2050 City Vision

Toward a land use and mobility plan

Planning the future together to better our homes, communities and world

Foreword

Building on Montréal's strengths

Cradled by the St. Lawrence River, the Montréal archipelago has always been a hub of commerce and industry on the North American continent. One of the oldest cities in North America, Montréal-Tiohtià:ke is characterized by its heritage and history as the crossroads of a variety of cultures that have shaped and continue to shape it.

Our city is distinguished by its architecture, particularly the Montréal "plexes", and its orthogonal grid, punctuated by founding allotment lines and village cores as well as the more typical grids of the suburbs and former summer cottage areas. It is also distinguished by its topography centred around the top of Mont Royal, and by its views of the river. It has a rich natural, archaeological and built heritage: certain sites and many industrial, institutional and residential buildings are being rehabilitated and renovated to showcase their beauty, history and character. Montréal also has several large parks and unspoilt areas, including riverside parks that offer residents restorative beauty and peace, and an agricultural zone that's still in use.

Montréal is well known for its creativity and culture. It's also a world-renowned city of universities and knowledge, training young people and attracting and developing talent from around the world. Thanks to numerous festivals and sporting, musical and theatrical events, Montréal's lively and diversified downtown sparkles all day and all night throughout the year.

Montréal is a dense city, but with a human-scale urban form, even in its downtown core, which is the largest employment hub in Québec. Its neighbourhoods offer vibrant cultural experiences to their residents, hand in hand with revitalized commercial streets providing a unique experience to passers-by who can sip and taste all the flavours of the world, all the flavours of Montréal.

Our many neighbourhoods have strong personalities. They are known for their rich history and diversity and the variety of habitats they offer, providing Montrealers a choice of lifestyles to suit every stage of their lives. Most of these neighbourhoods are connected to each other by an increasingly extensive, efficient public transit system, interconnected with the metropolitan transit network.

Montréal is also supported by a strong, engaged and proactive social and community support system that strives to assist each and every Montrealer and carries out projects that serve the entire city.

As a result, Montréal evolves, transforms and blooms, drawing on its current strengths to build a brighter future. The COVID-19 pandemic has also led us to think differently about the city and better grasp the importance of the quality of where we live, work and play. So it is that Montrealers will be asked to express their views on the future 2050 Land Use and Mobility Plan, a tool that will replace the 2004 Land Use Plan and the 2008 Transportation Plan, providing continuity while preparing to meet the new challenges of the coming decades.

Table of Contents

Message from the Mayor

An inclusive, attractive and creative city: making Montréal the city we want

It is with great pride that I present to you this proposed vision for the future of Montréal. This vital document will enable you to tell us what you want for your city and involve you in making it happen.

After a year dominated by the pandemic, Montréal is regaining strength. Our metropolis and our downtown remain strong and attractive, and the recovery is underway. Now we can better project ourselves into our desired future.

To me, resilient cities are based on both our determination to take concrete action to make the ecological transition and our commitment to leave no one behind. We are going even further by putting the population and its quality of life at the heart of this vast consultation exercise that will enable us to make Montréal an attractive, inclusive and forward-looking metropolis.

With this city vision and the vast public consultation exercise we are undertaking together, we are laying the foundations of a Montréal where we can all flourish, regardless of our age or income. Cities do not build themselves, and that's why it's important we draw on your experience, your hopes and your needs so that this vision represents our collective aspirations.

Valérie Plante
Mayor of Montréal

Message from the elected officials

Planning land use and mobility as two sides of the same coin, for a city that serves us better

Montréal's Land Use plan dates from 2004, while its Transportation plan dates from 2008. A decade and a half later, we are ready for an in-depth review of these documents that influence our daily lives. The way we move about, the shape and location of the buildings we live in and the spatial organization of citywide facilities and local services are all fundamental elements that are influenced by our land use and transportation plans.

Rather than simply revising these plans, we have chosen to consider urban planning and mobility as a whole. This will allow us to lay the foundations of a quality, well-designed city that contributes to the ecological transition we must make. In concrete terms, this approach will make it possible to plan Montréal living environments where everything we need to grow and flourish can be found within minutes of our homes.

By creating complete, compact living environments, we promote neighbourhood life and make the most of the space our city offers for recreation, learning, cultural experiences, sports, relaxation, nourishment and growth. Everyone wins!

Sophie Mauzerolle
Councillor responsible for urban planning, electrification strategy and public consultations

Éric Alan Caldwell
Councillor responsible for mobility

Message from the City manager

Designing and planning our city calls for a thorough study of mobility, on how we get around. The new city vision calls on us to design our city differently while tackling the major issues of our time, such as climate change and, more recently, COVID-19.

The vision includes ideation work by both city staff and the population, combining expertise with experience on the ground. It fits directly into our Montréal 2030 plan, as a guide map that will give concrete form to the principles of this strategic planning exercise. This is the first step in a longer-term initiative, namely the new land use and mobility plan, which will be integrated with other key elements of our vision for the metropolis, such as the Climate plan.

We want to rethink our neighbourhoods to offer Montrealers a better quality-of-life, greener and more inclusive communities, and more appropriate local services. The city vision is an essential step in laying the groundwork for these transformations and giving Montrealers an urban future that lives up to their aspirations. We're counting on you to contribute to this project and make it your own.

Serge Lamontagne
City manager

Message from the Director

The past year we experienced together has caused us to look differently at the future. We see our personal situation, our environment, our neighbourhood, our city and our planet in a new light.

Having had to react quickly and take actions based on tactical planning, we learned that it is possible to change our practices when necessary and to learn from it.

These events gave us the opportunity to rethink the city and its functioning over the longer term. More than ever, it has become important to place the ecological transition at the heart of our actions and our living environments. We now have an opportunity to reflect on the community we wish to mould for the future. How do we imagine a metropolis renowned for its businesses and institutions, a carbon-neutral city where travel is less stressful and more efficient, neighbourhoods whose urban form is rejuvenated, human-scale public spaces that are enjoyable, revitalized, inclusive, and nature that's an integral part of urban living? How can we achieve all this while evolving at our own pace?

This project proposes a city vision and a road map based on the pathways to transitions we must make in the next few decades. Exploring these pathways will be an opportunity for citizens to express their views on our possible futures. Together, you will have the opportunity to clarify your expectations and determine the pace of this journey into the future. This contribution will be essential to the upcoming creation of a new land use and mobility plan that will establish the framework and rules for building together the better city to which Montrealers aspire.

Luc Gagnon
Director
Service de l'urbanisme et de la mobilité

A call for transformation

Toward the PUM 2050

Montréal will soon be adopting the 2050 Land Use and Mobility Plan (in French, the Plan d'urbanisme et de mobilité or PUM 2050), which will have the following functions:

- Set out Montréal's vision for the city as well as the urban planning and mobility guidelines for the coming years
- Describe how lands and lifestyles may evolve
- Determine land uses and densities
- Provide a framework for the usages and local regulations of each borough
- Propose an action plan.

Working toward that plan, the City Vision sets out Montréal's major intentions in terms of urban planning and mobility. In concrete terms, this helps to lay the groundwork for the upcoming PUM 2050, an innovative document that will integrate these two fields. It will succeed the most recent land use plans (1992-2004) as well as the 2008 transportation plan.

The City Vision presents a set of proposals that the city wants to test and submit to Montrealers. It proposes potential answers to the following questions:

What do we want the city to look like in the future? How do we want it to be organized, designed and built? What should we keep and what should we transform? Under what conditions do we want to move around the city? And how do we want to do it?

Our goal in developing the City Vision is to understand to what extent we are collectively ready and willing to transform our city and change our lifestyles: our ways of living, commuting, entertaining, working, learning, producing and consuming. We are at the point of making individual and collective choices – choices that will shape the Montréal of tomorrow.

The city administration cannot determine the future perspectives of the PUM 2050 alone.

The City Vision is therefore a call to Montrealers to get involved and take part in defining the future of their city.

The proposals described herein are the result of workshops and ideation with civil stakeholders. They are not an end in themselves, as they will continue to be discussed in the coming months. It will then be up to you, the citizens, to express yourselves: *How do you imagine your desired lifestyle in 2050?*

Why choose 2050 as the horizon?

Montréal must become carbon-neutral by 2050 and must plan this ecological transition* now

Scientists agree[1] that global warming is real. The international community has established a do-not-exceed threshold for global temperature increase of +1.5°C (half a degree higher than today). And in order not to exceed this threshold, we will have to plan an ecological transition* and achieve carbon neutrality*.

To meet our international commitments[2], we will have to achieve carbon neutrality* by 2050. To accomplish this, we must collectively have zero impact on the climate. Urban planning and mobility are areas where we can act to achieve this goal, as the majority of our greenhouse gas (GHG) emissions come from transportation (40%) and buildings (28%).

To reach this ultimate goal, concrete actions will have to be taken within the city, such as creating a zero-emission zone* in the downtown core and converting the entire municipal building inventory to zero carbon emissions.

The first major step is to reduce our GHG emissions by at least 55% from 1990 levels by 2030. This step is crucial, because if we don't succeed, Montréal will not be able to become carbon-neutral by 2050.

To make Montréal a carbon-neutral, more resilient* and more inclusive city, it must undergo an ecological transition*. This ecological transition* is not just about the environment.

It proposes a new social and economic model that respects the limits of ecosystems and reduces GHG[3] emissions.

Carbon neutrality* and the ecological transition* imply changing and transforming the way we plan, build and live in our cities.

These transformations must of course involve the city and its boroughs, but also all of their partners: the governments of Québec and Canada as well as institutions, industries, businesses, social stakeholders and the people of Montréal. For carbon neutrality* and the ecological transition* to become reality, we must all make a collective commitment.

Evolving the city takes time

2050 was also chosen as the horizon for the City Vision and the PUM because we need a long-term vision

to guide and support the transformations to be accomplished in Montréal. Many urban planning and mobility

initiatives involve large-scale investments and works that take years or even decades to complete, for example:

- The transformation of Parc Frédéric-Back, located in the Saint-Michel district, began in 1995 and is still ongoing
- Increasing the vitality and attractiveness of downtown Montréal, a project that began with the 1992 Urban Plan, is still underway
- The development of our regional public transit network has been taking place gradually since the 1960s, and continues.

To achieve our ambitions by 2050, we must change our city and opt for more frugal*, resilient* and supportive lifestyles, to improve Montrealers' quality of life and enhance our city's reputation. This implies major changes that will require constant efforts and a lot of time.

Parc Frédéric-Back, borough of Villeray–Saint-Michel–Parc-Extension.

* Words and expressions followed by an asterisk (*) are defined in the glossary at the end of this document.

Seeing urban planning and mobility as a whole

Despite great efforts by public institutions, including the city, urban development and mobility in Montréal continue to be thought of separately. For example, even today:

- Thousands of workers are forced to use their personal vehicles to get to their workplaces because of a lack of other options;
- Many Montrealers have few opportunities to enjoy nature in Montréal because it is difficult to get there on foot or bike or by public transit;
- Many residents are unable to enjoy their street as a living space, since roads have been designed more as a place for vehicle traffic and parking.

We must change how we do things if we are to achieve all the ambitions that Montréal has set for itself. That's why it's important to consider urban planning and mobility together in the City Vision and the PUM 2050.

Develop the city to make it more accessible and change the ways we travel from place to place

Approaching urban planning and mobility as a whole makes it possible to propose a new and better organization. It will be based on improving accessibility within the city and nurturing the health, security and personal growth of all Montrealers.

It will bring together various services and activities, improve the use of streets and other public spaces, and promote sustainable modes of travel.

Focusing on sustainable modes of travel should not be reduced to trading in your gas-powered car for an electric or autonomous car. It's a question of favouring active (walking and cycling), collective and shared transportation, in order to reorganize the city around the people who live there and give them better access to urban resources.

What's more, an integrated approach to urban planning and mobility enables various local situations to be taken into account. Not all neighbourhoods were designed the same way. Each is valued for different reasons and faces different types of urban challenges.

What you told us

"There are so many advantages to living in the city: working about 500 metres from my home, having three grocery stores and a public market within a kilometre, having access to the Botanical Gardens, the Insectarium. It's incredible to have all this culture so close at hand. You never have to leave Hochelaga-Maisonneuve, it really becomes a little cocoon. It really is a village.[4]"

Integrating urban planning and mobility

Thinking of urban planning and mobility as a whole allows us, among other things, to:

- Reduce the distances to be travelled and, at the same time, the need to always use the car
- Support active mobility and public transit
- Continue developing complete, compact living environments, where everything you need to grow and thrive is available within minutes of your home
- Use the streets both as travel routes and as living spaces where you can socialize, have fun, learn, enjoy cultural experiences and sports, relax, eat and drink, and shop
- Promote equity and equality for every Montrealer in terms of access to housing, services and jobs
- Maintain and attract residents and businesses to Montréal, while limiting urban sprawl and the loss of green spaces
- Reimagine transportation infrastructure as development projects that have co-benefits* and add value to neighbourhoods in terms of design and architecture.

Making the most of finite resources

Montréal must adopt a creative sobriety* approach to achieve a desirable future. Not only does the fight against climate change requires limiting the consumption of material and energy resources, but the post-pandemic situation will impose reduced financial resources, so it will be necessary to re-evaluate urban assets in order to find ways to do more with our resources:

- Reducing resources consumed (space, energy, money, etc.)
- Integrating environmental solutions into projects (transportation infrastructures)
- Connecting and networking (mobility and nature)
- Creating co-benefits* (complementary functions)
- Pooling and ensuring a (short and long term) temporal mix* of uses
- Sharing resources (public, private and common)
- Requalifying and restoring (buildings, land, districts).

Putting people and their quality of life at the heart of urban planning and mobility by acting on three scales: the metropolis, the neighbourhood and the building

The City Vision is based on three levels or scales of action: the metropolis, the neighbourhood and the building. Although they are linked to the land, each scale is centred around the human being. Each of them includes proposals that promote respect for all Montrealers' rights and satisfaction of their basic needs: access to adequate housing, quality employment, a variety of businesses and services, healthy food and water, rich cultural and social experiences, and various safe modes of transportation.

The metropolis is the large scale – that of a vibrant, radiant and influential Montréal, in both economic and cultural terms.

The metropolis attracts tourists, businesses and investments and offers Montrealers opportunities that only a large city can provide. The metropolis is also the scale of major issues such as travel between the various boroughs and sectors, major urban projects and infrastructures, natural ecosystems and the implementation of large-scale innovative approaches. Montréal is a metropolis that plays an important role in the greater metropolitan area, in Québec and Canada, and within the network of world cities.

The neighbourhood is the location of daily life, whether it has a residential, commercial, institutional, cultural, industrial or mixed vocation.

This is the scale of local responses to everyday needs (shops, schools, public spaces, sports, recreational and cultural facilities, etc.). It is also a favourite place for meetings and social interactions. A place of heritage, history and culture, the neighbourhood is an anchor and a place of belonging for its residents, who help shape it and make it come alive.

The building (and its surroundings), whether it houses dwellings, businesses, work spaces or community facilities, is the immediate environment of every Montrealer. Buildings are also people's points of departure and arrival and what punctuates their trips through the city. Buildings and their surroundings are a sequence of private and public spaces that form a whole.

Parc Maisonneuve, arrondissement de Rosemont–La-Petite-Patrie

Innovating for 2050 by forecasting

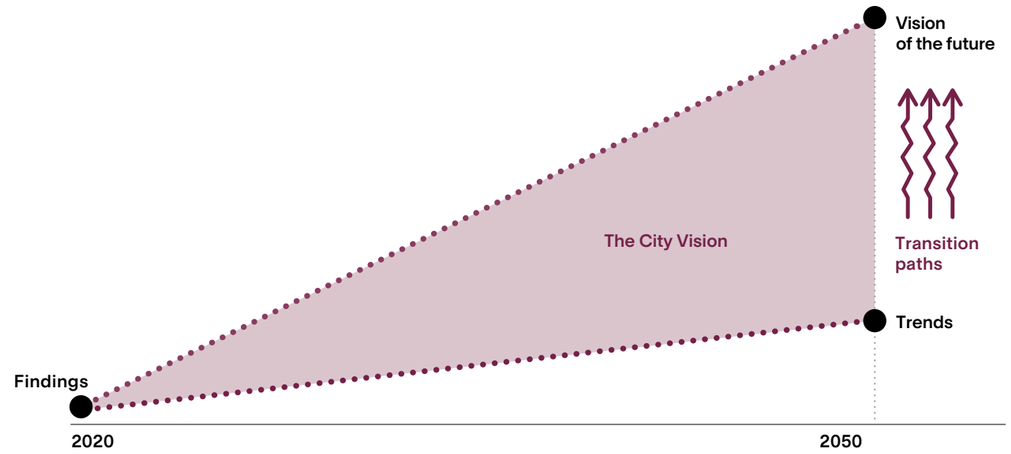
In order to project ourselves into the future, a participatory forecasting process has been carried out. This approach seeks to forecast the future by blending expected changes (climate change, infrastructure deterioration, decrease in available parcels of land, etc.) with surprise disruptions and innovative solutions (new forms of mobility, new uses, new ways of working, new modes of governance, etc.).

Imagining the city in 2050 is a major challenge, particularly in the context of ecological transition*.

Forecasting provides tools to overcome this challenge by putting current knowledge into perspective and addressing little- or un-explored elements that might have a significant impact on the organization of the city of tomorrow.

It's important to imagine the possible futures and paths to get there, since they provide the starting point for collective discussions and choices. This is the participatory dimension of forecasting: becoming aware together of the challenges to be overcome and gathering collective intelligence to find a meeting point between the needs of the future and the lifestyles we desire. If we want our ways of living, moving and developing to become more sober*, resilient* and supportive by 2050, and if our quality of life is to improve, we will have to make individual and collective choices that may sometimes be difficult, though necessary.

Transition paths



Building on work done together

This document is the result of many collaborations. The City did not determine the findings, issues and proposals contained in the report on its own. These collaborations marked the beginning of an ongoing engagement process that will continue until the PUM 2050 comes into effect in 2023.

Bringing forth ideas for the future

In the spring of 2019, the **Rêvons Montréal** (Imagining Montréal) survey process allowed 12,500 citizens to express their opinions on the objectives that the City should prioritize to achieve their dream Montréal of 2030. The vision of the future and the important principles that emerged gave rise to **a 10-year strategic plan that aims to make Montréal a greener and more inclusive city.** The Montréal 2030 strategic plan aims to strengthen the city's economic, social and ecological resilience in order to improve the quality of life of all residents and give us the collective means to meet the challenges of today and tomorrow.

The City Vision is consistent with the future vision of Montréal's 2030 strategic plan and aligned with its four guiding principles:

- Accelerate the ecological transition;*
- Reinforce solidarity, equity and inclusion;
- Amplify democracy and participation;
- Stimulate innovation and creativity.

On this basis, in 2020 and winter 2021, the city conducted and participated in a series of study and ideation workshops[5]. These workshops, which are specific to the PUM 2050 process, helped to develop the proposals presented in the City Vision. Organizations from the social, economic, community, cultural, environmental and institutional sectors were invited to explore the future of Montréal in 2050, seek common solutions to the challenges facing our city and find ways to achieve a desirable future.

Establishing findings and identifying issues

During 2020, an exercise was carried out to draw up a diagnostic portrait to better understand the challenges the Montréal community will have to face in the coming years. In keeping with its commitments, the city has undertaken to analyze the findings and issues raised through the lens of **gender and intersectional analysis (GBA+)** with the help of the Relais-femmes organization. GBA+ helps to better understand the impact of stereotypes and systemic discrimination on people's lives and their relationship with the city.

First, a broad collaborative effort took place within central departments and boroughs in the fall of 2019 to draw up a diagnostic portrait of urban planning and mobility in Montréal and to carry out a review of previous urban planning and transportation plans.

In 2020, this diagnostic portrait was further developed with external partners, who carried out studies to examine subjects of interest in greater depth, such as density[6] (Fahey et associés), transportation demand management[7] (In.SITU research chair, UQAM), demographic projections[8] (Institut de la statistique du Québec) and forward-looking scenarios* (Lab Ville prospective, Université de Montréal). External studies carried out in the context of other initiatives, such as that of the Commission permanente sur le transport et les travaux publics (standing committee on transportation and public works) (*Making a Successful Transition to Sustainable Mobility: How to Move Forward*[9]), were also used.

To complete this exercise, the preparation of a citizen portrait-diagnosis began in the winter of 2020. With the help of the Institut du Nouveau Monde, the city sought to meet with certain population[10] groups not usually present at public participation activities, to understand their needs and expectations in terms of urban planning and mobility as well as their experiences of the city, and draw valuable lessons from this. **This citizen diagnostic portrait was also enriched by public participation exercises carried out in recent years,** in which many Montrealers have expressed their views on the issues they face on a daily basis.

Designing tomorrow's downtown together

A series of co-creation workshops and semi-structured interviews were conducted by the City in March 2021 with socio-economic players to gather their views on the long-term future of downtown Montréal. In this process, we identified the importance given by this group to the following elements:

- Reinforcing economic activities, particularly those in centres of excellence and sectors with future prospects, by relying on a strong higher education network
- Taking into account citizen concerns in decisions concerning the future of the downtown area
- The brand image of the city centre and its international influence, based on its position at the forefront of the ecological transition
- The concept of the city as a place of experimentation, innovation and creativity for start-ups and others
- A reinvented experience in public spaces, offices, shops and service establishments, notably through urban animation initiatives and the mixing of functions
- Sustainable mobility as a pillar of the city centre of tomorrow, to develop resilience to climate hazards.

The results of this consultation process will serve as a foundation for the vision of downtown development in years to come, particularly when it comes to updating the Downtown Strategy. They are already stimulating the reflections and proposals of the City Vision for this strategic and emblematic area.

2018 Griffintown parks discussion evening, Sud-Ouest borough

How can you get involved?

Have your say on the City Vision

The city has mandated the Office de consultation publique de Montréal (OCPM) to hold a public consultation on this document. The goals of the consultation are to debate the elements of the vision, discuss the challenges to be overcome and shed light on collective ideas for solutions. This consultation is an opportunity to better understand what Montrealers want for their city and how far we are prepared to go. Throughout this document, various questions are addressed to you.

These questions are the basis for the discussions and choices we will have to make together.

Developing the content of the PUM 2050

After consulting the public on the City Vision, the city will refine the document and integrate it into the PUM 2050.

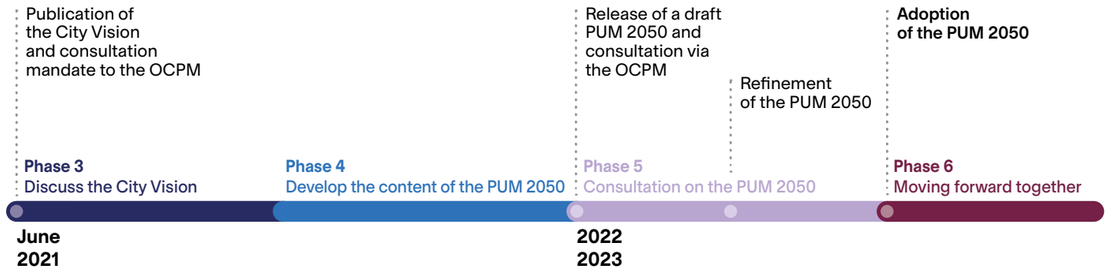
Among other things, we will translate the vision of the future presented in the City Vision into concrete measures (specific objectives, projects, vocations, permitted uses and planned densities for the various parts of the city, regulatory frameworks for the boroughs, etc.)

The city will not do this work alone and will seek the assistance of experts in land use planning and mobility. Other participation activities with citizens and stakeholders will be organized. This exercise will allow all Montrealers to define, shape and influence the content of the PUM 2050 during its drafting.

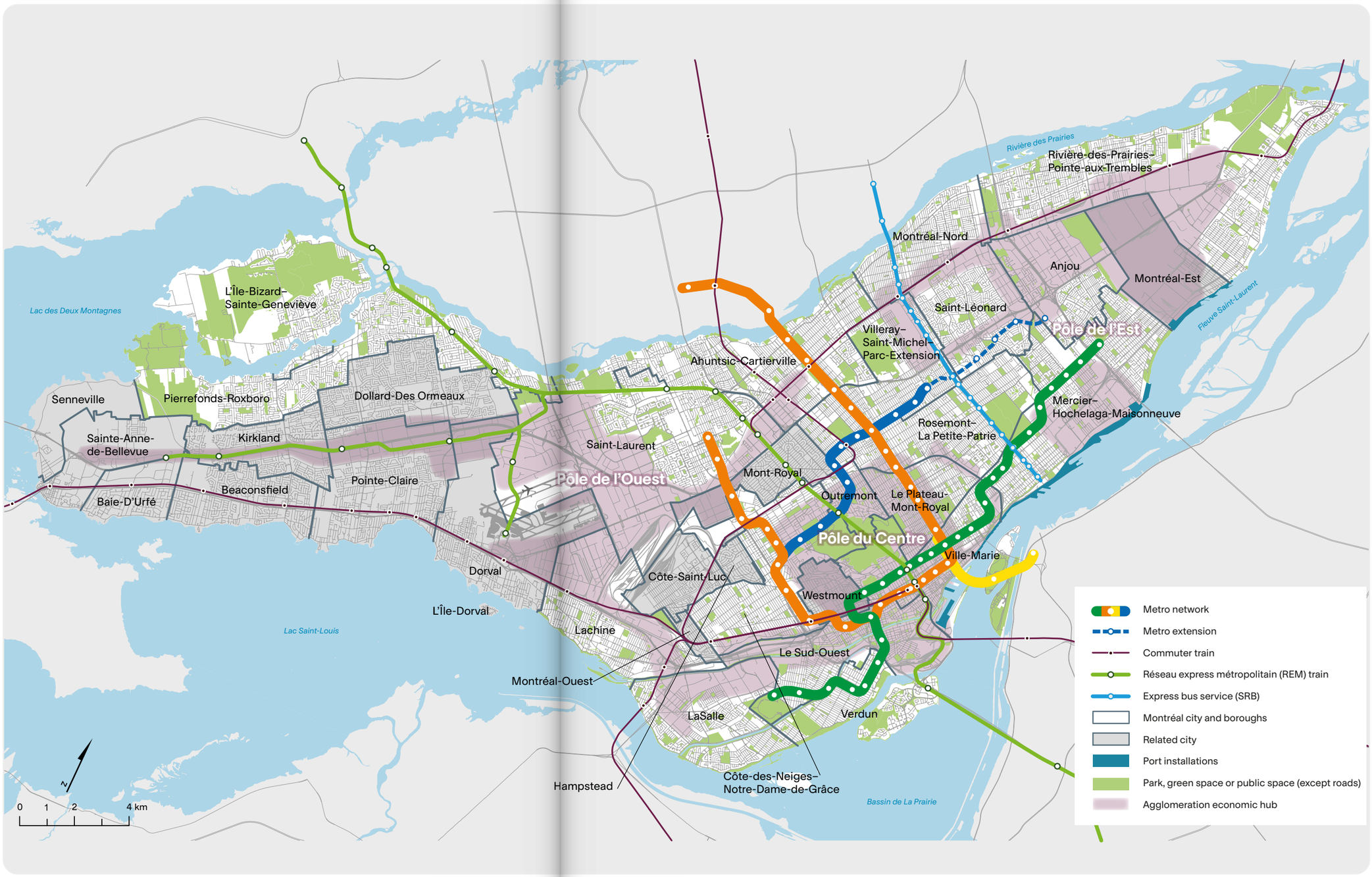
Validating the PUM 2050

In compliance with the *Charter of Ville de Montréal, metropolis of Québec and the Act Respecting Land Use Planning and Development (the LAU)*, the municipal council will adopt a preliminary version of the PUM 2050 and will ask the OCPM to hold a public consultation to find out what Montrealers think of the document.

