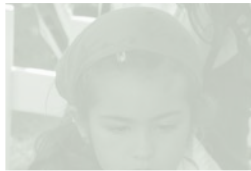
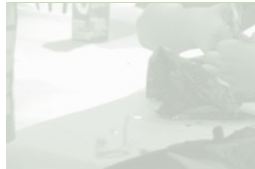


# *Sustainable* MASTER PLAN 2015 - 2031



A community  
where you want  
to live and work!



Master Plan No. RCM-60-PU-2015, adopted by Council on June 15<sup>th</sup>, 2015.

### **Acknowledgements**

The City of Dorval would like to thank all of the participants in this process, notably the citizens, both near and far, who participated in the elaboration development of our first Sustainable Master Plan.



#### **GREEN MUNICIPAL FUND FONDS MUNICIPAL VERT**

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This feasibility study was carried out with assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.

**In collaboration with:**



740 Notre-Dame Street West  
Suite 1501  
Montréal, QC H3C 3X6  
T 514 939-9399  
info@fahey.ca



740 Notre-Dame Street West  
Suite 900  
Montréal, QC H3C 3X6  
T 514 337-2462  
F 514 281-1632

# SUSTAINABLE MASTER PLAN 2015 - 2031

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# FOREWORD



## MESSAGE FROM THE MAYOR

It is with great pleasure that I present the first Sustainable Master Plan for the City of Dorval. The year 2015 will be a special time for the Dorval community. This Master Plan illustrates our strong desire to subscribe to environmentally responsible management of our resources and land-use.

One of the most significant challenges that we face in the years to come is to change from our traditional practices to those favouring the creation and support of a viable and sustainable community. This is an ambitious challenge which invites us to review and change our current practices.

I invite all stakeholders to participate in this social and land-use contract as it calls on everyone, as individuals, companies or organizations, to improve our quality of life, to preserve our environmental resources and to ensure the optimal use of our land for the benefit of future generations.

The Sustainable Master Plan establishes the planning agenda and intervention program for 2014 to 2031. An assessment will be conducted every 2 years in order to measure our performance, and to incorporate any required adjustments to meet our goals for the future.

We are all investing in a sustainable community!

The Mayor,  
**EDGAR ROULEAU**



## INTEGRATED AND PARTICIPATIVE APPROACH



# FOREWORD

## The Evolution of a Community

The historic evolution of land use within the City of Dorval illustrates the identity and achievements that need to be preserved and valued as well as the components that need to be considered when working towards sustainable practices.

### THE CITY OF DORVAL OF YESTERDAY...

Before 1946

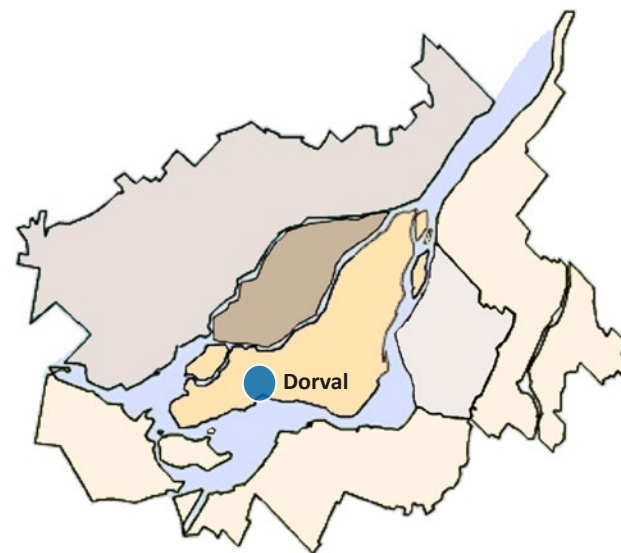
In 1667, with the establishment of a Sulpician mission that came to convert the Indian communities living on the outskirts of Ville-Marie, Dorval was born under the name “Gentilly”. The arrival of the train in Dorval in 1885 brought many wealthy, and primarily Anglophone, families to the area who were looking for the fresh air of a summer retreat close to their homes and businesses in the centre of the Island of Montréal.



### THE CITY OF DORVAL OF TODAY...

Between 1947 and 2014

The City of Dorval offers an upscale residential neighbourhood with abundant green spaces, recreational facilities and an exemplary community life. These elements provide an exceptional quality of life, and result in a city where you want to live and work. The economic activity of Dorval is diversified and dynamic, thanks, in part, to several industrial parks and the presence of the Montréal-Trudeau International Airport. Once thought of as an airport city or a suburb, today Dorval is a meeting place for more than 25,000 people who work in the City.



### THE CITY OF DORVAL OF TOMORROW...

2015 to...

**By 2031, the City of Dorval will be a sustainable community to live and work in, and will be unique due to the dynamics of its citizens who are both aware of and engaged in environmentally responsible actions. The participation of the various stakeholders (government and municipal bodies, investors, companies, etc.) in the realization of an integrated vision for the development of the living environments for the people of Dorval will contribute greatly to the quality of life in the city. Generations of families will stay in Dorval, and will live together in distinct living environments. The mix of uses, density, sustainability, mobility, biodiversity, health and security and economic vitality are the principles that have been chosen to support any intervention within the city whether social, economic or environmental.**

## The Challenges of Sustainable Development

Sustainable development is based on many objectives and challenges. In order for the City of Dorval to create a balanced community, it is important to plan its development in a coherent manner. Using the model of an ecosystem as a reference, the optimal balance of a community is now measured by the harmony of each of the components within this system. From the perspective of sustainable development, it is now necessary to consider the city as an entity where each action comes with its own set of consequences.

Achieving this balance is based on the three fundamental components of sustainable development – society, environment and economy. By harmonizing these three components, an optimal balance of the “system” can be achieved. If the city is viewed as an entity of its own then the scope, or rather the impact, of each action should be measured. In other words, in a balanced community, the limits and scope of each action should be considered according to the capacity of the area which will accommodate the changes, no matter how small they are.

Finally, the governance shared among the different inhabitants of the area, and the social responsibility of each individual, will facilitate the realization of common and meaningful projects. In order to move towards a sustainable and viable community, decisions must be made in a horizontal manner which considers all of the stakeholders, from the citizens to the municipal bodies, involved in the system.

**Sustainable Development** is a concept recognized at an international level. The City of Dorval subscribes to the definition issued in the Brundtland Commission Report (World Commission on Environment and Development Commission, 1989). According to this report, sustainable development is defined as follows:

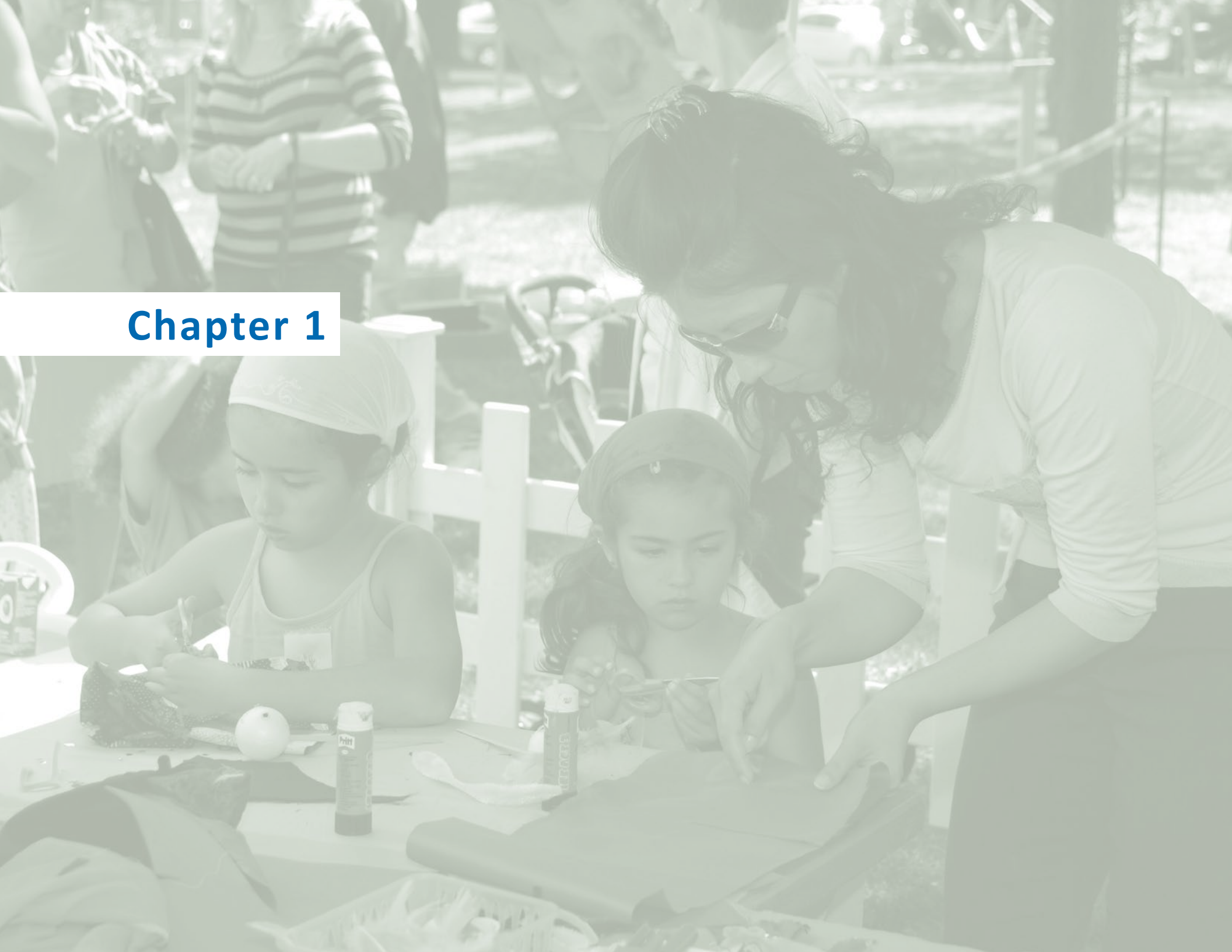
“A development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Two concepts that are inherent in this notion:

- The concept of “needs,” and more specifically the essential needs of the poor, which should be given the highest priority, and
- The idea of the limitations that the state of our techniques and our social organizations impose on the capacity of the environment to respond to our current and future needs



# Chapter 1



# 1. THE CITY OF DORVAL: FIRST REVIEW AND FUTURE PERSPECTIVES

## An Integrated Analysis Approach

There are a multitude of forms and dimensions that sustainable development can take on. In order to complete an initial qualitative analysis, including a context analysis, the City of Dorval has established an analytical approach based on the principles of sustainable community design. The participation of citizens, which is at the core of this process, also allowed the city to establish the needs, objectives and vision of the community.

With the goal of developing the City of Dorval in a sustainable and integrated manner, a first review was conducted based on indicators from which it was possible to assess the achievements, strengths and weaknesses of the city.

From these indicators, 12 evaluation criteria were developed so that the City of Dorval could work towards creating a sustainable and viable community.



## A SUSTAINABLE COMMUNITY IS....

A community which integrates, adapts and applies the fundamental values and principles of sustainable development in the practice of urban planning, development, urban design, architecture, socio-economic development, transportation and any other areas that influence urban and land-use development.

