 3.40: Map of current tree locations on Avenue McGill College. (source: Groupe Rousseau Lefebvre, 2019).

## 3.8. Weather conditions

### 3.8.1. Montréal, winter city

Montréal is a Northern city marked by distinct seasons, in particular by seasonal temperature contrasts and harsh winters. The Montréal winter is typically long and cold, but punctuated by frequent mild spells. The average temperature is  $-10^{\circ}\text{C}$  in January, with 148 days below freezing and eight days of rain in January and February. Winter typically brings heavy snowfalls and bright days, although the days are short (46 days with more than 15 hours of darkness).

### 3.8.2. Sunlight

The built environment influences the sunlight on Avenue McGill College. As a result, the sunlight configurations are those typical of Montréal's major north-south avenues, with the east side sunnier than the west. During the summer, the avenue is sunny for long periods at

a time. In winter, however, shadows cast by buildings are more pronounced, greatly reducing the amount of time the avenue is sunlit.<sup>17</sup>

### 3.8.3. Wind

Biophysical factors (direction of the avenue, number of trees), in conjunction with the avenue’s built environment, foster the creation of wind tunnels. As a result, user comfort is often affected, particularly in winter. The prevailing winds in winter are westerly and southwesterly (Vivre en Ville, 2018).

### 3.8.4. Precipitation regime

Table 1 describes Montréal’s precipitation regime for a full year.

<b>Climate data</b>	
USDA Zone**	6a
Average annual precipitation (rain)*	978.8 mm
Average annual precipitation (snow)*	217.5 cm
Days of precipitation per year*	163

Table 1: Precipitation regime and hardiness zone for Montréal (source: Ville de Montréal and <https://www.plantmaps.com/interactive-quebec-plant-zone-hardiness-map.php>).

## 3.9. Other current redevelopment projects

The current project to transform Avenue McGill College into a public space is one of many taking place in an exceptional context of major urban revitalization. These projects, described in summary below, include the Ville de Montréal’s renovation of Rue Sainte-Catherine Ouest, the Projet Nouveau Centre by Ivanhoé Cambridge (comprising the renovation of Place Ville Marie and its Esplanade as well as the Eaton Centre, among other work), and the construction of the REM by the Caisse de dépôt et placement du Québec.

### 3.9.1. Sainte-Catherine Ouest project

Rue Sainte-Catherine is Montréal’s main commercial thoroughfare. A few years ago, the Ville undertook a major review of the street’s design, aiming to create a dynamic, user-friendly urban experience tailored to commercial trends of the 21st century.<sup>18</sup> The design scenario was presented to the public in 2018. The city chose a configuration with a single lane of traffic and elimination of on-street parking. Providing wider sidewalks for greater pedestrian user-friendliness in all seasons, the street can be closed to motor vehicle traffic upon request. It will feature distinctive street furniture designed specifically for Sainte-

<sup>17</sup>. Refer to Section 4.3 of the BC2 Étude de caractérisation urbaine (Appendix B) for more detail about sunlight based on season and time of day. See also Appendix 5 of the *Programme d’aménagement fonctionnel et technique* (Functional and Technical Development Program; Appendix A) for sunlight simulations at various places on the site.

<sup>18</sup>. <https://www.makingmtl.ca/saintecath>

Catherine, and rows of trees planted every nine metres in continuous tree trenches to ensure healthy growth.

### 3.9.2. Revitalization of Place Ville Marie

Ivanhoé Cambridge, the real estate development subsidiary of the Caisse de dépôt et placement du Québec, is engaged in major renovation and modernization projects for its downtown Montréal assets, under the umbrella designation Projet Nouveau Centre. These projects include:

- Revitalization of the Place Ville Marie Esplanade (2017–2020; <https://placevillemarie.com/en/construction-info/>);
- Redefinition of the Montréal Eaton Centre retail experience (2018–2021);
- Transformation of the Fairmont The Queen Elizabeth hotel (completed in 2017);
- Construction of Maison Manuvie (completed in 2017).

With the Projet Nouveau Centre, Ivanhoé Cambridge seeks to make downtown Montréal a more accessible, renewed and lively place for Montrealers. A key step in achieving that objective is the revitalization of the Place Ville Marie Esplanade.



Figure 3.11: Rendering of the new monumental staircase linking the Place Ville Marie Esplanade to Avenue McGill College. (Ivanhoe Cambridge, 2017)

The complete redesign of the Place Ville Marie Esplanade will have a major impact on the street life of Avenue McGill College, since the esplanade will open onto the avenue. The underground parking entrances currently located at the foot of Avenue McGill College will be relocated to make way for a monumental staircase, creating a new physical interface between the Esplanade and the avenue, and a singular location from which to appreciate the view onto Mont Royal, already one of the most-photographed in downtown Montréal.



Note that Ivanhoé Cambridge is also the owner of Place Montréal Trust, which runs alongside the future Place de l'Avenue McGill College from Rue Sainte-Catherine Ouest to Boulevard De Maisonneuve Ouest.

### **3.9.3. Réseau Express Métropolitain (REM)**

The Réseau Express Métropolitain (REM) light-rail network <sup>19</sup> is a major public transit infrastructure project. The aim of the project's first phase is to link Montréal's South Shore to Montréal-Trudeau International Airport via downtown. The rail corridor chosen for the project is the one running under Avenue McGill College. A REM station will be built underneath Avenue McGill College between Rue Sainte-Catherine Ouest and Boulevard De Maisonneuve Ouest, with an underground connection to the McGill métro station and the underground pedestrian walkways linking the Eaton Centre and Place Montréal Trust. Access to Place de l'Avenue McGill College from the REM station will be via these buildings.

### **3.9.4. Redevelopment of Rue Peel**

The Ville is currently undertaking the redevelopment of Rue Peel,<sup>20</sup> a major downtown axis that links the Canal de Lachine and the Parc du Mont-Royal. Rue Peel is located three streets west of Avenue McGill College. The Rue Peel project, which stretches over 2.4 km, will include a bike path, among other things, and aims to improve pedestrian comfort. Because the vestiges of a village associated with the St. Lawrence Iroquois were discovered at the intersection of Rue Sherbrooke, the Ville is including commemorative elements in the Rue Peel design to celebrate Iroquois history. To do this, it is working closely with the Kahnawake community.

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<sup>19</sup> <https://rem.info/en>

<sup>20</sup> For more information, see <https://www.realisonsmtl.ca/peel> (in French).

## 4. Design vision and goals

### 4.1. Consultation process

Prior to formulation of the vision statement for development of Place de l’Avenue McGill College, an extensive consultation process was conducted to get an idea of the concerns and hopes of various stakeholders with regard to layout, street life, and use. That process included a public consultation, focus-group discussions on thematic challenges, a co-creation exercise regarding the positioning, and integrated design workshops to outline the future role of Avenue McGill Collage and to guide development of its design vision. Note also that a guidance committee is advising the Ville de Montréal throughout the entire process of planning, designing and implementing the project.