The results of this consultation will be taken into consideration by the municipal council and, if necessary, the council will make changes to the PUM 2050 before adopting the final version[11].



Base map


Lac des Deux Montagnes
Rivière des Prairies
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Lac Saint-Louis
Bassin de La Prairie
L'Île-Bizard–
Sainte-Geneviève
Senneville
Pierrefonds-Roxboro
Dollard-Des Ormeaux
Sainte-Anne-
de-Bellevue
Kirkland
Pointe-Claire
Baie-D'Urfé
Beaconsfield
Dorval
L'Île-Dorval
Lachine
Montréal-Ouest
Hampstead
Saint-Laurent
Ahuntsic-Cartierville
Pôle de l'Ouest
Montréal-Nord
Rivière-des-Prairies–
Pointe-aux-Trembles
Anjou
Montréal-Est
Saint-Léonard
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Villeray–
Saint-Michel–
Parc-Extension
Mercier–
Hochelaga-Maisonneuve
Rosemont–
La Petite-Patrie
Mont-Royal
Outremont
Le Plateau-
Mont-Royal
Pôle du Centre
Ville-Marie
Côte-Saint-Luc
Westmount
Le Sud-Ouest
LaSalle
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Côte-des-Neiges–
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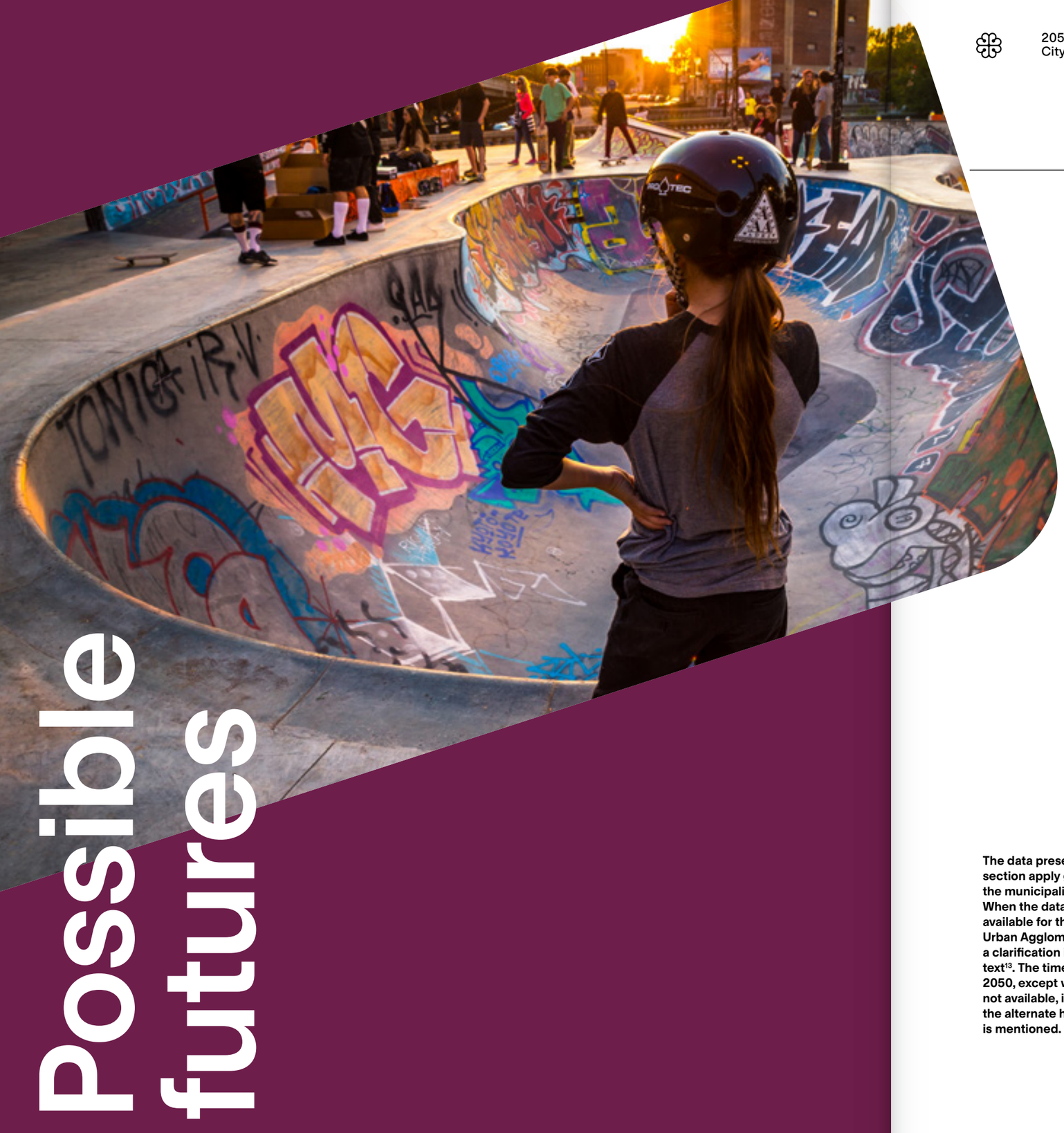
Montréal city and boroughs
Related city
Port installations
Park, green space or public space (except roads)
Agglomeration economic hub



Possible futures

This section discusses key trends based on our current reading and future forecast[12] of the city's situation to help present possible futures. This approach, which recognizes that the future is not crystal clear, helps us to collectively imagine the Montréal of 2050. Some of these key trends contribute to the achievement of municipal objectives, while others do not and will need to be adjusted. In this way, we can more easily grasp the magnitude of the "pathways to transition" we must take and we are better equipped to understand the scope and implications of the vision elements presented in the next section.

Sept dimensions sont développées, soit :

- The population
- The climate and the environment
- Social inequities
- Mobility
- Activities
- Urban forms and land uses
- Governance.

Each dimension includes:

- **Ingredients of the future –** key findings and trends giving more or less strong, more or less positive, sometimes contradictory indications, but which could be decisive for the future. Their combinations allow us to explore the possible futures of our society
- **Issues to be resolved together –** important points of tension and unresolved questions on collective priorities, which will have to be arbitrated to determine our transition paths to the future
- **Benchmarks for collective action –** items that will need to be acted upon to achieve the elements of the vision.

The data presented in this section apply generally for the municipality of Montréal. When the data are only available for the Montréal Urban Agglomeration area, a clarification is made in the text[13]. The time horizon is 2050, except where data is not available, in which case the alternate horizon is mentioned.

The population

What the future holds

A significant increase in Montréal's population by 2050

The population of the Montréal municipality could reach 2,109,000 people in 2050, an increase of 388,000 people compared to 2016 (+23%)[14], and will be heavily concentrated in the centre of the island. The creation of 182,000 households is also anticipated during the same period (+23%)[15].

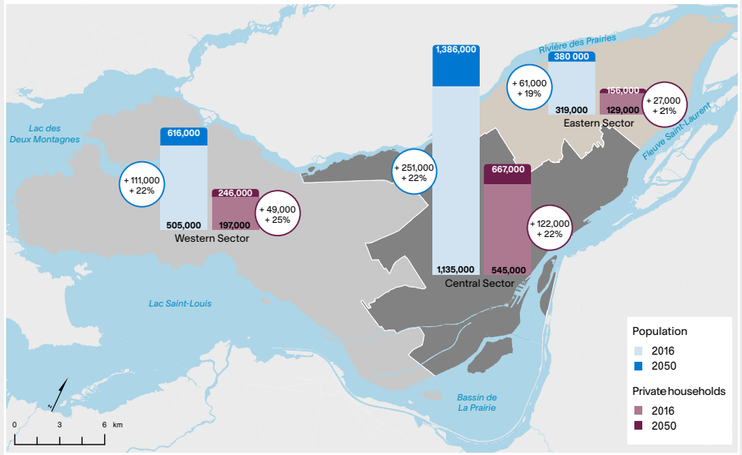
Population growth stimulated by international immigration, but held back by intra-provincial migration

For several decades, international immigration has been the main source of demographic growth in the Montréal agglomeration[16].

This trend is expected to continue in the future[17], but it could be influenced by several factors, including the possible arrival of populations displaced by the impacts of climate change[18].

Year after year, statistics on net migration within the province show a net annual loss of households in Montréal, mainly to the suburbs. Although the largest cohort of people leaving Montréal is made up of people aged 25 to 34, only one-third of the households leaving Montréal are family households[19].

Projected growth of the population and private households, 2016-2050 CLSC area groupings, Montréal agglomeration



Population

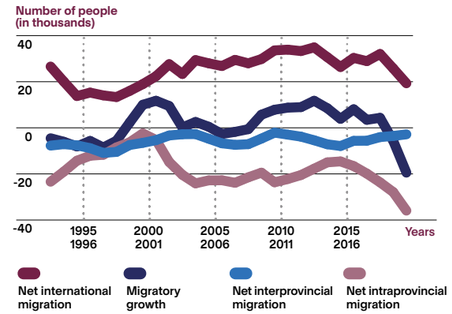
	2016	2050	Variation
Agglomeration	1,959,000	2,382,000	+ 423,000 (+22%)
Ville de Montréal	1,721,000	2,109,000	+ 388,000 (+23%)

Private households

	2016	2050	Variation
Agglomeration	871,000	1,069,000	+ 198,000 (+23%)
Ville de Montréal	780,000	963,000	+ 182,000 (+23%)

Institut de la statistique du Québec, Customized scenarios for the City of Montréal, base scenario, March 16, 2020.

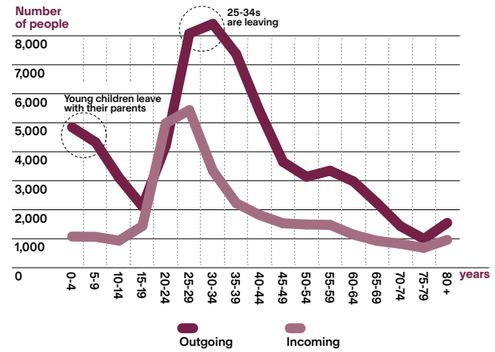
Migration growth in the Montréal agglomeration, 1992-1993 to 2019-2020.



Institut de la statistique du Québec

For several decades, net intraprovincial migration has dragged down the total migratory increase in the agglomeration, with more Montrealers leaving the island for another region of Québec than entering from the rest of the province.

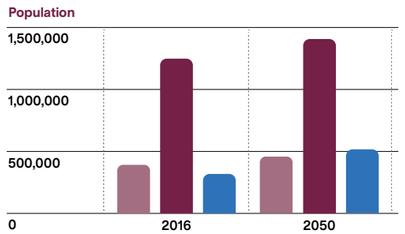
Intra-provincial in-migrants and out-migrants by age group, 2019-2020.



Institut de la statistique du Québec

With the exception of the 20-24 age group, the number leaving exceeds the number arriving in all age groups. The largest cohort of people leaving Montréal is made up of people aged 25 to 34.

Population change by major age groups, municipality of Montréal, 2016-2050.

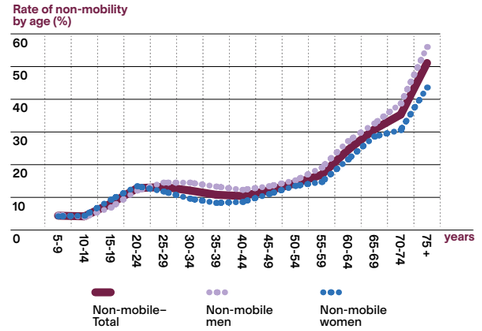


	2016	2050
Ages 0-19	340,200	405,700
Ages 20-64	1 110,200	1 258,800
Ages 65+	270,400	444,100

Institut de la statistique du Québec, Customized scenarios for the City of Montréal, base scenario, March 16, 2020.

By 2050, there will be more people aged 65 and over in Montréal than there will be young people under 20. While the 0-19 age group will grow by 19% between 2016 and 2050, the 65+ age group will grow by 64%.

Non-mobility by age, Montréal agglomeration, 2013.



2013 OD Montréal study (version 13.2d). Analysis: Ville de Montréal

Mobility tends to decrease as people get older. Due to population aging, the proportion of mobile people could decrease by 2050.

A foreseeable increase in the need for services and facilities

The increase in the number of households will have a direct impact on the need for new housing, as well as on the need for community facilities and local public spaces.

If the demographic projections become reality, in 2050, the Montréal agglomeration will have 26,000 more children aged 5 to 12 than in 2016. This increase represents the equivalent of several dozen additional schools and would require increased adapted services and an increase in the supply of family housing[20].

A substantial increase in the number of trips and vehicles on the road

Population growth could generate an additional 700,000 daily trips in the urban area by 2036[21], which would put considerable pressure on transportation networks, particularly in the centre of the island.

Without a significant reduction in household motorization, the projected growth in the number of households could add a significant number of cars to the road network[22].

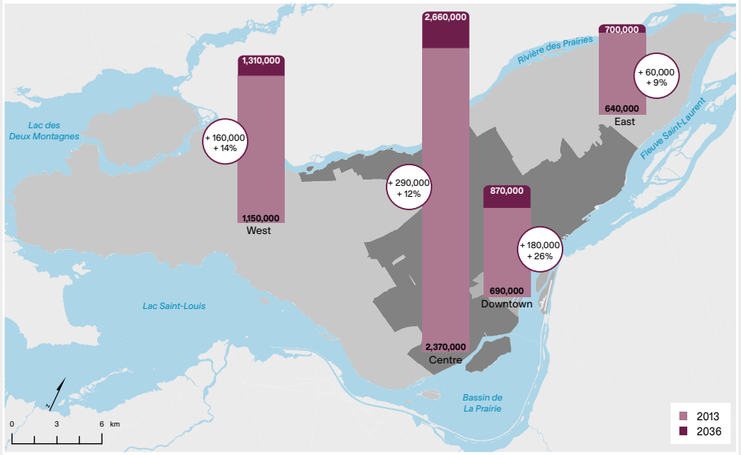
An unprecedented increase in the number of elderly people, with implications for urban planning and mobility

The aging of Montréal's population is a major trend, characterized by an unprecedented increase in the number of people aged 65 and over by 2050, who will then outnumber young people under 20.

In total, almost half of the projected population growth by 2050 (45%) is expected to be in the 65+ age group.

The aging population will increasingly be reflected in housing, service and mobility needs, preferences and consumer choices.

Change in daily trip volumes to the Montréal metropolitan area, 2013-2036 (all reasons, all modes, 24 hours)



Projection
Montréal urban agglomeration

2013	2036	Variation
4,850,000	5,540,000	+ 690,000 (+ 14%)

2013 OD Montréal study (version 13.2d) and Montréal Trend forecast scenario 2013-2036 (v1 May 2017).
Analysis: Ville de Montréal

Rue Laurier, borough of Outremont

A question to resolve together

How can we reconcile the expected growth in population and the resulting needs with the need to be more sober* in the use of resources, particularly land and financial resources?

Benchmarks for collective actions

Act on an adequate housing supply †

Act on an adequate mobility offer †

Act on an adequate supply † of local public spaces

Act on an adequate supply † of shops, services and facilities

† while considering accessibility, location, quality and quantity.

What you told us

"The aging of the population is a trend that many have highlighted. For these people, this trend should encourage the city to systematically take into account universal accessibility in the design of public spaces and to design more inclusive public participation processes at the earliest stages of these projects[23]."

The climate and the environment

What the future holds

A probable slowing in the reduction of greenhouse gases (GHG)

The road transportation sector accounted for 30% of the community's emissions in 2015 and buildings accounted for 28%[24]. The increase in household motorization and trips is likely to lead to an increase in GHG emissions and air pollutants.

To reduce transportation-related GHG emissions, transport electrification and the implementation of charging infrastructure and zero-emission zones* are among the growing and emerging trends. However, some solutions may be accompanied by rebound effects that must be taken into account.

The trend away from fuel oil, which generates GHGs, is expected to continue over the next few years.

GHG reductions in the buildings sector will depend primarily on measures taken to convert existing buildings to renewable energy, since Montréal is already largely built-up.

A Montréal affected by climate change

The effects of climate change are affecting populations and ecosystems around the world, and Montréal is no exception. In fact, six climate hazards* have been identified for which impacts are being or likely will be exacerbated: increasing average temperatures, heavy rainfall, heat waves, destructive storms (wind, hail, snow and freezing rain), drought and flooding.

Climate change impacts both natural and built environments, the population, the economy and municipal operations. The pressure exerted on certain facilities affects the city's ability to offer services and forces it to make specific adaptations.

Ecosystem-friendly business models[25]

Interest in the circular economy* is growing. This concept aims to rethink means of production, consumption and recovery so as to reduce consumption of resources, protect the ecosystems that generate them and optimize the use of goods that already circulate in society.

The circular economy* could become a cornerstone principle for the spatial organization of Montréal's industrial and residential sectors.

The growing interest in local purchasing and production, including food production, could expand and help consolidate the local economy, while reducing dependence on external markets and GHG emissions.

The rebound effect

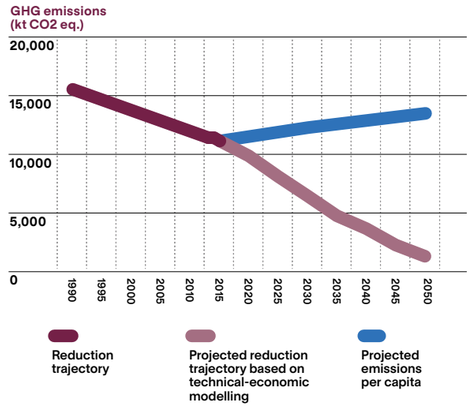
"Rebound effect" is intended to describe "the mechanism by which the greater energy efficiency or better environmental performance of goods, equipment and services leads to an outsized increase in their use. The overall result is greater consumption of energy and resources, and increased pressure on the environment[26]. For example, transportation electrification has rebound effects such as increased energy consumption as well as battery manufacturing and recycling. It does not address some of the issues that remain, such as traffic congestion and safety, and land use for traffic and parking. The rebound effects must be identified and dealt with to ensure that the changes introduced really do contribute to the ecological transition*.

The fight against climate change, a global issue

Indirect GHG emissions, i.e. those that do not result directly from activities carried out within the city, but rather from consumption choices and behaviours that result in GHG emissions elsewhere in the world, are often underestimated (resource extraction, manufacturing and international transport of imported products such as cars, electronic equipment, food and clothing).

In Québec, as elsewhere in the world, measuring the overall carbon footprint of a product or activity, i.e. over the entire "life cycle", remains a challenge, but its monitoring in certain European countries shows a gap that can be considerable. As a result, the effort required to reduce GHG emissions could be much greater than currently estimated.

GHG emission trajectory, Montréal urban agglomeration, 1990-2050.



Based on technical and economic modelling of GHG emissions reduction

GHG emissions growth in Montréal

From 1990 to 2015, GHG emissions in the Montréal community decreased by 28%[27]. In terms of per capita intensity, the decline was 35% over the same period. These significant gains could point to a naturally favourable progression in years to come. However, projections made on behalf of the city show that, if no new measures are implemented to ensure the GHG reduction trajectory continues, progress made to date could prove difficult to maintain in the future, as the agglomeration's population is expected to increase by 23% from 2016 to 2050. To continue reducing GHG emissions in Montréal, all sectors of the Montréal community will have to contribute: the city, the population, businesses, civil society and institutional partners

Climate hazards and their impacts*

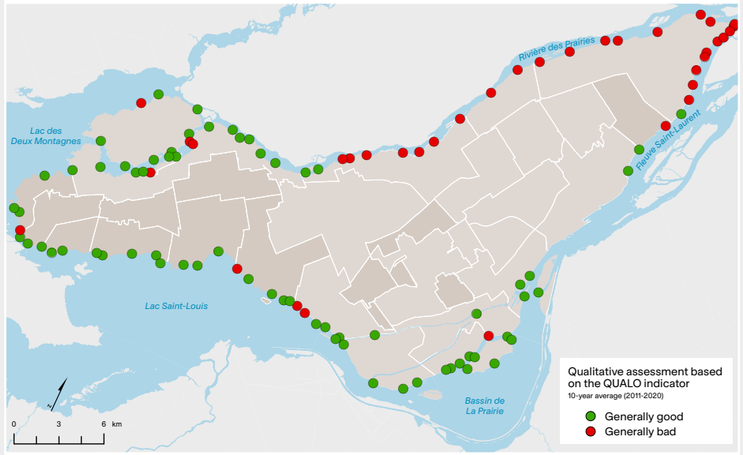
1. More intense rainfall causing sewer backups
2. More frequent storms damaging infrastructures
3. More frequent and prolonged heat waves that inconvenience the population
4. More frequent freeze-thaw events that degrade concrete and asphalt infrastructures
5. Longer summer droughts that cause damage to buildings in clay soils
6. Flooding that could increase in frequency and intensity

**Source : Ouranos, Cities and adaptation to climate change. Online fact sheet, undated. Retrieved 2021 ouranos.ca and Ville de Montréal, 2015-2020 Montréal Urban Agglomeration Plan for Adaptation to Climate Change, overview version, 2017 edition. portail-m4s.s3.montreal.ca*

Measures for adapting to climate change

1. Rainwater directed to resilient water squares
2. Green infrastructure that collects rainwater
3. Greenery on roofs and on the ground to reduce heat effects
4. Infrastructure that is more resistant to freeze-thaw events and destructive storms
5. Natural soils that absorb more water
6. Shorelines and buildings less vulnerable to flooding

Shoreline water quality for direct-contact water uses



City of Montréal

QUALO is a shoreline bacteriological water quality sampling program conducted at 103 measuring stations over a 20-week period each year. In order for a station to obtain QUALO approval (or certification) annually, it must meet the following two conditions: the geometric mean of all results must not exceed 200 COLI (fecal coliforms, in colony-forming units or CFU's per 100 ml) and no more than 10% of the samples may exceed 400 COLI. In this map, the qualitative rating "Generally Good" therefore means that the station has received QUALO certification five or more years out of ten.

Environmental status reports that could be improved

Since 2002, air quality in Montréal has improved overall[28]: the number of days with poor air quality and the number of smog days have decreased annually.

The situation with regard to shoreline water quality appears to have been relatively stable since the early 2000s. However, the unitary sewer system still occasionally overflows into waterways during heavy rainfalls.

Access to the water depends on its quality

Water quality is generally poorer in the Rivière des Prairies from the north-central part of the island to the eastern tip, as well as in the St. Lawrence River from Valois Bay (Pointe-Claire) east to the Lachine Canal and in the easternmost section of the island.

Improving access to the water depends in part on improving its quality.

A question to resolve together

How can we change our lifestyles to take part in the ecological transition* and meet the population's essential needs?

Benchmarks for collective actions

Act on the energy performance of buildings and the conversion to clean and renewable energy

Act on low and zero emission transportation modes

Act on using sustainable modes of transportation (travel habits)

Act on the consolidation of living environments and the proximity of services and facilities

Act on greening and the canopy*

Act on green infrastructures* and the city's resilience*

Act on water and air quality and protecting ecosystems

Act on production and consumption methods that respect resources and ecosystems

Place du Marché, Sud-Ouest borough.

Social inequalities

What the future holds

Persistent and growing social inequalities and differentiated needs

Social inequalities affect different aspects of people's lives, including health, education, employment, environment, housing and mobility.

In 2016, in Montréal:

- Nearly 320,000 people were living below the poverty line, about one in five (19.2%)[29].
- Nearly 111,000 households (14.2%) have urgent need[30] of housing. Of these households, more than 90% are renters. That's one in five Montréal tenant households.
- 235,000 people (13.6%) were food insecure, or one in eight[31].

People living in poverty are most often immigrants (39%) and identify themselves as belonging to a visible minority (46%), particularly Black or Arab[32].
The reality of people in poverty is not homogeneous. The notion of intersectionality, whereby discrimination is cumulative and reinforcing, allows us to redefine and deepen our understanding of social inequalities.

A feeling of vulnerability that could limit access to services and public spaces

The design of community facilities and public spaces, which can create and exacerbate social inequalities as well as inequalities between men, women and non-binary people, has an impact on people's sense of security.