## What the Community Said...

### Social Mix

- Maintain young families and senior citizens
- Conserve and renew the existing support programs
- Increase the participation of local residents and youth
- Better inform residents of community events and festivities
- Develop community initiatives in partnership with corporate citizens
- Integrate new residents and immigrants

### Proximity and Mix of Activity Centres

- Diversify the supply of local commercial services
- Consolidate the local commercial services north of Highway 20
- Offer a better mix of uses within major centres (e.g.: a coffee shop at the museum, a bike rental store in Pine Beach Park)

### Heritage

- Identify protection zones
- Structure infill development and architectural modifications
- Conserve the identity of religious buildings
- Preserve the waterfront and the views of Lake Saint-Louis
- Implement revitalization and improvement programs for commercial façades and signage
- Increase citizen awareness

### Density

- Do not readily give in to development pressure
- Avoid the densification of quiet low-density neighbourhoods
- Ensure a limited and gradual densification around train stations
- Better integrate new infill development with the existing urban context
- Reduce building footprints

### Dynamics of the Central Sector

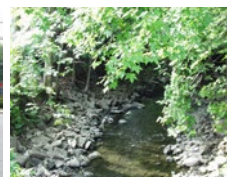
- Revitalize Dorval Avenue and Les Jardins Dorval
- Authorize a better mix of uses, and improve the area's image
- Pursue the revitalization of the Old Village Centre, and support merchants that wish to establish in this area
- Increase the supply of commercial services, and ensure commercial centres complement one another
- Identify the integration solutions for the Batshaw Centre
- Improve access and traffic circulation
- Increase the number of commercial patios
- Prioritize pedestrians and cyclists
- Find solutions to parking problems
- Bury electric lines

### Quality and Affordability of Housing

- Offer more affordable housing
- Facilitate access to property for young families
- Diversify the housing types
- Create adapted housing for senior citizens
- Authorize intergenerational dwellings
- Support the renovation of buildings

### Biodiversity and Green Spaces

- Reduce urban heat islands (large parking areas)
- Create a green city
- Implement a planting, maintenance and replacement program for mature trees
- Conserve, revitalize and increase parks and green spaces
- Increase the tree canopy cover within parks
- Establish community gardens and dog parks
- Renovate playground infrastructure
- Construct an aquatic centre
- Promote the blue corridor
- Improve the accesses to Lake Saint-Louis, and develop activities and non-motorized water sports
- Preserve and improve the natural areas and biodiversity (shorelines of Lake St-Louis, water courses, golf courses, etc.)



### Sustainable Transportation and Mobility

- Optimize the service of the public transit system – train stations and buses (routes and frequency)
- Develop a bike network which enables access to services and jobs
- Improve awareness of bike paths and have more bike parking
- Create bike rest stops (e.g.: Pine Beach Park)
- Implement shuttle bus service to the service centres and airport
- Facilitate the movement of people with reduced mobility
- Reduce the nuisances associated with transportation (road and airport noises, vibrations, etc.)
- Improve the north-south link for pedestrians and cyclists
- Manage the circulation and parking close to Pine Beach station, the parks and the commercial areas
- Manage parking near train stations
- Redevelop the Pine Beach tunnel
- Make the Green network more secure
- Redesign large public right-of-ways on local roads in accordance with sustainable practices

### Urban Health and Security

- Create friendlier and more secure environments along certain roadways, crosswalks and public spaces (urban furniture, lighting, landscaping)
- Secure waterfront areas
- Resolve graffiti and vandalism problems

### Sustainable Building and Energy Efficiency

- Approve more green construction projects
- Authorize the installation of small wind turbines on the roofs of buildings
- Increase citizen awareness, and provide information on environmentally friendly practices

### Management, Recuperation, Treatment and Reuse (Water, Waste, Soil Contamination, Used Snow)

- Maintain the new waste management practices
- Extend composting and recycling services to all users (multifamily housing, commercial uses and industrial uses)
- Maintain, at all times, the quality of drinking water
- Implement a rehabilitation program for storm water run-off
- Relocate public works equipment

### Economic Vitality

- Maintain and diversify industrial activities
- Create a more strict selection process for the types of industrial uses
- Establish a shared vision between the ADM and the City of Dorval
- Re-evaluate the uses of the lands along Highway 40
- Revitalize the Côte-de-Liesse sector
- Re-qualify the industrial sector around H-20/H-520



## Site Context and Targets to Achieve

CONTEXT	TARGETS	INDICATORS
<b>Social Mix</b> <b>Modification of the Demographic Structure by 2024</b> <ul style="list-style-type: none"> <li>Reduction in the proportion of people under 25 years of age (27 % of the population in 2006 and 23 % of the population by 2024)</li> <li>A 35 % increase in the number of people over 65 years of age by 2024</li> <li>Growth of the immigrant population which, if the trend continues, will form more than 30 % of the population by 2024</li> </ul>	<ul style="list-style-type: none"> <li>Reversal of the estimated decline of people under 25 years of age, and maintain or even exceed the percentage noted in 2006 of 27 %</li> <li>Keep the elderly population in the municipality, and specifically as 35 % of the population</li> <li>Welcome and integrate the immigrant population which is estimated to be more than 30 % of the population</li> </ul>	<ul style="list-style-type: none"> <li>Analyze the socio-economic evolution of the Dorval population (4 years)</li> <li>Review and analyze if the supply of services is adequate to meet the needs of the population (survey target groups)</li> </ul>
<b>Optimal Density and Ground Occupation</b> <b>Low-Density Development</b> <ul style="list-style-type: none"> <li>Low-density development within neighbourhoods with 12 dwellings per gross hectare (dwellings/ha), specifically in proximity to Dorval and Pine Beach stations, areas significantly below the targets expected for these areas</li> </ul> <b>Slow Growth in the Number of Households</b> <ul style="list-style-type: none"> <li>An increase of 862 households is expected by 2024 according to the Québec Statistics Institute (L'Institut de la Statistique du Québec), but the real potential is higher considering the re-development possibilities (possible increase of 1,500 to 2,000 dwelling units by 2021; Source: City of Dorval)</li> </ul>	<ul style="list-style-type: none"> <li>Increase the minimum density to 60 dwellings/ha (gross) within the Dorval TOD (Transit Oriented Development)</li> <li>Increase the minimum density to 25 dwelling/ha (gross) within the Pine Beach node (TOD), limit the types and methods of occupation (bi-family, attached or row house styles)</li> <li>Increase the minimum density to 40 dwellings/ha (gross) along certain structured transit axes (Dorval Avenue and Bouchard Boulevard)</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the evolution of the gross density and occupation according to the targeted densification areas</li> </ul>
<b>Quality and Affordability of Housing</b> <b>High Property Prices and the Absence of Social Housing</b> <ul style="list-style-type: none"> <li>Single-family detached homes are the predominant housing typology (50 % of dwelling units)</li> <li>Average value of homes in 2006: \$285,020</li> <li>No social or community housing within the City of Dorval</li> </ul> <b>Ageing Buildings</b> <ul style="list-style-type: none"> <li>Average age of buildings: between 50 and 65 years</li> </ul>	<ul style="list-style-type: none"> <li>Offer 10 % of new housing units as affordable and social housing, including a range of housing styles where the value is less than the average cost of housing</li> <li>Maintain a renovation program for rental units in order to ensure the renovation of 1,280 units by 2031 (40 % of the available rental units in 2011)</li> </ul>	<ul style="list-style-type: none"> <li>Number of permits issued for the renovation of buildings</li> <li>Construction started according to housing styles</li> <li>The number of affordable dwelling units in new residential projects</li> <li>The number of rental households in cooperative or social housing (subsidized rental housing) units</li> <li>Increase in the number of renters spending 30 % or more of their income on monthly rent</li> </ul>

## Site Context and Targets to Achieve

CONTEXT	TARGETS	INDICATORS
<p><b>Dynamics of the Central Sector</b></p> <p><b>Historic Central Sector and the Central Urban Sector</b></p> <ul style="list-style-type: none"> <li>• Total number of commercial stores: 166</li> <li>• Number of vacant spaces: 18</li> <li>• Diversity of the supply of goods and services / Number of business places by type (convenience consumer goods, semi-convenience goods, speciality consumer goods, impulse consumer goods, restaurants and entertainment): analysis to be conducted</li> <li>• Commercial Losses: customers going to the Les Jardins Dorval instead (specialized food store, sports and recreational equipment, hardware store, clothing, etc.) and to large commercial centres on the west island</li> </ul>	<p><b>Historic Central Sector (main street approach)</b></p> <ul style="list-style-type: none"> <li>• Conduct an analysis of the commercial dynamics</li> </ul> <p><b>Central Urban Sector</b></p> <ul style="list-style-type: none"> <li>• Distribution of uses according to the following criteria, which are applicable to Transit Oriented Development (Calthorpe, P., The Next American Metropolis)</li> <li>• 10 % to 15 % public use</li> <li>• 10 % to 40 % uses for employment</li> <li>• 50 % to 80 % space reserved for non-residential uses</li> </ul>	<ul style="list-style-type: none"> <li>• Re-evaluation of the dynamics of the commercial sector according to the targets listed by the Rues Principales Foundation (number of businesses by type: convenience consumer goods, semi-convenience goods, speciality consumer goods, impulse consumer goods, restaurants and entertainment)</li> </ul>
<p><b>Proximity and Mix of Activity Centres</b></p> <p><b>A good distribution of local services throughout the municipality (local commercial services, institutional and community facilities, parks and green spaces)</b></p> <p><b>Weak mix of uses within local centres (segregation of uses)</b></p>	<ul style="list-style-type: none"> <li>• Availability of goods and services within a radius of 800 metres of all dwelling units (SCHL) – Zoning By-Law</li> <li>• Mix of uses within local facilities favouring a harmonious coexistence – Zoning By-Law</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation of the increase in the mix of uses within facilities following the revision of the Zoning By-Law</li> </ul>
<p><b>Heritage</b></p> <p><b>Presence of an interesting historic site, important heritage building and landscape</b></p> <ul style="list-style-type: none"> <li>• Presence of a number of buildings and urban areas with heritage interest that has been recognized but not legally protected (institutional node, historic route, Old Village Centre, etc.), and natural landscapes of interest (Lake Saint-Louis, Bouchard Creek, parks and golf courses, urban forest)</li> </ul> <p><b>Evolution and transformation of an area which causes pressure on the heritage sites</b></p> <ul style="list-style-type: none"> <li>• Difficult infill development for new buildings with large building volumes, architectural changes that are not adapted to the surrounding environment, development pressure on natural areas and golf courses</li> </ul>	<p><b>Protection of important historical and heritage areas</b></p> <ul style="list-style-type: none"> <li>• Requires the preparation of a detailed characterization of the area (SPAIP)</li> </ul> <p><b>Archeological significance</b></p> <ul style="list-style-type: none"> <li>• Examine the archeological significance prior to performing excavation works</li> </ul> <p><b>Landscape heritage</b></p> <ul style="list-style-type: none"> <li>• Requires the preparation of a detailed characterization of the landscape</li> </ul>	<ul style="list-style-type: none"> <li>• Numerous procedures conducted within the areas of interest (ex: permits for the expansion, renovation or restoration)</li> <li>• Investments allotted for the protection and development of heritage sites (verification when issuing permits)</li> </ul>