In 2018, the [Office de consultation publique de Montréal](#) (OCPM) was mandated by the municipal administration to identify issues that concerned people regarding the Avenue McGill College redevelopment project. In its report,<sup>21</sup> the OCPM noted Montrealers’ interest in the project and laid out their concerns, especially in terms of respecting the avenue’s *genius loci* (“sense of place” or local character), establishing the visual and functional relationships between its components, and strengthening the mood already created by its urban setting.

Co-creation workshops regarding the positioning, co-ordinated by the [NewCities Foundation](#), brought in local and international experts along with citizens. This exercise, in the form of participatory workshops held over three days, aimed at formulating various ways of positioning the eventual role of Avenue McGill College as a public space. At the end of the exercise, four positionings were selected. These may be consulted in the report on the NewCities Foundation positioning exercise (Appendix D).

The Competition Program sets out the key project parameters that emerged from the consultation process and from the Ville de Montréal’s planning exercises, and that are to be taken into account at the competition stage. For a full overview of the development requirements to be met following selection of the winning project, competitors may consult the Functional and Technical Development Program (Appendix A).

### 4.2. Development vision and goals

Based on the chosen positioning, the vision statement for development of Place de l’Avenue McGill College is as follows:

#### **Between nature and culture, the avenue reinvented**

**From Mont Royal to Place Ville Marie, Avenue McGill College turns a mere passerby into a wayfarer experiencing nature as it unfurls in the city. In this space with its refined scenery, and where the pace of daily life is attenuated, the wayfarer feels welcome to engage with the site and enjoy Montréal’s authenticity.**

This vision is transposed across the five following development goals:

<sup>21</sup> [http://ocpm.qc.ca/sites/ocpm.qc.ca/files/pdf/P100/rapport\\_reamenagement\\_mcgill\\_college.pdf](http://ocpm.qc.ca/sites/ocpm.qc.ca/files/pdf/P100/rapport_reamenagement_mcgill_college.pdf)



- Infuse the site with abundant vegetation befitting the emblematic scenery of Avenue McGill College;
- Enhance the sense of place for visitors by taking account of the avenue's historical, heritage and scenic aspects;
- Create a welcoming, community-focused ambience conducive to leisure activities that fits with the contextual variations of Avenue McGill College and its diverse users;
- Adapt the avenue's configuration to create a predominantly pedestrian space in a coherent and safe relationship with spaces reserved for motor vehicles and bicycles;
- Develop an exemplary urban public space in terms of quality of materials and sustainability of design and construction.

For each of these major design goals, a series of sub-goals has been devised to take account of the wishes of the users, municipal stakeholders, and experts consulted during the planning of the project. Competitors should consider these goals and sub-goals as performance criteria to be used in guiding the project's design.

#### **4.2.1. Provide abundant vegetation befitting the emblematic scenery of Avenue McGill College**

At the north end of Avenue McGill College, Rue Sherbrooke Ouest provides a clear dividing line in the city's urban fabric between the built-up, inorganic downtown core and the extensive green spaces of the McGill University campus and Mont Royal further north. The Avenue McGill College redevelopment project seeks to ensure a smooth transition between these two spaces by extending a predominantly green urban thoroughfare into Montréal's downtown core. Through a renewal of natural forms, the reinvented Avenue McGill College will form a link between Rue Sainte-Catherine Ouest, the heart of Montréal's cultural vitality, and Mont Royal, an eco-territory known for its biodiversity.<sup>22</sup> The intention is to infuse the avenue's scenery, including the emblematic view of Mont Royal, with the right amount of vegetation to make it seem as though the mountain is calling. The diversity of greenery will promote the spirit of discovery and *flânerie* (strolling) that goes with pedestrian use of the avenue while also ensuring the resilience of the plantings and their resistance to climate change.

Accordingly, the related design sub-goals are:

- Significantly increase vegetation along all of Avenue McGill College while maintaining the sightlines toward Mont Royal;
- Ensure a smooth transition between the green spaces beyond the northern end of the avenue (Mont Royal, the McGill University campus) and the more inorganic spaces to the south (the built environment, the Place Ville-Marie Esplanade);
- Implement a planting strategy that takes into account the existing plantings and promotes biodiversity, resilience and resistance to climate change.

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<sup>22</sup> [https://ville.montreal.qc.ca/portal/page?\\_pageid=7377,94755608&\\_dad=portal&\\_schema=PORTAL](https://ville.montreal.qc.ca/portal/page?_pageid=7377,94755608&_dad=portal&_schema=PORTAL) (in French)

#### **4.2.2. Enhance the site's sense of place by taking account of the avenue's historical, heritage and scenic aspects**

“Sense of place” refers to the perceptual qualities and atmosphere of a location that enable an observer to grasp its identity and its cultural meanings. In the context of Avenue McGill College, the prior analyses and consultations have helped target and validate various tangible marks that contribute to the sense of place. These tangible marks are:

- Its character as an avenue;
- Its emblematic view of the McGill University campus and Mont Royal;
- The seasonal character of design elements;
- The architectural diversity of the built environment, with its predominantly post-modern architecture.

Together, these elements bear witness to the historical process involved in the creation of this urban space, from the early Scottish presence in Montréal's economic and social life to the establishment of large-scale railway infrastructure, the development of a downtown business district, and the birth of heritage awareness.

The redevelopment project aims to refine Avenue McGill College's landscaping features through a new arrangement that encompasses and transposes the emblematic value of this location to Montréal. With a look around the redesigned Avenue McGill College, the wayfarer will grasp the urban identity of downtown Montréal.

The related design sub-goals are:

- Contribute to the appreciation of a singular visual experience comprising an outstanding view of Mont Royal, the built environment of downtown structures and, to the south, the visual closure framed by Place Ville Marie and the Fairmont The Queen Elizabeth hotel;
- Maintain the perception of the space's character as an avenue as expressed by, among other things, the axial nature of the layouts and the continuity and uniformity of formal language along the avenue's entire length;
- Promote diversity of seasonal experiences while preserving the spring experience with its crab apple blossoms and, in the winter, the atmospheric lighting;
- Take account of the area's history, including its Indigenous and Scottish roots as well as its history as a site where avant-garde urban planning strategies have been implemented.<sup>23</sup>

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<sup>23</sup> Recent archeological work near Avenue McGill College, along Rue Sherbrooke Ouest and Rue Peel, has uncovered vestiges of a village occupation shortly before the arrival of Europeans in the St. Lawrence Valley and associated with the St. Lawrence Iroquois. This could be the emblematic village of Hochelaga, visited by Jacques Cartier in 1535 and one of the biggest villages in the entire Iroquois territory. This discovery provides an opportunity to take a modern scientific look at a rare known Iroquois village site, which is the only one documented on the Island of Montréal (see also 4.9.4).