Sensitive to the issue of gender inequality since the 1990s, Montréal has been developing tools and carrying out projects to develop public places and facilities that improve mobility and security for all.

Some cities around the world have developed a gender mainstream approach to planning to take into account the diverse needs of women in urban planning.

Other cities use a human rights-based approach. The latter recognizes "that inequality and marginalization deprive people of their basic rights and keep them in poverty[33]".

Feeling unsafe in public spaces

In Montréal, Indigenous people, racialized people and immigrants, especially women, face more discrimination than the general population, especially in the search for employment, as well as in public spaces and public transit. In 2017, a brief from the Conseil des Montréalaises' (Montréal women's council) pointed out that feeling unsafe in public places leads women to adopt "avoidance and self-protection strategies that consist of avoiding any potential danger, by staying at home at night, for example, or by limiting the places frequented and the means of transportation used."

The sense of urban insecurity restricts women's right to move freely and engage in activities in public spaces: "The public spaces where they experience the most harassment are streets, parks and public transit facilities (platforms, corridors, Metro cars, buses, bus stops)[34]."

Territorial inequalities that increase the vulnerability of people experiencing poverty and exclusion

Poverty is still very present in the inner city. However, there are new, smaller areas (pockets) of poverty that are further from the centre of the agglomeration, scattered across the metropolitan area.

Difficulty in finding affordable housing has an effect on people with average or modest incomes. They often have no choice but to become poorer, accept inadequate housing conditions or move further and further away from where they work and belong[35].

Housing insecurity, such as overcrowding and hidden homelessness, is a significant phenomenon in Montréal. As a sign of this precariousness, more tents have been set up in public spaces.

The absence of universally accessible facilities limits the independence and social participation of people with physical limitations. In addition to the health and safety impacts associated with this lack people in this situation are more likely to live in housing located in more isolated neighbourhoods, which limits their daily travel. Despite the progress made, the efforts needed to make the city accessible to all people in all places and at all times remain very important.

With the exception of the road network, which allows access to the entire city by motor vehicle, there are major territorial disparities in terms of pedestrian, bicycle and public transit networks.

More than 200,000 dwellings, 40% of which are in disadvantaged areas[36], are not located near public transit providing average 10-minute service[37].

Households with modest incomes are overall less likely to be motorized than better-off households[38] and are more likely to walk and use public transit, despite sometimes unfavourable conditions[39].

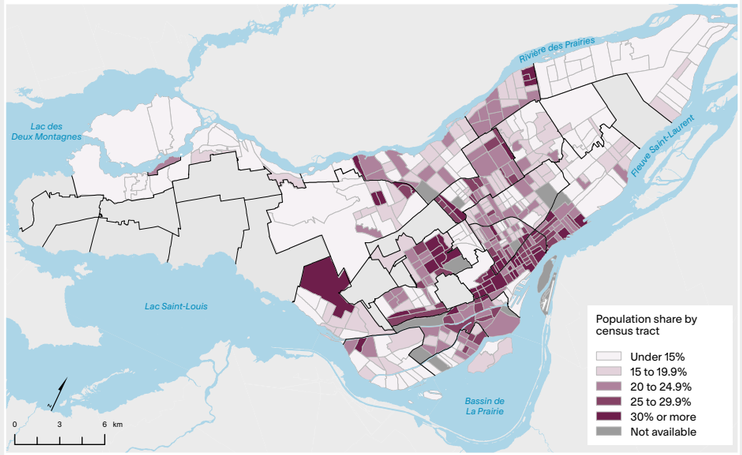
People experiencing poverty and exclusion are more subject to environmental inequalities, and are likely to be even more so in the future

Low-income people, racialized people and immigrants are more likely to live in substandard and overcrowded housing, in heat islands and near transportation infrastructure (express lanes, highways, airports, etc.). They are therefore more exposed to noise and air pollution and to effects of climate change such as heat waves.

Indigenous people, immigrants and racialized people have more barriers to finding employment and adequate housing, and are therefore more vulnerable to future upheavals.

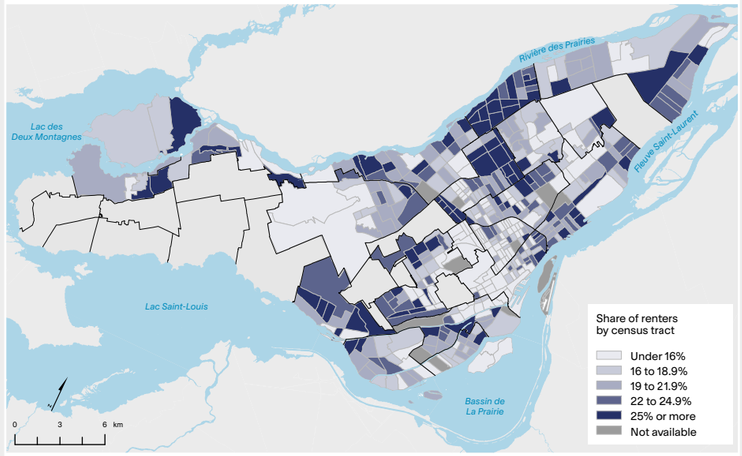
People experiencing health problems, mobility impairments, social isolation or homelessness are more vulnerable to disasters (floods, heat waves and pandemics), especially if their homes and neighbourhoods are not designed for them.

Share of the population living below the low-income cut-off based on the Market Basket Measure (MBM), 2015, Montréal urban agglomeration



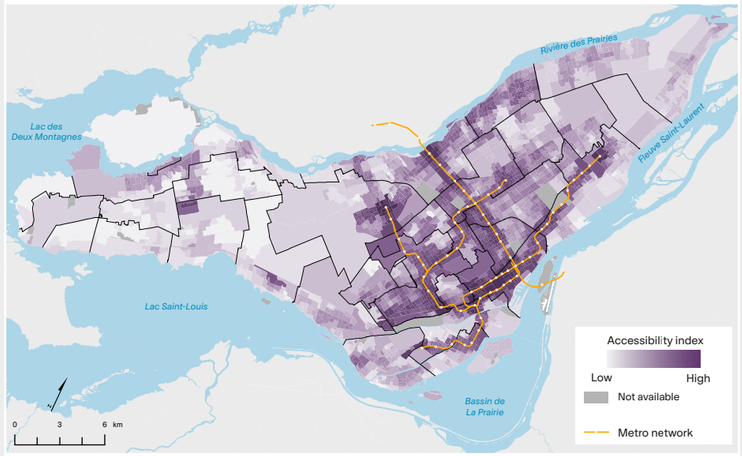
Statistics Canada - 2016 Census

Share of tenant households with urgent housing needs, 2016, municipality of Montréal



Statistics Canada - 2016 Census

Accessibility to public transit



2020 Tax Roll; STM (2018 GTFS data); Statistics Canada - 2016 Census. Analysis: Ville de Montréal

Questions to resolve together

How can we improve Montrealers' access to essential urban resources (mobility, jobs, businesses, services, facilities, etc.) when material, human and financial resources are limited and are not the city's sole responsibility?

How can we make sure the ecological transition* will benefit everyone and reduce inequities?

Benchmarks for collective actions

Act on the distribution and accessibility of essential urban resources

Act on the affordability and quality of housing

Act on security and the sense of security

Act on universal access to living environments

Act on the ability of communities to adapt to and resist shocks and stresses (resilience*)

Act on the environmental quality of living environments

GBA+

The notion of intersectionality allows for a better understanding of the impact of stereotypes and systemic discrimination on people's lives and their relationship to the city. Gender-based analysis from an intersectional perspective (GBA+) is an approach that is currently being tested by Montréal.

Its adoption and perpetuation in urban planning and mobility could expand and redefine planning approaches, processes and targets.

Urban resources

These resources include the opportunities, services and facilities available to the population in a given area. The notion of urban resources is mainly related to daily needs. Examples of everyday urban resources include local shops, educational facilities, places of employment, transit systems and parks.

The assessment of urban resources generally concerns their accessibility, from a social* and territorial* equity perspective.

Mobility

What the future holds

Transit networks under high demand

There has been great interest in the development of public transit systems for several years, in response to a sharp increase in ridership over the past 20 years, particularly in the core of the agglomeration.

The number of passenger trips in the agglomeration should increase for all times of day. A more pronounced increase in off-peak daytime travel is expected to result in increased demand for additional mobility services during this period[40].

The extension of metropolitan public transit networks, without the development of additional services in the centre of the agglomeration, could contribute to increased pressure on existing networks in the heart of Montréal.

The increase in the movement of goods (due in particular to demographic and economic growth, foreign and electronic trade, etc.) will contribute to increasing the demand on transit networks and could exacerbate certain issues of cohabitation, security and the sharing of public spaces.

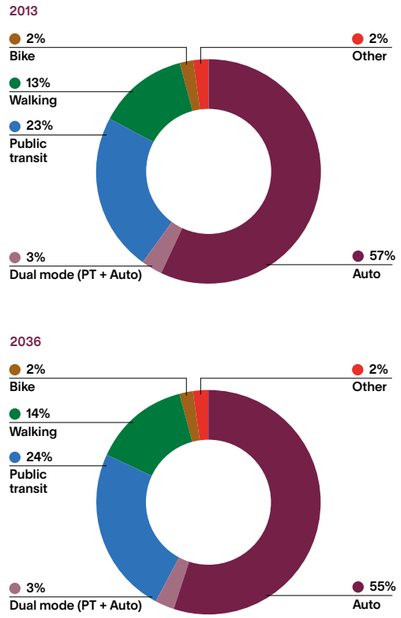
Changes in travel patterns insufficient to counter the increase in car travel

Despite the efforts made in recent years to develop public and active transportation, projections indicate that the modal share of the automobile in 2036 could remain essentially the same as in 2013, which would result in an increase in automobile trips[41].

Major investments in public transit, but still insufficient to bring about major changes in travel habits

The development of public transit networks is the subject of major investments by the provincial and federal governments, and by new players in mobility. Nevertheless, these investments are still insufficient to achieve the metropolitan target for the modal share of public transit (35% in 2031)[42].

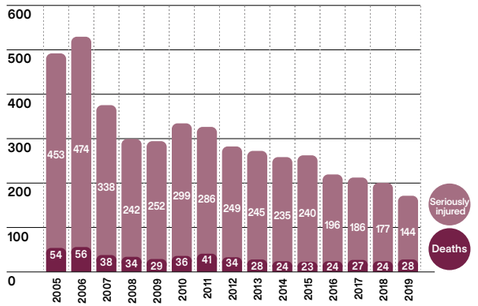
Change in modal shares, 2013-2036, Montréal metropolitan area (all modes, 24 hours without return home)



2013 OD Montréal study (version 13.2d) and Montréal Trend forecast scenario 2013-2036 (v1 May 2017). Analysis: Ville de Montréal

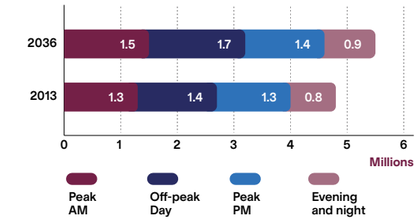
Total number of fatalities and serious injuries – Montréal urban agglomeration

(for the network under the responsibility of the SPVM).



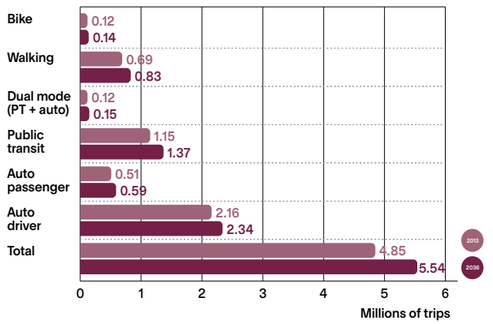
Ville de Montréal (2020). 2019 State of Road Safety report. Summary of road events and Year 1 activity report for the 2019-2021 Vision Zero Action Plan.

Change in the number of trips by time of day, 2013-2036, Montréal urban agglomeration



2013 OD Montréal study (version 13.2d) and Montréal Trend forecast scenario 2013-2036 (v1 May 2017). Analysis: Ville de Montréal

Changes in the number of trips by mode of transportation, 2013-2036, Montréal metropolitan area (all modes, 24 h)



2013 OD Montréal study (version 13.2d) and Montréal Trend forecast scenario 2013-2036 (v1 May 2017). Analysis: Ville de Montréal

A continuous increase in household motorization and vehicle size

With the exception of a slight decrease in the downtown area from 2013 to 2018, household motorization in the Montréal urban agglomeration is increasing in all sectors.

The Montréal-area car fleet is changing: the car is rapidly being replaced by the light truck[43], a larger and less fuel-efficient vehicle[44].

Ways of getting around increasingly influenced by technology

Certain cultural and technological transformations are contributing to altering people's relationships with mobility. It is now possible to better plan and adapt one's journey, stops and meetings, and to choose the best mode or modes of travel.

The qualities (social, experiential, economic, etc.) of the journey are improved and can become as important as the destination[45]. In the future, people could expect to have greater access to mobility that provides a positive, low-emission, equitable experience without rebound effects.

The development of connected, automated vehicles could constitute a technological breakthrough and significantly change the future mobility of people and goods (safety, accessibility, mobility conditions, vehicle fleets, use of public spaces, etc.).

A gradual improvement in safety and the sense of security while on the move

The number of fatal and serious injury collisions on Montréal streets has improved overall over the past 15 years. However, the reduction in the number of deaths has stagnated in recent years and the decrease in serious injuries has slowed.

There is growing interest in cycling, but safety and the sense of security need to be improved to increase the modal share of active mobility for all trips.

Soft modes are increasingly popular and require a redistribution of public spaces

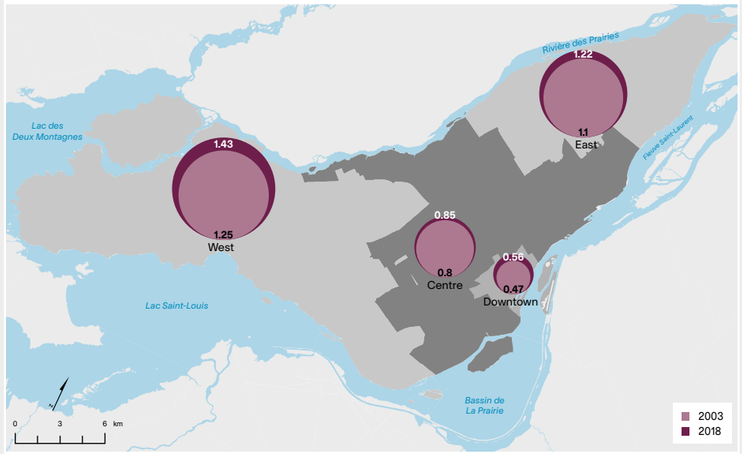
Walking and cycling are becoming increasingly important modes of travel, especially in dense urban areas, which leads to a re-evaluation of the dominant place of motorized vehicles (moving and parked) in public spaces. In Montréal, 74% of road space is used primarily by motor vehicles, 19% by walking, 1% by bicycles and 1% by public transit47 (see table on p. 48).

Consideration of the safety of vulnerable users and the negative impacts of private vehicle traffic and parking on access to the street has greatly increased. In recent years, a series of traffic calming measures have been implemented across the city.
The need to continue this approach is clear as the benefits to the community become more and more tangible. However, it does not seem to be sufficient to ensure safe and user-friendly active mobility conditions throughout the city in the medium term, especially for vulnerable users.

The growing recognition of cycling as a mode of transportation in its own right is accompanied by a recent concern for the accessibility of the network in all seasons, as well as its adaptation to the needs of users in terms of comfort and sense of security.

Sharing individual means of transportation is a growing practice, particularly with bicycles and cars. Recent initiatives point to the possibility of diversifying business models and the players involved (public and private sectors, NPOs, commons*, mixed).

Evolution of the household motorization and vehicle rate from 2003-2018, Montréal urban agglomeration



Number of cars per household
Montréal urban agglomeration

2003	2018	Variation
0.93	1.01	+ 0.08

OD Montréal surveys 2003, 2008, 2013, 2018. Analysis: Ville de Montréal

What you told us

"The bike paths are not at all pleasant, unlike Lachine And Pointe-Claire, which have nice ones. Riding a bike to the college is unbearable and dangerous. You'd have to cross Boulevard Saint-Charles, it's dangerous and on top of that, you can't see the road markings, no lane separation, no bike lane. The sidewalks are not wide, no pedestrian crossings. So biking, it's a big NO[46]"

Vision Zero

Montréal applies Vision Zero within its boundaries. This approach, first adopted by Sweden and later by several major cities around the world, is based on the principle that it is unacceptable for people to be killed or seriously injured while travelling on the road network.

The Vision Zero approach aims to create the conditions for safe mobility in the city.

Making room for soft mobility

Soft mobility is mobility on a human scale. Whether it's to transport a package, for sport, to take the kids to school, go to work, buy groceries or just go for a walk, travel should be rich in opportunities and low in negative impacts (insecurity, space consumption, pollution, GHGs, etc.). Promoting soft mobility means recognizing the primacy of pedestrians, making walking and cycling facilities basic components of the street, and choosing carbon-reduced motorized modes of transport for people and goods that are adapted to neighbourhoods.

By increasing the space for people and vehicles with low negative impact on the environment, and then reducing the speeds, mass and size of the modes of transport, we are making mobility softer, more compatible with urban life.

Distribution of road space by mode and borough

Borough	Auto	Public transit	Bike	Pedestrians
Ahuntsic-Cartierville	73.2%	1.4%	1.2%	19.0%
Anjou	76.8%	0.5%	1.1%	16.2%
Côte-des-Neiges–Notre-Dame-de-Grâce	73.5%	0.7%	1.8%	20.3%
Lachine	76.2%	0.0%	0.1%	19.5%
LaSalle	77.9%	1.2%	0.9%	15.5%
Le Plateau-Mont-Royal	63.2%	1.3%	2.5%	28.7%
Le Sud-Ouest	67.1%	1.2%	1.2%	25.8%
L'Île-Bizard–Sainte-Geneviève	88.6%	0.0%	0.6%	3.7%
Mercier–Hochelaga-Maisonneuve	72.9%	0.6%	1.4%	20.8%
Montréal-Nord	74.5%	2.7%	0.4%	18.0%
Outremont	71.4%	0.0%	1.2%	22.8%
Pierrefonds-Roxboro	87.9%	0.3%	0.6%	6.2%
Rivière-des-Prairies–Pointe-aux-Trembles	77.6%	0.7%	1.2%	15.0%
Rosemont–La Petite-Patrie	65.5%	1.4%	2.5%	26.3%
Saint-Laurent	75.6%	1.1%	2.0%	14.4%
Saint-Léonard	78.4%	0.8%	0.3%	17.1%
Verdun	72.1%	0.1%	1.0%	20.9%
Ville-Marie	66.1%	1.3%	1.5%	22.0%
Villeray–Saint-Michel–Parc-Extension	69.4%	2.2%	1.3%	23.2%
City	73.8%	1.0%	1.3%	18.8%

Source: Lefebvre-Ropars, G., Morency, C. and Negron-Poblete, P. (2021) Caractérisation du partage de la voirie à Montréal: Research note, Polytechnique Montréal, 15 pages. polymtl.ca/mobilite/publications

What you told us

"The initiatives taken by the boroughs, especially Le Plateau-Mont-Royal, to ease traffic (curb extensions, traffic reorganization, etc.) were praised by several participants for their contribution to the safety and user-friendliness of active transportation. According to these people, such measures should be extended beyond the central and more affluent neighbourhoods: "Why are residents of a disadvantaged area more likely to be injured while walking or cycling[48]?"

A question to resolve together

Can we reduce dependence on high-environmental-impact modes of transportation (e.g. solo cars) without reducing people's access to essential urban resources (jobs, services, equipment, emergency services, etc.)?

Benchmarks for collective actions

Act to rebalance the functions of the street, especially in favour of soft mobility

Act on access to the city and all the opportunities it offers

Act on the quality of the mobility experience: safety, sense of security, well-being, opportunities

Act on car ownership, its use and immobilization

Act on alternatives to the automobile

Act on the efficiency and environmental footprint of urban logistics*

Act on the supply of parking, particularly in public spaces

Boulevard Gouin, borough of Rivière-des-Prairies–Pointe-aux-Trembles

Activities

What the future holds

A relative deconcentration of employment at the metropolitan scale, which increases travel distances

Although the number of jobs created in the Montréal urban agglomeration has increased in recent decades, the agglomeration's share of metropolitan employment has declined to the benefit of other sectors in the metropolitan region[49].

This spatial deconcentration of employment has been accompanied by an increase in distances travelled by the workforce, greater use of the automobile, and an increased organizational complexity of public transit services. This trend may slow in the future due to a more rapidly aging population off the island of Montréal.

The development of teleworking (working online from home or elsewhere) could also change the location choices of households and businesses in the metropolitan region. The reduced need for mobility due to teleworking may encourage households to move further away from the employer's workplace.

Changing forms of work organization that evolve and redefine the location of jobs

Increased teleworking and reduced occupation of office space by employers are trends that have been accelerated by the pandemic. Although the future extent of telework remains uncertain, a hybrid model of work organization is expected to be common in some industries[50] and the adaptation of office space for flexible use is expected to continue. Forms of work organization are becoming increasingly varied and flexible. They are characterized by a multiplication of workplaces for the same job (home, office, third place) and by the use of non-traditional places such as public spaces, shops, libraries and shared work spaces.

As a result, mobility patterns are changing and diversifying (reduced travel, travel at atypical times, etc.).

The rise of e-commerce, a trend that is transforming business and mobility

The pandemic has greatly accelerated the development of e-commerce, both for consumers and businesses.

Online transactions, which place local and foreign retailers in direct competition, may intensify in the future as new consumer habits take root.

This phenomenon poses additional challenges for local businesses, which must adapt accordingly and which play an important role in the vitality of neighbourhoods.

With e-commerce comes increased truck traffic in local neighbourhoods. Future growth of this type of commerce will continue to increase this traffic, as well as that surrounding major intermodal platforms, especially Montréal-Trudeau International Airport (through the increased demand for air transport) and the Port of Montréal.

Innovative functional mixes that could reorganize activities

Montréal is a city where the mix of activities is particularly noticeable in certain sectors. The forecasting process leads us to consider the possibility that the traditional vocations of a location will gradually give way to a mix of uses and functions. In the future, this temporal mix*, which focuses on optimizing the site and adapting it to the needs of citizens, could be further pursued. This could include, for example, extending the hours of operation of public facilities, providing better bus services at night, or designing buildings whose uses can be more easily changed, in whole or in part, for short or long periods.

New production and manufacturing activities are developing in Montréal, introducing or reintroducing these functions into the urban fabric. This productive mix takes the form, for example, of agricultural businesses[51], which are set up in urban areas in a non-traditional way, notably in buildings or in greenhouses on rooftops, and third places* for collaborative manufacturing.

Development practices that improve urban resilience*, such as green roofs, ecological corridors and other green infrastructure*, are being implemented in Montréal. These resilient* mixed use forms emphasize the services provided by natural infrastructures*. Elsewhere in the world, attempts are also being made to redevelop former industrial areas in order to find new areas of economic development with strong environmental benefits.

Technological changes that could transform business

The trend toward the use of algorithms[52] to guide everyday activities could grow and transform people's behaviour and the way things function in the city (trips, housing, jobs, leisure, use of devices, etc.). The transparency with which the operating rules for algorithms are determined and the ability of the population to participate in this technological evolution could influence democracy and participation, as well as access to urban resources.

Diversifying lifestyles

Montrealers tend to live alone: 41% of households are one-person households, making them the most common type. This kind of household is expected to increase in the future as the population ages[54].

Montréal's community is diverse and increasingly lives at different rhythms, both day and night, which suggests a corresponding adaptation of the city's form and organization.

There are many different ways of living (alone, in a shared apartment, with a part-time blended family, etc.), which could lead to the development of collective housing (e.g., intergenerational housing, housing cooperatives, cohabitation).

Meeting places are being reinvented and new collective spaces ("third places") are being created.

Public spaces are being used more and more, in more and more varied ways.

Design initiatives celebrating winter living in public spaces are developing.

Montrealers are more concerned about environmental issues[55] and are changing certain consumption practices. This trend could grow to influence all spheres of daily life.

What you told us

"The emergence of collaborative and non-market spaces, the support of the social economy through financial assistance and the granting of dedicated premises and buildings by the city are developments that have been welcomed by many. The emergence of this diversity of spaces open to the social and community world, with a view to supporting innovation for the benefit of the community, is an achievement that must be further exploited in the coming years[56]."

A question to resolve together

How can we reconcile the reorganization of everyday activities and the acceleration of changes necessary for the ecological transition with the slow evolution of urban form?