## Site Context and Targets to Achieve

CONTEXT	TARGETS	INDICATORS
<p><b>Biodiversity and Green Spaces</b></p> <p><b>Presence of natural areas and interesting urban biodiversity</b></p> <ul style="list-style-type: none"> <li>Scarcity of wooded areas in a natural state (1.1% of the area) and little vegetation coverage in large parks</li> <li>Some wooded and aquatic corridors (the shores of Lake Saint-Louis, the green belt of the Bertrand Creek, golf courses, Bouchard Creek) are present, and constitute border habitats for small populations of animals</li> </ul> <p><b>Urban heat islands occupy 27 % of the area</b></p>	<ul style="list-style-type: none"> <li>Increase the number of wooded areas in industrial and commercial sites, and in parks and green spaces.</li> <li>Maintain the total surface area of areas identified in the Sustainable Master Plan (PUD) as interesting natural spaces</li> <li>Reduction of heat island surface areas, especially within the airport and employment sectors</li> </ul>	<ul style="list-style-type: none"> <li>Monitor the size of urban heat islands (in surface area) and the efficiency of the implemented mitigation measures</li> <li>Increase in wooded areas (number of trees per property, specifically in industrial and commercial sectors)</li> <li>Monitor the tree canopy area in proportion to the entire municipal territory</li> <li>Monitor the populations of endangered species.</li> <li>Evaluate the available information from the MRNF regarding the concentration areas for migrant birds and the breeding grounds of fish</li> </ul>
<p><b>Sustainable Transportation and Mobility</b></p> <p><b>Strong predominance of car use as a means of transportation</b></p> <ul style="list-style-type: none"> <li>84 % of trips in Dorval are made by car (7.3 % by active transportation and 7.5 % by public transit)</li> <li>74 % of trips in the direction of Dorval are made by car (4 % by active transportation and 15 % by public transit)</li> <li>The network limits the use of alternatives to car transportation: a lack of north-south connections, an absence of bike paths towards services and employment centres</li> </ul> <p><b>Public transit services will be consolidated, and networks for active modes of transportation will be connected</b></p> <p><b>The entrances to the city and specific roadways will be redeveloped</b></p> <p><b>Nuisances will be mitigated</b> (noise, vibrations, traffic speed, etc.)</p>	<ul style="list-style-type: none"> <li>Need to develop a local travel and mobility plan</li> <li>Increase the portion of trips made by public transit during the morning rush hour to 30 %</li> <li>Follow-up on the review of GHGs (greenhouse gases)</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the increase in use of multimodal transportation every 5 years (Origin-Destination review of the AMT)</li> </ul>
<p><b>Urban Health and Safety</b></p> <p><b>A healthy and active Dorval population</b></p> <p><b>Improve the safety of certain thoroughfares and pedestrian crossings</b></p> <ul style="list-style-type: none"> <li>The structures of certain public streets and crosswalks are not adapted to pedestrian traffic, and limit physical activity</li> </ul>	<ul style="list-style-type: none"> <li>Must establish a diagnosis of urban health and safety and produce an urban security plan</li> <li>Improve the quality of pedestrian networks within ±500 metres (as recommended by New Urbanism and LEED ND) of a major transit stop and around institutional and community facilities, such as schools, recreational and cultural centres, in order to provide a comfortable, accessible and well-used pedestrian environment</li> </ul>	<ul style="list-style-type: none"> <li>Observations made and compiled on: <ul style="list-style-type: none"> <li>The occurrence of incivilities</li> <li>Incidences (disorder, delinquent acts, uncontrollable crowds) involving adolescents or young adults</li> <li>Problem sites for delinquent acts, or gatherings of uncontrollable groups, involving adolescents</li> </ul> </li> <li>Over a span of 5 years, analyze the safety of prioritized sites (ex: public transit sites such as bus stops, commuter parking lots, parks and green spaces, etc.)</li> </ul>

## Site Context and Targets to Achieve

CONTEXT	TARGETS	INDICATORS
<p><b>Sustainable Building and Energy Efficiency</b></p> <p><b>Sustainable construction practices are rare in Dorval</b></p> <ul style="list-style-type: none"> <li>• Little information on good practices is available for industries or the commercial uses of the municipality: <ul style="list-style-type: none"> <li>◦ One project registered to obtain LEED certification</li> <li>◦ One project obtained a grant from the Energy Efficiency Agency of Québec</li> <li>◦ The Montréal-Trudeau Airport received the BOMA Best certification in 2010, recognizing efforts invested in improving the environmental performance of the building</li> </ul> </li> <li>• Installation of geothermal heating in numerous municipal buildings</li> </ul>	<ul style="list-style-type: none"> <li>• To have 30 % of projects subscribe to voluntary environmental programs by 2031 (ex: LEED Certification, grant programs from the City of Dorval)</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor the number of LEED certified projects or projects which have obtained grants from the Energy Efficiency Agency of Québec</li> <li>• Number of businesses that are members of Écotech Québec</li> <li>• Number of requests for the financial assistance program combined with a “City of Dorval – Sustainable Residence” certificate</li> </ul>
<p><b>Management, Recuperation, Treatment and Reuse (Water, Waste, Contaminated Soil and Snow)</b></p> <ul style="list-style-type: none"> <li>• Consolidation of sustainable practices and management of resources</li> <li>• Regulations limiting the consumption of water during dry periods, but requiring the implementation of incentive measures for the reduction of daily water consumption and the natural management of rain water</li> <li>• Exemplary management of waste materials which meets the objectives set by the CMM.</li> <li>• Presence of contaminated sites is registered (45), specifically in industrial sectors, with some sites having already been remediated (22)</li> <li>• Presence of a used-snow dump within the municipality</li> <li>• A need to identify solutions for the storm water sewer which flows into the lake</li> </ul>	<ul style="list-style-type: none"> <li>• Meet, or even exceed, the targets defined by the CMM in terms of the management of waste materials</li> <li>• Follow up on efforts to increase awareness regarding the management of waste materials</li> <li>• The water consumption levels for different activities must be identified</li> <li>• Have 30 % of projects subscribing to voluntary environmental programs by 2031 (ex: management of storm water)</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor the number of tons of waste materials that are recovered each year</li> <li>• Monitor water consumption by activity sector</li> <li>• Number of citizens participating in reimbursement programs for the purchase of rain barrels</li> <li>• Number of building inspections for the detection of inverse connections</li> <li>• Number of contaminated sites</li> </ul>
<p><b>Economic Vitality</b></p> <p><b>A dynamic employment pole that is undergoing a gradual transformation in its economic activities.</b></p> <ul style="list-style-type: none"> <li>• Presence of 42,700 jobs in Dorval (20.69 jobs per hectare), distributed in four main areas (Montréal airport, Côte-de-Liesse, Hymus/Highway 40, living environments) with certain areas integrated into the larger employment body at a metropolitan level</li> <li>• Reduction in jobs in certain traditional economic sectors (transportation/storage and transformation) in favour of other sectors (information/culture, professional and scientific services, wholesale commerce and administration)</li> <li>• Few vacant spaces for industrial development but a large potential for revitalization of specific areas that are currently in a deteriorated state</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain or even exceed the current growth level of total jobs (0.3 % over 5 years) <ul style="list-style-type: none"> <li>◦ 2001-2006: growth of 0.3 % in the number of jobs (42,600 to 42,720)</li> </ul> </li> <li>• Develop additional employment sectors within the City of Dorval</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in the number of jobs per economic sector</li> <li>• Increase in the density of jobs per hectare</li> </ul>



## CONTEXT

### Identity and Structuring Components



City Hall



Schools



Route of Interest



View (*openings to the riverfront*)



Green Space



Golf Course



Airport



VIA Rail Station (*national service*)



AMT Station (*regional service*)



Redeveloped STM Bus Terminal



City Entrance



Snow Dump



Public Works



Future Composting Site



Lake / River

### Main Functions



Residential Sector



Arterial Commercial Sector – Heavy



Arterial Commercial Sector – Retail and Light Services



Institutional Sector



Industrial Sector



Park and Green Space



Airport Zone

### Transportation Infrastructure



Highway



Artery



Collector



Railway



Existing Bicycle Path



Future Bicycle Path



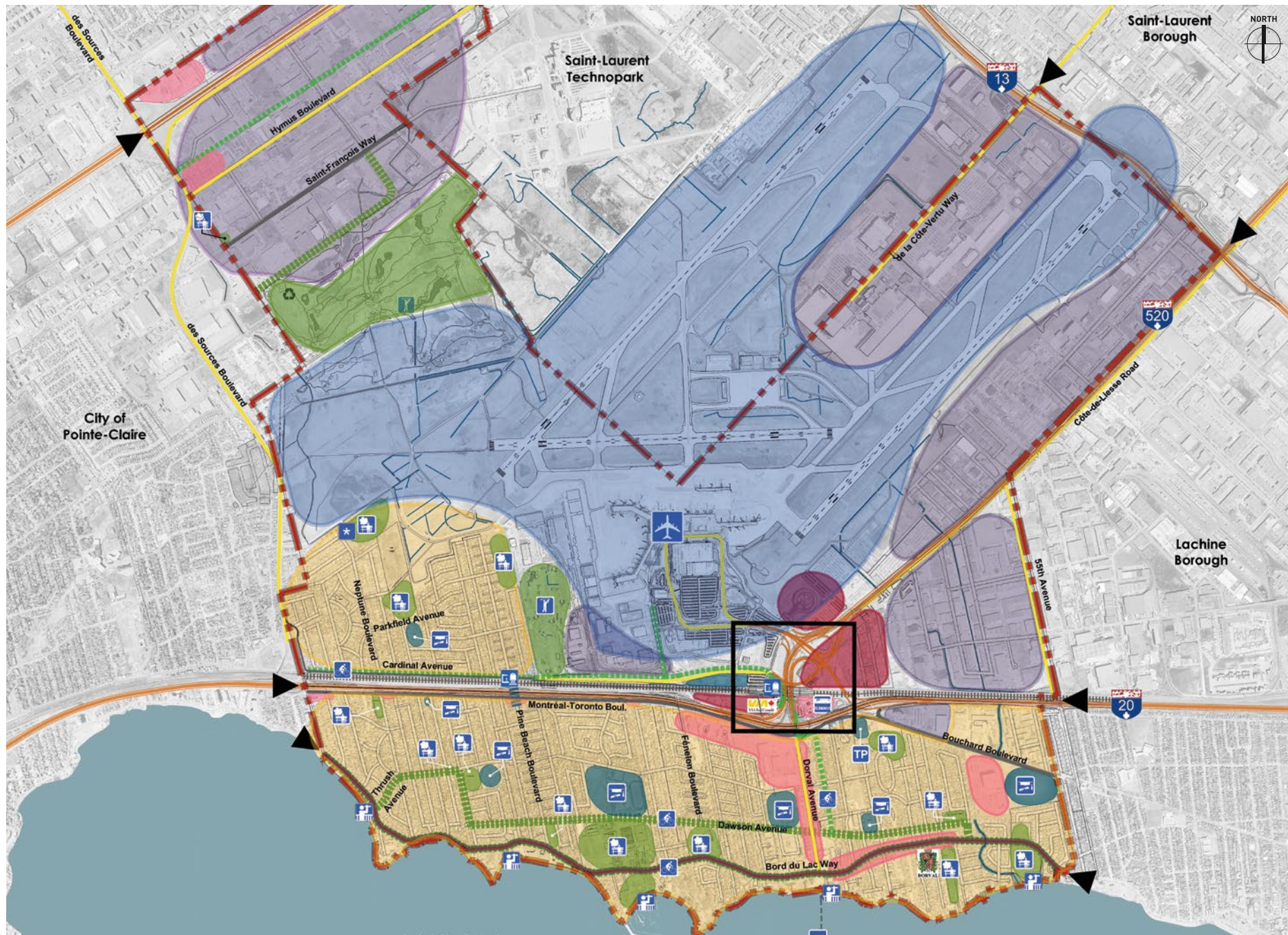
Pedestrian Tunnel



Dorval Interchange (*work in progress*)