The Ville de Montréal has adopted a strategy of reconciliation with Indigenous Peoples comprising six major focus areas, which include enhancing the visibility of the Indigenous presence in Montréal by recognizing its past, present and future.

For more information: [https://ville.montreal.qc.ca/portal/page?\\_pageid=8258.143108168&\\_dad=portal&\\_schema=PORTAL](https://ville.montreal.qc.ca/portal/page?_pageid=8258.143108168&_dad=portal&_schema=PORTAL) (in French; consulted on September 29, 2019)

#### **4.2.3. Create a welcoming, community-focused ambience conducive to leisure activities that fits with the contextual variations of Avenue McGill College and its diverse users**

Avenue McGill College is the ground-level interface with a major mobility hub and is also at the heart of a dynamic urban area. Nevertheless, the design intention is to offer a counterweight to those roles, slowing the pace of everyday urban life and providing a respite from the hustle and bustle of downtown. To that end, the two primary qualities that the design must target are the comfort and wellness of users.

Consequently, the related design sub-goals are:

- Gradually adjust the planned uses of the space, based on context:
  - Design spaces for relaxation, renewal and contemplation, primarily in the two northern sections of the avenue;
  - Create spaces where small-scale programmed activities can be held, in the two southern sections.
- Take into account the buildings' ground-floor uses in the design of adjacent outdoor spaces; in particular:
  - Ensure that terraces can continue to be set up in front of restaurants and cafés, primarily those in the Rue Cathcart / Rue Sainte-Catherine Ouest section;
  - Provide suitable safe spaces for occasional gatherings in front of the Premier's office (southeast corner of the intersection with Rue Sherbrooke Ouest).
- Ensure the comfort of users year-round through:
  - Use of vegetation and furniture to create microclimates;
  - Planning of a winter-use strategy that includes areas suited to user engagement as well as snow removal and management.
- Ensure an inclusive user experience and development of a sense of security.

#### **4.2.4. Adapt the avenue's configuration to create a predominantly pedestrian space in a coherent and safe relationship with spaces reserved for motor vehicles and bicycles**

To go along with the transition of this part of downtown into a major sustainable-mobility hub, the Ville de Montréal aims to make Avenue McGill College a predominantly pedestrian space. This seemingly simple principle does, however, present certain spatial-planning challenges. First, it is difficult to accurately forecast the needs of future REM users in terms of pedestrian routes. Second, maintaining motor vehicle and bicycle traffic on the cross-streets raises a number of potential conflicts. Finally, maintaining the access ramp to the Eaton Centre parking garage results in a significant use constraint that must to be resolved in a way that minimizes impact on the use value of the public space.

The design sub-goals are therefore:

- Maintain the site's avenue character by creating one or more unsegmented paths for strolling along the entire Avenue de McGill College axis.
- Ensure maintenance of pedestrian access to adjacent buildings, the underground pedestrian network, retail businesses, and public transit stations by preserving a pedestrian safety corridor at least 3.3 metres wide next to the buildings;

- Ensure the “readability” and safety of spaces where pedestrian, motorist and cyclist routes intersect;
- Give all intersections uniform treatment and give pedestrian crossings priority over automobile and bicycle traffic;
- Maintain vehicular access to the Eaton Centre parking garage;
- Ensure emergency-vehicle access to the public space, for example by ensuring safety clearances where required (southern sections).

#### **4.2.5. Develop an exemplary urban public space in terms of quality of materials and sustainability of design and construction**

Avenue McGill College is part of a long tradition of quality in the design and execution of public spaces in Montréal. The current project to redevelop this urban space aims at the same exemplary quality of materials and sustainability of design and construction. For users to more readily engage with the site, the design features themselves ought to aim at a certain understated quality, even timelessness, that will foster smooth integration of the Avenue McGill College project with recently redesigned public spaces nearby.

Design sub-goals:

- Favour high-quality materials and street furniture that will fit in readily with the character of the site and the physical expression of adjacent new public spaces, including Rue Sainte-Catherine Ouest (Appendix A);
- Minimize energy and resource consumption as part of project execution and in the subsequent everyday use of the space;
- Minimize the project’s environmental impact through the choice of materials and construction processes;
- Ensure long-lasting design and construction through an understated concept and ease of maintenance of materials, furniture and technical systems.

### **4.3. Design issues**

Implementing the spatial-planning goals listed above raises certain design issues that are at the root of the challenge that lies ahead in the Place de l’Avenue McGill College design competition. This section seeks to list these design issues, in question form, to guide competitors.

- *Views versus greening:* The exceptional view of Mont Royal is at the heart of the urban experience that Avenue McGill College offers. Does highlighting this view run counter to the goal of greening a large area of the space? Can we allow the development of a canopy that helps reduce the urban heat island effect and adds to the comfort of various uses while at the same time maintaining Avenue McGill College’s visual corridor?
- *Pedestrianization versus vehicular access:* Despite the priority given to pedestrians in the composition of the future Place de l’Avenue McGill College, the existence of intersections, cycle paths on Boulevard De Maisonneuve Ouest and Avenue du Président-Kennedy, and vehicular access to the Eaton Centre parking garage means potential conflicts between the various users. How can we ensure a clear reading of

the configuration of this urban space in a way that limits conflicts? How can we design a vehicular access ramp to the Eaton Centre parking garage that maintains the avenue's public character? How do we plan for future traffic flow in the context of transformation resulting from construction of the REM and reconfiguration of the Place Ville Marie Esplanade?

- *Development goals versus steps in execution:* As stated in the section on the project's implementation process (Section 6), the Place de l'Avenue McGill College development project will proceed in two phases. The first phase of execution, all while establishing a continuous-development concept, must deliver an urban space that is self-sufficient enough to offer a quality experience from the time it is opened. Will this phased execution influence the design concept? How can we ensure conceptual consistency of the entire public space?

## 5. Requirements and technical constraints

### 5.1. Underground infrastructure

Avenue McGill College lies atop a wide variety of underground infrastructure. There are two types: public-utility equipment (e.g., water, sewer and gas lines) and the structures associated with Montréal’s “underground city” (e.g., transit and pedestrian networks, commercial premises). Located at various depths, this infrastructure imposes serious constraints on the Avenue McGill College redevelopment project.