Benchmarks for collective actions

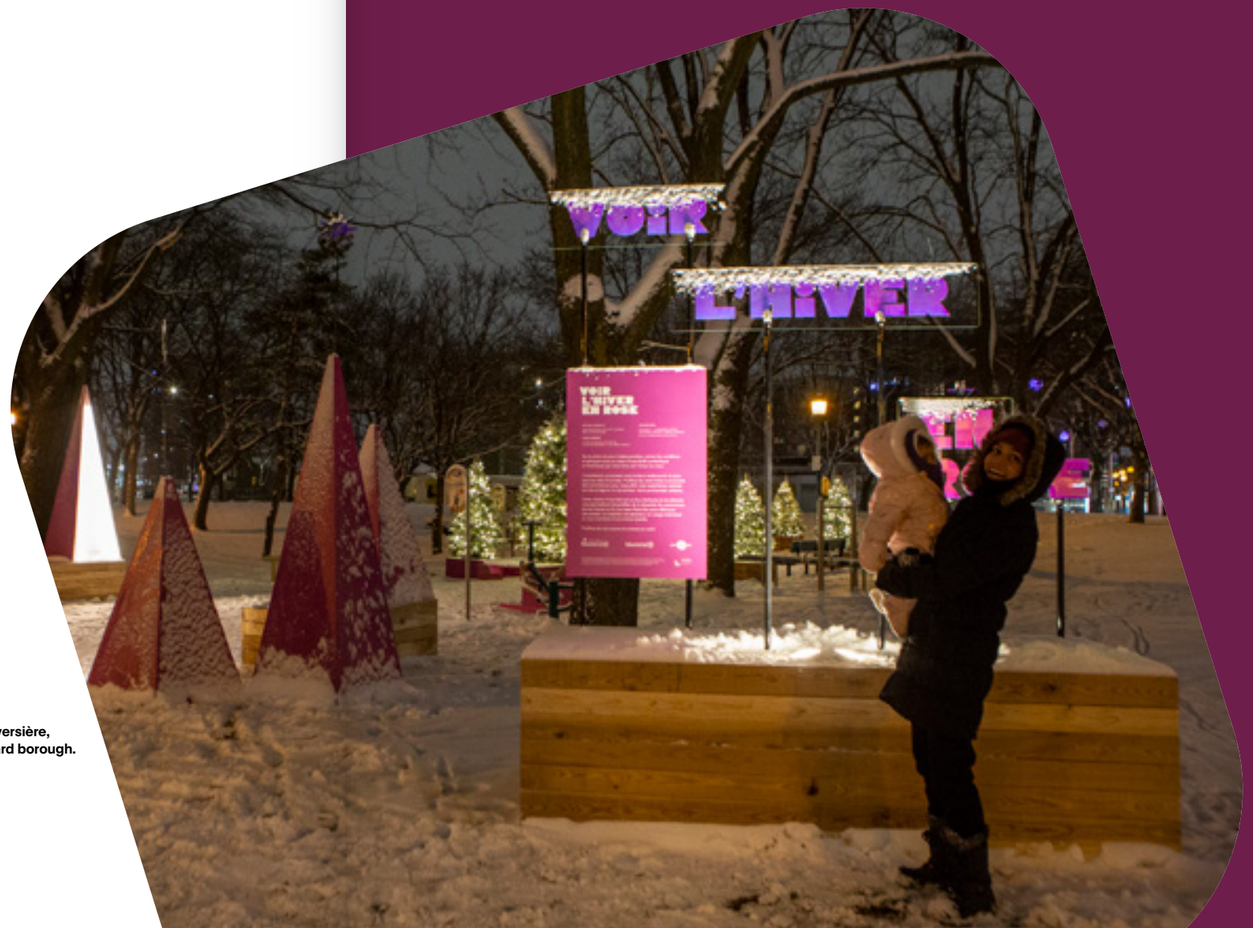
Act on the attractiveness and location of economic activities

Act on the flexibility of functions and uses and the use of public and private spaces during the day (day, night), the year (season) and their life cycle

Act on raising household awareness of the benefits and impacts of consumption choices

Act on the diversification of urban services and facilities

Act on the ethical and fair oversight of algorithms



Parc Ladauversière, Saint-Léonard borough.

Urban forms and land uses

What the future holds

A trend toward compactness that redefines land use patterns

The densification* of Montréal[57] and the metropolitan region has been taking place for several years and will continue to do so, mainly because of increased demand for housing and the scarcity of land.

Densification* in existing neighbourhoods puts pressure on community facilities (schools, swimming pools, sports centres, parks, libraries, cultural centres, etc.), which in some neighbourhoods are already insufficient to meet current needs.

The strength of the real estate market has led to a renewal of the built environment and characteristics distinctive of Montréal, particularly in certain sectors, while putting pressure on buildings of heritage interest, thus posing challenges for their long-term protection.

New, more compact and environmentally friendly development models are emerging in redeveloping areas. Land use is maximized and space is freed up for other uses, such as green space or active transportation links.

Technoparc, borough of Saint-Laurent.

The scarcity and rising cost of real estate could become more pronounced

Over the past few decades, Montréal has been able to redevelop large areas that were abandoned, such as the banks of the Lachine Canal.

The supply of land available for development is decreasing throughout the city, but markedly so in the centre. The remaining land is often burdened with significant constraints (contamination, lack of accessibility, lack of infrastructure, etc.).

The scarcity of land and rising construction costs are putting upward pressure on real estate prices, especially residential properties. In the central districts in particular, this situation creates pressure to increase the height of buildings and reduce the size of dwellings in order to maximize the buildable area and the achievable benefits.

The trend of rising land costs is putting pressure on some existing buildings, particularly heritage and landmark buildings. Creating viable projects while preserving heritage is a challenge.

Mutualization* and increased versatility of community facilities are increasingly desired in a context of land and resource scarcity.

A foreseeable increase in the need for digital infrastructure

The smart city of tomorrow will be based on the connectivity of people and of objects. As connectivity increases, so will the need for physical digital infrastructure and equipment (e.g., fibre optic networks, data centres, multiple sensors).

Changes in average surface area and prices per square foot New condominium* – Downtown

	2015, 3rd quarter		2020, 3rd quarter	
Typology	Surface (ft²)	Price** per ft²	Surface (ft²)	Price** per ft²
Studio	456	447	361	749
1 BR	629	427	561	659
2 BR	980	463	904	637

* Les copropriétés ont représenté 56 % des mises en chantier entre 2016 et 2019.
** Prix avant taxes, non ajusté pour l'inflation.

Changes in average surface area and prices per square foot New condominium* – Rest of the island

	2015, 3rd quarter		2020, 3rd quarter	
Typology	Surface (ft²)	Price** per ft²	Surface (ft²)	Price** per ft²
1 BR	703	294	642	437
2 BR	991	291	989	413
3 BR	1377	299	1361	443

* Condominiums accounted for 56% of housing starts between 2016 and 2019.
** Price before taxes, not adjusted for inflation.

Source : Altus Group Condo Tool – Downtown and Island of Montréal – 3rd quarter 2020 edition.

In five years, the cost per square foot has increased significantly in the downtown area (from almost 60% for a studio to about 72% for a 2-bedroom unit). This increase has occurred in parallel with a significant decrease in the size of dwellings, particularly for studio and one-bedroom units. In the rest of the island of Montréal, the per-square-foot price increase is more marked.

Wetland in the Parc nature du Bois-de-L'île-Bizard, borough of L'Île-Bizard-Sainte-Geneviève.

Natural habitats that continue to disappear despite conservation efforts

Since 2004, the protected land area of the agglomeration has doubled to reach 6.35% in 2020. Despite these major conservation efforts, losses of natural environments have been noted[58].

The general rise in land costs is leading to higher costs for acquiring natural areas for conservation purposes.

The Grand parc de l'Ouest project has the potential to protect some 3,000 hectares of natural areas and thus become the largest municipal park in Canada.

Protection of natural environments and land acquisition

Land acquisition by the municipality is the most common way to protect natural environments and expand large parks. This entails significant expenditures. From 2004 to 2018, the City invested $73 million in accordance with its agglomeration powers to acquire nearly 328 hectares of natural (undeveloped) lands.

In 2019 alone, $83 million was spent to acquire 175 hectares.

Questions to resolve together

How can we combine the increasingly dense built environment with the preservation of open space, in a context of growing needs and scarcity of land?

How can we reconcile the need for densification*, the desire to protect a diverse built heritage and landscapes, and the social acceptability and viability of projects?

Benchmarks for collective actions

Act on land and property management

Act on structuring land use and urban form

Act on protection of the built heritage

Act on the complementarity and mutualization* of public facilities

Act on the urban integration of digital equipment and infrastructures

Act on the protection of natural environments, renaturalization and increase of biodiversity

What you told us

"Directly related to the issue of housing affordability, many people expressed their fear of real estate speculation associated with the construction of new public transit infrastructures. The sudden accessibility of lands that are currently out of the way raises fears of increased pressure on property prices and rents, forcing the initial community to move further away, undertake longer and more complex daily commutes and, more generally, fears their quality of life will be altered[59]"

Governance

What the future holds

Governance that is increasingly participatory, but which needs to further empower citizens and civil society

Already well equipped with consultative bodies (OCPM, municipal standing committees, etc.), Montréal is relying more and more on consultation with stakeholders (workshops, early-stage consultations, pedestrian and shared streets program, governance for the Louvain East and Lachine East projects, etc.).

Citizen participation is increasingly valued by Montréal authorities and is becoming a must in development projects. However, it remains often more consultative than participatory. Moreover, invoking these processes means accommodating the availability of citizens, which varies according to their situation.

It has been observed that racialized, Indigenous and immigrant people are under-represented in existing consultation mechanisms.

The technological tools used by the city make it easier to reach certain people, particularly youth. However, these tools may exclude others, including people with limited technological skills or access to a computer or smartphone.

Cargo bike sharing at Place Boyer, borough of Rosemont–La Petite-Patrie

New forms of governance that challenge the traditional roles and competences of public players and that could become more widespread

Public players have limited financial means and capacity for action and coordination to create sustainable spatial planning and mobility. The investments required for the development and maintenance of social* and affordable* housing, public transit, community facilities are colossal. Current financing tools do not meet all the needs.

More and more initiatives and projects led by citizens' groups, organizations and private businesses are emerging in the community and challenging the traditional competencies of public and para-public institutions[60].

The commons* system is developing and could expand.

It offers a third way, between the public and the private sector, which can be a vehicle for innovation for cities, particularly in terms of access to housing and quality food for all, the living environment and new low-carbon local mobility.

Governance of natural resources through the recognition of the “rights of nature” is an emerging trend. Many ecosystems are being granted legal personality in order to respond to ecological challenges and to protect them from various industrial and human threats.

Companies, and particularly the GAFAMs[61], are increasing their influence in smart city projects.

A trend toward accelerated privatization of the city and a weakening of transparency and local democracy could gain momentum. Increasing concerns about the use of big data

The explosion of big data and prospects linked to the development of artificial intelligence bring great opportunities for innovation for the city but raise growing concerns about security and ethics related to the use of data collected in urban spaces. These concerns include data protection, preservation of privacy and the sense of freedom, consent to use, control of the digital footprint, and usage and transparency of purpose. **Increasingly participatory governance, which does not always empower citizen and stakeholder actions**

What you told us

"The increase in the number of green alleys has been seen by many as a step forward in improving the physical environment of certain sectors of Montréal. It encourages citizens to take ownership of their living environment and act on it, as well as creating a stronger and more vibrant social bond at the block level[62].”

A desire for reconciliation with Indigenous peoples and to combat discrimination that will influence the way cities are planned and developed

Many Canadian and world cities recognize the past, present and future presence of Indigenous peoples and emphasize respect for the rights of these peoples. The ensuing reconciliation movement has invoked various strategies, some of which involve land use planning. This has led to rethinking the processes of collaboration and design of development projects, with a focus on co-creation and the reintegration of neglected indigenous history and knowledge.

There is increased awareness in the field of urban planning with regards to the effects of discrimination on development. In the future, the identification of social inequities may further guide project governance.

The Strategy for Reconciliation with the Indigenous Peoples, which aims in particular to recognize and value Indigenous knowledge, combined with increased environmental concern among the population, could encourage a shift toward different actions in the city.

A question to resolve together

How can we transform governance and open it up to a diverse group of players so as to better meet collective needs?

Benchmarks for collective actions

Act on collective engagement

Act on understanding digital tools and the ability to derive useful information from data

Act on managing the smart city

Act on new forms of governance and decision-making processes

Act on inclusive and participatory urban planning approaches

Public participation activity at the Centre William-Hingston. Borough of Villeray–Saint-Michel–Parc-Extension.

Transition paths

It is our collective actions that will allow one **future to** take shape rather than another. We must therefore ask ourselves how we can adapt Montréal to create a desirable future that is aligned with our objectives of social* and territorial* equity, the fight against climate change, adaptation* to climate change and quality of life.

Taking into account the seven dimensions presented above and their influence on land use planning and city lifestyles, this section lays out the context for the **pathways to transitions** that Montréal must take over the next few decades, in other words, the major changes that we must make for our desired vision of the future to become reality. These transitions are situated at three different levels or scales (the metropolis, the district and the building) which place the human being at the centre of the actions. **Each transition path presents the current situation in a few key findings, the elements of a vision of the desirable future and the challenges to be met in order to achieve it.** These pathways do not claim to cover everything, because the future must be imagined by all of us together.

The transition will be made up of a combination of actions that we are already doing, but which must be accelerated or generalized; actions that we intend to do in the short term and which must be supported with confidence; and also actions of an experimental nature, which must be imagined, tested and evaluated in order to further the search for solutions to major and urgent challenges.

In order for this vision to become a reality, all the players must mobilize in search of a new equilibrium. Significant investments will need to be made based on a common frame of reference. Governance will have to be improved and sometimes even reinvented.

Three scales on which to imagine the city

The illustrations on the following pages present some proposals which translate the transition paths into interventions on three scales: the metropolis, the district and the building. Each of these proposals aims to strengthen Montréal's assets while imagining the city of 2050. Other combinations are possible. It's up to you to suggest them!

Montréal, Québec's metropolis

Montréal can capitalize on its many assets to evolve and adapt in the context of the ecological transition*.

Exceptional natural beauty within an archipelago, close to the water and numerous unspoilt green spaces, particularly Montréal's emblematic Mont Royal.

Its topography and its original allotment (land grant) lines, which frame its urban fabric and the city's spatial organization.

A cultural vitality that sets it apart internationally, with a vibrant arts scene; a city of events and shows, a recognized archaeological and cultural heritage, and a unique architecture.

A diversified economy and a significant share of the jobs in the metropolitan region and in Québec.

A relatively efficient public transit system, which provides strategic access to the heart of the metropolis, a dynamic, diverse and populated area. Montréal can capitalize on its many assets to evolve and adapt in the context of the ecological transition*.

Montréal neighbourhoods

A cultural mosaic, Montréal is the sum of its diverse neighbourhoods. Depending on the period of construction and the influence of the various communities that have settled in Montréal, Montréal neighbourhoods have their own distinctive dynamics.

Distinctive architecture, from heritage buildings in Old Montréal to Montréal plexes, churches and old village centres (Sainte-Geneviève, Pointe-aux-Trembles, etc.).

In many neighbourhoods, neighbourhood squares or a central site, interesting assets to build upon.

In many neighbourhoods, a residential density and a functional mix that optimize short trips and municipal services.

Well-established community social organizations that support the population and complement public services.

A vast network of cultural, sports and school facilities (libraries, cultural centres, museums, swimming pools, sports centres, schools, etc.).

Montréal's built environment

The buildings and their surroundings form the space of daily life, where people live, work and play. Residents expect healthy, safe and high quality built and living environments for themselves and their households. Montréal's urban form offers great opportunities to facilitate the ecological transition* and inclusion, and to improve the quality of the living environment.

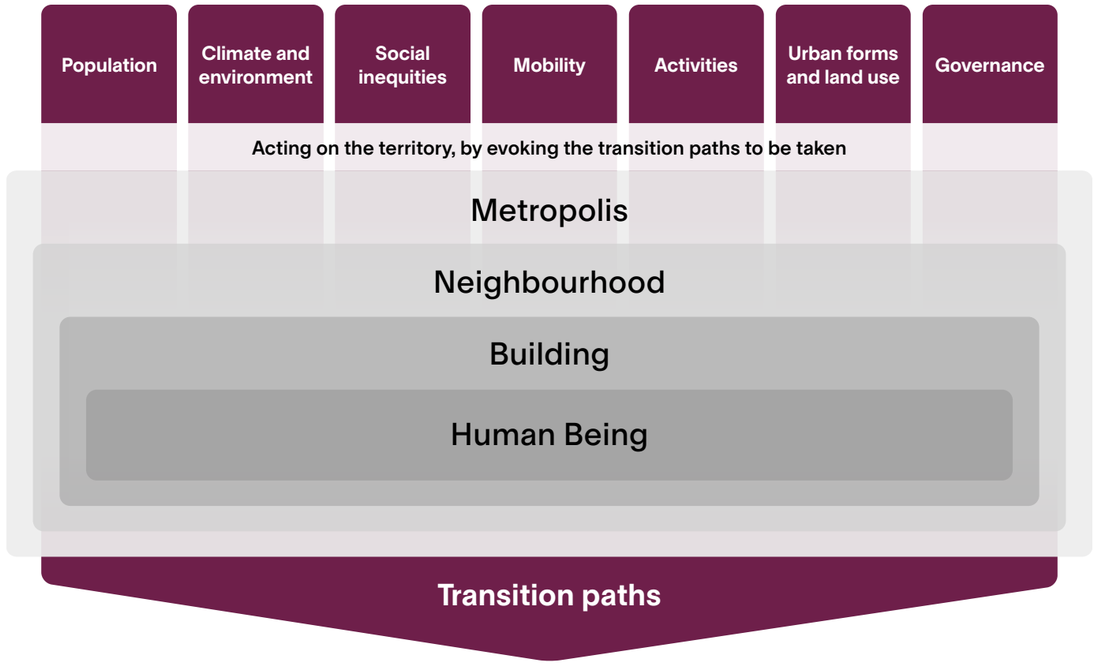
Depending on the neighbourhood, various types of housing are available to Montréal households – from single-family homes and townhouses to plexes, condominiums and high-rise apartments – to meet their various needs, including those of families.

The architecture is unique to Montréal, offering a human-scale density, particularly the two- to three-storey plexes and balconies.

Montréal's alleyways are favourite spaces for forging links in the community and encouraging greening.

Guideposts on the paths to transition

Dimensions that influence territorial planning and the way we live with it

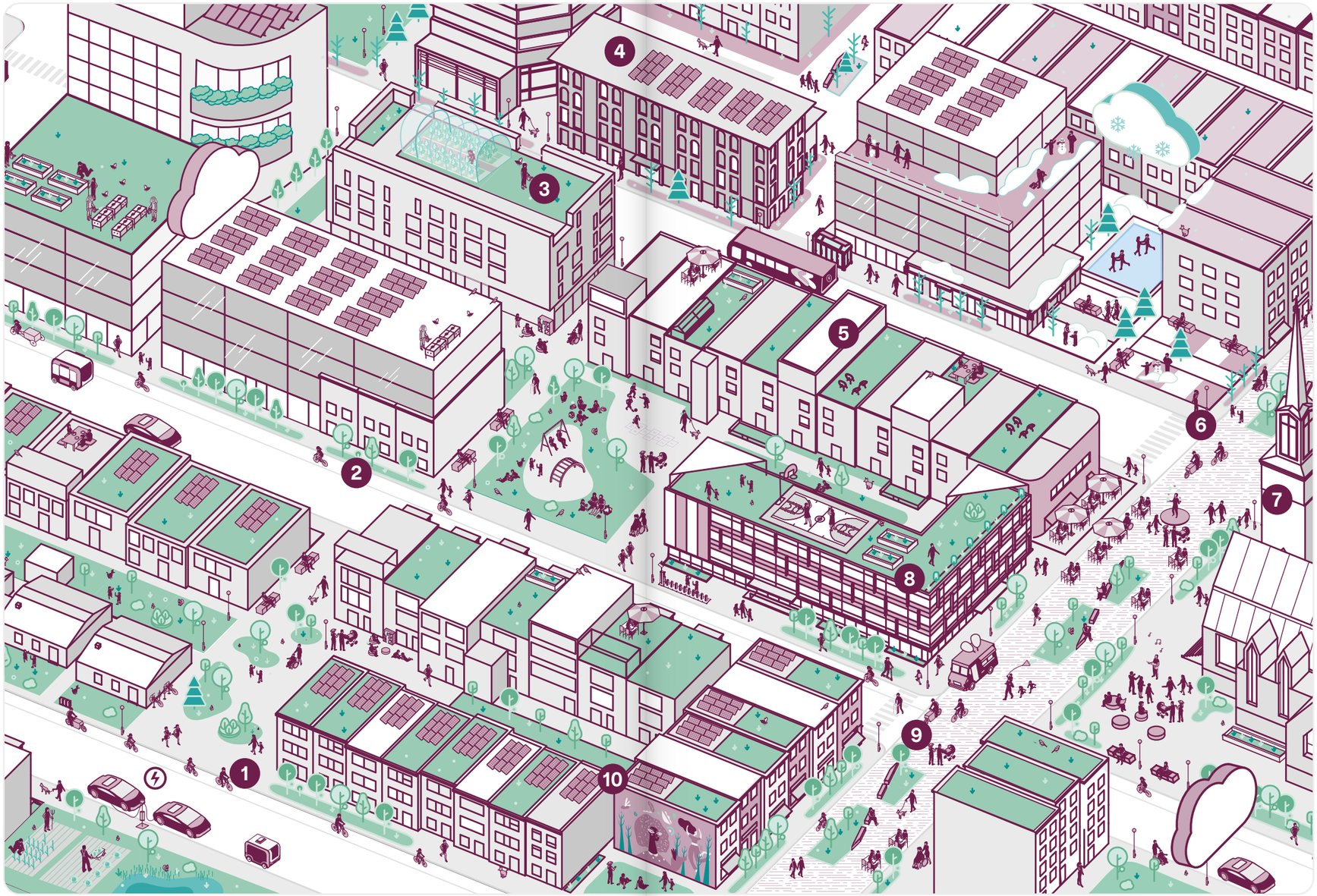


Fast forward to 2050: The metropolis

1. Residents have better access to the waterfront and can enjoy it all year long! Living in Montréal means living on an island and enjoying activities on the water.
2. Montréal is a laboratory for innovation in urban agriculture! A network of businesses, universities and community organizations supports these experiments and participates in the dissemination of knowledge and practices.
3. New, active green and community pathways reduce the barrier effects of highways and other major transportation infrastructures. They connect neighbourhoods via direct, enjoyable routes.
4. The multiplication of mini-hubs across the island effectively organizes deliveries, in addition to adapting transportation modes to local situations.
5. Leading-edge sectors – artificial intelligence, life sciences, clean technologies, etc. – and university research are vectors of change and innovation throughout Montréal. They ensure the influence and competitiveness of Greater Montréal.

6. The heart of the metropolitan region is a meeting place where a wide variety of major activities abound. Everyone can relate to it.
7. Public transit is efficient and comfortable. It allows Montrealers to access employment centres and major public facilities. This network makes Montréal proud and reduces inequities.
8. The quality of transportation infrastructures and the performance of urban logistics* support the competitiveness of Montréal businesses.
9. Industrial districts are transformed: they are greened and accessible by active mobility and public transit. More compact, they house a diverse collection of complementary economic activities.
10. Undeveloped and green spaces rich in biodiversity are more numerous and better protected in Montréal. They are now interconnected by green corridors and accessible to the public.

Fast forward to 2050: The metropolis



1. Green streets are living spaces that lend themselves to free play and encourage activity.

   They help fight isolation by encouraging social activities such as gardening.

2. Bicycle facilities allow anyone, regardless of age or ability, to travel by bike in a safe and enjoyable manner. Cycling is an easy way to get around any neighbourhood, in any season!

3. The circular economy is taking hold in neighbourhoods and helping to reduce transportation needs. In the morning, a rooftop greenhouse supplies fresh fruit and vegetables to nearby restaurants and businesses, and in the afternoon, it hosts a workshop on urban agriculture for local students.

4. Solutions for combating and adapting to climate change are developed and integrated into buildings while preserving their heritage qualities.

5. New buildings and extra floors are added to the neighbourhood in a way that creates a pleasing environment.

6. Cargo bikes are used to deliver goods.

   They respond quickly to merchants' needs and are compatible with neighbourhood life.

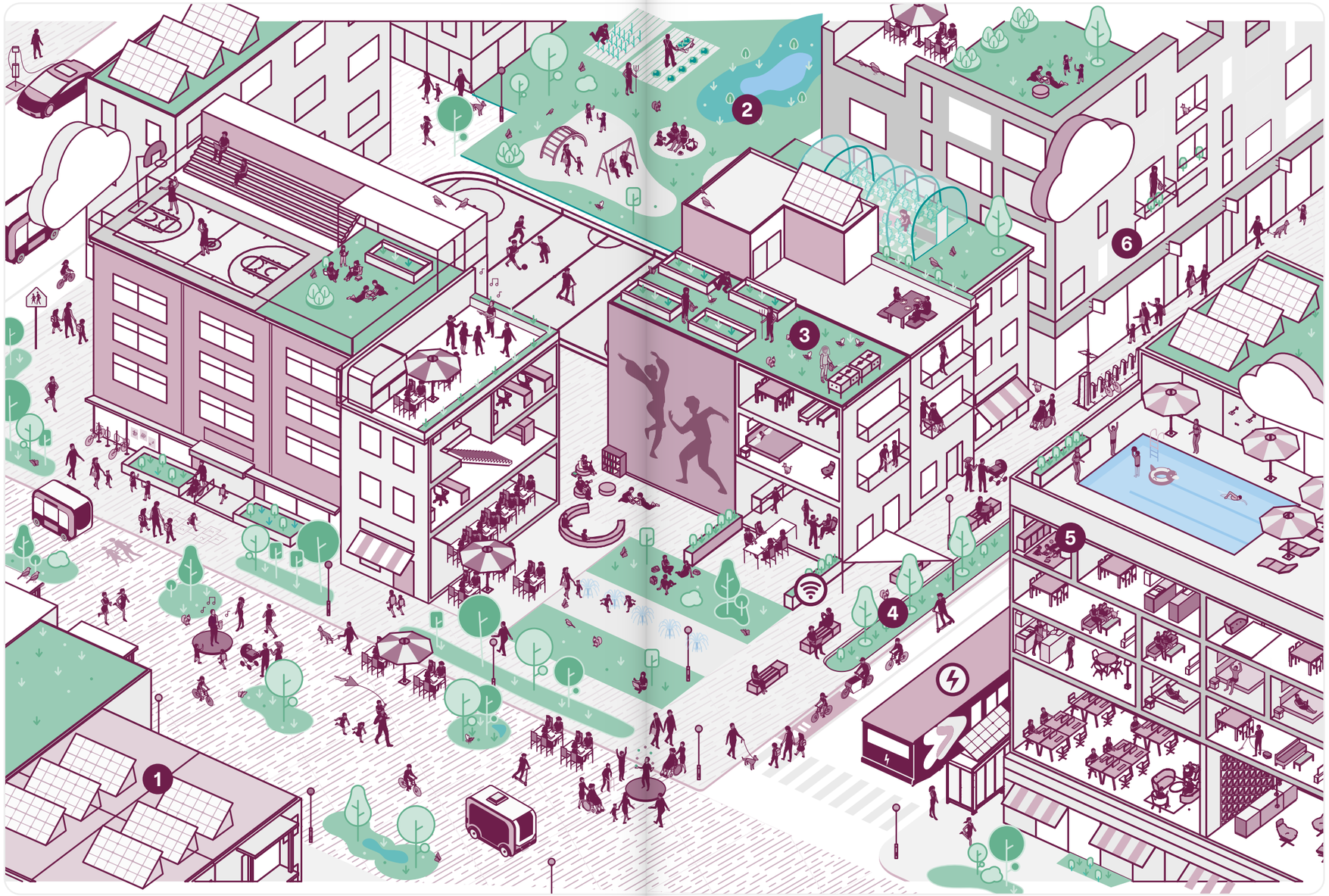
7. Emblematic buildings are preserved and enhanced. They are put to new uses to meet the needs of the population.