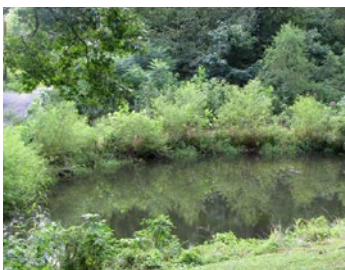


Municipal Limit



Map 1 – Context










## BIODIVERSITY



















### Wetland

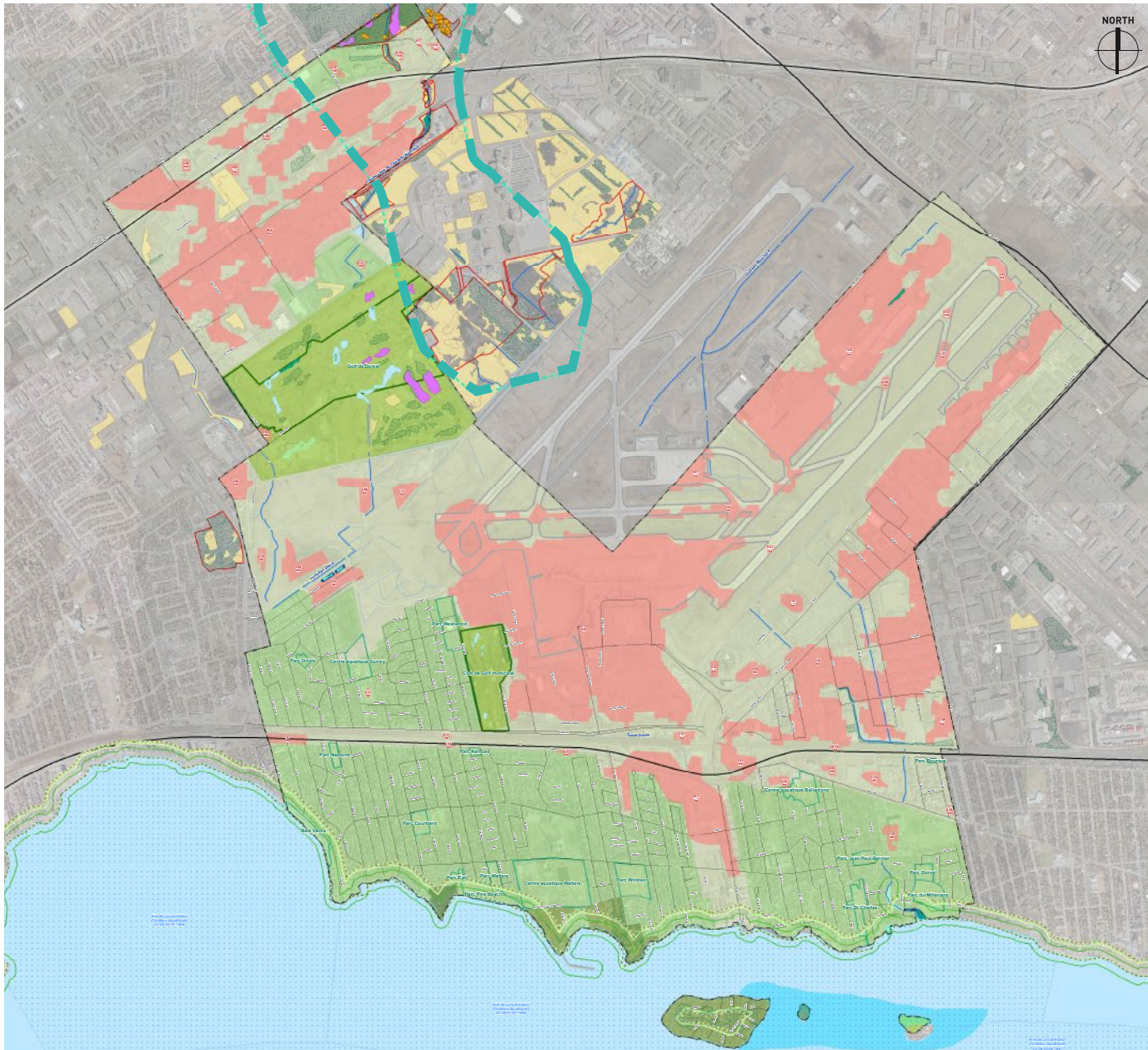
-  Unspecified
-  Shallow Water
-  Marsh
-  Swamp
-  Wet Meadow

### Canopy Cover

-  Less than 1%
-  1 to 25%
-  25 to 50%
-  50 to 75%
-  More than 75%

### Others

-  Plant at Risk
-  Fish Reproduction Area (*no. 566*)
-  Area with a Concentration of Aquatic Birds
-  River Redhorse Habitat
-  Map Turtle Habitat
-  Spiny Softshell Turtle Habitat
-  Bertrand Stream Green Corridor Ecoterritory
-  Area of Ecological Interest
-  Green Corridor
-  Fallow
-  Wooded Area
-  Heat Island
-  Golf
-  Park and Playing Field
-  Stream
-  Ditch
-  Municipal Limit
-  Airport



Map 2 – Biodiversity



## ARCHITECTURAL AND ARCHEOLOGICAL HERITAGE

Heritage refers to the legacy of former generations that reflects our history and contributes to establishing our identity. It can be material (building, artefact, landscape, etc.) or intangible (custom, culture, tradition, know-how, etc.). From an urban planning perspective, the preservation and enhancement of material heritage is of great importance as it contributes to creating a sense of place. The City of Dorval identifies heritage buildings that must be preserved through a set of objectives and criteria specified in the SPAIP (Site Planning and Architectural Integration Program) By-Law. This applies to areas of exceptional and significant heritage value and for areas of archaeological interest.



Buildings With Heritage Value



### List of Buildings with Historic and Heritage Value:

1. The Building located at 2223 Lakeshore Drive
2. The Building located at 365 Lakeshore Drive
3. The Building located at 375 Lakeshore Drive
4. The Building located at 890 Lakeshore Drive
5. The Building located at 900 Lakeshore Drive
6. The Building located at 940 Lakeshore Drive
7. The Building located at 1240 Lakeshore Drive
8. The Building located at 1335 Lakeshore Drive (Centre communautaire)
9. The Building located at 1800 Lakeshore Drive
10. The Building located at 1780 Lakeshore Drive (bâtiment du gardien)
11. The Building located at 2095 Lakeshore Drive
12. The Building located at 1850 Lakeshore Drive (Musée Dorval)
13. The Building located at 2120 Lakeshore Drive
14. The Building located at 2205 Lakeshore Drive
15. The Building located at 479 Mousseau-Vermette Avenue
16. The Building located at 66 Allan Point
17. The Building located at 2 terrasse Ballantyne
18. The Building located at 2 Elliot Place
19. The Building located at 1 Martin Avenue
20. The Building located at 2 Martin Avenue
21. The Building located at 4 Martin Avenue
22. The Building located at 60 Martin Avenue (Hôtel de Ville)
23. The Building located at 1549 Deslauriers Avenue
24. The Building located at 690 Monette Avenue
25. The home located at Dorval 225-249 de la Présentation Avenue
26. The institutional building located at 100 Bouchard Boulevard
27. The church and the the rectory located at 665 de l'Église Avenue
28. The church located at 12 Dahlia Avenue
29. The church located at 310 Brookhaven Avenue (Dorval Strathmore United Church)
30. The church located at 470 Brookhaven Avenue (Lakeshore Evangelical Church)
31. The church located at 1300 Carson Avenue (St. Veronica Church)
32. The church located at 865 Lakeshore Drive (St. Andrew and St. Mark Church)
33. The industrial building converted into apartment building at 479 Mousseau-Vermette Avenue







Map 3 – Heritage



Map 4 – Archaeological Heritage

## AIRPORT-RELATED CONSTRAINTS

The Montréal-Trudeau International Airport is partially located within the city limits of Dorval and will inevitably have an influence on the city's evolution. The following plan identifies noise exposure forecast (NEF) values to indicate the level of noise perceived in different areas. The NEF Program calculates noise levels in NEF units near the airport. Depending on the level, action may be taken to harmonize airport activities with sensitive uses. Thus, properties located in a zone with a project noise level exceeding 25 will be governed by regulations in order to reduce possible nuisances linked to noise and vibration.

-  NEF 30 Curve (2012)
-  NEF 25 Curve (2012)
-  Airport Federal Zoning Perimeter
-  Municipal Limit



Map 5 – Airport-Related Constraints

## MAJOR TRANSPORTATION PROJECTS

The Montréal Urban Agglomeration identifies major transportation projects in its Land Use and Development Plan that will have an impact on the evolution of the City of Dorval. These major transportation projects have the potential to change travel habits by creating new links to neighbouring areas and by improving access to alternative modes of transportation.

These projects include:

- The implementation of new train networks (LRT or tramway) between downtown and the west island and from Angrignon Station towards LaSalle, Lachine and Dorval, including a shuttle between downtown and the airport. This new system will create a connection not only to the airport, but also to the city centre via Dorval Avenue.
- The implementation of preferential measures for buses (STM) from Highway 40 to industrial sectors, by Hymus Boulevard towards the City of Pointe-Claire and by Côte-Vertu Boulevard towards the airport.
- The reconfiguration the Sources interchange at the intersection with Highway 40 between Dorval and Pointe-Claire.
- Improved accessibility to the Montréal-Trudeau International Airport at the Dorval interchange.

- Urban Agglomeration Arterial Road Network
- Preferential Measures for Buses Under Study (STM)
- > Infrastructure Project
- Segment to Improve
- - - Municipal Limit



Map 6 – Major Transportation Projects



## CHAPTER 2

## 2. TOWARDS A SUSTAINABLE COMMUNITY – FUTURE VISION

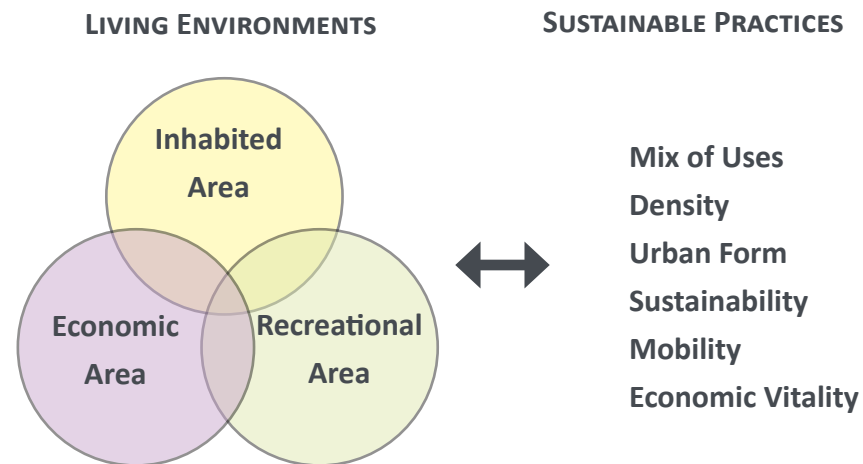
### Dorval 2031: Sustainable Living Environments and Urban Form

The land-use and development vision of the City of Dorval's Sustainable Master Plan is based on the configuration of the various living environments that make up the community. Living space is defined as inhabited areas, economic areas and recreational spaces. Unlike traditional urban planning, which favours a segregation of activities, the ecosystem management approach emphasizes an integration of different uses for the preservation and the sustainable use of natural resources. A harmonious composition of living environments contributes to the responsible management of the city.

Modes of occupation for specific uses


- **INHABITED AREA**  
An area intended for households where the primary use consists of supporting a living space (e.g.: a residential neighbourhood).
- **ECONOMIC AREA**  
An area of activity which consists of the production, distribution, exchange and consumption of goods and services.
- **RECREATIONAL AREA**  
An area intended primarily for recreation, entertainment or relaxation (e.g.: parks and green spaces, institutional and community facilities, etc.).

The ecosystem approach is a management method where land, water and living resources are integrated to promote the conservation and sustainable use of natural resources in order to respect the interactions within the ecosystems on which humans depend. In summary, all parts of an ecosystem are linked and we must therefore consider each part.








# VISION 2031

## Neighbourhood

-  Residential Area
-  Commercial Area
-  Recreational Area

## Structuring Element

-  Intermodal Pole
-  Economic Centre
-  Waterfront Corridor
-  Public and Active Transportation Connection
-  Access, View and Perspective



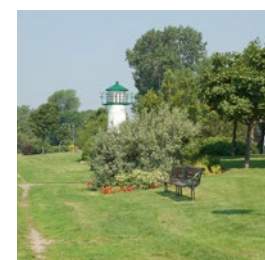
Map 7 – Vision 2031

Three main challenges support the City's land-use and development vision for 2015 to 2031. For each challenge, primary goals are presented that are a result of analyses and a citizen participation process that took place throughout the development of the Sustainable Master Plan. These goals will be translated into regulatory provisions and measures that will be applied in the short- and medium-term by the various municipal services.

- **Challenge 1:** Preserve convivial and homogenous living environments, while promoting densification and intensification.
  - Foster integrated development while respecting history, built form and architectural heritage.
  - Implement a safe active transportation network that connects different parts of the city.
  - Promote residential development that responds to the needs of all generations.
  - Ensure a harmonious integration of high-density development by requiring rigorous impact studies as part of the authorisation process.
- **Challenge 2:** Diversify economic activity around employment poles and revitalize nearby service areas by encouraging high quality, mixed-use and dense development.
  - Foster the diversification and enhancement of activities within the city centre.
  - Encourage development centred on the use of alternative modes of transportation.
  - Promote diversity and commercial integration outside the city centre.
- **Challenge 3:** Limit environment impacts by ensuring the integration and application of sustainable best practices.
  - Foster high quality landscaping and public and private land with the aim of maintaining and increasing biodiversity.
  - Recognize urban forestry and its components as a major contributor to reducing the heat island effect.
  - Protect and enhance landscapes and natural environments across the city.

In order to ensure that these primary goals are respected, an implementation strategy for each living space is presented on the following pages. This strategy establishes a specific set of actions for the short, medium and long term. Neighbourhoods have been identified according to the ecosystem approach presented on page 21 and with respect to the fundamental characteristics of the city. Dorval's living spaces are:

- The historic central centre and its origins;
- The central urban sector;
- Residential neighbourhoods;
- Employment poles;
- Biodiversity, green space and resource management.