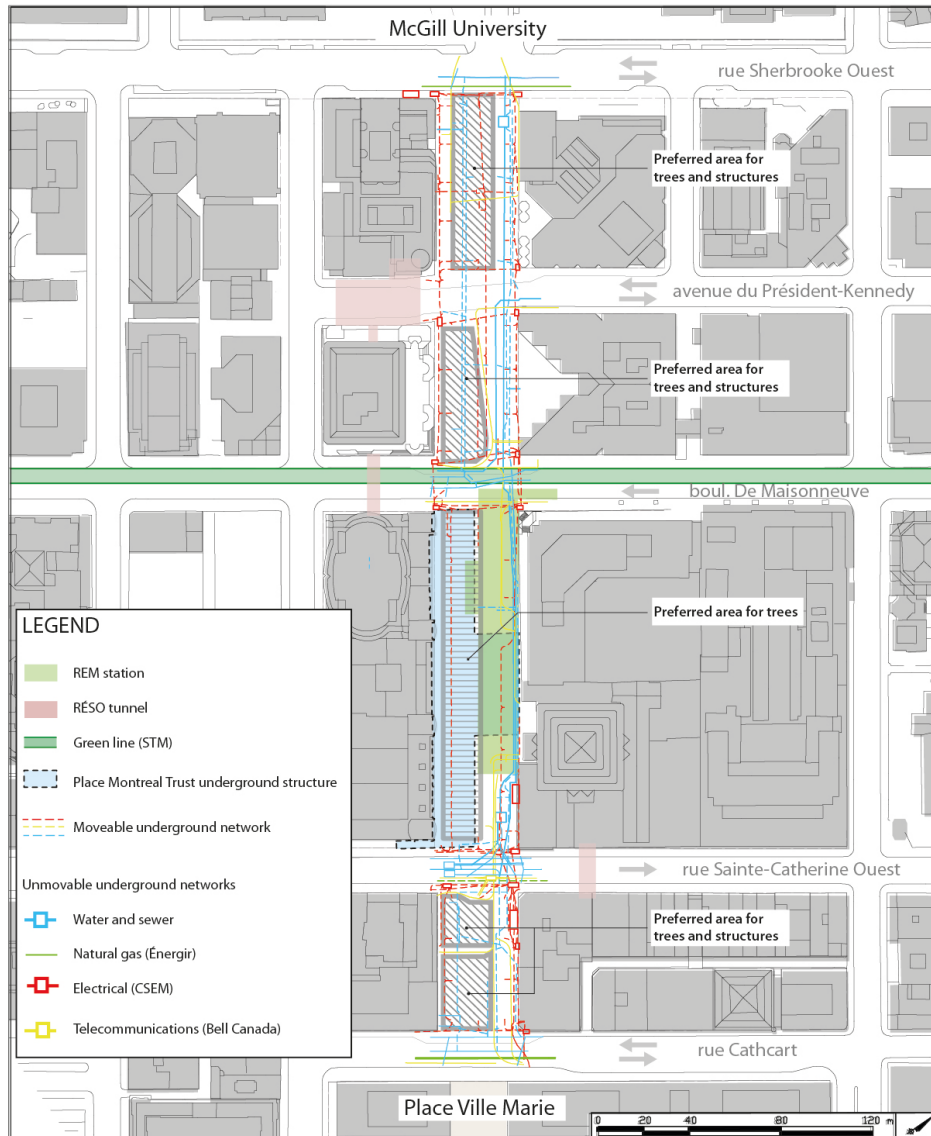


Figure 5.1: Map of underground infrastructure locations. (source: Groupe Rousseau-Lefebvre, 2019)

### 5.1.1. Underground conduits

The space beneath Avenue McGill College includes the following networks:

- *Gas*: Pressurized gas lines crossing Avenue McGill College at Rue Sherbrooke Ouest, Rue Sainte-Catherine Ouest and Rue Cathcart, about 1 metre deep (Énergir);
- *Telecommunications*: A mass of telecommunications duct banks along the east side of the avenue between Rue Cathcart and Rue Sherbrooke Ouest, about 0.7 metres deep (Bell), and a mass of abandoned duct banks near the central walk about 0.7 metres deep between Rue Sherbrooke Ouest and Boulevard De Maisonneuve Ouest; masses of duct banks for street lighting about 0.7 metres deep between Rue Cathcart and Rue Sherbrooke Ouest, on either side of the avenue (Commission des services électriques de Montréal);
- *Sewer and water lines*: Water (both main and secondary) and sewer lines: between 1.8 metres and 3 metres deep approximately from Rue Cathcart to Rue Sainte-Catherine Ouest; between 0.7 metres and 3.6 metres deep from Rue Sainte-Catherine Ouest to Boulevard De Maisonneuve West; between 1.83 metres and 3.1 metres deep from Boulevard De Maisonneuve Ouest to Avenue du Président-Kennedy; and between 1.83 metres and 2.9 metres deep from Avenue du Président-Kennedy to Rue Sherbrooke Ouest;
- *Fire hydrants*: Fire hydrants connected to the secondary water conduit network, found on each section.

The underground infrastructure analytical table presented in Appendix G shows the condition of the underground conduits and those that need to be replaced.

### 5.1.2. Place Montréal Trust basement slab

Between Rue Sainte-Catherine Ouest and Boulevard De Maisonneuve Ouest, a basement slab obstructs nearly the entire public right-of-way between Place Montréal Trust and the Avenue McGill College central walk. This basement slab is located at a maximum depth of 0.33 metres (between the finished ground level and the top of the slab).

The shallow depth of this slab is a major constraint that needs to be considered in the surface amenity design process because it limits possibilities for plantings and insertion of deep anchoring for structures or furniture. The load-bearing capacity of this slab is currently under study and will have to be re-evaluated on the basis of what the designers propose.

### 5.1.3. Other underground structures

Beneath the entire length of Avenue McGill College, at a depth of about 9 metres, is the railway tunnel that runs below Mont Royal.

In addition, the Rue Sainte-Catherine Ouest / Boulevard De Maisonneuve Ouest section is the site of various basement-level facilities connected to the underground network. They also connect to the transit network and commercial premises in the “underground city.”

- *STM tunnel (Green line)*: Métro Green line tunnel crossing Avenue McGill College beneath Boulevard De Maisonneuve Ouest, about 4.4 metres deep (between finished ground level and the top of the slab);



- *Pedestrian tunnel and REM station:* Tunnel crossing Avenue McGill College, between Rue Sainte-Catherine Ouest and Boulevard De Maisonneuve Ouest, connecting Place Montréal Trust and the Eaton Centre, about 2 metres deep (between finished ground level and the top of the slab). This tunnel is to be replaced by the REM station now under construction. The clearance above the station will be similar.