8. Schools are a high-quality focal point of neighbourhood life. Residents use them at different times of the day to learn, to play, to practice sports and to meet each other.

9. Streets are designed for the safety and comfort of pedestrians. They enable everyone to get around, regardless of their ability.

10. Close to home, it's easy to shop, socialize, go to school or attend a library lecture.

Fast forward to 2050: Buildings and their surroundings



1. Buildings hardly require any energy for heating in winter or cooling in summer. The orientation of buildings, natural lighting and ventilation, and the choice of materials are solutions brought to the fore in the design and adaptation of buildings.

2. Rain gardens and permeable soils allow for on-site rainwater management.

3. Rooftop terraces, balconies, communal gardens and parks close to home increase the living space.

4. The massive planting of trees, wherever possible, provides access to cool, shaded areas, increases biodiversity and improves contact with nature.

5. The configuration and layout of buildings allow for a diversity of population over time for different users. They evolve according to the users' needs.

6. Montrealers enjoy housing adapted to their situation, whether they live alone, with a family or in a shared apartment, regardless of their income or ability.

Increased efforts to innovate

Montréal is teeming with projects and experiments focused on the ecological transition*. Transition emphasizes the importance of experimentation, learning and evaluation through continuous innovation. This dynamic process is a major challenge in the context of a land use and mobility plan, which relies on the stability of vocations and functions over time.

Planning to guide the transition is not simply a matter of changing certain targeted parameters of the city, but implies a reconfiguration of the rules that organize the land and its uses, governance, technologies, production and consumption modes, etc. Some of the tools needed for the transition are being developed, but not all of them exist as yet.

The Young Project: a transitional occupancy pilot project, Sud-Ouest borough.

The Eco-district charter

Montréal will adopt an eco-district* charter that connects all the players in urban development and provides them with incentives to innovate in building living environments in terms of: social inclusion, mobility, energy, urban agriculture and greening, waste management, social and circular economy, heritage conservation and showcasing, forms of citizen self-organization, pooling* of services and equipment, etc.

The municipal transitional urban planning program

Like many other large cities around the world, Montréal owns a number of vacant or underutilized buildings and sites.

Most of these buildings and spaces are of great value to Montrealers. Disused and deemed abandoned, they have great potential to host experiments with societal significance.
It is in this context that the municipality is developing a transitional urban planning program.

Transitional urban planning is not just tactical urban planning, a temporary occupation, a requalification of a building or an exercise in citizen mobilization. It is an approach that reconfigures the relationships between the players: while the municipality adopts an attitude of openness to dialogue and sharing, organizations put forward and explore original solutions. The aim is to restore a civic vocation to buildings and vacant sites, while updating and realizing their potential to contribute to the transition of the areas.

Learning collectively to transform better and faster

To steer the change, the city could launch an ecological transition* innovations laboratory with key partners. Based on the lessons learned, players would replicate the solutions and adapt the standards and regulatory framework accordingly. This laboratory would be a place of collaboration, experimentation and learning with the community.

It would allow us to find the most appropriate ways for Montréal to achieve the ecological transition* and to support changes in behaviour.

The laboratory's approach would aim to reconfigure the relationship between knowledge and action that is observed in planning: it would no longer be a question of knowing before acting, but of acting to acquire knowledge. The city and Montrealers would thus be able to develop the agility needed to make the transition a success.

Current situation

A number of sectors in Montréal that are being redeveloped are being planned under the “eco-district” model, such as Lachine-Est, Louvain Est, De Bellechasse, De Namur-Hippodrome and the southern part of the Faubourgs sector.

Several circular economy* initiatives exist in Montréal.

These are of various types and sizes and are particularly related to the fields of agrifood, industrial ecology, sharing, reuse and repair of objects, as well as mobility.

Experiments in logistics, freight transport and autonomous mobility are leading to innovations that adapt delivery and personal mobility to the urban context and the ecological transition*.

Several world-class innovation zones are being developed in the city to accelerate the commercialization of innovations and to increase exports, local and foreign investment and business productivity.

Multi-player governance mechanisms are being developed, redefining traditional modes of governance in Montréal, such as Montréal en commun, the transitional urban planning program, the Louvain East eco-district*, the Friends of..., etc.

Commercial urban agriculture, driven by community organizations and private and social economy enterprises, is an emerging sector in Montréal.

Elements of a vision for the future

Montréal actively contributes to the development of innovative ecological transition solutions through partnerships with local universities and the financial support of socially responsible investment funds. It acts with the dual objective of organizing life in situ and generating knowledge on the ecological transition of cities, which it shares with the network of innovative metropolises.

Shared governance initiatives, such as shared community project offices and participatory budgets, have inspired city-wide practices in participatory democracy and co-creation.

Borough-resident–non-profit organization (NPO) partnerships make it possible to test various forms of collaboration and pooling*. This will become the basis for a policy on commons* that will allow for empowerment*.

Eco-districts* have been created.

These have enabled the testing of several innovative practices that have guided the city’s transformation, for example in housing, active mobility, urban agriculture and rainwater management.

Innovative agricultural businesses are well established in the neighbourhoods. Thanks to their collaboration, foodstuffs are produced locally and contribute to Montrealers’ food security.

Montréal has accelerated its transition to a circular economy*. Circular loops for food, energy, use of resources such as water, wood and recyclable metals abound. A multi-stakeholder partnership is testing the first circular economy industrial districts*.

New ways of local production have been introduced and the sharing of energy stocks between neighbours is now commonplace.

Leading innovation has helped foster the arrival of autonomous mobility. It is electric, shared, collective and compatible with life in the neighbourhoods.

Prototyping street designs has enabled testing solutions that integrate green networks for on-site stormwater management, mini forest corridors to increase the canopy*, and improvements that allows for more free play.

Innovative partnerships are enabling the reproduction of solutions for mini urban delivery* hubs and delivery by cargo bike and zero-emission light vehicles.

Innovative park, street and community facilities are being developed to test new solutions for better winter living, particularly in the context of climate change. Winter is at the heart of design, programming and maintenance considerations.

Challenges

Enable continuous innovation in a multi-stakeholder, standardized and regulated context

Support the transition to circular economy models*

Test and manage new forms of mobility and urban logistics* from the perspective of ecological transition* and collective interest

Create eco-districts* that allow for experimentation in transition practices and the generalization of proven solutions

Support the development of governance and management models that promote the inclusion and engagement of citizens as well as political and economic stakeholders

Reconfigure the road network to support the ecological transition* and all-season soft mobility

Support initiatives for participatory diversification of energy production-consumption models

Support urban agricultural projects that contribute to food security

The Louvain-Est sector: an eco-district planned by a project office shared with the community (Solidarité Ahuntsic).

Restoration of the Verdun Auditorium, with contemporary extension, borough of Verdun.

Honouring heritage in the context of ecological transition*

As one of the oldest cities in North America, Montréal has a rich heritage that bears witness to the eras of its development and the know-how of the various groups that forged the Montréal community. The diversity of Montréal's heritage is illustrated by its island character, archaeological remains, prestigious and more modest buildings, industrial structures, village cores, neighbourhoods from different eras, old street patterns and place names. It demarcates the city, tells its story and contributes considerably to neighbourhood quality of life and to Montréal's attractiveness. Heritage brings benefits in terms of culture, identity, tourism and the economy.

It is an active and positive force in the city, an element of identification and originality, of pride and mobilization.

Heritage protection is mobilizing more and more players. Considering the desire for densification* to counter urban sprawl, we must be creative so as to reconcile conserving and showcasing our heritage with the ecological transition*. To do this, it is essential to establish a dialogue with the various stakeholders.

Current situation

Land pressure, particularly in the central sectors of the city, is leading to the demolition of buildings of heritage interest and a loss of the distinctive character of neighbourhoods. The proliferation of high-rise buildings with similar designs, which has been ongoing for many years now, is tending to create a global standardization of metropolises and a trivialization of architecture.

The number of facadism[63] (facade-only) projects has also been increasing.

Many of the institutions located on the slopes of Mont Royal are undergoing major upheavals. Their land is being sought for development and their buildings are vacant or will soon become so.

A significant loss of river-mountain views and views of Mont Royal's profile has been noted over the years, due to real estate development.

Elements of a vision for the future

Various public and private players and citizens participate in deliberations on heritage and its contribution to the quality of living environments. Heritage acts as a catalyst for creativity. Quality contemporary architectural and urban gestures highlight heritage in its many expressions. This dialogue between the present and the past helps shape distinctive, quality places and environments.

Large institutional properties are being rehabilitated, their distinctive characteristics are preserved and they are used for purposes that meet the population's needs.

Showcasing Montréal's iconic sites is everyone's business. Significant views to and from Mont Royal are preserved and remain public. New views of the metropolis contribute to the quality of Montréal's landscapes.

The historical roots of Indigenous peoples as well as the contemporary cultures of First Nations and the Inuit are celebrated.

Meeting places allow the creativity and cultural practices of the various Indigenous nations to be presented and lived.

The contribution of culturally diverse communities contributes to the richness of Montréal and is evident in public places.

Challenges

Ensure compatibility between heritage environments and new ways of living and travelling

Reconcile approaches to heritage preservation and (re)development with those of the ecological transition*

Ensure that everyone is a guarantor of the preservation and sensible utilization of heritage

Simplify and improve the tools and processes for identifying and managing assets

Rethink the approach to occupancy of heritage buildings and large institutional properties that are surplus or vacant, to prevent their deterioration and ensure their long-term survival

Do more to preserve and highlight the city's Indigenous history, presence and cultural diversity

Lighting installation highlighting the cultural heritage of the First Nations, Ville-Marie borough.

An island redesigned for biodiversity, from shore to shore

Many cities like Montréal are looking for solutions to improve biodiversity in the urban context. This strengthens the resilience of ecosystems while providing a contact with nature that is necessary for quality of life. To increase biodiversity, we must first preserve Montréal's unspoilt environments, for example by granting them protected status and by developing large parks. Secondly, ecosystems must be restored and the amount of renaturalized land increased. Finally, access to these natural spaces, both for humans and for certain animal and plant species, requires the development of green corridors. To make a success of the ecological transition, urban planning must give biodiversity a strategic role.

A perspective of a proposed green corridor. The final design may differ from what is presented here.

Current situation

The city has set a target of protecting 10% of land areas.

Large areas for new parks are scarce and difficult to acquire due to a generalized rise in land costs.

The deterioration of some shorelines through erosion and the loss of wildlife habitat are both concerns. Aquatic and terrestrial ecosystems are constantly undergoing natural (e.g., proliferation of invasive species) and anthropogenic pressures that make them fragile and deteriorate.

Many of the larger parks are located far from the inner city and certain poorer neighbourhoods. Their accessibility must be improved. New transit stations are opportunities to improve access to some of these parks.

Elements of a vision for the future

Montréal and its partners make agile use of regulatory and financial tools for the protection of natural milieux, which makes it possible to conserve existing environments, complete the development of some and create new large green spaces.

Some previously underused areas, such as power transmission line rights-of-way and railway sidings, are being redeveloped to promote biodiversity.

Others, such as former golf courses, are being preserved as green spaces and renaturalized, and allow for a variety of recreational activities.

The network of green corridors connects parks and other public spaces, while promoting active mobility. Implementation of this network, integrated into the street and park grid, contributes to the ecological connectivity of natural environments.

New mobility services, such as shuttles and mobility hubs, make it possible to connect large green spaces to the main public transit systems, thus improving their accessibility.

Mont Royal's parks continue to attract Montrealers and tourists in all seasons. Traffic is shared with other large green spaces to reduce pressures on ecosystems.

In the natural and aquatic environments that have been preserved, the educational, community, cultural, sports and recreational opportunities have been diversified and enhanced in partnership with the community, which contributes greatly to the physical and mental health of Montrealers and to their environmental awareness. Urban agriculture projects with social impact have been set up there.

Nautical activity, borough of Pierrefonds-Roxboro.

Challenges

Intensify conservation actions in remaining unspoilt areas to reach the 10% protected land target

Seize opportunities for renaturalization and increased biodiversity

Balance the need to use green spaces with the vulnerability of ecosystems

Connect green spaces and natural environments (including large parks) to the living environments of Montrealers

Develop new large green spaces and complete the development of certain existing parks, particularly in sectors with a deficit and based on the principle of social* and territorial* equity

Provide equitable access to all major green spaces, even those furthest from the centre, by public transit and active mobility.

Create, develop and showcase sites at which to enjoy Montréal's shores, waterways and islands

What you told us

"For many Montrealers, the fact that Montréal is an island is 'an abstraction that they're only aware of when they occasionally walk across the Jacques Cartier Bridge,' said one participant. Restoring the presence of water to daily life in Montréal to signal its insularity was recommended."

"According to another participant, this idea would come down to the uncovering of several buried rivers as the city urbanizes." Similarly, initiatives to improve access to the waterfront were hailed by many participants (e.g. the beach in Verdun, waterfront parks in LaSalle and Verdun) as major steps toward reintegrating insularity into the daily lives of Montrealers, because they provide opportunities for unique activitie[64]."

A renewed urban form

Urban form (the organization of the built and unbuilt environments) has a direct impact on lifestyles and quality of life. In Montréal, the current urban form does not systematically contribute to reducing travel, territorial disparities, resource consumption or GHG emissions.

Consideration of the evolution of urban form is therefore one of the necessary steps to enable the ecological transition* and ensure equity and inclusion, while enhancing significant elements of Montréal. The need to adapt the city raises questions about how, where and how intensively this could be done without degrading the quality of life.

Diversity of the built environment, seen on Rue de Bleury, Ville-Marie borough.

Illustration of the “compact city” concept and its various characteristics

Advantages and benefits related to adequate densification* and compactness.

The densification* of the city and the compactness of the built environment makes possible:

- Optimal use of the land and reduction of pressure on agricultural areas, natural areas, etc., which contributes, among other things, to meeting the need for green spaces and maintaining production functions
- Support for the development of regional and active public transit modes, which promotes a reduction in GHGs and climate change mitigation
- A contribution to the development of active travel, to local mobility and, in fact, to the improvement of people’s health;
- A contribution to responding to housing demand, to maintain housing capacity and affordability
- The cost-effectiveness of infrastructure, services and equipment
- Facilitating social, cultural, economic, academic and other synergies
- The densification* of environments can have a negative impact on the quality of life when it is not adequate or adapted to the context. Better planning and management can reduce these disadvantages, particularly through the use of appropriate tools.

Current situation

Montréal is a predominantly built-up area with physical boundaries. These peculiarities now call for a compact and dense urban form, and for projects involving mainly insertion, densification* and requalification.

Montréal is characterized by:

- Various types of buildings which tend to become uniform in certain sectors
- An urban form influenced by the land structure.

The current type of development has an impact on the typical urban form of certain neighbourhoods[65].

Elements of a vision for the future

Living in a complete and convivial environment is now possible across the city thanks to the densification* movement that is continuing in an adapted and intelligent manner. The city has grown a little taller, with some floors added to some existing buildings, but the intensification of activities is carried out in environments that are conducive to accommodating it. Examples of soft densification* have multiplied and are reflected in the construction of residential annexes, additional and intergenerational housing.

The historically representative building form of the neighbourhoods and its richness are emphasized and harmoniously integrated into projects. The road structure, Montréal's topography, the presence of the river, Mont Royal, the Rivière des Prairies and the Lachine Canal, as well as the diversity of the seasons, are all considered elements that inspire the shape of a renewed built environment. The quality of architecture and design contributes to Montréal's reputation as a great place to live.

Montrealers of all ages are physically and psychologically healthy, thanks in part to the reduction in stress related to commuting distances due to the compactness of the built environment, and to the diversification and mix of functions.

After community intervention, the potential of areas to be transformed and redeveloped is optimized, while reconciling intensity of activity and quality of life. In established environments, the insertion of buildings of different typologies is adapted to the context thanks, in particular, to a quality treatment in terms of architecture and design. Some urban brownfields* are also being reconverted and developed through the creation of eco-districts*. Diversification of housing and a choice other than the single-family home for families are proposed by making a more compact living environment acceptable.

In high-rise areas, active mobility is enjoyable in all seasons. Wind corridors are greatly minimized and sunlight in undeveloped areas is maximized.

The living potential of each of the neighbourhoods bordering the existing and planned access points to the backbone public transit system is enhanced by strengthening activity areas, which are diversified and intensified, in buildings and public spaces.

In addition, the treatment of buildings, interfaces and public spaces are given special attention to encourage the integration of infrastructures and facilities into the neighbourhood.

Challenges

Stimulate population and activity growth in:

- **Sectors served by an existing or planned access point to a regional transit network, with the exception of certain access points in industrial zones**
- **Areas with potential for business intensification, such as shopping centres, declining or underused areas, abandoned lands, etc.**
- **Sectors with a supply of facilities, in services, public spaces and jobs, and sectors where the arrival of new activities or populations would improve a deficient supply**

Rethink innovative, high-quality integration solutions, particularly in neighbourhoods bordering existing and planned access points to the core public transit system.

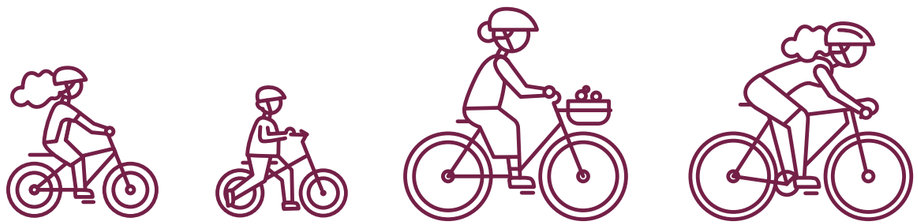
Integration of new projects within an established grid, Rue Irène, Sud-Ouest borough

Neighbourhoods that make room for soft mobility and universal design

The streets form a network of local public spaces used daily by the entire population. As public spaces, they must support a variety of functions, beyond those related to mobility. In addition, the development of our neighbourhoods must allow anyone wishing to move around to do so independently with equivalent results. Neighbourhoods, transportation networks and services must be adapted to people's varying accessibility needs so they do not have to rely solely on paratransit.

From an ecological transition perspective*, this access must be primarily in the form of soft mobility. Streets should be designed to allow everyone, regardless of age, gender or ability, to travel safely and comfortably on foot or by bicycle, including with assistance. Modes of transport adapted to urban living, i.e. light, low-speed and compact, must complement available transportation modes to ensure access to the city. In order to make this transition, innovation and a change in culture and values must be encouraged.

Finally, promoting soft modes reminds us that mobility, when it's on a human scale, can be a source of vitality in neighbourhoods, of social and economic opportunities, and of access to resources, particularly services and facilities. Softer mobility promotes the health of the population.



Road safety

In 2019, the number of people who died on Montréal roads was the highest in the past five years: 86% of the 28 victims were pedestrians (24), the highest number since 2007.

Among these pedestrians, the proportion of victims aged 65 years or older (70%) exceeds the five-year average of 55%. The vast majority of accidents occur at intersections.

Children and access to the city

The city adopted a Policy on Children with the stated intention of creating a movement in favour of children. The Policy's first area of intervention has a special resonance: it focuses on the safety and accessibility of urban environments in order to provide children with living environments conducive to play and discovery, designed and developed in a safe, attractive and universally accessible manner. Supporting soft mobility promotes better access to the city, its resources and opportunities, especially for children.

The space occupied by parked private vehicles

On-street parking takes up a lot of space and is socially expensive. One on-street parking space occupies 13 to 19 square metres (m^2).

To put this in perspective, the city's minimum living space requirement for a person's home is 8.5m^2.

In Montréal, there are approximately half a million on-street parking spaces, 90% of which are free of charge66. This means that virtually all on-street parking is funded by the community, including non-motorized and low-income households.

Current situation

Motorized vehicles still largely dominate the space occupied by roads in all boroughs, despite certain territorial variations.

Pedestrian space, with the exception of some pedestrian or shared streets, is not designed along the route. It is still limited to sidewalks that are often narrow, which can affect comfort, especially in winter, and the sense of security.

People on foot are by far the most vulnerable in public spaces, with pedestrians being over-represented in serious and fatal road accidents in Montréal.

The discontinuity and disparity of the many forms of cycling facilities make them difficult to read and use, especially for less experienced users or those who feel vulnerable.

An environment that does not take into account the universal design of pathways is a barrier to the social participation of people with functional limitations and contributes to their isolation. The current design tends to prioritize motorized vehicles and still too often imposes the coexistence of widely varying masses and speeds, which considerably reduces the real and perceived safety of the most vulnerable people.

Neighbourhood deliveries are made using a wide variety of vehicle types, some of which are not well suited to the urban environment.

Street design standards are dictated in part by the size of vehicles used for emergency services.

Elements of a vision for the future

Streets are designed foremost for the safety and comfort of pedestrians. The Vision Zero safety strategy has been achieved with no serious injuries or fatalities. Walking journeys, with or without assistance, provide a positive experience of the city in all seasons. Thanks to an inclusive approach to mobility, routes through the city are barrier-free and a wide range of mobility services allow people of all ages, regardless of their physical, visual, hearing or cognitive abilities, to reach their destination in an equitable manner.

Travelling by bike is now a matter of course. All residents have access to protected bike lanes and a city-wide bike network. Cycling is a simple, efficient, safe and enjoyable option, everywhere in the city, in all seasons and regardless of age, gender or ability.

There are sufficient furnishings (benches, bicycle racks) on private and public property to encourage the use of active modes. Their location and design quality make for a pleasant journey for all and user-friendly and efficient access to destinations.

Micromobility services are available throughout the city and a sufficient fleet of electrically assisted bicycles allows a wide range of people to cycle and increases the distances travelled. Various types of self-service mobility are offered.

Part of the bike-sharing fleet has been expanded to include three-wheeled, electrically-assisted cargo bikes to make cycling in the city even more accessible.

Urban delivery* (last mile) is done by cargo bike or by small (reduced mass and speed), carbon-neutral vehicles, all thanks to the development of mini hubs. Streets and parking areas are adapted to this.

The development of facilities for soft mobility contributes to the transformation of the urban environment into an improved living environment throughout Montréal.

All stakeholders have adopted the principles of universal design to ensure true access to services, shops, facilities and, more generally, to urban life, in all seasons.

There is less and less need for private on-street parking. Denser, more user-friendly off-street parking that is better integrated architecturally into the urban environment makes it possible to reduce private occupation of the public domain for parking purposes.

The management and fair pricing of all parking on the public domain has encouraged a reduction in the demand for vehicles and the size of the vehicles, as well as the development of car-sharing and car-pooling. The remaining on-street supply is primarily intended for shared mobility, people with reduced mobility, delivery and service providers.

Axis 1 of the REV express bike network, Le Plateau-Mont-Royal borough.

Challenges

Improve all streets for the safety and comfort of the most vulnerable users

Rebalance the functions of streets to make more room for active, collective, shared and adapted modes

Encourage changes in the habits of individuals and companies in favour of soft mobility modes

Design the city without barriers to mobility so that it can be enjoyed equitably, autonomously and simultaneously, in all seasons

Take into account the diversity of needs, because functional limitations, whether permanent or temporary, vary significantly

Reduce household car ownership and maximize the use of remaining vehicles through vehicle sharing

Plan and manage off-street and on-street parking in an integrated manner

Support low-carbon urban delivery* with less impact on the environment

Maintain an acceptable response time for emergency services

Ensure maintenance and snow removal of the street even when its uses are modified and the width of the roadway is reduced

What might buildings and their surroundings look like in 2050?

Living environments combine beauty and utility in innovative ways. Heritage is valued. Outdoor spaces are rich in biodiversity and social interaction. Quality architecture accommodates a wide variety of activities. Everyone finds a home that suits their needs. Energy-efficient buildings provide comfort in all seasons.