## LIVING SPACE DEVELOPMENT PLANS



HISTORIC CENTRAL SECTOR AND ITS ORIGINS



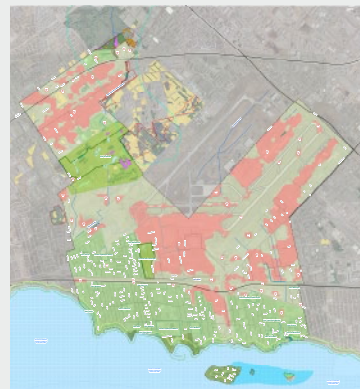
CENTRAL URBAN SECTOR



RESIDENTIAL NEIGHBOURHOODS



EMPLOYMENT POLES



BIODIVERSITY, GREEN SPACES AND MANAGEMENT OF RESOURCES

## LIVING ENVIRONMENTS



Lakeshore Drive is a historic route which served as the backbone for the development of the city.

# THE HISTORIC CENTRAL SECTOR AND ITS ORIGINS

## OLD VILLAGE CENTRE AND LAKESHORE DRIVE

### CONTEXT

Lakeshore Drive, like any major road that helped shape a village centre, a downtown core or a living space, is facing certain problems of development and coexistence among the different users (pedestrians, cyclists, motorists). These problems are mostly due to the strong presence of the automobile and transit traffic that is generated along this road. This waterfront roadway, with historical, cultural and institutional value, had the primary function of providing access to land along Lake St. Louis and to offer, by extension, an impressive view of a beautiful landscape. Over time various activities have been undertaken to form the current living area, which has kept its historical roots. Significant investments were made both for the revitalization of this historic central area, namely the Old Village Centre, and to establish significant recreational trails (green network, parks and green spaces that offer views of Lake St. Louis, the acquisition of the museum, the Maison de Jardinier and the public market). Despite these efforts, the Old Village Centre and the waterfront along Lakeshore Drive require a global development vision so that the City of Dorval can fully integrate this historic route which extends various municipalities.

### ISSUES

- Acknowledging the heritage that is represented by the Old Village Centre and its origins
- Maintenance of the civic buildings of the city, and the cultural, institutional and religious infrastructures within the Historic Central Sector
- Optimization of the economic vitality of commerce and services, and the diversification of the supply of goods and services
- Dispersal and discontinuity of commercial activities
- Revitalization of the built-form with respect to its original character, and an improved integration of infill development
- Year-round activity in recreational areas
- Cohabitation, and safety of users, along roads and at structured intersections

## INTERVENTION AREAS

### A DISTINCTIVE, ACTIVE AND HIGHLY FREQUENTED VILLAGE CENTRE AND WATERFRONT

Based on the development of identity elements and the combining of the attractions, the development vision favours creating a destination of choice. Attractive and active, the Old Village Centre and rest areas along the waterfront will allow residents and visitors to stay and enjoy the area for a number of reasons, while also promoting a stronger sense of ownership by the community and local economic growth. Prioritizing the pedestrian elements, and the sharing of space between different users, will also contribute to the animation and use of the sector.

#### Interventions:

- Redefine the perimeter of the village centre to better intervene in, and support, its economic dynamics
- Agree, in conjunction with the Central Urban Sector, on the ideal commercial composition
- Construct a user-friendly commercial street (use, architecture, commercial façades, development of public and private domains)
- Establish a waterfront walkway along Lakeshore Drive which is marked by entertaining stops (e.g.: cultural stops, commercial walkways, relaxation paths, restaurant or coffee shop areas, bike rest stops, access to Lake Saint-Louis and extensive water activities, etc.)
- Create diverse year-round gathering areas
- Integrate the structured identity elements found in the area (e.g.: important intersections, heritage buildings and areas, institutional and religious facilities, parks and green spaces, landscaped heritage sites, green networks, Lake St-Louis and watercourses, etc.)
- Animate each space through a mix of uses and services (e.g.: coffee shop at the museum, canoe rental, etc.), distinctive landscaping and public spaces (e.g.: public square, a water park, urban furniture, lighting, etc.) and hold special events
- Support the construction of sustainable projects (sustainable buildings and ecological landscaping of sites)



Lakeshore Drive



Historic Routes of the Island of Montréal



Sailing and Water Sports on Lake St-Louis

## SUSTAINABLE PRINCIPLES

### Mix of Uses

- Mixed-use buildings (e.g.: residential uses, commercial uses with patios, offices, community and institutional uses)
- Parks and green spaces
- Affordable housing
- Commercial Continuity at the ground level of buildings
- Mixed-use rest stops (e.g.: coffee shop in the museum, recreational equipment in parks, etc.)

### Urban Form

- Animated commercial street with a specific identity
- Harmonious integration of infill development
- Respect for the original architectural character
- Preservation of significant and heritage architecture
- Animated areas, shared public streets prioritizing pedestrians and cyclists, construct roads for public use, a network of animated public areas (City Hall, churches, parks and green spaces, Lake Saint-Louis, etc.)

### Sustainability

- Integrate building and sustainability practices (eco-construction, energy efficiency, water management, waste management)
- Ecological development of sites
- Attractive development that contributes to the physical activity and the security of the areas (signage, visibility and lighting, access to assistance, traffic, surveillance and patrols, maintenance, adequate urban furniture)

### Mobility

- Sharing and integration of the circulation networks dedicated to pedestrians, to people with reduced mobility, to cyclists, to public transit and to cars
- Sustainable management of parking

### Biodiversity

- Create a green environment with extensive biodiversity by increasing the tree canopy, the establishment of environmentally friendly green spaces, and through the elimination of urban heat islands (e.g.: parking areas, residual space that is not landscaped)

### Economic Vitality

- Development of businesses, commercial and specialized services, and an attractive commercial area

## A Few References...



Human Scale and Mix of Uses, Lachine

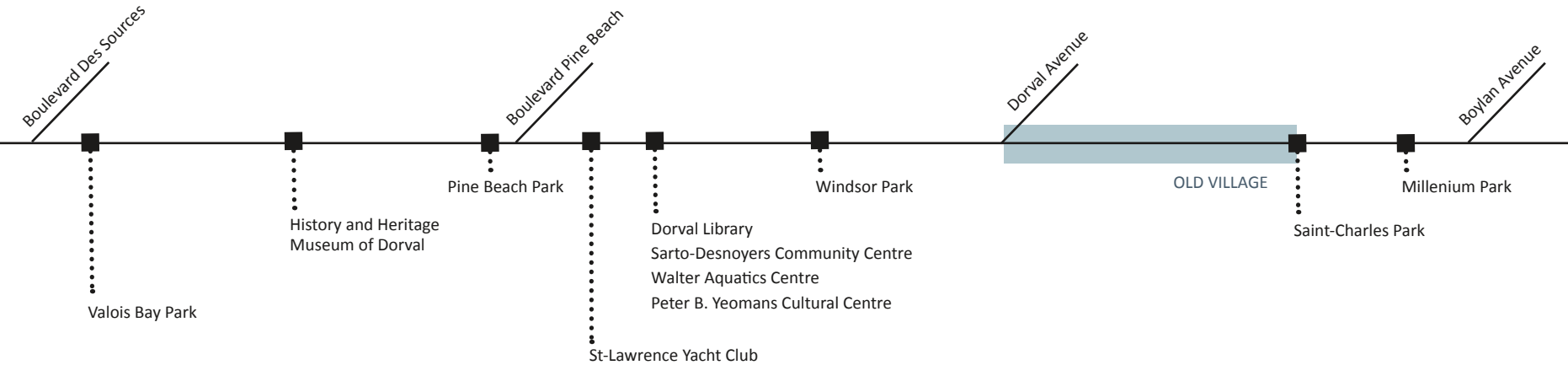


Development of Public Spaces for Encouraging Active Mobility, Milton Street, Montréal



Non-Motorized Water Sports, Dorval

MAIN WATERFRONT ATTRACTIONS ALONG LAKESHORE DRIVE



## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Distinguish the identity elements of the Old Village Centre and the waterfront	Timeline			Partner
		S	M	L	
<b>Action 1.1</b> Create a global land-use and development vision which will be subject to the following planning tools: DPP (Detailed Planning Program), SCAOPB (Specific Construction, Alteration or Occupancy Projects for Buildings), SPAIP (Site Planning and Architectural Integration Program)		X			City of Dorval Public and Private Partners
<b>Action 1.2</b> Define the identifying elements (built, natural, landscape and religious heritage) and their preservation value		X	X	X	City of Dorval Public and Private Partners
<b>Action 1.3</b> Uphold the by-law on the demolition of heritage buildings ( <i>Règlement sur les démolitions de bâtiments patrimoniaux</i> ) to avoid irreversible losses, and develop an information and awareness program		X	X	X	City of Dorval
<b>Action 1.4</b> Apply the necessary measures to examine the archeological potential, prior to excavation works, in areas with a high potential for archeological significance (grants from the ministère de la Culture et des Communications et de la Condition féminine) <b>Examples of Interventions:</b> - Private Property: recommend surveillance and/or an archeological inventory - Institutional or Municipal Property: ensure surveillance and/or an archeological inventory		X	X	X	City of Dorval Public and Private Partners
<b>Action 1.5</b> Increase the number of recognized heritage buildings over time according to their intrinsic value		X	X	X	City of Dorval Public Partners
<b>Action 1.6</b> Complete a tree canopy study for land located within areas of exceptional and significant value as a way of guiding urban development ensuring the protection of mature tree cover, which can be achieved through distancing buildings and infrastructure from highly valuable trees		X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 2	Reinforce the economic dynamics	Timeline			Partner
		S	M	L	
<b>Action 2.1</b> Prepare a commercial market study to ensure a specialized and competitive supply of goods and services that are complementary to the other commercial centres		X			City of Dorval Public and Private Partners
<b>Action 2.2</b> Pursue revitalization efforts for commercial arteries, not only along Dorval Avenue and Lakeshore Drive, but also in areas outside the city centre, such as Cardinal and Bourke		X	X	X	City of Dorval Public and Private Partners
<b>Action 2.3</b> Maintain and renew the activity programs and year-round animation		X	X	X	City of Dorval Public and Private Partners
<b>Action 2.4</b> Implement new programs or improve existing ones aimed at increasing the diversity and integration of commercial streets within the city		X	X	X	City of Dorval Public Partners

*\*Note: 4 Aces Certified Municipalities – These municipalities are known for their good practices in the implementation and maintenance of a concerted process between the different stakeholders of local development, the reinforcement of socio-economic vitality, the physical improvement of public spaces and buildings, and the preservation and reinforcement of the built, natural and cultural heritage.*

OBJECTIVE 3	Develop a user-friendly and animated waterfront	Timeline			Partner
		S	M	L	
<b>Action 3.1</b> Produce and implement a Master Plan for the Waterfront, notably for better sharing of the public road between users, and for the greening of public and private spaces		X	X	X	City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)



## LIVING ENVIRONMENTS



Location of intermodal centres at the intersection of Highway 20, the train station, the airport and the unstructured industrial areas to be developed.

## CENTRAL URBAN SECTOR

### INTERMODAL POLES AND SURROUNDING AREAS

#### CONTEXT

This economic area, consisting of the area around the principal entrance to the City of Dorval and a metropolitan centre, has undeniable potential for development. The urban form, density, mix of uses, roads and connections in transportation and mobility do not allow for optimal occupation and economic development of this Central Urban Sector. Four (4) sub-sectors, promoting a more integrated planning approach, can contribute to a better dynamic for this area, namely the Les Jardins de Dorval, Dorval Avenue, the industrial area around H-20/H-520 and the Terminal of the Montréal-Trudeau Airport zone.

#### ISSUES

- Weak economic dynamics of the area in its entirety
- Decline of commercial and industrial activities
- Underutilization of space and sites
- Poor quality of the urban layout, structures and the overall design of the entrance to the city
- Circulation conflicts between different users (pedestrians, cars, public transit), and safety problems
- Significant concentration of residual spaces and urban heat islands

## INTERVENTION AREAS

### AN ATTRACTIVE, INNOVATIVE AND WELCOMING ECONOMIC CENTRE

The heart of the City of Dorval, which includes Dorval Avenue, Les Jardins de Dorval, the industrial centre and the area surrounding the airport, fosters urban revitalization that will allow its redevelopment into a truly attractive business location. The redevelopment of the Dorval interchange will improve the links for public transit and active transportation, while also supporting the establishment of an integrated intermodal and structured centre in accordance with the principles of Transit Oriented Development (TOD).