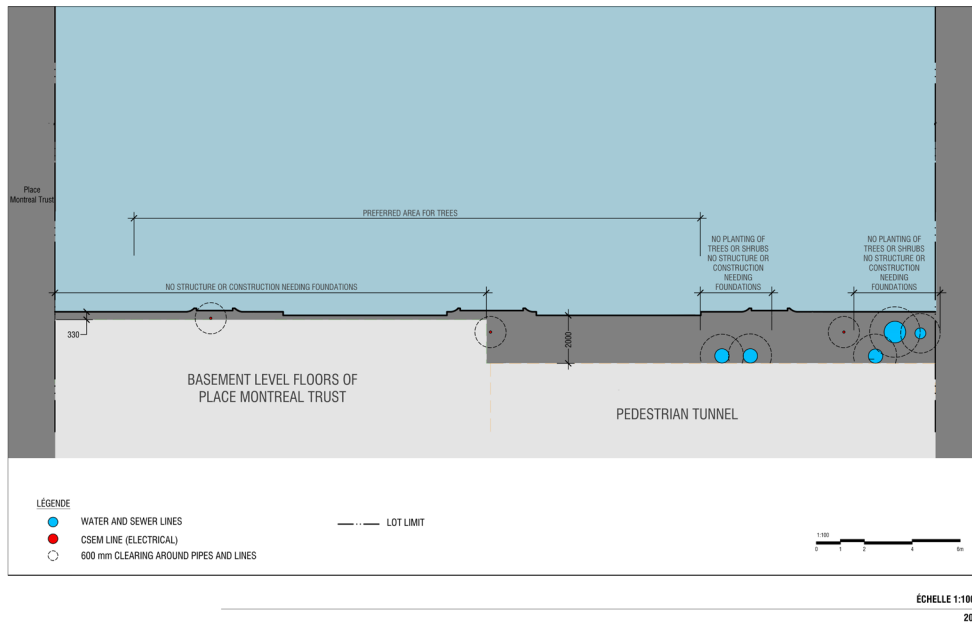


Figure 5.2 : Cross-section of Avenue McGill College indicating the location of underground structures.  
(source: Groupe Rousseau-Lefebvre, 2019)

## 5.2. Vehicular access to the Eaton Centre parking garage

Vehicular access to the Eaton Centre parking garage (220 vehicles per peak hour) is one of the major constraints of the Avenue McGill College redevelopment project.

Because of the frequent closing of Sainte-Catherine Street to vehicular traffic, the only option being considered for maintaining this vehicular access continuously is to create a two-way link from Boulevard De Maisonneuve Ouest. The design of this vehicular link must allow for one vehicle to pass in each direction without obstructing the pedestrian safety corridor. Also, the possibility that a car may turn onto Avenue McGill College without being able to get into the parking garage must be considered, with a provision for U-turns.

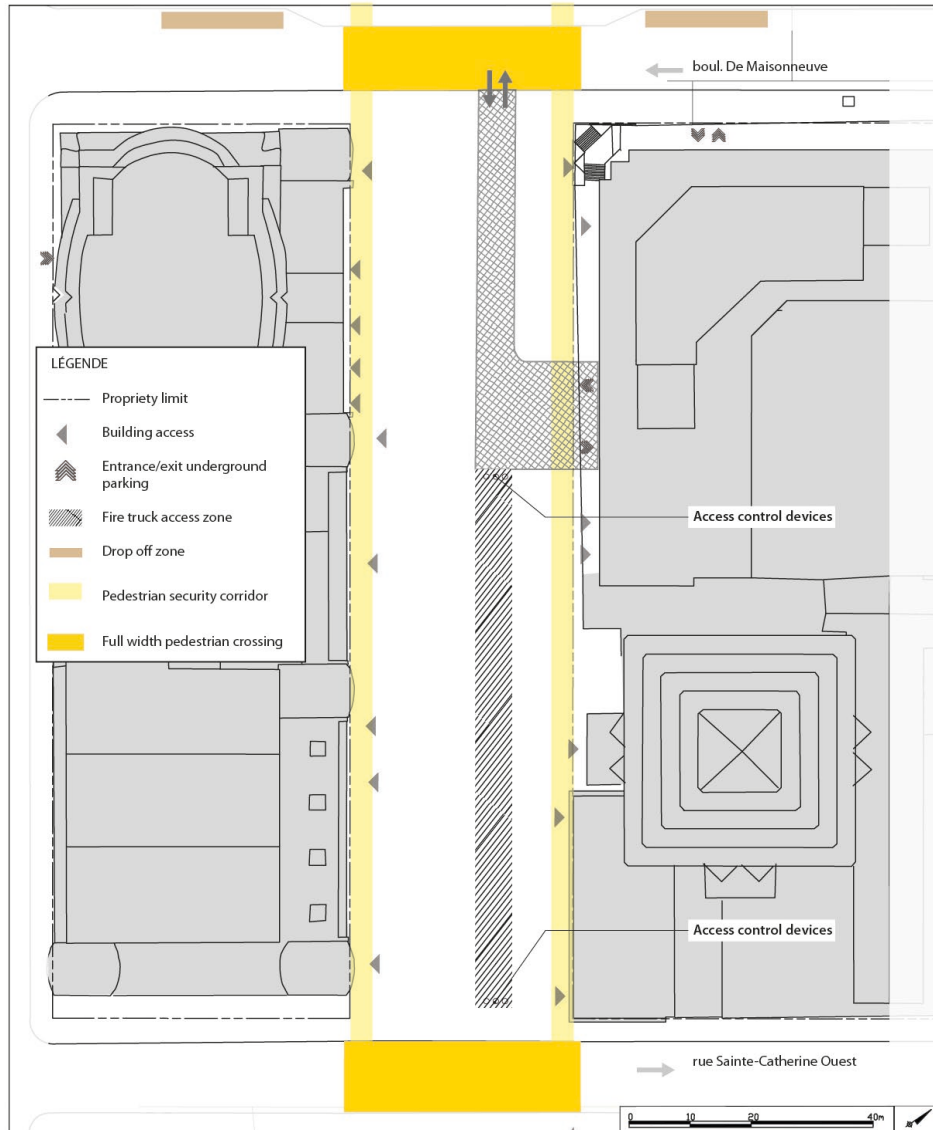


Figure 5.3: Diagram showing the spatial planning constraints relating to vehicular access to the Eaton Centre parking garage. (source: Groupe Rousseau-Lefebvre, 2019)

### 5.3. Universal design

The Ville de Montréal has adopted a universal design action plan<sup>24</sup> covering all areas of municipal activity, including land-use planning and services to citizens. Universal design affects every aspect of people’s lives and hinges on respect for the rights of all citizens. Based on an inclusive approach, universal design seeks to ensure that anyone, regardless of abilities, can make identical or similar use of services offered to the general population, self-sufficiently and simultaneously. Universal design must therefore be considered and included

<sup>24</sup>. Municipal action on universal accessibility 2019–2020 (in French): <http://ville.montreal.qc.ca/pls/portal/url/ITEM/924E7584E3D220C4E0530A93013220C4>

from the very start of project design. It must be conceived of as an enhancement of the pedestrian experience for all users and over the entire site, with the needs of people with reduced mobility understood as reflecting those of the general population.