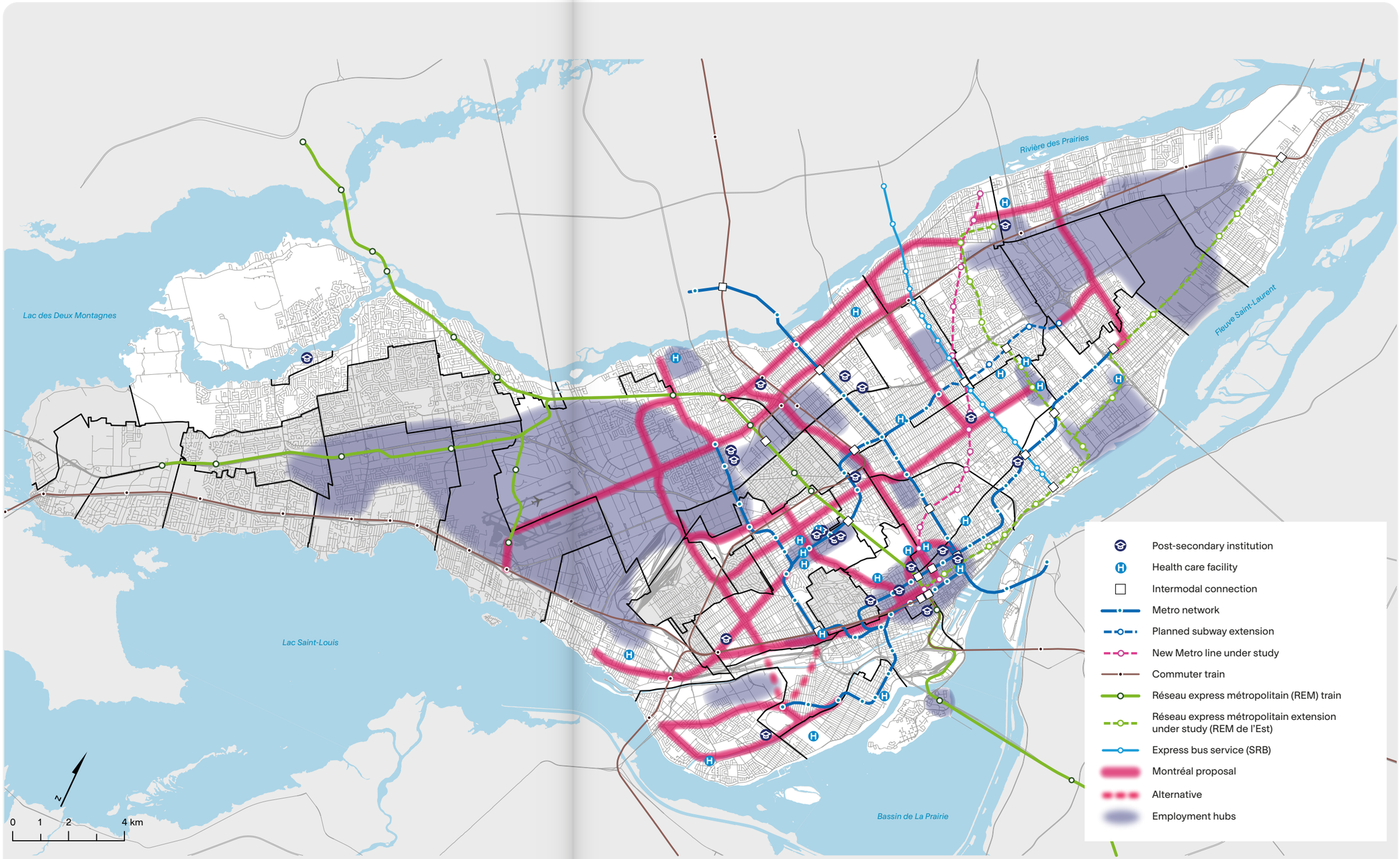
Perspective view of the future Place des montréalaises next to the Champs-de-Mars metro station, Ville-Marie borough.

Access to all parts of the city facilitated by efficient public transit and major infrastructures that are well integrated into the environment

Efficient public transit is an essential condition for equitable access to the city and the many urban resources it offers. Along with walking and cycling, public transit is an essential element of mobility consistent with the ecological transition*. In order to improve mobility conditions and reduce pressure on transportation networks, particularly in the centre of the agglomeration, all stakeholders believe that it's necessary to improve the existing public transit supply and build new infrastructure. These infrastructure projects must take into account the issues of social* and territorial* equity to ensure access to efficient public transit.

Facilitating citywide access also requires mitigating the impact of natural and man-made barriers, which divide the city and reduce connectivity between neighbourhoods. The presence in the urban fabric of major infrastructures, which play a strategic role in transporting people and goods at the regional, national and international levels, can create barrier effects for local trips and have negative impacts on the surrounding environment (e.g. accidents, noise, pollution, landscape impacts, etc.). The successful integration of major transportation infrastructures into the environment implies a reduction of these negative impacts, as well as combining co-benefits* through a creative sobriety* approach.

Vision for the development of the core public transit network by 2050



Note: The map shows only Montréal's main post-secondary and health institutions

Current situation

Dense and populous Montréal neighbourhoods are not directly connected to the public transit system, despite considerable significant use of STM bus services.

Three of Montréal's main employment centres (Saint-Laurent, Centre-Nord, east end) are currently served by little or no public transit.

The same is true of some hospitals and institutions of higher learning. Infrastructure projects currently being planned and implemented will provide partial access to these centres and facilities.

The continuous increase in public transit ridership is leading to saturation of certain network sections during peak periods, which increases their vulnerability to incidents while reducing the comfort and accessibility of Montrealers to public transit, particularly in the centre of the agglomeration.

Future growth in ridership and the modal share of public transit cannot happen without a significant increase in available services.

Transport infrastructure projects are rarely approached as integrated urban projects.

The search for non-transportation benefits remains neglected.

Various transportation infrastructures, such as the Ville-Marie, Métropolitaine and Décarie highways, and the CP and CN rail lines in particular, create barriers and reduce mobility between adjacent neighbourhoods.

Infrastructure integration and breaking down barriers have the potential to shorten travel distances, increase the usability and safety of active travel, re-connect the community and encourage real estate development.

Other physical barriers, notably certain large parks (e.g. Angrignon, Frédéric-Back, Mont Royal), waterways (St. Lawrence River, Rivière des Prairies) and canals (Aqueduct, Lachine), lengthen trips by imposing a limited number of crossing points for surface public transit modes.

Elements of a vision for the future

The population travels easily and safely by public transit, regardless of where they live. They can choose from a variety of efficient public transit options to carry out their activities. Access by foot and bicycle to the stations of the public transit network is user-friendly.

In terms of public transit, service availability and usage have increased significantly throughout the city. Services and facilities related to the public transit system are universally accessible.

The ability of people to travel and the accessibility of employment areas are no longer barriers to employment. Workers with atypical schedules benefit from adequate public transit services.

Employment centres and major public facilities (hospitals, higher education institutions, etc.) are now connected to the metropolitan region's public transit system.

The heart of the metropolis also benefits from the implementation of various low-carbon* and innovative initiatives that facilitate access.

The implementation of heavy transport infrastructures has provided an opportunity to enhance public and private spaces along the routes. The surroundings of these infrastructures have become places of socialization and activities, greened and adapted to the neighbourhoods. The architectural quality of transportation infrastructures contributes positively to the urban landscape.

Natural and man-made barriers to movement between neighbourhoods can be easily overcome by direct, user-friendly links. Transportation infrastructure upgrades provide an opportunity for major innovation projects.

The creation of new active and public transportation links improves connectivity and reduces the use of highways for local travel.

Initiatives in the vicinity of the port, the marshalling yards and the airport have improved the urban integration of these large infrastructures, while preserving their essential vocation as metropolitan and regional economic hubs.

MIL Montréal project: Redesigned railway bridge, Outremont borough

Challenges

Improve accessibility, mobility conditions and public transit use throughout the territory

Develop the core public transit network in the centre of the agglomeration

Improve public transit services to employment centres and major public facilities

Increase the interconnection of public and active transportation networks and ensure the integration of the various mobility services, including pricing

Proactively integrate the planned major transportation infrastructures with the living environment and existing transportation networks, ensuring a distinctive signature for the metropolis

Generate more co-benefits* when repairing infrastructure, including improved connectivity, especially in terms of active and public transportation, greening, public spaces and landscape

Strike the right balance in the allocation of financial resources between maintaining assets and developing public transit facilities and infrastructure

Optimize the use of existing public transit infrastructure and facilities

Marshalling yard,
Sud-Ouest borough

A prosperous, creative, outward-looking metropolis

Montréal has a diverse economy offering a range of opportunities to its population through a variety of businesses and organizations. In a competitive context, the ecological transition* stimulates the development of new initiatives and constitutes an opportunity to transform economic organizations and structure through the emergence of new dynamic sectors of activity. The strength of Montréal's research and innovation ecosystem is a major asset in supporting this transformation.

In a globalized economy where logistics chains are strategic components of a city's competitiveness, Montréal benefits from its favourable positioning as a port city and a hub for intermodal freight transportation. The continuous increase in the flow of goods, however, requires the city to rethink urban logistics* in order to mitigate the negative impacts associated with the transportation of goods, without hindering social and economic activities.

Current situation

Montréal is the economic engine of the metropolitan region and of Québec, but its weight is being eroded in favour of sectors located off-island where a greater number of businesses and jobs are being created.

Montréal remains attractive because of its proximity to the labour force and the presence of strategic assets (infrastructures, industrial clusters, etc.), but it is subject to strong competition at the scale of the metropolitan region, because of the scarcity of available space and the higher price of land acquisition. However, there is significant vacant land at the extremities of the island with great potential for new businesses.

Montréal has a diversified economic structure whose attractiveness and competitiveness are increasingly based on innovative sectors of activity that anticipate the development of a green, prosperous and socially responsible economy throughout the city.

This transformation of the economic structure in the knowledge-based economy benefits skilled workers and technology-based firms, while posing challenges to the less-skilled labour force and traditional firms.

The emergence of innovative niches is supported by the presence of a solid research and innovation ecosystem that fosters international collaborations between educational institutions, research centres, businesses and industrial clusters.

A sign of the intense activity of the Montréal university research community, which includes close to 6,000 researchers[67], Montréal ranks tenth among North American cities in number of scientific publications[68].

The city also educates nearly 320,000 post-secondary students, including 37,000 international university students[69].

Because of the size of the domestic market, foreign trade is essential to the vitality of Montréal businesses. The efficiency of urban logistics* is consequently paramount.

Some of the major transport infrastructures require initiatives to improve the accessibility of goods to intermodal platforms and production and processing areas.

The development of e-commerce offers the potential to consolidate Montréal's logistics hub. This development is leading to the relocation of logistics activities near the airport, despite the scarcity of available land.

The planning of sectors to allow the development of logistics real estate appears to be strategic to meet the needs of warehousing and handling of goods, while minimizing the nuisance for the population and the impacts on mobility.

Elements of a vision for the future

Montréal remains the economic engine of the metropolitan region and of Québec. Its diversified economic structure has increased its resilience* to economic shocks and provides employment opportunities for all of its population.

The metropolis is known worldwide for its specialization in innovative sectors and its green economy.

The reputation of educational and research institutions, the development of spin-off companies and the commercialization of innovations reflect the creativity of the metropolis and contribute to its enrichment.

Montréal remains the benchmark for student cities in North America and the destination of choice for international students.

The competitiveness of Montréal companies on foreign markets is assisted by the quality of strategic transportation infrastructures and the performance of local players in the supply chain and artificial intelligence.

Montréal takes full advantage of its strategic location, the interconnection of the various transportation networks within its boundaries, and the automation of vehicles and logistics activities.

Montréal's carbon-free urban logistics* model ensures the efficiency of commercial exchanges while preserving the tranquility and security of living environments. It is based on optimized supply chains that favour short routes and integrate logistics infrastructures of various sizes.

Challenges

Reverse the trend toward the decentralization of economic activities outside the agglomeration (off-island)

Ensure employment opportunities for the entire workforce in a knowledge-based and innovative economy and encourage the transformation of traditional sectors

Reinforce Montréal's positioning as a creative city recognized for the strength of its research and innovation community and for the development of high-potential economic sectors

Develop the city in a way that is conducive to attracting business and investment in emerging niches that facilitate the ecological transition*

Support the competitiveness of Montréal businesses on foreign markets by improving the accessibility of transportation infrastructures and the efficiency of supply chains

Optimally locate logistics activities to ensure their efficiency, while minimizing the environmental footprint of goods movements, pollution and impacts on mobility

Loyola Campus, one of Montréal's many university centres, Côte-des-Neiges–Notre-Dame-de-Grâce borough.

Diversified, attractive and accessible industrial districts

As places where manufactured goods are produced and processed, industrial districts are an essential link in operationalizing the ecological transition. These neighbourhoods are in fact privileged places to stimulate the development of local production, enhance technical knowledge, support the emergence of the circular economy and encourage the establishment of short supply routes.

However, the ecological transition and the development of a green circular economy imply a reconsideration of the current industrial model, which is still mostly characterized by extensive use of space, significant mineralization of surfaces and difficult access by public and active transport. For industrial districts to be both competitive and sustainable, planning their future must take into account several key issues, especially those surrounding land use, the complementarity of economic activities, the cohabitation of functions, accessibility in sustainable modes, and greening.

New LEED® NC Gold certified industrial building and its ecological features, Saint-Laurent borough

Current situation

The gradual erosion of industrial areas in favour of residential and commercial functions weakens the existing industrial fabric and makes it more difficult to attract new investment.

New, denser and more compact industrial layouts can be developed to optimize the use of space for economic purposes. Similarly, the diversification of economic activities and functions can increase the attractiveness of industrial districts and promote the development of the circular economy*.

The transition to a circular economy* requires the planning of industrial spaces that favour the construction of sustainable buildings, the proximity of sectors, industrial symbioses and the mutualization or pooling* of assets. The possibilities of cohabitation of economic activities and other functions deserve to be examined in this sense.

Industrial districts are major employment centres, but difficult access, poor urban design and low diversity of services increasingly affect the ability of companies to attract labour.

The lack of public transit service and the quality of active transportation infrastructure in industrial neighbourhoods results in massive reliance on the automobile. This situation has an impact on travel safety, contributes to the deterioration of mobility conditions on the road network and favours the maintenance of large parking lots that limit the possibilities for requalification and greening.

Elements of a vision for the future

Montréal has preserved and strengthened its industrial fabric. Industrial districts are denser and more compact. Efficient land use allows for a greater concentration of employment and productive activities. Vast areas of land, once burdened with constraints, are being upgraded and developed.

Industrial districts take full advantage of the potential of industrial synergy and the benefits of the circular economy*. The physical proximity of businesses generates partnerships that strengthen their productivity, allow the pooling* of resources and equipment and ensure the recovery of residual materials.

Many buildings house a variety of complementary and compatible economic activities and functions, including greenhouses for agricultural production.

The special attention paid to the risks and nuisances of economic activities ensures a harmonious cohabitation of activities and functions through appropriate interfaces that improve the quality of life within industrial districts.

The workforce has easy access to the industrial areas by public and active transportation at all times of the day and night. This also facilitates the transport of goods.

The presence of local shops and services, improved development and the extensive greening of public and private property provide an attractive urban environment for businesses and people who frequent these neighbourhoods.

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Industrial district in the east end of Montréal, Anjou borough.

Challenges

Perpetuate the industrial fabric in the economic structure and territory of Montréal

Strengthen the attractiveness of industrial districts for labour and business

Reinvent the built environment and the development of industrial districts

Diversify economic activities and functions by ensuring harmonious cohabitation

Accelerate the transition of industrial districts to the circular economy*

Improve access for people to industrial districts by public and active transport, as well as the transportation of goods

Reduce the environmental footprint of industrial districts

What you told us

"In order to ensure more sustainable development, improved attractiveness and quality of life for industrial districts, it was recommended that they be complemented by the development of active transportation networks and the improvement of facilities and services. One participant noted that employment areas are currently "deserts of everything but jobs[70]".

Quartier des spectacles, Ville-Marie borough.

An attractive and diversified metropolitan core

Populated and lively in all seasons, the heart of the metropolis benefits from an iconic heritage landscape that gives it an exceptional character, with its historic nucleus (Old Montréal) and the business centre, the St. Lawrence River and its islands, the Lachine Canal and Mont Royal. A centre of knowledge, it is home to the main centres of higher education, research and health, which attract thousands of students, as well as talented workers from here and abroad.

The metropolitan core plays a fundamental role in the economy of Montréal, its region and Québec. As the largest employment and business hub in Montréal, it is home to a variety of business-related activities, major head offices and prestigious international organizations. The downtown core is also home to the highest concentration of commercial, cultural and tourist activities, which make Montréal stand out on the international scene.

Protecting and improving Chinatown

In 2019, the Ville-Marie borough gave a consultation mandate to the Centre d'écologie urbaine de Montréal to develop a specific action plan for the neighbourhood, in consultation with local partners.

A vision was then developed, aligned with the Montréal 2030 citywide strategic plan, namely:

In 2030, Montréal's historic Chinatown is a social, community and economic anchor for Montréal's Asian communities. Its inclusive living environment, its enhanced heritage and public spaces, and the harmonious relationships between local stakeholders translate into a sense of belonging shared by all generations in the neighbourhood. Its cultural and commercial influence contributes fully to the vitality of the city, and for Montrealers of all origins, it is a place of exchange and discovery.

In order to achieve this vision, a global strategy including strong actions to ensure the protection of Chinatown's heritage character, its cultural and commercial vitality and its identity will have to be adopted collectively.

In the coming months, the city will chair a joint working committee with the gouvernement du Québec and stakeholders to identify the most appropriate normative tools to be put in place and the means to protect and enhance the neighbourhood's rich intangible heritage and identity.

Current situation

The metropolitan core contains buildings and ensembles of great heritage interest, particularly around Mont Royal. These iconic buildings remain vulnerable to strong land pressures from the real estate market.

With more than 310,000 jobs, or 27% of those in the Montréal agglomeration, the core area of the metropolis has a much higher job density than the agglomeration[71].

A high proportion of jobs are related to high-value-added businesses and the knowledge economy. It is estimated that 40% of the jobs in the city centre can be compatible with teleworking[72].

The metropolitan core is an increasingly populated area. The borough of Ville-Marie, in particular, has seen remarkable residential growth from 2014 to 2018, with nearly half of the city's housing starts.

The potential for public transit and active mobility generated by the confluence of transportation networks is a major competitive force.

Some areas of downtown Montréal stand out for their distinctive character.

This is particularly true of Chinatown and the Village, for which action plans are being developed.

Elements of a vision for the future

Montrealers and tourists alike flock to the heart of the city to enjoy a diverse arts scene and celebrate its tangible and intangible heritage.

The metropolitan core remains the economic, cultural and knowledge hub of Québec and the main place where the activities of the metropolitan region converge.

A powerful engine of employment, it is resolutely focused on a green economy characterized by research, innovation and the know-how of its workforce. Montréal is known for its ability to attract talent, research centres, businesses and investments that ensure its vitality and contribute to its prosperity.

The downtown core hosts a multiplicity of functions and populations. Diverse clienteles have access to housing and commercial spaces. Converted buildings host new functions and provide a renewed experience of the place.

Downtown Montréal is a quality living environment that meets the needs and aspirations of its residents, who initiate projects and transform the neighbourhood. They have access to all local services, just a few steps from home.

Various populations socialize in this lively environment thanks to the multitude of quality meeting spaces and the attention paid to the different representations of the place.

Pedestrians are at the forefront. Walking in the metropolitan core is pleasant and safe and allows you to enjoy the quality of public facilities as well as the natural and built landscapes.

Public transit services meet the needs of people at all times of the day and night, regardless of the season. The need to use private cars has been considerably reduced and basements are being used for other purposes.

Diversified housing on Avenue Overdale, Ville-Marie borough

Challenges

Showcase the uniqueness of the heritage, architecture and developments of the metropolitan core

Strengthen links between key assets, diversify cultural and artistic offerings and enhance the urban experience to ensure the vitality and attraction of the core throughout the year

Strengthen the attraction and retention of international students, a qualified workforce, research centres, businesses, head offices and international organizations, as well as major investments

Optimize the use of commercial and office space by enabling new occupancies and a greater mix of uses

Promote a diversified, high-quality housing supply while ensuring harmonious cohabitation with workers, visitors and tourists

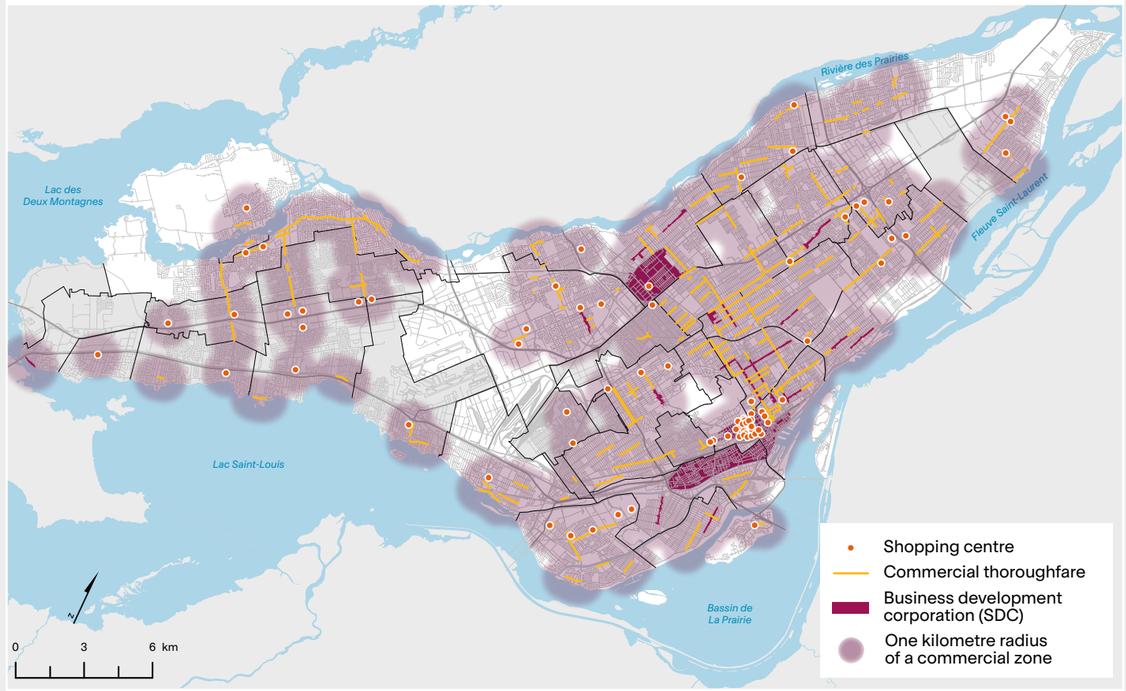
Offer local services and facilities to meet the daily needs of residents

Temporary pedestrian arrangement and commercial activities on Rue Ontario, Mercier-Hochelaga-Maisonneuve borough.

Shops that revitalize neighbourhoods

The vitality of Montréal's retailers is directly related to the economic vitality and quality of life of the neighbourhoods. Shopping locally reduces travel distances and the use of motorized vehicles. It also encourages the consolidation of employment throughout the city and contributes to the recognition of the complementary economic role of neighbourhoods in relation to the major economic centres of the metropolis. Local businesses also embody the ideas of entrepreneurs. In this sense, they are places of creation, socialization and exchange that contribute to the vitality and diversity of Montréal's neighbourhoods.

Commercial zones, 2019, Montréal Urban Agglomeration



Montréal, Service du développement économique (2020). Commercial survey, 2019

Current situation

Traditional retailing has been undergoing a profound transformation in recent years due to the growth of e-commerce, increased competition from manufacturers and wholesalers, and consumers' growing expectations for product customization.

The vitality of Montréal's commercial thoroughfares and shopping centres is also affected by the increase in and sprawl of retail space and the diversification of the supply in the metropolitan region.

Vacant premises on Montréal's commercial streets remain a concern, but the vacancy rates vary significantly from one borough to another[73].

The vast majority of Montreal's population resides within a commercial zone (within a 1 km radius) having at least 30 businesses.

However, the adequacy of the street-level commercial offer to meets the needs of its local population remains difficult to assess.

In Montréal, 14% of dwellings are located in a disadvantaged area with no food stores within walking distance (500 metres)[74].

The majority of shopping trips are made by car when the distance is greater than 500 metres[75].

The availability of free or low-cost parking, particularly in shopping centres, tends to encourage this mode of shopping.

Several commercial thoroughfares and downtown streets have been redesigned in recent years to facilitate active travel. However, some major streets still have facilities that need improvement.

The development of e-commerce is leading to an increase in truck movements in neighbourhoods and on commercial streets. The scarcity of public delivery spaces on commercial thoroughfares hinders the improvement of mobility conditions.

Elements of a vision for the future

Local commerce plays a full part in the local economy, employment and the quality of life in the neighbourhoods. The planning and development of commercial activities is carried out with due regard to local and metropolitan impacts.

The importance of merchants to the vitality of neighbourhoods is fully recognized and entrepreneurship is encouraged.

The population supports local commerce and is aware of the benefits of their consumption choices.

The commercial offer of the neighbourhoods adequately meets the needs of the local population. Stores offering nutritious food are readily accessible to the general population.

The majority of the population uses active and collective modes of transportation to get to universally accessible local businesses. Strolling along a commercial artery is pleasant at any time of day, summer or winter.

Shopping centres provide a complementary offer to that of the commercial thoroughfares. They integrate harmoniously into the urban fabric and the neighbourhood. The buildings are more compact and closer to the street, allow for a mix of uses and are easily accessible by public and active transport. The size of parking lots has decreased considerably. Urban logistics* areas are located there. These encourage the pooling* of last-mile deliveries and make it possible to serve the entire district with small electric vehicles.

The supply and delivery practices of local businesses effectively ensure the delivery of goods without affecting the mobility and safety of other users (delivery areas and times, depots and lockers, pooling*, etc.).