The urban revitalization will foster an intensification of activities in the heart of the city, a diversification of uses and an integration of innovative design criteria in the construction of sustainable buildings and development of public spaces. This central and contemporary urban sector will become an attractive business location, a friendly living environment and an innovative area which will ultimately contribute to the distinct and unique image of the City of Dorval.



Dorval Avenue



Les Jardins Dorval



Dorval Interchange



Dorval Station



Airport Terminal

## A Few References...



Public Space, Amsterdam Airport

- Distinctive address
- Prestigious signature
- Innovative architecture
- Attractive public space
- Landscaping and green space

- Dynamic economy
- Employment and business pole
- Living environment



Eco-Neighbourhood, Estimaerville, Québec

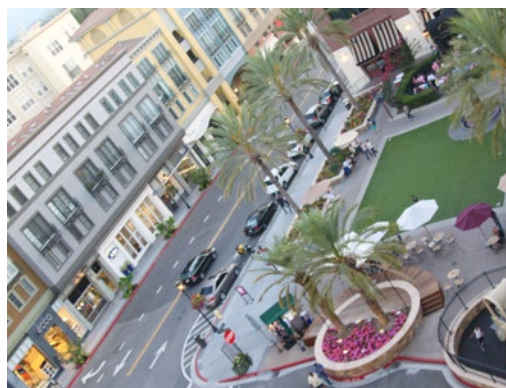


AIRPORT

EMPLOYMENT POLE TO REDEFINE

LES JARDINS

DORVAL AVENUE



Shopping Centre, Santana Row, San Jose, California

- Renewed image
- Service centre and living environment
- Optimal occupation density
- Mix of uses

- Prestigious and walkable street
- Mix of uses
- Public place: Entertainment and gatherings
- Urban symbol



Commercial Street, Sainte-Agathe

## A Few References...



Complete Street, Seattle



Quality of the Pedestrian Space and Animated Facades, Chicago



Patios on the Public Domain, Val-d'Or

## SUSTAINABLE PRINCIPLES

### Mix of Uses

- Mixed-use buildings (e.g.: residential uses, commercial uses, offices, urban industry, community and institutional uses)
- Parks and green space
- Soutien d'une mixité sociale

### Urban Form

- Urban form according to TOD principles
- Spaces developed with a human scale around animated areas (road, public space, park and green space, water basins, etc.)
- High quality urban designs and signature contemporary architecture

### Sustainability

- Sustainable building and environmentally friendly landscaping of sites (eco-construction, energy efficiency, management of water, waste management)
- Attractive development that contributes to the physical activity and security of the areas (signalization, visibility and lighting, access to assistance, traffic, surveillance and patrols, maintenance, adequate urban furniture)

### Mobility

- Shared circulation networks dedicated to pedestrians, to people with reduced mobility and to cyclists
- Sustainable management of parking

### Biodiversity

- Development of ecologically green spaces
- Create a green environment that also has biodiversity
- Growth of the tree canopy and reduction of urban heat islands

### Economic Vitality

- Development, reach and complementarity of commercial activities and business services

## LES JARDINS DORVAL—COMMERCIAL CENTRE AND LIVING ENVIRONMENT

Improved travel conditions in the heart of the City of Dorval are an excellent opportunity to renew Les Jardins Dorval commercial centre and its surrounding areas. Currently dominated by a “first generation” commercial centre typology and large paved surfaces, this centre has the potential for urban renewal that will allow an intensification and diversification of activities.

This redevelopment will contribute to creating an urban services centre, in the heart of the city, where residences, retail shops, large commercial areas and entertainment facilities will coexist. In addition, the integration of quality public spaces, to support civic life and to host events that bring people together, will give a unique identity to the Central Urban Sector.

### A Few References...

#### Mix of Uses



Big box retail

Structured public space

Residential  
Small-scale retail

Santana Row, San Jose, California

#### Public Space



Year-round animation

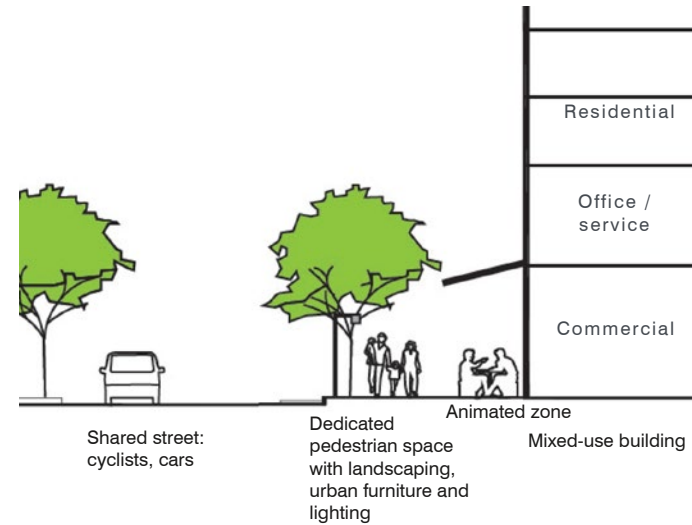
Animated facade

Place d'Youville, Québec City

## DORVAL AVENUE – URBAN BOULEVARD

With a large paved right-of-way and an environment which is unfriendly to pedestrians and cyclists, the current layout of Dorval Avenue limits its ability to fulfill its role as the backbone of the living areas. The redevelopment of the avenue under the Complete Streets principle will result in a safe and attractive avenue for all residents and visitors, around which all the users of public space (pedestrians, cyclists, public transit users, car drivers) will coexist harmoniously in a more equitable and secure space.

With a structured and animated public space, high quality urban furniture, an attractive built form and a greater mix of uses, Dorval Avenue will be a prestigious area and a destination of choice both at the local and metropolitan level.



### A Few References...

#### Complete Street



Charlotte, North Carolina

#### Mix and Density



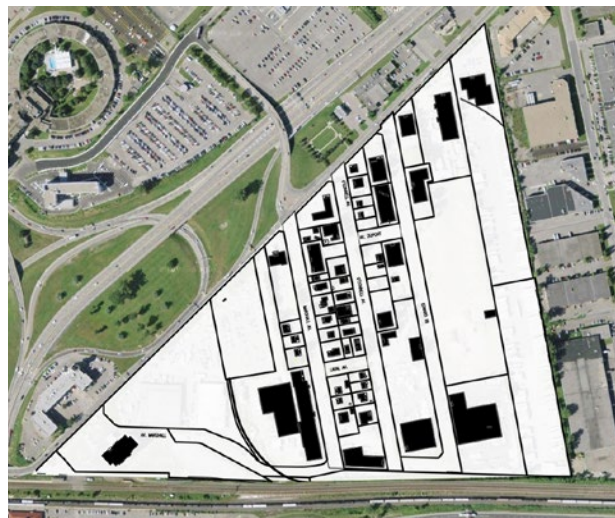
Portland, Oregon

## ECOPARK – INNOVATIVE BUSINESS DISTRICT

Located directly east of the Dorval interchange, the area located between Highway 20 and Côte-de-Liesse Road is currently unstructured and experiencing difficulties in meeting a multitude of uses, which significantly limits its attractiveness.

Its proximity to the renewed intermodal centre at the international airport and industrial sectors creates an excellent opportunity for redevelopment that will allow its purpose to be re-evaluated in order to create an effective mixed-use business area which integrates diverse jobs and local commercial uses and, if possible, residential uses that are harmoniously integrated within these functions.

Developed according to the highest standards of sustainable construction and site planning, this sector will stand out by the quality of the architecture, the urban design and its harmonious integration into the environment. The development of an eco-park will be an opportunity to reintroduce nature to the city with importance placed on green spaces and the integration of innovative technologies such as green roofs, which will transform urban heat islands into green islands, and which will make the City of Dorval a benchmark for sustainable urban development.



Ecopark Sector



Mixed-Use Building with Animated Public and Private Spaces, The Hague, Netherlands

## A Few References...

### Innovative and Sustainable Architecture



Distinctive Architecture, Saint-Laurent

Technopark Montréal

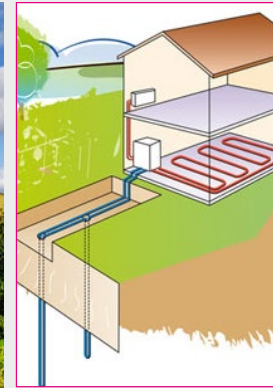


Eco-Construction / Energy Efficiency, Maastrich, Netherlands

### Equipment and Infrastructure



Central Heating Plant, Germany



Geothermal Energy



Integrated Management  
of Residual Materials



Stockholm, Sweden

### Sustainable Site Development



Permeable Parking Surface, Stockholm, Sweden



Sustainable Transportation Infrastructure,  
Freiburg, Germany



Cool Island

## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Establish an integrated and prestigious vision for the entrance to the city and its surrounding area	Timeline			Partners
		S	M	L	
<b>Action 1.1</b> Improve the governance of the stakeholders by the implementation of a joint municipal public-private partnership		X	X	X	City of Dorval Public and Private Partners (ADM, Via Rail, AMT, STM, Industry, Merchants, Residents, etc.)
<b>Action 1.2</b> Develop a comprehensive vision for land use and development (TOD) which will be subject to planning tools: PPU, PPCMOI, SPAIP; TOD sector, priority zones for development, rehabilitation or densification (zone excluded from a referendum process)		X			City of Dorval Public and Private Partners (ADM, Via Rail, AMT, STM, Industry, Merchants, Residents, etc.)
<b>Action 1.3</b> Produce and implement a development program for the public domain		X	X	X	City of Dorval Public and Private Partners
OBJECTIVE 2	Support a better mix, positioning and reach of the economic poles	Timeline			Partners
		S	M	L	
<b>Action 2.1</b> Prepare a commercial market study to ensure a specialized and competitive supply of goods and services that complement the other commercial centres		X			City of Dorval Public and Private Partners
<b>Action 2.2</b> Conduct a characterization on the deteriorating industrial areas (e.g.: land tenure, municipal evaluation building/land, contamination, development potential, tax revenues, etc.) and a study for the redevelopment opportunities in consultation with the stakeholders		X	X		City of Dorval Public and Private Partners
<b>Action 2.3</b> Implement an affordable housing and senior housing policy, incentive program, or conditions for issuing subdivision permits (strategy to be confirmed)		X	X	X	City of Dorval Public and Private Partners
OBJECTIVE 3	Increase the use of public transit and active transportation	Timeline			Partners
		S	M	L	
<b>Action 3.1</b> Develop a local mobility plan and an active mobility plan at the scale of the City of Dorval in order to ensure the interconnection and inter-modality between the networks and the methods of transportation, and to improve the transportation services (frequency, routes, etc.)		X			City of Dorval Public and Private Partners (ADM, AMT, STM, Via Rail, etc.)
<b>Action 3.2</b> Submit recommendations to the ADM for a better integration of the existing public transit network and a better use of the proposed shuttle services between the airport and downtown		X			City of Dorval ADM
<b>Action 3.3</b> Promote and encourage companies to develop alternative services to the automobile (e.g.: Allégo program, long-term bike rentals, car sharing, carpooling, etc.)		X	X	X	City of Dorval Public and Private Partners
<b>Action 3.4</b> Promote active transportation by facilitating a safe walking environment through the creation of new links between residential and commercial/public areas and through the extension of the bicycle path network on major and local roads		X	X	X	City of Dorval Public Partners (STM, AMT)

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 4	Reduce GHG and urban heat islands	Timeline			Partners
		S	M	L	
<b>Action 4.1</b> Take into account the carbon footprint of GHG produced by the Montréal community, and join the Climat Municipalités Program to develop an action plan and an adaptation plan for their reduction <ul style="list-style-type: none"><li>The Metropolitan Land Use and Development Plan for the Greater Montréal Area (PMAD): Reduce GHG emissions by 30% of 1990 levels by 2020</li></ul>		X	X	X	City of Dorval Public and Private Partners
<b>Action 4.2</b> Prepare and implement a recognition and incentive plan for constructing sustainable buildings, and for the environmentally friendly development of sites (e.g.: Certification programs for sustainable development in place in the City of Trois-Rivières and the City of Victoriaville)		X	X	X	City of Dorval
<b>Action 4.3</b> Require regulatory provisions for green space, planting of trees, permeable surfaces and biodiversity <ul style="list-style-type: none"><li>Have a minimum area of green space that must be landscaped with local plant species</li><li>Landscaping of open green spaces around buildings</li><li>Increase in the tree canopy and shrubs</li><li>Increase the retention capacity of water on sites to increase the ground water level (e.g.: rain gardens, retention basins, etc.)</li></ul>		X			City of Dorval
<b>Action 4.4</b> Revise the requirements for parking area according to TOD development principles (regulatory sustainable parking strategy): <ul style="list-style-type: none"><li>Reduce the number of parking spaces when close to an intermodal facility (train station, bus terminal)</li><li>Reduce the number of parking spaces (commercial centre, office space, multi-family housing) and limit maximum number of spaces</li><li>Decrease the required minimum-width of parking stalls</li><li>Underground parking (multi-family housing, commercial and industrial uses)</li><li>Parking surfaces pervious to water</li><li>Landscaping</li></ul>		X			City of Dorval
<b>Action 4.5</b> Protect mature trees on the public domain and on private property with the help of tighter regulations for maintaining urban tree canopy, particularly through stricter regulations for tree cutting		X			City of Dorval

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## LIVING ENVIRONMENTS



- Living Environment
- Waterfront
- ←

→

 Connections to Transportation Nodes

The residential neighbourhoods of Dorval are located around structured transportation axes, specifically Highway 20 and Dorval Avenue. These roads also form a barrier between these residential areas.