The Ville de Montréal's requirements as to universal design of streets and public spaces are outlined in Booklet 5 of the *Guide d'aménagement durable des rues de Montréal*.<sup>25</sup>

## 5.4. Quality standards for materials and furniture

The Ville de Montréal sets quality standards for the construction and use of street furniture in its public spaces. A list of concrete and granite paving stone models already used by the Ville de Montréal appears in Appendix 8 of the Avenue McGill College Functional and Technical Development Program (see Appendix A of this program).

Competitors may also consult the descriptions of the new street furniture designed for Rue Sainte-Catherine Ouest, presented in Appendix 10 of the Avenue McGill College Functional and Technical Development Program (see Appendix A of this program). The same furniture may be used for the Avenue McGill College project.

## 5.5. Lighting

The lighting strategy to be developed by the designers must address safety requirements and also provide atmosphere, including in the winter season, as identified in Section 4.2.2. To optimize safety, atmosphere and visual comfort for all users who are out after dark and to harmonize practices in all its boroughs, the Ville de Montréal has produced the *Guide d'aménagement durable des rues de Montréal*, Booklet 4 of which covers lighting.<sup>26</sup> Competitors may consult this document to learn about the types of lighting devices favoured by the Ville de Montréal and the implementation standards to be met.

## 5.6. Integrated water management

The design must include a well-considered plan for integrated water management that uses runoff as well as potable water, both for equipment and for maintenance of facilities.

### 5.6.1. Rainwater management

As a public thoroughfare, the avenue is not subject to Bylaw C1.1 (Bylaw Concerning the Piping of Drinking Water, Wastewater and Storm Water) requiring, among other things, on-site retention of runoff water. However, to comply with municipal policy on adaptation to climate change<sup>27</sup>, the redesign of Avenue McGill College should incorporate exemplary rainwater management practices, so as to limit water volumes and flows into the municipal network. Inclusion of surface-water management facilities is to be favoured, both to reduce water flow to the underground network and to enliven the space.

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<sup>25</sup> <https://ville.montreal.qc.ca/pls/portal/url/ITEM/860A6314C61EB0E2E0530A930132B0E2> (in French)

<sup>26</sup> [http://ville.montreal.qc.ca/pls/portal/docs/PAGE/TRANSPORTS\\_FR/MEDIA/DOCUMENTS/FASCICULE%204\\_0.PDF](http://ville.montreal.qc.ca/pls/portal/docs/PAGE/TRANSPORTS_FR/MEDIA/DOCUMENTS/FASCICULE%204_0.PDF) (in French)

<sup>27</sup> Climate Change Adaptation Plan for the Montréal Urban Agglomeration:  
[http://ville.montreal.qc.ca/pls/portal/docs/PAGE/ENVIRO\\_FR/MEDIA/DOCUMENTS/2017\\_PACCAM\\_2015-020\\_SUMMARY.PDF](http://ville.montreal.qc.ca/pls/portal/docs/PAGE/ENVIRO_FR/MEDIA/DOCUMENTS/2017_PACCAM_2015-020_SUMMARY.PDF)

Aside from controlling volumes of runoff from small rainfalls through surface retention, underground retention may be considered, with oversizing of the conduits to be replaced.

### 5.6.2. Use of potable water

Use of potable water is allowed in public spaces, but should be minimized whether the use is for surface-area maintenance, public amenities (e.g., fountain), or watering of plants.

## 5.7. Winter maintenance

Consideration of the winter maintenance constraints of this public space during the design phases will be conducive to animated street life and public engagement with the space. Competitors should note that Avenue McGill College is not expected to be fully cleared of snow in the winter. Apart from the main traffic and safety corridors, which are to be cleared, snow removal zones may include activity areas. However, zones that are not cleared of snow may also be targeted as activity areas. In addition, since most fallen snow will remain on the site, there will be accumulation areas. Finally, it should be noted that winter maintenance practices for public spaces may require use of snow removal machinery and de-icing salts, which may affect the long-term quality of materials.

## 5.8. Signage

The “Montréal à pied” (Montréal on foot) project<sup>28</sup> aims to install an innovative system of pedestrian orientation and wayfinding kiosks that reflect international practices, starting at major public transit hubs and covering all of downtown Montréal. Avenue McGill College does not currently have any of these kiosks, but the “Montréal à pied” project aims to replace all of the Morris columns in the city, similar to those currently on the avenue, with the new kiosks.

## 5.9. Smart City

The Ville de Montréal aims to position itself as a world leader of the “Smart City” movement. The design of Avenue McGill College must provide for the interconnectivity of all these components with the use of new technologies (fibre optics, Wi-Fi, smart terminals, etc.). The feasibility of including certain Smart City systems will be examined when the design concept is chosen.

## 5.10. Fire safety

Per the *Québec Construction Code, Chapter 1 – Building*, and the amended *National Building Code of Canada 2010*, fire trucks must be able to approach the building façade where the main entrance is located (Section 3.2.5.4), and this entrance must be located no more than 15 metres from a public thoroughfare (Section 3.2.5.5).

Generally speaking, the fire-truck safety corridor for must provide for horizontal clearance of at least 6 metres and vertical clearance of at least 5 metres. The turning radius at intersections must be at least 12 metres.

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<sup>28</sup> <https://fairemtl.ca/en/montreal-pied> (in French)

Note that several of the buildings on Avenue McGill College also have entrances on the cross-streets. As such, only the Sainte-Catherine West / De Maisonneuve West section will require a full fire safety corridor. In addition, the Cathcart / Sainte-Catherine West section must include a parking area for emergency vehicles near Rue Cathcart.