Challenges

Ensure the vitality and attractiveness of local commercial arteries by:

- **Improve the overall management of the commercial offer and promote the consolidation of existing areas**
- **Enrich the pedestrian experience through the quality of public spaces and the built environment**
- **Facilitate the temporary and transitory occupation of commercial spaces**
- **Preserve the affordability of commercial spaces**
- **Improve public access to healthy food stores**
- **Transform shopping centres into complete, integrated living environments**
- **Increase the use of active and collective modes of transportation for shopping**
- **Improve logistics practices associated with supply to local businesses and delivery to consumers**

What you told us

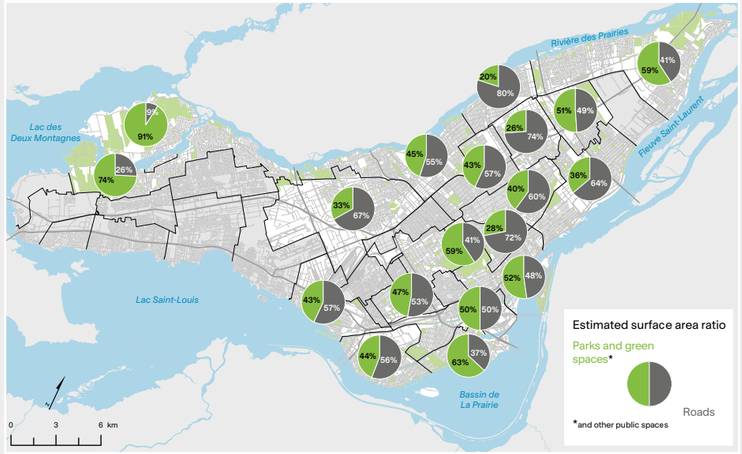
"Commercial streets are establishing themselves in Montréal as places destined to play an increasing role in daily life. As such, an emerging trend is to see them take on a greater role, not only in commercial and economic life, but also socially and culturally, with the hosting of events that bring people together and non-market spaces[76]."

A balanced supply of community facilities and public spaces that support life in the neighbourhoods

Community facilities and public spaces are essential resources that support Montrealers' health and quality of life. As places for activities and meetings, they are first and foremost an anchor for daily life and foster a sense of belonging and the development of social ties.

While Montréal has long been known for its innovative and exemplary practices for citizen appropriation of public spaces (community gardens, festivals, green alleys, pedestrian streets, etc.), current and future challenges require an accelerated generalization of good practices. In addition, the supply of community facilities and public spaces must be increased and rethought to allow equitable access to services that meet the diversified and evolving needs of the population. The city does not however have the means and the levers to increase and improve this supply alone. New rules of the game in terms of regulations, financing, governance, location and management will have to be put in place.

Composition of public spaces by borough

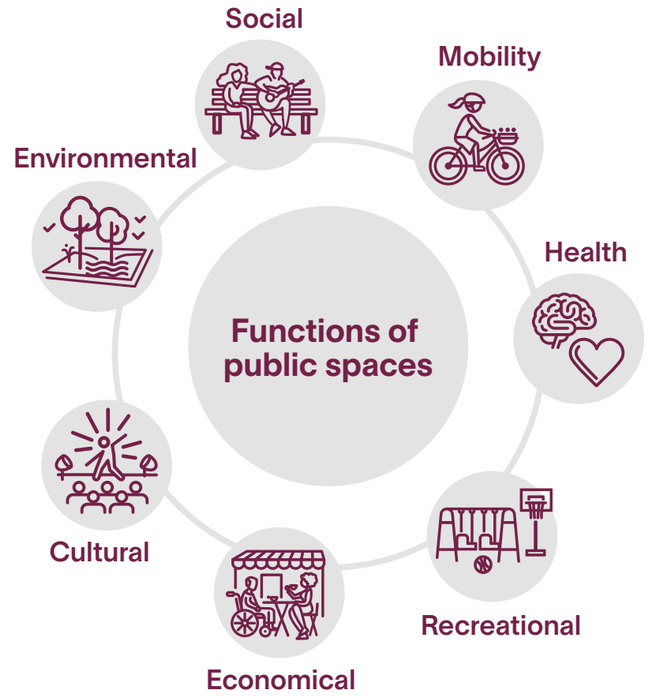


Ville de Montréal

The same frame of reference for all kinds of public spaces

Parks, streets, alleys and other public spaces have the power to support a broad range of functions for a wide variety of users. Montréal recognizes that public spaces constitute joint assets.

In that sense, the same frame of reference for all types of public spaces must guide our actions to ensure that they improve the quality of life, promote social equity* and are part of the ecological transition*.



What you told us

"In connection with the increasing importance of public spaces and the shrinking of social life at the local level, it is recommended that public spaces should not be over-programmed, but rather allow for a wide range of uses. In particular, this would better meet the needs of families and encourage more free play and creativity. This would also enhance the sustainability of these spaces, which would be more adaptable to changes in social practices over time. One participant spoke of a form of 'compensatory urban planning,' where parks give way to shaded, open, landscaped spaces for gathering and resting, rather than being a collection of monofunctional, fenced-in lots[77]."

Current situation

The supply of community facilities and public spaces varies from one neighbourhood to another depending on the urban context, and some inequalities in access have been noted. There are deficits in parks and green spaces in many neighbourhoods. In addition, parks in poorer neighbourhoods are often less well developed than those in more affluent neighbourhoods.

The evolution of the urban form, the trend toward smaller housing sizes and the increasing unaffordability of large housing units accentuate the need for quality public spaces. These needs are magnified for households with children or on low incomes, vulnerable people and those who are less mobile. In dense neighbourhoods, streets and alleys are the main supply of local public spaces. For example, roads account for 80% of the overall supply of public spaces in Montréal-Nord, 75% in Saint-Léonard and 72% in Le Plateau-Mont-Royal.

Real and perceived insecurity deprives many people of the full enjoyment of public spaces, especially women in all their diversity.

The scarcity and high price of land make it difficult to build new school, community, sports, cultural and leisure facilities, as well as new parks, squares and green spaces.

The needs are many and changing.

The transformation of neighbourhoods and the heterogeneity of the population lead to a necessary adaptation of facilities offered to the community. In addition, climate change affects the practice of certain activities and may have an impact on the type of facilities to be used (e.g. refrigerated rink with roof, synthetic field, etc.). These special needs may affect Montréal's ability to provide certain services, particularly in proximity to residents.

No reference framework exists to encourage and sustain the creation of public spaces on private property.

Culturally, a high proportion of public art, events and institutions are concentrated in the inner city. However, there is a trend toward the deployment of the offer throughout the city, thus contributing to the vitality of living environments. The cultural offer is diversifying, but as with the toponymy, it is not sufficiently representative of Montréal's diversity.

Elements of a vision for the future

Neighbourhoods are made more dynamic by the networking of public spaces, services and local community facilities. These networks activate and maintain universal social participation, regardless of gender, age, origin, economic and family situation, abilities or skills.

The supply is particularly strong in neighbourhoods where the most vulnerable Montrealers live.

In every neighbourhood, public spaces contribute to the feeling of belonging and the development of social ties. Reinvented models of governance stimulate their use and promote public engagement. Certain types of spaces are now systematically present in the neighbourhoods.

At the heart of each neighbourhood, a lively collective space hosts community activities. Whether it's an existing public square, a former brownfield*, a local park, a church square or an underused parking lot, these new commons* are used for cultural events, community activities, sharing and co-creation.

New community facilities and public spaces, especially schools, are being created to meet essential needs. The aim is to achieve flexibility and diversity, for example through the complementarity of public facilities and the pooling* of services with the school and health sectors.

Collective facilities are optimized. Strategies are developed to increase the potential for use of and access to spaces at different times of the day and even night. Underutilized or vacant buildings, as well as unusual locations, are transformed or used on a temporary basis to improve the services offered.

Indoor and outdoor spaces complement each other to increase the range of public spaces accessible in summer and winter. This allows for greater flexibility in the face of climate changes and fluctuations in the weather and seasons.

Streets, parks, squares and alleys are designed to promote physical activity and overall health. Local streets are great for free play. Public spaces invite people to get active, play, garden, and travel actively; they offer quiet areas, islands of coolness, and places for socializing and contact with nature.

The optimization of private open spaces has created co-benefits* for the neighbourhood, which now has better access to quiet, green spaces.

Thanks to the development of active pathways, travel is made easier.

In every neighbourhood, public artworks and cultural events, reflecting diversity, contribute to the quality of living environments. Everyone can identify with them and have rich and diverse cultural experiences.

Challenges

Optimize the use of existing public facilities

Rethink the supply of services based on the space and resources available (governance, mutualization*, complementarity of indoor community facilities and outdoor public spaces), taking into account the impact of climate change

Plan new community facilities and quality public spaces, especially parks and schools, particularly where there is inequity of access

Network the locations of collective life (public and private collective facilities, public spaces)

Increase the space given to functions that stimulate neighbourhood life and develop it accordingly

Design and program public spaces so that everyone feels welcome and safe at all times

Create permanent public spaces on private property

Provide access to quality cultural experiences in public spaces in all neighbourhoods

Systematically consider the needs of vulnerable and marginalized people in the planning and programming of public spaces

Perspective view of the future Octagon library, borough of LaSalle

What might buildings and their surroundings look like in 2050?

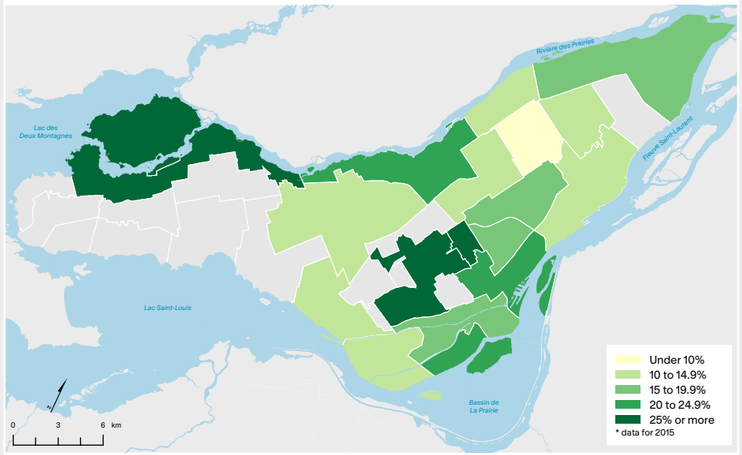
Everyone feels good and likes to be here. Nature has priority of place. Transportation modes are adapted to coexist with free play and community activities. Parcels are delivered using small vehicles and the majority of trips are made on foot, by bicycle or by public transit. Culture brings life to local public spaces.

Community-maintained tree squares on Rue Des Érables, Rosemont–La Petite-Patrie borough.

Nature integrated into neighbourhoods

Montréal must be resilient* and reduce the risks associated with climate hazards (intense rainfall, heat waves, etc.) through preventive measures such as increasing the canopy* and developing green infrastructure*. This requires action in both the private and public domains, wherever there are opportunities. In addition to making communities more resilient, integrating nature into living environments helps to improve the health and quality of life of the population.

Canopy index by borough



Ville de Montréal

500,000 trees for Montréal

Montréal wants to achieve a canopy* that covers 25% of the island's land. To achieve this, it plans to plant 500,000 trees. As existing trees continue to grow and expand the canopy*, Montrealers will still need to pay special attention to the health of their trees, particularly by having their ash trees treated.

Current situation

Heat islands and the mineralization of soils and buildings dominate certain neighbourhoods and sectors of the city. Where the built environment is dense and heavily mineralized, private outdoor spaces are often too small to plant trees and make their soils permeable.

Montréal's canopy* varies greatly from one borough to another. It represented 20% of the island's area in 2007. Despite the losses caused by the emerald ash borer (EAB), a devastating insect that kills ash trees, the canopy* remained about the same in 2015 thanks to the growth of the urban forest, the planting of trees on public property and the city's attention to treating its trees against this pest.

In addition, low-income people and, to a lesser extent, racialized people and newcomers live in areas with less abundant vegetation[78]

New construction and certain renovations often result in the loss of mature trees on the land Some yards are not optimally landscaped and are used as parking lots

Possibilities for greening the roofs and walls of buildings are still poorly used

The planting potential of Montréal's public spaces is limited in many areas by the lack of open spaces, the presence of numerous facilities (e.g. bus shelters) and overhead and underground obstacles, by pollution (e.g. de-icing salts), and more.

Using grass as the primary means of greening does not improve biodiversity or thermal comfort.

Lack of space is the main obstacle to various urban agriculture practices.

Green infrastructure* projects are the subject of promising pilot projects such as the redevelopment of Avenue Papineau, north of Boulevard Crémazie, and the multiplication of draining curb extension.

Elements of a vision for the future

Streets, alleys, parks and green spaces have been transformed to allow for massive tree planting and green infrastructure* (such as draining curb extensions and floodable green spaces). These elements, whose ecological services are recognized, are now at the heart of urban planning processes and are the subject of investments.

Greening is no longer just aesthetic, it also makes room for biodiversity: more emphasis is placed on ground cover, shrubs, native plants and pollinator-friendly plants. These new urban landscapes contribute to the health and quality of life of Montrealers.

Public squares are developed according to the concept of the "resilient square" (water square). During extreme rains, water accumulated on the street can spill over into these squares.

The form and layout of buildings are influenced by the presence of trees and the topography of the site.

The front yard is the preferred area for planting trees. Where this is not possible, innovative solutions are found to enable greening, from the street to the roofs, via the facades of buildings and balconies and courtyards.

Permeable floor coverings are used wherever possible.

Otherwise, the use of materials that reduce heat islands is preferred. Rain gardens and other stormwater retention areas are common practice on lots.

Infrastructures and buildings with a strategic function (e.g. metro stations, gymnasiums that can accommodate disaster victims, buildings for telecommunications, energy, etc.) are protected against flooding and heavy rain.

New construction and renovations include space for urban agriculture.

Places awaiting requalification are occupied by ephemeral or transitional gardens.

The population participates in the maintenance of local plant ecosystems by ensuring the health of trees and plants, thus strengthening their contact with nature.

Thanks to the participation and creativity of companies and committed citizens, mineralized areas are being greened at little cost.

Challenges

Increase vegetation and biodiversity in neighbourhoods, particularly in dense areas and those with concentrated vulnerable populations

Free up street space (sidewalk width, medians) and create planting pits that ensure the viability of trees

Adapt the form of construction and expansion projects to respect existing natural systems and create more quality planting spaces

Systematically direct heavy rainfall runoff to areas of least risk to buildings on site or on public property, while considering the challenges of their sustainability and maintenance in a northern climate

Development of a "resilient square" (water square) in Parc Pierre-Dansereau, Outremont borough.

Conversion of a former industrial building that incorporates several best practices, particularly in energy efficiency, Sud-Ouest borough

Energy-efficient, adaptable, resilient* and versatile buildings

To achieve carbon neutrality* by 2050, new buildings will have to be low-carbon* and energy-efficient. Existing buildings will need to be retrofitted to achieve energy efficiency, while ensuring comfort and affordability. In all cases, buildings will have to adapt to climate change. In addition, community facilities will not only be maintained in good condition and renovated to standard. They will henceforth allow for a greater variety of activities, according to changing needs, while maintaining architectural quality. Buildings also include all the facilities that promote active mobility, as well as those that allow for maximum reuse, recycling and composting, with a view to achieving the city's zero waste objective by 2030.

Active design

Active design is a multi-disciplinary approach that finds solutions in planning, urban design and architecture to support healthy communities, particularly through physically active living.

It enables the design of outdoor and indoor public spaces and buildings that create interfaces for active travel, improve urban trips and encourage daily movement.

(Definition inspired by Living in the City, from the Center for Active Design)

Current situation

Natural gas heating is responsible for nearly 43% of GHG emissions in Montréal[79].

Regulatory requirements for energy efficiency in existing buildings are low. Energy efficiency retrofits pose challenges in financing and in respecting occupants' rights and ability to pay (particularly residential tenants).

Sustainable practices in the building industry are progressing, notably through growth of projects that meet environmental certifications (LEED® and others).

Existing community buildings and facilities require special attention in order to counteract their obsolescence, adapt them to the changing needs of a diverse population and reduce their carbon footprint. This poses challenges for funding and, in some cases, for the preservation of their heritage value.

Buildings adapted to support active mobility (e.g., running, biking) are still rare. The presence of adequate facilities (e.g., secure parking, changing rooms, showers, etc.) is an important factor for cycling, particularly for workers.

The organics collection service is implemented in all buildings with eight dwellings or less. This service has yet to be implemented in institutions, businesses and residential buildings with nine or more units, but this presents additional challenges.

Elements of a vision for the future

Buildings are no longer heated with fossil fuels (oil or natural gas). Certain types of renewable energy facilities, such as geothermal, are being tested, and those that meet expectations are being rolled out.

Buildings are energy efficient thanks to the widespread use of various construction and renovation strategies. In this respect, conservation, enhancement, restoration, renovation and requalification are favoured.

Regardless of the season, buildings are comfortable, as they are constructed with consideration for natural light and ventilation, protection from prevailing winds and solar orientation. Similarly, buildings are adapted to withstand climate hazards* such as heavy rainfall and heat waves.

Existing community facilities are adapted to new standards and to changing uses, while respecting the heritage and the building's capacity to accommodate the targeted uses. They offer versatile and flexible spaces that allow for maximum diversity of use.

When economic activity allows it, industrial buildings are multi-storied and their outdoor spaces are shared.

Charging stations for electric vehicles are available on private property and in parking lots, which avoids cluttering public spaces.

Alternatives to facade and surface parking are found. Most off-street public parking is located in shared, strategically positioned structures (tiered, underground). The remaining surface parking spaces are developed in an environmentally responsible manner[80].

Buildings and lots have the space required to store organic and waste materials in all types of built environments. The pooling* of repair and bartering spaces (collaborative third places*) allows for the reuse and recovery of appliances and objects that would otherwise have found their way to landfills. In addition, construction, renovation and demolition (CRD) and manufacturing waste is reduced in quantity and recovered.

Example of co-benefits - Perspective view of the future Bellechasse transportation centre, including an underground garage covered by a greened platform accessible to the public, Rosemont-La-Petite-Patrie borough

Challenges

Decarbonize the existing building stock and make it more energy efficient and climate change friendly, while maintaining affordability and respecting and enhancing existing buildings and significant heritage features

Adapt buildings (residential, commercial, institutional, industrial, etc.) and their grounds, where the situation permits, to be able to share them and convert them to accommodate complementary or new functions Systematize the availability of equipment and facilities that promote soft and low-carbon modes of transportation, as well as reuse, recycling and composting

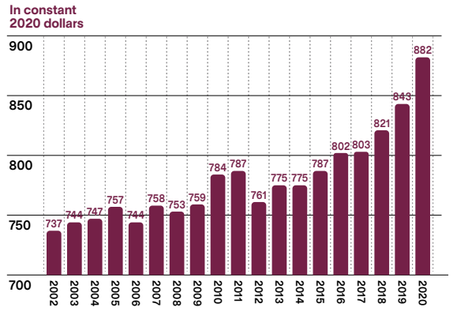
Quality affordable housing

Montréal is a city where housing costs are still considered affordable by North American standards. However, realities differ between Montréal's various neighbourhoods. Sustained efforts must be made to preserve this affordability, and even to strengthen it in certain neighbourhoods. Recently added tools can influence the residential supply, including the right of pre-emption and the by-law to improve the supply of social, affordable and family housing. These are in addition to existing strategies and programs. All these tools depend on a significant and recurrent financial contribution, particularly in the case of the development and maintenance of social housing*.

A metropolis that welcomes a diverse population must be able to house it, whatever its needs, in order to maintain its attractiveness and vitality. This translates into non-discriminatory access, regardless of functional limitations, to housing that is healthy (lighting, ventilation, etc.), of sufficient size, that respects the household's ability to pay and that meets its aspirations.

Site of the Sainte-Germaine-Cousin residences: community housing for seniors and a former church now housing an early childhood centre and a community hall. Borough of Rivière-des-Prairies- Pointe-aux-Trembles.

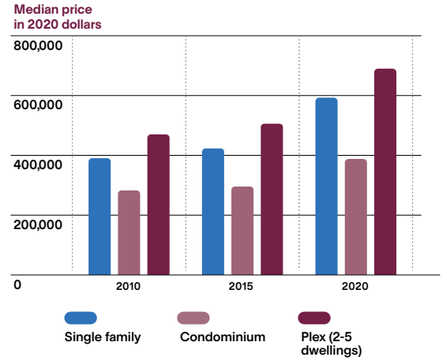
Evolution of the average monthly rent – Montréal municipality



Canadian Mortgage and Housing Corporation

There has been increasingly rapid growth of average rents since 2014. Moreover, according to the CMHC, the estimated percentage change in the average rent was 4.6% for the Island of Montréal between 2019 and 2020, the highest increase since 2003. The estimated value is a measure of market development and is based on the properties included in the survey sample in both years.

Evolution of the median selling price by type of property – Montréal urban agglomeration



FCIQ Residential Real Estate Market Barometer, 4th quarter
Data for the last 12 months of 2010, 2015, 2020 (adjusted for inflation)

Over the past 10 years, the median selling price has increased substantially for all property types. However, the increase has been particularly marked in the last five years.

Provide access to desired neighbourhoods

Our actions must create conditions that favour access to or retention of people who wish to live in a neighbourhood.

We must be proactive in the face of demographic growth, an aging population and land pressure to improve the social mix and ensure that households, especially families, remain on the island. In order to provide an affordable living environment adapted to the diverse and evolving needs of individuals, our actions must focus on three areas:

- Housing, by supporting quality, affordable residential development adapted to the needs of all types of households;
- Local services and facilities, taking advantage of the (re)development of neighbourhoods (those undergoing transformation or new ones) to better plan and optimize the supply;
- Public spaces, by improving mobility conditions, especially for the most vulnerable, by supporting free play in neighbourhoods and by developing places of socialization to break down isolation.

Current situation

The accelerated development of the last few years has made land more difficult to obtain, especially in the central districts. There is little affordable rental housing* available and the stock is eroding in more central neighbourhoods[81]. Rent and property costs are rising at an ever-increasing rate.

There is also an emergence and expansion of disadvantaged areas on the periphery. The arrival of new transportation infrastructure increases the attractiveness of and demand for many households and investors in these areas, which may threaten the ability of existing populations to remain there.

Some populations are victims of discrimination in access to housing. This is often related to ethnicity, functional ability, age, gender identity, immigration status, household type and socio-economic status.

Some of the existing housing stock in the central districts and on the outskirts is deteriorating and often requires major work.

The supply of accessible and adaptable housing[82] is insufficient, while the needs are expected to increase as the population ages. Adapting most of the existing housing stock is complex and can be very costly.

The new housing market is focused on the production of small dwellings, which meets the needs of a significant proportion of households. However, the supply of large units remains limited, which increases prices. Furthermore, current residential construction does not allow for the adaptation of housing to the different life stages of households.

The trend toward smaller dwellings and the growing popularity of teleworking are leading to a need to consider the quality of private and communal spaces within residential buildings.

Elements of a vision for the future

Montrealers live where they want to live and can stay there thanks to the different types of housing available.

The social and generational mix is assured in every Montréal neighbourhood.

The strategies and tools put in place by the city, in collaboration with its partners, as well as the diversity of the housing supply, help limit the negative effects of gentrification.

The housing stock has been extensively renovated and diligently maintained, with a view to ensuring that the most vulnerable people, in particular, can be housed in a dignified manner.

The supply of accessible and adaptable housing has increased considerably. The supply of quality housing is diverse and adequate, particularly in terms of size and design. It meets the needs of all households at all stages of life.

In addition to the quality of residential interiors, the quality of the associated private outdoor spaces (balconies, terraces) as well as the common spaces allow for socialization, relaxation and leisure which increases the available living space.

Challenges

Maintain and improve access to adequate and affordable housing in the various neighbourhoods

Diversify the supply of residential products, including social* and affordable* housing, in Montréal neighbourhoods

Provide for the development of social* and affordable* housing, particularly upstream of projects

Ensure that the provincial and federal governments make a significant and ongoing contribution to the funding of social* and affordable* housing

Improve the healthiness of housing

Ensure that housing is well designed, with a substantial proportion of large units and accessible and adapted units

Promote the development of housing that is adaptable and more responsive to the various needs of current and future households

Offer quality common spaces in terms of both surface area and diversity of space types

Habitations Saint-Michel-Nord. Villeray–Saint-Michel–Parc-Extension borough.

Building the future

Now it’s your turn to have your say!

What makes Montréal special is not only the wealth of its territory, its vibrancy and its neighbourhoods, but above all the diversity of its inhabitants and their strong sense of belonging to their city. On studying the transition paths, it becomes clear that Montréal must capitalize on its undeniable assets and strengths to realize the vision components listed therein.

Of course, there are many challenges to be addressed and this work must be done collectively, with the whole community. The City Vision is the basis for discussions that will take place during consultations aimed at better identifying Montrealers’ aspirations for their city. These consultations will allow us to improve the content of this document and move forward together to develop the next land use and mobility plan.

We invite you to come out in large numbers to take part in the various consultation activities, in order to better understand your daily experience of the city and shape the 2050 Land Use and Mobility Plan, to make Montréal the city we want.

Positioning Montréal at the centre of the ecological transition ecosystem*

Montréal is proactive in the ecological transition*, building relationships and collaborations at the local, metropolitan, national and international levels. In addition to creating a network for exchanging practices that enriches our knowledge about the ecological transition*, the city is developing a multi-scale approach (neighbourhood, city, region) for transport, food, energy and circularity, among other key areas. The experimental approach is propelling Montréal into the ranks of the great cities of social, economic and environmental innovation.

Our actions contribute to developing a green, resilient* and inclusive economy, to the orientation of technological developments and their integration into the city, to the promotion of measures and processes that improve the quality and exemplarity of architecture and design, and to the support of Montréal’s creative industry. The climate crisis calls for collaboration and complementarity between cities. Montréal inspires and stimulates.

Glossary

Adaptation to climate change

Any action aiming to reduce the impacts of climate change or to take advantage of new opportunities arising from it.

Source: Ouranos (2020) 2021. Adaptation to Climate Change: Challenges and Prospects for he Montreal and Laval Regions, accessed online in 2021 *mamh.gouv.qc.ca*.

Affordable housing

In Canada, it is generally agreed that housing is considered affordable if it costs less than 30% of pre-tax household income. Many people think that affordable housing refers only to government-subsidized rental housing. In practice, housing is either affordable or unaffordable for a given household, depending on its needs and ability to pay. In this document, the term excludes social and community housing and includes private, public and non-profit housing, as well as different occupancies such as rental and owner-occupied.