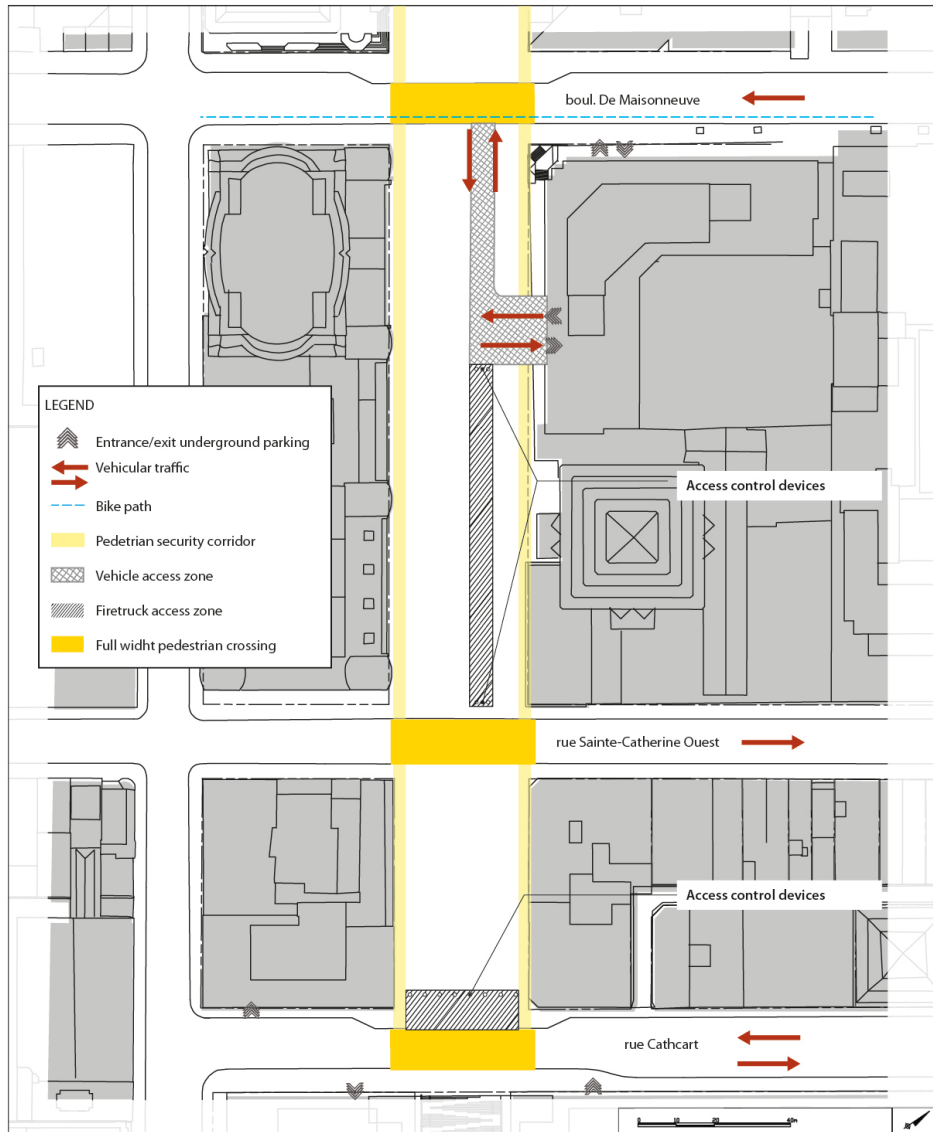


Figure 5.4: Diagram of locations of emergency vehicle access areas. (source: Groupe Rousseau-Lefebvre, 2019)

## 6. Implementation goals

### 6.1. Execution timeline and phasing

This section identifies the two phases of work execution for the entire length of the redesigned Avenue McGill College. Refer to Table 6.1 for the locations of these phases.

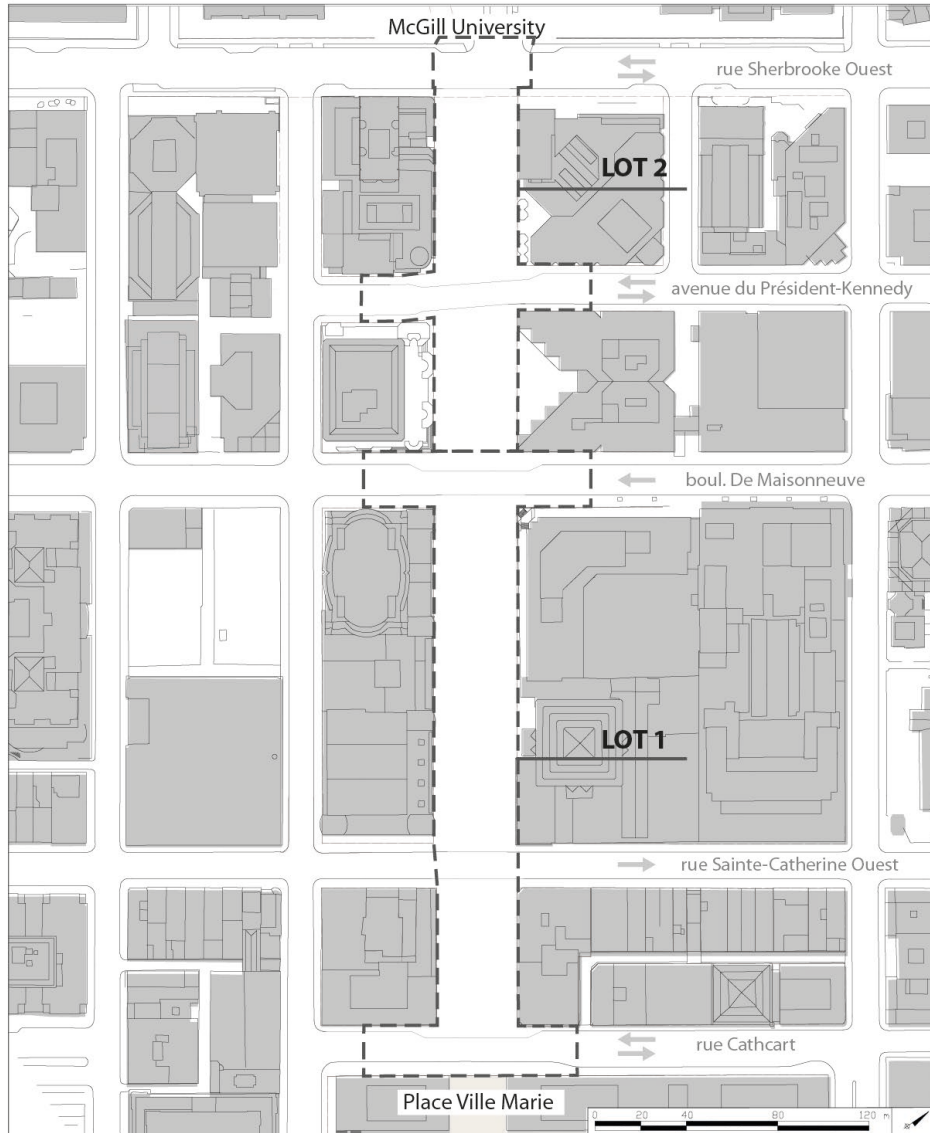


Figure 6.1: Project phases

Construction on Phase 1 will begin upon completion of work on the McGill REM station, scheduled for 2022. The duration of work is estimated at two years per phase, or four years for the entire site. The execution timeline and strategy may be reviewed on the basis of the winning concept or of worksites on the avenue's periphery.

The detailed design of Phase 2 will be executed by another designer.



Phase	Description	Planned date of work
Phase 1	<ul style="list-style-type: none"> <li>▪ Avenue McGill College between Rue Cathcart and Boulevard De Maisonneuve Ouest (spatial planning and infrastructure)</li> <li>▪ Redevelopment of the Cathcart, Sainte-Catherine and De Maisonneuve intersections</li> <li>▪ Design of loading areas on Rue Cathcart and Boulevard De Maisonneuve Ouest</li> </ul>	2023–2024
Phase 2	<ul style="list-style-type: none"> <li>▪ Avenue McGill College between Boulevard De Maisonneuve Ouest and Rue Sherbrooke (spatial planning and infrastructure)</li> <li>▪ Redevelopment of the Président-Kennedy intersection and adjustments to the Sherbrooke intersection</li> <li>▪ Spatial planning of loading areas on Avenue du Président-Kennedy</li> </ul>	2025–2026

Table 2: Execution timeline and phasing

## 6.2. Estimated construction work budget

The description of the estimated budget for construction work is presented in section 1.4 of the Competition Rules.

## 6.3. Risk management and innovation

Establishment of a risk management process over the entire project life cycle (planning, design, construction, and operation) will be part of the competition winner’s mandate.

The design features proposed as part of the competition must, as of now, account for risks (events or conditions) the occurrence of which would have a negative impact on the project goals.

Certain risks, including but not limited to the following, must be considered at the competition stage:

- Scarcity in the supply of a good (materials or products; a good sourced from a sole supplier may push up costs during the construction phase);
  - Favour high-quality goods but also support an open market.
- Innovation in construction principles (innovative construction methods may push up costs during the construction phase);
  - Favour proven construction methods that can be applied by more than one contractor.

## 6.4. Quality monitoring in project design

To maintain the quality of the selected project design throughout the post-competition design process, the Ville de Montréal will establish a guidance committee or panel of design experts<sup>29</sup> for its own guidance in the qualitative appreciation of the project's development. The winner will be required to take part in meetings of this committee at various stages in the design process to report on progress on the project.

## 6.5. Public art integration strategy

Note that the artworks to be incorporated in the Avenue McGill College project will be selected in a public art competition supervised by the Public Art Bureau of the Ville de Montréal. The program of the public art competition will be produced once the development concept is known. This will ensure alignment of the public art goals and requirements with said concept.

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<sup>29</sup> [https://designmontreal.com/sites/designmontreal.com/files/publications/guide\\_des\\_panels\\_bureau\\_du\\_design.pdf](https://designmontreal.com/sites/designmontreal.com/files/publications/guide_des_panels_bureau_du_design.pdf)

## 7. References

### 7.1. Documents available online

- Redevelopment of Avenue McGill College: <https://www.makingmtl.ca/mcgillcollege>
- Redevelopment of Rue Sainte-Catherine Ouest: <https://www.makingmtl.ca/saintecath>
- Public consultation report on the redevelopment of Avenue McGill College (in French). Montréal, Office de consultation publique de Montréal: [http://ocpm.qc.ca/sites/ocpm.qc.ca/files/pdf/P100/rapport\\_reamenagement\\_mcgill\\_college.pdf](http://ocpm.qc.ca/sites/ocpm.qc.ca/files/pdf/P100/rapport_reamenagement_mcgill_college.pdf)

### 7.2. Other references

- Guide d'aménagement durable des rues de Montréal – Fascicule 4 : L'éclairage (Guide to sustainable design for Montréal streets, Booklet 4: Lighting) (in French): [http://ville.montreal.qc.ca/pls/portal/docs/PAGE/TRANSPORTS\\_FR/MEDIA/DOCUMENTS/FASCICULE%204\\_0.PDF](http://ville.montreal.qc.ca/pls/portal/docs/PAGE/TRANSPORTS_FR/MEDIA/DOCUMENTS/FASCICULE%204_0.PDF)
- Guide d'aménagement durable des rues de Montréal – Fascicule 5 : Aménagements piétons universellement accessibles (Guide to sustainable design for Montréal streets, Booklet 5: universally accessible pedestrian design) (in French): <https://ville.montreal.qc.ca/pls/portal/url/ITEM/860A6314C61EB0E2E0530A930132B0E2>
- Municipal Interventions for Universal Accessibility 2019-2020 (in French): <http://ville.montreal.qc.ca/pls/portal/url/ITEM/924E7584E3D220C4E0530A93013220C4>
- The Promenade Fleuve-Montagne: <https://ville.montreal.qc.ca/fleuve-montagne/en>
- Montréal, ville cyclable (Montréal, a city for cycling) (in French): [http://ville.montreal.qc.ca/pls/portal/docs/page/transports\\_fr/media/documents/doc\\_plan\\_cadre\\_velo\\_v8\\_lr.pdf](http://ville.montreal.qc.ca/pls/portal/docs/page/transports_fr/media/documents/doc_plan_cadre_velo_v8_lr.pdf)
- Canopy action plan 2012–2021 (in French): [https://ville.montreal.qc.ca/pls/portal/docs/PAGE/GRANDS\\_PARCS\\_FR/MEDIA/DOCUMENTS/PAC\\_JUIN\\_2012\\_FINAL.PDF](https://ville.montreal.qc.ca/pls/portal/docs/PAGE/GRANDS_PARCS_FR/MEDIA/DOCUMENTS/PAC_JUIN_2012_FINAL.PDF)
- Plan d'action Vision Zéro décès et blessé grave 2019-2020 (Vision Zero action plan against deaths and serious injuries 2019–2020) (in French): <https://ville.montreal.qc.ca/visionzero/documents/vision-zero-ville-de-montreal-2019-2021.pdf>
- Climate Change Adaptation Plan for the Montréal Urban Agglomeration: [http://ville.montreal.qc.ca/pls/portal/docs/PAGE/ENVIRO\\_FR/MEDIA/DOCUMENTS/PACCAM\\_2015-020\\_SUMMARY.PDF](http://ville.montreal.qc.ca/pls/portal/docs/PAGE/ENVIRO_FR/MEDIA/DOCUMENTS/PACCAM_2015-020_SUMMARY.PDF)
- Mont Royal Protection and Enhancement Plan: [http://ville.montreal.qc.ca/portal/page?\\_pageid=2300,39045585&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=2300,39045585&_dad=portal&_schema=PORTAL)

- Sustainable Montréal 2016–2020:  
[http://ville.montreal.qc.ca/pls/portal/docs/page/d\\_durable\\_en/media/documents/plan\\_de\\_dd\\_en\\_lr.pdf](http://ville.montreal.qc.ca/pls/portal/docs/page/d_durable_en/media/documents/plan_de_dd_en_lr.pdf)
- Ville d’hiver : principes et stratégies d’aménagement hivernal du réseau actif d’espaces publics montréalais (Winter city: winter design principles and strategies for Montréal’s network of public spaces) (in French):  
[https://vivreenville.org/media/809652/VEV\\_Mtl\\_ville\\_hiver\\_LR.pdf](https://vivreenville.org/media/809652/VEV_Mtl_ville_hiver_LR.pdf)

Service de l'urbanisme et de la mobilité

Direction de la mobilité