Brownfield

A disused industrial site which may need cleaning, rehabilitation or decontamination before being repurposed, often for residential, commercial or mixed usages

Canopy

The canopy refers to the spreading branches and leaves at the tops of trees, called the crown. The ratio of the area of the projection on the ground of all the tree crowns over three metres high in a given area to the total area of that area gives the canopy index.

Source: Ville de Montréal (2015). *Montréal Urban Agglomeration Land Use and Development Plan*.

Carbon neutrality

Achieving zero greenhouse gas (GHG) emissions by reducing them and then offsetting those emitted into the atmosphere.

Source : Ville de Montréal (2020). *Climate Plan 2020- 2030,* consulted online in 2020

Circular economy

A system of production, exchange and consumption aimed at optimizing the use of resources at all stages of the life cycle of a good or service, in a circular logic (sharing, reusing, recycling, etc.), while reducing the environmental footprint and contributing to the well-being of individuals and communities.

Source : Québec circulaire *quebeccirculaire.org*.

Climate hazard

A phenomenon, physical manifestation or human activity that may cause loss of life or injury, damage to property, social and economic disruption or environmental degradation. Each hazard is characterized, among other things, by a given probability of occurrence and a given intensity.

Definition taken from the *2020-2030 Climate Plan. Concepts de base en sécurité civile*, Annexe 1 - Glossaire, Ministère de la Sécurité publique, consulted online in 2015 *securitepublique.gouv.qc.ca*.

Co-benefit

First used in the environmental field, particularly in the context of climate policy, the term co-benefit refers to the positive indirect consequences resulting from measures to reduce GHG emissions. For example, the introduction of measures to reduce the use of motor vehicles can have a positive impact on health. Over time, the pursuit of co-benefits has become an explicit objective of climate policy, and other fields have appropriated the concept.

In the context of urban policies, the search for co-benefits makes it possible to deal with benefits that are not related to the primary or minimal function of a place or an object. For example, the future Bellechasse transportation centre, which will be used by Société de transport de Montréal (STM) buses, will have a public green space on its sloping roof. In addition to fulfilling its primary function, the building will increase the supply of green space in a highly mineralized area and contribute positively to the quality of the landscape.

Source: C. Cassen, C. Guivarch, and F. Lecocq (2015). Climate policy co-benefits: an operative concept for climate negotiations? *Natures Sciences Sociétés*, supplement 3, p. 41-51.

Commons

Shared resources that are collectively managed by a community. Commons are not simply goods like land, water, air, or education. They should be seen as institutions or, in other words, as enduring social constructions based on three elements:

1. A shared resource, good, or space (e.g., local spaces, infrastructure, facilities, and services);
2. A community of users;
3. A governance model that allows the collective to manage the resource.

The commons concept gives precedence to the right of use over ownership. In other words, people who use a commons can participate in its co-production, reproduction and management in a democratic way, without being able to destroy, resell or get rid of it.

Source: C.I.T.I.E.S.(2019) The urban commons - A look at Montréal and Barcelona *cities-ess.org*.

Densification

The process of increasing the number of people or activities in a given area or space. Density is an indicator used to measure, plan and control the development of cities. Many types of densities can be considered and must be distinguished.

The density of occupation of an area can be measured by crossing different data such as the number of inhabitants, the number of dwellings, the number of jobs, the number of activities, etc. with different pieces of land (e.g.: lots, blocks, neighbourhoods, city, etc.).

Area densification is often associated with a mix of functions, that is, various functions such as housing, commerce, offices, services, etc., grouped together in one area.

Compactness is also a concept associated with densification. It refers to the degree of closeness between the different urban components built. Extended to the city level, the concept of the compact city denotes a planning approach that is intended to be more sustainable, because it aims, among other things, to bring activities and populations closer together, which makes it possible to reduce mobility needs, the use of motorized travel and energy consumption.

To contribute to the improvement of the living environment, the densification of a territory must be accompanied by complementary actions related, in particular, to the architecture and shape of buildings, to greening, to the supply of parks and to the user-friendliness of pedestrian and bicycle networks.

Source (partial): Fahey et associés (2020). *Decoding Density*, document prepared at the request of the Montréal Service de l'urbanisme et de la mobilité, Division des plans et des politiques. *portail-m4s.s3.montreal.ca/pdf/210804_decoderdensite_eng_chap1_2_lr_2.pdf*

Eco-district (French: écoquartier)

In Québec, there is still no clear definition of an eco-district. In Europe, an eco-district is a neighbourhood developed in such a way as to support the ecological transition, with environmental, social and economic innovations that go far beyond development. As part of Montréal's move toward an eco-district charter, it is also a quality urban project that consolidates the existing city and benefits the entire community. The planning approach puts people and nature at the heart of the process, while fostering democracy and community resilience. This is not to be confused with eco-neighbourhoods (French: éco-quartiers): organizations working in Montréal boroughs to carry out citizen-based environmental actions, promote environmental citizenship and improve living environments.

Source: Living in Cities (2014). *Bringing Eco-districts to Life - Lessons from Sustainable Communities in Baden-Württemberg, Germany* (Coll. Inspiring Quebec; 5)

Ecological transition

The ecological transition suggests a new social and economic model that respects the limits of ecosystems and reduces greenhouse gas (GHG) emissions. From an economic perspective, this new low-carbon model is recognized by international institutions as a key to making our economy more robust and resilient. From a social point of view, this new model implies revisiting our lifestyles, our relationship to consumption, our decision-making processes and our social relations. It is a key to strengthening the social fabric and solidarity and to reducing social inequalities.

For Montréal, the ecological transition involves first and foremost adapting to climate change and radically transforming the way we produce and consume goods and energy, protecting biodiversity and strengthening the resilience of our ecosystems and our community. This must be done while ensuring that no Montrealer is left behind.

Source : Ville de Montréal (2020). *Climate Plan 2020- 2030,* consulted online in 2020

Empowerment

A complex and multidimensional process that focuses on empowering individuals and communities. It is about enabling a group to increase its quality of life by becoming aware of its power of collective action and emancipation.

Sources: A. Calvès (2009). "Empowerment": geneaology of a key concept in contemporary development discourse, Third World Review. 4(4), pp. 735-749 *doi.org*. S. Chartier (2017). "Empowerment", a word that is losing its power, S. Chartier (2017). *Le Devoir*, 1st August 2017 *ledevoir.com*.

Green infrastructure

Aménagements verts permettant de drainer, de ralentir et de stocker l'eau. Les aménagements de ce type, qui relèvent des pratiques de gestion optimales (PGO), peuvent prendre différentes formes : bassin de biorétention, aménagement avec sol absorbant, dépression végétalisée (bassin sec), structure de collecte des eaux des toits, fossé (noue) ou toit végétalisé.

Source: F. Maure, et al. (2018). *The role of natural infrastructures in flood prevention in the Montréal Metropolitan Community,* Natural Infrastructure and Phytotechnology Summit *davidsuzuki.org*

Mutualization or Pooling

These terms refer to the sharing of resources such as space.

For example, different buildings may share the same parking area or different users may share the same equipment.

Source: APUR (2020). Public facilities and services 2030 *apur.org*.

Natural Infrastructures

An interconnected network of green and blue spaces that preserve the values and functions of natural ecosystems while providing a variety of benefits to human populations.

Source: F. Maure, et al. (2018). *The role of natural infrastructures in flood prevention in the Montréal Metropolitan Community,* Natural Infrastructure and Phytotechnology Summit *davidsuzuki.org*.

Prospective scenario

A method of making assumptions and developing progressions to imagine possible futures. The purpose of a prospective scenario is not to prescribe a desirable future, but rather to explore hypothetical events to draw attention to important issues and their causes. It allows us to broaden our thinking on the factors of change and to shed light on planning processes having a distant horizon.

The prospective scenarios were developed as part of the participatory forecasting process to trigger discussions during the co-design workshops. The elaboration of such scenarios is a way of thinking about the coming decades in a new way, by going beyond the usual logic, in order to stimulate collective imaginations, particularly in relation to urban planning and mobility. These are not fixed and finalized scenarios that the Montréal wishes to implement or adopt, but rather tools to feed the planning process.

Sources: Lab Ville prospective. Report for the City of Montreal as part of the development of the PUM. Internal document. P.-A. Julien, P. Lamonde and D. Latouche (1975). The Scenario Method in Forecasting, *L'Actualité économique*, 51(2), p. 253-281. *doi.org*.

Resilience, resilient

The ability of a system, community or society potentially exposed to hazards to adapt, by resisting or changing, in order to establish and maintain acceptable structures and levels of functioning.

Source: Ouranos (2020) 2021. Adaptation to Climate Change: Challenges and Prospects for the Montreal and Laval Regions, accessed online in 2021 *mamh.gouv.qc.ca*.

Sobriety, sober

Sobriety has no fixed definition and encompasses multiple realities through several approaches (e.g. frugality, simplicity, zero waste, efficiency, energy sobriety or deconsumption).

The common denominator of these various approaches is a search for less, for moderation in the goods and services produced and consumed that require energy or material resources, while at the same time seeking something better, particularly an improvement in quality of life and well-being.

Sobriety invites us to modify our behaviours by thinking more about their impacts. This evolution of our lifestyles does not only depend on individual actions, but also on collective choices. The notion of sobriety is part of the ecological transition.

Source: F. Cézard (AGATTE), and M. Mourad (2019). Panorama sur la notion de sobriété - Définitions, mises en œuvre, enjeux, for ADEME *adem*

Social equity

Providing every citizen, regardless of economic resources or personal characteristics, with fair and equitable living conditions to meet their basic needs (housing, mobility, education, food, clothing, etc.).

Source : Ville de Montréal (2020). *Climate Plan 2020- 2030,* consulted online in 2020

Social housing

In this document, the term social housing is used in a broad sense and includes both social and community-based housing. The development of these units is carried out within the framework of an AccèsLogis subsidy program, whether the municipal program or the provincial one. The projects are supported by housing cooperatives, non-profit organizations and the Office municipal d'habitation de Montréal. The units are intended for low- and moderate-income households, as well as for clients with special housing needs.

Temporal mix

The alternation of various uses and functions over time within the same place, which reorganizes the traditional vocations of spaces to optimize them and better adapt them to the activities of citizens, with a view to improving access. Temporal mix has two forms of time horizons:

- Short term, i.e. access times, school and work rhythms, and the schedules of transportation and commerce which structure urban lifestyles. This type of temporal mix is based on a better synchronization of activities to promote greater access to the various resources in a given area;

- Long term, i.e. the possibility for a building, an urban block or a facility to radically change its function when the time comes. Temporal mix can be constructive (the capacity of a development or a building to be easily taken down, leaving the site close to its initial state) or functional (the possibility for a development or a building to easily and radically change use).

Source: Lab Ville prospective. Report prepared for the municipality of Montréal as part of the development of the PUM. Internal document.

Territorial equity

A geographical configuration that would ensure equal conditions of access for everyone to goods and services of collective interest, such as transport infrastructures (particularly collective and active), green spaces, social and health services, food, education and culture, and even to employment and various opportunities. Territorial equity is a concept that aims to correct situations marked by spatial injustice.

- The difference principle: Inequalities in a society are only acceptable if they contribute to the increase of collective well-being.

The principle of reparation: an equitable society must pay more attention to underprivileged persons and areas than to the whole population or territory. In this sense, territorial equity is to be distinguished from territorial equality.

Sources: Géoconfluences (2015). Territorial equity *geoconfluences.ens-lyon.fr*. Philippe Langevin (2013). Territorial equity: what is it? (in French) *pddtm.hypotheses.org*.

Third place

Inclusive social spaces that are neither home nor work, such as a café, a public library, or, for example, Bâtiment 7 in Pointe-Saint-Charles. Third places are often laboratories where new ways of living and working together are tested in a logic of openness and sharing. They are defined more by what happens there than where they are. These places are part of a process of doing things differently.

Sources: Lab Ville prospective. Report prepared for Montreal as part of the development of the PUM. Internal document. M. Giard (2019). Third places: the Ambivalence of a Term in the Face of Protean Socialization, capsule thématique *vrm.ca*.

Urban delivery

Urban delivery means the delivery (or shipment) of finished products to individuals or companies in urban areas. The concept excludes flows of raw materials, intermediate goods, construction materials and waste. Urban delivery is also commonly referred to as last mile delivery.

Urban logistics

Urban logistics is the field of activity that ensures the efficient storage and flow of raw materials, products in the process of being manufactured, finished products and waste in transit in an urban environment. It also includes the information and technology related to these flows. Urban logistics covers all distribution, consolidation and transfer points preceding or following transit in the urban environment. It differs from logistics in general in that it takes into consideration the specific characteristics of the urban environment and directly influences urban development through the networks used, the storage locations, the vehicles and the technologies used to transport goods.

Zero emission zone

Area where zero-emission travel modes (including electric vehicles and active transportation) are favoured over polluting travel modes for people and goods. This type of zone contributes to the improvement of quality of life at the neighbourhood level by reducing pollution, noise and GHG emissions generated by fossil-fuel vehicle usage.

Source : Ville de Montréal (2020). *Climate Plan 2020- 2030*, consulté en ligne en 2020.

References

1 This refers in particular to the Intergovernmental Panel on Climate Change (IPCC). In French: Groupe intergouvernemental d'experts sur l'évolution du climat (GIEC). The IPCC is the main international body assessing climate change. Its objective is to conduct policy-relevant evaluations on
- The scientific basis for climate change;
- Climate change impacts and risks;
- Options for adaptation and mitigation.
IPCC assessments provide decision-makers with relevant, neutral scientific information for policy-making.
Source of this definition: Government of Canada canada.ca/en/environment-climate-change.html

2 These include the One Planet Charter in 2018 and the Climate Action Summit in 2019. For more details, see the Climate Plan, p.113.

3 Source Ville de Montréal (2020). Climate Plan 2020-2030.

4 Quote from a citizen who participated in a focus group conducted by the Institut du Nouveau Monde (INM) in the winter of 2020. Source INM (2020). *Focus groups report.*

5 These include a series of participatory forecasting workshops (fall 2020, with close to 80 participants) conducted with Lab Ville Prospective, ideation workshops on the City Vision (winter 2021, with close to 120 participants) and workshops to design the downtown and central neighbourhoods of tomorrow (winter 2021). Two social development activities were also carried out, the first in collaboration with the Forum régional sur le développement social de l'Île de Montréal and the second with the Département d'études urbaines et touristiques of the Université du Québec à Montréal. The City also participated in an activity on culture and heritage organized by Culture Montréal and Héritage Montréal.

6 The document *Decoding Density* aims to clarify the concepts and provide food for thought regarding the orientations and guidelines of the future PUM 2050 relating to density. It includes a glossary, a morphological study of expressions of density in the Montréal context and a study of inspiring approaches.

7 Three booklets from the In.SITU Chair were produced (in French): In.SITU Booklet n° 5 - Demand management: a review of practices; In.SITU Booklet n° 6 - A reasoned and illustrated inventory of demand management; In.SITU Booklet n° 7- Demand management: Critical analysis of a collective action register.

8 Institut de la statistique du Québec (2020). *Demographic projections. Customized scenarios for the City of Montréal.*

9 As part of this work, studies were carried out on:
- The barriers and levers related to the use of different sustainable mobility options, through a web survey of more than 2,500 people;
- The factors of dispossession and reduction of the use of the automobile, with a series of six workshops composed of volunteer citizens;
- Demand management and best practices of employers in Montréal;
- Research on the psychosocial determinants of Montrealers' attachment to the automobile.

10 Youth aged 13 to 17, parents of young children, people living below the poverty line and newcomers.

11 As required by the LAU, the document will come into force (or be effective) after a validation of its compliance with the *Montréal Urban Agglomeration Land Use and Development Plan*.

12 See section 1.4, "Innovating for 2050 with forecasting".

13 The territory of the Montréal Urban Agglomeration corresponds to the Island of Montréal (plus a few smaller nearby islands, notably Île Dorval). It includes the municipality of Montréal and its nineteen boroughs as well as 15 related cities.

14 Institut de la statistique du Québec (2020). *Customized scenarios for the City of Montréal, base scenario.*

15 *Ibid.* The term household is used to refer to private households.

16 In 2016, 59% of agglomeration citizens came directly or indirectly from international immigration. Source: City of Montréal (2018). Socio-demographic profile, *2016 Census, Montréal Urban Agglomeration*, Montréal by the Numbers.

17 The total fertility rate in the Montréal agglomeration is insufficient to ensure generational replacement. In 2019, it was 1.37 children per woman. Source: Institut de la statistique du Québec.

18 International Organization for Migration (IOM) (2008). *Migration and Climate Change*, IOM MRS No. 31, publications.iom.int.

19 Statistics Canada, 2016 Census (special order by the City of Montréal).

20 Depending on the size of the schools and the capacity of an elementary school, the City estimates that the projected increase in the number of children represents the equivalent of 50 to 80 schools. Preliminary estimate made on the basis of a reference document on the capacity of a primary-secondary school. Source: ministère de l'Éducation et de l'Enseignement supérieur (2017).

21 Ministère des Transports du Québec (MTQ). Origin-Destination Survey Travel Projections, 2013-2036, Direction de la modélisation des systèmes de transport.

22 The City estimates that 158,000 additional vehicles could be on the road in the agglomeration by 2050. Projection based on Institut de la statistique du Québec demographic projections (base scenario) and 2013 Origin-Destination Survey motorization data, assuming a constant motorization rate (2013).

23 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

24 The transportation sector as a whole accounts for 40% of the overall emissions. Sources: City of Montreal (2019), op. cit. and City of Montreal (2020), op. cit.

25 Transition Paths (2021). Toegether for a desirable future, "Step 1 Prospective Diagnostic: How to live soberly and resiliently in Québec in a context of ecological transition*", Montréal, Space for Life, Université de Montréal cheminsdetransition.org.

26 Lab Ville prospective. *Report for the City of Montréal in the context of the development of the PUM*. Internal document.

27 City of Montréal (2019). 2015 Greenhouse Gas Emissions Inventory of the Montreal community.

28 Statistics fluctuate depending on weather conditions, but a downward trend is observed. Source: Air Quality Monitoring Network, City of Montréal.

29 Based on the Market Basket Measure (MBM).
Source: Statistics Canada.

30 A household in urgent need of housing is one whose housing is considered inadequate, unaffordable or unsuitable in size, and whose income level is insufficient to meet the costs of appropriate and adequate housing in its community. Source: Statistics Canada, 2016 Census.

31 Statistics Canada (2016). Canadian Community Health Survey (2015-2016).

32 Data cross-referenced by MBM. Source: Statistics Canada, 2016 Census.

33 Government of Canada. *A Human Rights-Based Approach*, accessed online April 2021 international.gc.ca.

34 Sources: Conseil des Montréalaises (2017), The Safety of Cisgender and Trans Women and Youth at Outdoor Events in Montréal, and OCPM (2020), Systemic Racism and Discrimination in the Jurisdictions of the City of Montréal - Consultation Report.

35 City of Montréal. *By-law for a mixed metropolis: Explanatory document - Revised version*, November 2020, p. 5.

36 Dissemination areas with 150 or more people below the MBM poverty line or 20% of the population in poverty.

37 According to a preliminary analysis by the City of Montréal based on the 2020 property roll, the Société de transport de Montréal (STM) service offer (2018 General Transit Feed Specification data) and 2016

38 Census data. Montréal Origin-Destination Survey 2013.

39 Lachapelle, U., Boisjoly, G. & Vermesch, P. (2020). Realization of a portrait of the needs and travel habits of people living in situations of hardship in the Montréal region (report).

40 MTQ, *op. cit.*, Direction de la modélisation des systèmes de transport (DMST).

41 An increase of 256,000 daily car trips is expected by 2036 in the agglomeration, compared to 2013. Source: MTQ, *op. cit.*

42 During the morning rush hour.

43 This category includes pickup trucks, vans and sport utility vehicles. From 2011 to 2018, the number of cars decreased by nearly 8% in the metropolitan area, while light trucks increased by 52%. Source: Société de l'assurance automobile du Québec (SAAQ).

44 In 2018, the average fuel consumption of cars was 8.4 litres/100 km and that of light trucks was 10.5 litres/100 km. Source: J. Whitmore, and P.-O. Pineau (2021), *The State of Energy in Québec 2021*, Chair in Energy Sector Management, HEC Montréal.

45 G. Amar (2010). *Homo Mobilis - The New Age of Mobility* (in French), Éditions FYP, Limoges, 207 pages.

46 Quote from a citizen who participated in a focus group conducted by the Institut du Nouveau Monde (INM) in the winter of 2020. Source: INM (2020), *Focus Group Report.*

47 The remaining 5% is made up of medians, planting strips and spaces reserved for urban furniture. Source: G. Lefebvre-Ropars, and P. Negron-Poblete (2021). *Characterization of road sharing in Montréal - Research note*, Polytechnique Montréal, page 8. Retrieved online in 2021 polymtl.ca/mobilite/publications

48 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

49 More than 146,000 jobs were created in the Montréal Urban Agglomeration between 1996 and 2016. During this period, the Montréal agglomeration's share of metropolitan employment fell from 70% to 61%. Source: Statistics Canada, 1996 and 2016 Censuses of Population, custom analysis by place of work.

50 Approximately 40% of jobs in the metropolitan area are telecommuting friendly. Source: CMM (2020), "Telecommuting: Planning Perspectives and Issues for the Metropolitan Region - Notes from the Observatoire Grand Montréal".

51 This sector has grown by more than 30% per year for the past 10 years. From 2015 to 2019 alone, the number of urban agricultural businesses in Montréal increased by 82%. Source: Carrefour de recherche, d'expertise et de transfert en agriculture urbaine (CRETAU) (2020), *Urban agriculture businesses in Québec - Economic impact and development potential* (in French).

52 An algorithm is a method of solving problems by a finite and unambiguous sequence of operations or instructions. In recent years, algorithms have been developed to manage large amounts of data (*big data*), used for example to categorize users of social networks or online sales sites by profile and send them targeted information.

53 Source: Statistics Canada, 2016 Census, Private Households by Household Type.

54 The propensity to live alone increases with age. Source: Institut de la statistique du Québec (2019), *Population Projections for Québec and the Regions, 2016-2066*, 2019 Edition.

55 Various recent surveys, such as the 2019 Environics Institute survey, show a growing concern among Quebecers for the environment. The consultation activities surrounding the development of Montréal 2030 reveal the same trend for Montréal. See montreal.ca/en/articles/montreal-2030-first-strategic-plan-8318

56 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

57 Source: Montréal Metropolitan Community (CMM) (2020), presentation (in French) Urban density: some observations in the light of the COVID-19 pandemic, Commission de l'aménagement de la CMM.

58 According to an analysis by the City of Montréal, from 2012 to 2016, the mosaics of natural environments listed in the Montréal Urban Agglomeration's Land Use and Development Plan lost approximately 25 hectares (ha), half of which (12.4 ha) was lost within the territory of Montréal.

59 Remarks reported from the ideation workshops on the City Vision that were held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

60 For example, a geothermal heat network project to supply buildings from an alleyway is supported by the Solon organization.

61 GAFAM is the acronym for the giants of the Web – Google, Apple, Facebook, Amazon and Microsoft – the five large American firms that dominate the digital market.

62 Remarks reported from the ideation workshops on the City Vision that were held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

63 Technique consisting of demolishing a building while keeping only its street façade. Source: Larousse French Dictionary, accessed online on April 13, 2021 larousse.fr/dictionaries.

64 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

65 From 2016 to 2019, nearly half of the housing starts in Montréal were located in buildings of 10 storeys or more, and nearly a quarter (23%) in buildings of 20 storeys or more.

66 In addition, 4% of parking spaces (18,000) are equipped with a parking meter and 5% (15,000) are located in a restricted zone (e.g. on-street parking zones reserved for residents [SRRR] or reserved for motorcycles, taxis, delivery, self-service cars, etc.).

67 Data for the year 2016. Source: Research Infosource Inc.

68 Data for the period 2013 - 2017. Source: CMM, Observatoire du Grand Montréal. From Cornell University, European Institute of Business Administration (INSEAD) and World Intellectual Property Organization (WIPO): *The Global Innovation Index 2019: Creating Healthy Lives – The Future of Medical Innovation. Analysis*: CMM, 2020.

69 Montréal International (2020). Greater Montréal, the ideal place to study.

70 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

71 The average employment density in the downtown area is 15,000 jobs per square kilometre, compared to 2,000 jobs per square kilometre for the entire Montréal agglomeration.
Source: Statistics Canada, 2016 Census.

72 Source: Statistics Canada.

73 In 2019, when the economic situation was highly favourable, the average vacancy rate on Montréal's commercial thoroughfares (businesses located on the ground floor and having street access) stood at 11.9%.

74 Statistics Canada, 2016 Census. Analysis: City of Montréal (Service du développement économique).

75 Montréal Origin-Destination Survey 2013.

76 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

77 Remarks reported from the ideation workshops on the City Vision held in the winter of 2021 with representatives of organizations. Source: H+K Strategies, *Summary report of the ideation workshops*, internal document.

78 Philippe Apparicio, Thi-Thanh-Hiên Pham, Anne-Marie Séguin and Shawn M. Landry (2013). "Environmental equity and spatial distribution of vegetation in and around residential blocks in Montreal: a double inequity?", *Cahiers de géographie du Québec*, vol. 57, no. 161, p. 215.

79 Source: City of Montréal, *2015 Greenhouse Gas Emissions Inventory of the Montreal community.*

80 Eco-responsible parking lots are designed according to criteria that promote greening and rainwater management, sustainable mobility, user-friendliness and sustainable management (e.g., pricing, sharing and pooling*), etc.

81 Reasons for the erosion of the affordable rental stock such as interest in renovated units, conversion to condominiums or tourist rentals, and the high turnover of a portion of the client base.

82 Accessible refers here to a pathway without obstacles. Adaptable corresponds to an accessible dwelling that can be lived in by everyone and that, eventually, with a minimum of conversions, can meet the specific needs of a person with a physical or sensory disability (City of Montréal [2016], *Portrait of Accessible and Adapted Dwellings* (in French), p. 7)

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