## RESIDENTIAL NEIGHBOURHOODS

*“Residential Neighbourhood” living environments can be approached from many different angles, namely intergenerational, cultural and socio-economic mix, optimal ground occupation (mix and density), affordable housing, access to local services, urban health and security, sustainable transportation and mobility.*

### CONTEXT

In 2011, the City of Dorval welcomed more than 18,615 people to the city, or approximately 8,045 households. The structural elements of the territory that helped shape the residential areas are primarily the waterfront of Lake St. Louis, the historic route of Lakeshore Drive and the Highway 20 / railway axis. However, this axis also represents a disconnect within the municipality that provides little or no connection between the living environments established to the north and south. Most homes were built between 1946 and 1960, at the end of World War II. The municipality has, however, established a grant program to support the renovation and maintenance of rental properties.

The land density of 12 dwellings per gross hectare is similar to a traditional suburb. Although the predominant housing type remains detached single-family homes, in recent years we have noticed a certain intensification of residential activities. The lack of vacant space results in development pressure on the environment. Two distinct phenomena, with different impacts, can be observed: the construction of multi-family co-properties offered in revitalized areas (industrial, institutional, commercial, residential) contributing to a more sustainable occupation of the territory, and the redevelopment of certain lots for large residences that at times are difficult to integrate into the established areas and which do not support the densification of the area.

The amount of additional housing, estimated to be approximately 1,000 units by 2021 (source: City of Dorval), reflects the need to define a redevelopment approach for strategic areas. The presence of structured transportation infrastructure (commuter train stations of Dorval and Pine Beach, STM terminal, bus lines), the Montréal-Trudeau airport and the Via Rail train station justifies the establishment of a more compact, mixed use and sustainable urban fabric within the design principles of a TOD (Transit Oriented Development).

Moreover, in the next decade, beginning construction of more affordable housing and promoting homeownership will become an important issue for meeting the needs of the elderly and for welcoming young families with children as well as immigrants to the City of Dorval. The intergenerational, cultural and socio-economic mix must also be supported by a consolidated supply of community, leisure and recreational services and facilities through the establishment of these services at a local level.

## ISSUES

- Population growth, attraction of young families with children and the welcoming and integration of new residents
- Consolidation of the gains in terms of community, recreational and entertainment facilities and spaces
- Preservation of historic and built heritage sites, harmonious integration of new infill development and improvements in the sustainability of the built environment
- Intensification of ground occupation, specifically along service and infrastructure centres and the large transportation routes
- Diversification of housing typologies and occupation modes
- Access to property ownership and availability of affordable housing
- Establishment of local mixed use areas
- Improvement of north/south transportation links and active methods of transportation
- Consolidation of bike and pedestrian networks, and securing crosswalks
- Reuse and redevelopment of large public right-of-ways on local streets



Single Family Housing



Multi-Family Housing



Local Poles



## INTERVENTION AREAS

### SUSTAINABLE AND DISTINCT LIVING ENVIRONMENTS

With a goal of sustainable development and land occupation, the low density observed within traditional suburbs such as the City of Dorval presents significant challenges in terms of optimal occupation of the area. Better density and a better mix of uses should be sought out. In addition to maximizing the use of urban infrastructure (sewer and water) and promoting the use and performance of public transportation and active mobility, increased density contributes to the physical configuration of the area and influences the image of the municipality.




For the same given space, high-density residential uses will not have the same impact on the urban form as low density residential uses. The preservation of built heritage and urban interest makes sense, and it ensures an evolution that respects the identity of the environment while also promoting more sustainable development principles. The following areas deserve special attention and provisions:

- Old Village Centre and Lakeshore Drive (historic route)
- Areas with exceptional and significant heritage value
- The residential neighbourhood around the Pine Beach train station

### Potential for Density



Map 8 – Potential for Densification

-  Train Station
-  Structured Public Transit Axis
-  Area with Potential for Densification

## SUSTAINABLE PRINCIPLES

### Mix of Uses

- Local areas and buildings with mixed uses (residential uses, linear commercial centres, offices, institutional, community and recreational facilities)
- Affordable intergenerational or additional housing

### Urban Form

- Tranquility, architectural quality, urban forest, shared streets prioritizing pedestrians and cyclists
- Harmonious integration of new infill development
- Respect the built heritage and character as well as the original architectural volumes

### Sustainability

- Integration of sustainable buildings and practices (eco-construction, energy efficiency, water management, waste management)
- Sustainable site planning
- Attractive development that contributes to the physical activity and security of the area (signalization, visibility and lighting, access to assistance, traffic, surveillance and patrols, maintenance, adequate urban furniture)

### Mobility

- Intermodality and connectivity of public transit and active transportation methods
- Shared circulation networks dedicated to pedestrians, to people with reduced mobility, to cyclists, to public transit and to cars

### Biodiversity

- Conservation and growth of the tree canopy, development of ecological green spaces, and reduction of urban heat islands (residual spaces and parking areas without landscaping)

### Economic Vitality

- Densification of strategic areas
- Development of the local areas



15 units or less per hectare (gross)



16 to 25 units per hectare (gross)



More than 25 units per hectare (gross)



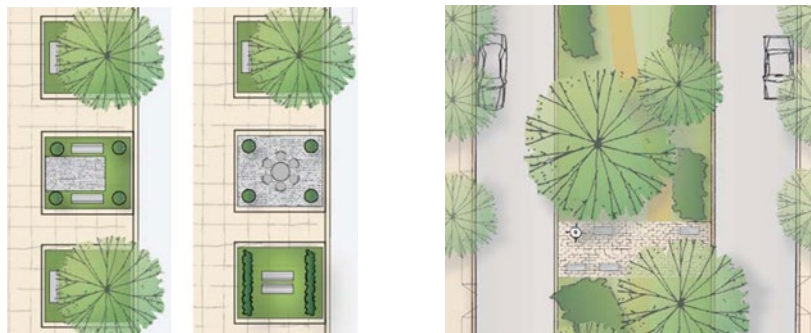
## URBAN DENSITY EXAMPLES

## EXAMPLES OF REDEVELOPED LOCAL ROADS

Images Courtesy of San Francisco Planning Department



Urban Green Spaces



Urban Green Spaces



All references on this page regarding the greening of public spaces are from San Francisco



Freiburg, Germany



Green Spaces and Relaxation Areas

## EXAMPLES OF REDEVELOPED PRIVATE HOMES



Panneau Photovoltaïque



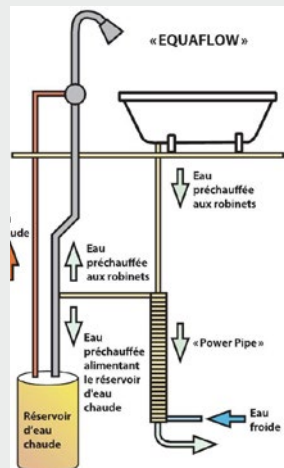
Green Insulation



Rain Gardens



Reflective Roofs



System to Recuperate the Heat of Grey Water



Pervious Parking Surfaces



Rainwater Barrels

## RESIDENTIAL NEIGHBOURHOOD – PINE BEACH NORTH & SOUTH

The Pine Beach train station is located in the heart of a quiet residential neighbourhood, composed primarily of single-family homes. Typical of the first generation suburban development, this residential sector provides a living environment for many citizens of the municipality. The presence of the Pine Beach train station is a definite asset in terms of public transit service, but also creates certain pressures for redevelopment and densification in the area. Respecting an established neighbourhood is a planning issue that was raised repeatedly by the citizens of Dorval. A harmonious integration of new buildings must be encouraged to maintain the character of the neighbourhood, especially when considering the densities, volumes and architectural characteristics of new buildings.

The redevelopment of a secure recreational and functional north-south crossing would improve the connections between the different living environments and the accessibility of the Pine Beach station, while also supporting active local mobility. In addition, the nuisances created by the presence of transportation infrastructure would be reduced with the incorporation of mitigation measures along H-20, and through the management of parking around the train station, with the goal of ensuring a harmonious coexistence of infrastructure and pleasant living environments in this area.

### A Few References...



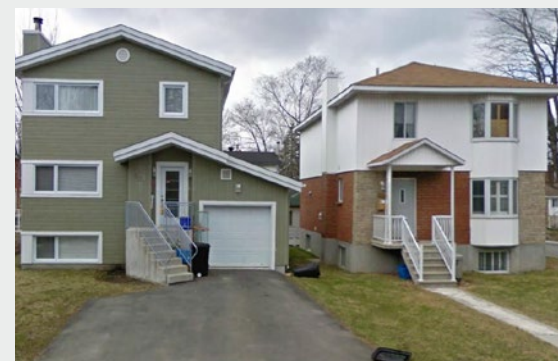
Secure North-South Link, Paris



Quality Landscaping, Rueil-Malmaison, France



Sound Barrier Wall with High Quality Architecture, Gaschwitz, Germany



Subdivision of Existing Lots and Infill Construction that Respects the Volume of the environment

## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Maintain quality community and recreational services offered to citizens and reinforce the welcoming programs for new residents	Timeline			Partner
		S	M	L	
<b>Action 1.1</b> Adopt a municipal policy for social development and an action plan (themes: housing, environment, family, integrated urban revitalization, security, work, culture, leisure, citizen participation, etc.), and renew the existing policies and programs for family support, for seniors and for newcomers. <b>Examples of Interventions:</b> <ul style="list-style-type: none"><li>- Conduct a survey of the needs of the citizens;</li><li>- Produce a welcome guide for new residents;</li><li>- Maintain the program to prevent school dropouts;</li><li>- Maintain the bilingual programs and the local schools;</li><li>- Etc</li></ul>		X			City of Dorval Public and Private Partners
<b>Action 1.2</b> <b>Update the Facilities and Green Space Development Plan for incorporating a sustainable development perspective</b> <b>Examples of Interventions:</b> <ul style="list-style-type: none"><li>- Construction of an aquatic centre;</li><li>- Development of new green spaces and community gardens (urban agriculture);</li><li>- Create dog parks, and properly identify these spaces;</li><li>- Add to or increase the number of Lake Saint-Louis waterfront parks for the practice of non-motorized water sports and activities (e.g.: launch ramp, canoeing, windsurfing, etc.), among other reasons;</li><li>- Increase the tree canopy within the existing green spaces;</li><li>- Repair public buildings and facilities in accordance with sustainable practices (e.g.: energy efficiency);</li><li>- Incorporate sustainable development elements (e.g.: lighting that reduces light pollution, local plant species that contribute to biodiversity, management of storm water, elimination of urban heat islands, development of parking areas with permeable areas, plant trees);</li><li>- Etc</li></ul>		X	X		City of Dorval Public and Private Partners
<b>Action 1.3</b> Produce and implement a tree policy (maintenance, planting, etc.)		X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 2	Preserve the identity elements of homogenous residential neighbourhoods	Timeline			Partner
		S	M	L	
<b>Action 2.1</b> Characterize the elements of each residential neighbourhood’s identity, and elaborate a SPAIP by sector or area of interest to be preserved		X			City of Dorval Public and Private Partners
<b>Action 2.2</b> Determine normative measures that will guide and ensure the harmonious integration of new interventions (e.g.: compatible uses, maximum floor area ratio, architectural quality) and the renovation and/or expansion of heritage buildings		X			City of Dorval
<b>Action 2.3</b> Produce and implement an information and awareness program for the protection of heritage buildings and architectural elements of interest		X			City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 3	Intensify the ground occupation in strategic areas of the municipality	Timeline			Partner
		S	M	L	
<b>Action 3.1</b> Outline the sectors and sites with potential for increased density of land-use through the use of the appropriate planning tools (Zoning By-Law, PPCMOI, SPAIP) <ul style="list-style-type: none"><li>- Dorval Station (TOD)</li><li>- Pine Beach Station (TOD)</li><li>- Public Transit Corridors (Dorval Avenue, Bouchard Boulevard)</li><li>- Lachine Station</li></ul>		X			City of Dorval Public and Private Partners
<b>Action 3.2</b> Use the planning by-law to authorize a better mix of compatible uses within sectors, sites and local poles (residences, local commerce, and community, institutional and recreational uses) so as to support the animation of the areas and social activities. <b>Examples of Interventions:</b> <ul style="list-style-type: none"><li>- Construct a small coffee shop at the Musée de Dorval</li><li>- Rental services associated with non-motorized water activities in certain waterfront parks;</li><li>- Utilize and redevelop the street as a public space dedicated to pedestrians rather than just cars (e.g.: Festivities in the Old Village Centre or in certain appropriate local roads);</li><li>- Etc.</li></ul>		X			City of Dorval

OBJECTIVE 4	Diversify housing types and methods of occupation according to the needs of the population	Timeline			Partner
		S	M	L	
<b>Action 4.1</b> Prepare a policy for incorporating affordable housing and benefitting more from grants and support programs for this purpose (e.g.: municipal policy for social development)		X	X	X	City of Dorval Public and Private Partners
<b>Action 4.2</b> Support the establishment of housing or specialized centres for senior citizens (seniors’ homes, intergenerational housing or additional housing within the same residence)		X	X	X	City of Dorval Public and Private Partners
<b>Action 4.3</b> Encourage developers to build seniors residences as part of revitalisation and redevelopment projects on large sites, particularly in high-density areas near public transit		X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 5	Support and encourage the construction and renovation of sustainable residential buildings and sustainable site planning	Timeline			Partner
		S	M	L	
<b>Action 5.1</b> Prepare and implement a recognition and incentive program for the construction of sustainable buildings and sustainable site planning (e.g.: sustainable development programs of the City of Trois-Rivières and the City of Victoriaville)		X	X	X	City of Dorval Public and Private Partners
<b>Action 5.2</b> Increase awareness among property owners, through various means of communication, of the importance of maintaining their buildings and of the use of sustainable materials and techniques to improve energy efficiency (e.g.: windows, doors, insulation, reuse and recycling of materials, heating systems that are programmable for each room, etc.). <b>Examples of Interventions:</b> <ul style="list-style-type: none"><li>- Information Sheets;</li><li>- Providing a list of sustainable development contractors</li></ul>		X	X	X	City of Dorval Public and Private Partners
<b>Action 5.3</b> Revise planning by-laws to include performance standards and criteria founded on sustainable development practices that foster biodiversity and the protection of urban forests		X			City of Dorval

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 6	Support Urban Health, Mobility and Security	Timeline			Partner
		S	M	L	
<b>Action 6.1</b> Update the Bike Network Director’s Plan, and implement a program for the development of the public domain Examples of Interventions: <ul style="list-style-type: none"><li>- Access to functional, efficient and secure networks for pedestrians and cyclists leading to interesting economic, institutional and recreational sites, and in close proximity to access points for public transit (within a radius of 500 metres).</li><li>- Improve landscaping along pedestrian streets (wider sidewalks, green buffer zones, lighting at a human scale, urban furniture, etc.).</li><li>- Develop a functional and recreational route for walking and biking identified with specific signage (e.g.: indicating distances) and incorporate aerobic exercise equipment, such as steps, along these routes (like in Laval or Côte St-Paul).</li><li>- Take measures to install bike racks near municipal buildings, commercial businesses and public transit stations</li></ul>		X	X		City of Dorval Public and Private Partners
<b>Action 6.2</b> Prepare a feasibility study for the redevelopment of the Pine Beach tunnel in order to create a passage favouring active transportation (pedestrians, cyclists, commercial vehicles)		X	X	X	City of Dorval Public and Private Partners
<b>Action 6.3</b> Create an Urban Security Committee (community approach) and develop an urban security plan which can be shared between the City of Dorval and its partners Examples of Interventions: <ul style="list-style-type: none"><li>- Analyze the public spaces, and make changes if necessary (prioritize desirable sites: public transit sites such as bus stops, commuter parking lots, pedestrian tunnels, parks and green spaces, municipal facilities, the village centre, etc.);</li><li>- Obtain a portrait of the local urban security (perception and incidents) and revise every 2 years;</li><li>- Identify measures for minimizing graffiti and vandalism;</li><li>- Identify assistance locations within the municipality, in residential neighbourhoods, in service poles and at public transit stops</li></ul>		X	X	X	City of Dorval Private Partners
<b>Action 6.4</b> Promote active transportation by facilitating a safe walking environment through the creation of new links between residential and commercial/public areas and through the extension of the bicycle network on main and local roads		X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 7	Limit the nuisances generated by transport infrastructure	Timeline			Partner
		S	M	L	
<b>Action 7.1</b> Work in conjunction with the government and private partners (MTQ, ADM, Canadian Pacific or Canadian National) in order to limit the nuisances associated with road, airport and railway activities Examples of Interventions: <ul style="list-style-type: none"><li>- Formulate a request to the MTQ for the construction of sound barriers along Highway 20 and within well-established living environments</li></ul>		X	X	X	City of Dorval Public and Private Partners
<b>Action 7.2</b> Prepare a Local Travel and Mobility Plan to better structure the management of circulation along certain local roads (speed / security) and identify the mitigation measures (e.g.: traffic calming)		X			City of Dorval Public and Private Partners
<b>Action 7.3</b> Maintain and update the by-laws on the trucking network		X	X	X	City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## LIVING ENVIRONMENTS



- Employment Poles
- Airport Pole

The Saint-Laurent/Dorval metropolitan employment pole is the second largest in the metropolitan area, representing more than 189,000 jobs. Almost 43,000 of these jobs are located within the territory of the City of Dorval.

## EMPLOYMENT POLES

### CONTEXT

The employment sectors in the City of Dorval are concentrated around three main poles, namely along highways A-40 and A-520 and bordering on the airport terminal. As an integral part of the second largest employment pole in the metropolitan area, Dorval's employment poles benefit from their proximity to Aéroports de Montréal installations and an advantageous location along the highway network. However, the poor quality of improvements, especially along Côte-de-Liesse Road, greatly limits the attractiveness of this economic zone, which struggles to fulfill its role as an economic showcase.

In recent years, the tertiarization of the North American economy has been gradually modifying the employment structure within the territory through the decline of certain traditional sectors, including the transformation and distribution sectors. In addition, commercial development exerts development pressures, especially with respect to the industrial area along A-40. This change in the employment structure is accompanied by increasing concerns related to the harmonious integration of activities within the territory and the adoption of sustainable management practices by companies. It is essential to align land-use planning decisions with these trends and to support the dynamism of the employment poles, while at the same time favouring optimal land-use within these poles and protecting natural environments, such as the Bertrand Creek Green Corridor ecoterritory.

## INTERVENTION AREAS

### Dynamic, Diversified, and Sustainable Employment Poles

The three employment poles in the City of Dorval present structuring opportunities for development, diversification, and intensification of activities. Diversification of activities will be achieved through support for economic dynamism and synergy between public and private partners, through the development of industrial clusters (e.g.: sectors such as aerospace, clean technologies, green products and services, information technologies, life sciences, etc.), and through the implementation of best development practices in terms of favouring the creation of true industrial eco-parks, among other approaches. In particular, sustainable practices such as green construction, surface runoff management, and construction of green traffic islands make it possible to minimize the ecological footprint of industrial activities. Finally, enhancing the areas along the highways will contribute to improving the appearance of the gateways into the City of Dorval.



Urban Industry

## ISSUES

- Development of a concerted and integrated economic development vision that unites all of the stakeholders
- Development and diversification of economic activities and sectors, and optimization of land-use
- Improvement of the appearance of gateways into the city and the areas along the highways
- Consolidation of the efficient transportation corridors connecting to continental markets and labour pools
- Mitigation of environmental impacts and nuisances resulting from industrial activities
- Adoption and implementation of sustainable practices by companies and industries (e.g.: surface runoff management, reduction of heat islands, sustainable management of residual materials, etc.)



Terminal of the Montréal Pierre Elliott Trudeau International Airport

## SUSTAINABLE PRINCIPLES

### Mix of Uses

- Diversity of economic activities within the various poles

### Density

- Small footprint and intensification in the areas along the highways

### Urban Form

- Distinctive and quality architecture
- Integration of green and recreational spaces and recreational and functional networks

### Sustainability

- Adoption of sustainable building design practices (energy efficiency, sustainable materials, etc.)
- Introduction of green roofs
- Sustainable site planning (surface runoff management, cooling islands in parking areas, retention ponds, etc.)

### Biodiversity

- Reduction of pressure to develop natural spaces by favouring the intensification of activities on existing lots and abandoned lots
- Protection of sensitive natural environments, wetlands, and biodiversity
- Expansion of the tree canopy

### Mobility

- Improvement of public transit service
- Improvement of active transportation links to the employment sectors
- Sustainable parking management
- Corporate employee mobility plan

### Economic Vitality

- Diversification of economic sectors
- Improvement of the areas along the highways and the gateways into the city
- Inclusive governance favouring partnerships and synergy



Sustainable Business Park, Hong Kong



Street Integrated Stormwater Management, Seattle

Illustration by KPG, Incorporated.  
Source: Seattle Public Utilities



Landscaped Islands in Parking Lots

## Industrial Eco-Park Concept

An industrial eco-park attracts companies that supply products and services while taking into account the improvement of environmental quality, and that seek to develop synergies, most notably by reusing their production residues (steam, water, waste, etc.). The establishment of an industrial eco-park also favours the sharing of facilities, logistic systems, storage equipment, and parking areas, as well as group purchasing, in order to minimize the wasting of resources and space. As such, this new form of organization helps to reduce the pressure on resources created by the industrial park and promotes the optimal use of resources.



Quality Highway Environment, Blainville

## A Few References...



Munich Airport Terminal, Including a Mix of Commercial Uses, Offices, and Public Spaces

## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Promote concerted and integrated governance for the development of the second-largest metropolitan employment pole (Saint-Laurent/Dorval pole)	TIMELINE			Partner
		S	M	L	
<b>Action 1.1</b>	Improve cooperation among stakeholders (networking) and support the establishment of a joint intermunicipal-industry committee	X	X	X	City of Dorval Public (ADM, Ville de Montréal, arrondissement de Saint-Laurent) and Private Partners
<b>Action 1.2</b>	Develop an integrated economic development vision and master plan in order to contribute to rapid development of the airport and industrial pole, while at the same time favouring improved synergy and physical integration of activities (e.g.: industrial eco-park or equivalent practices)	X	X	X	City of Dorval Public (ADM, Ville de Montréal, arrondissement de Saint-Laurent) and Private Partners

OBJECTIVE 2	Diversify niches and industrial clusters	Timeline			Partner
		S	M	L	
<b>Action 2.1</b>	Support development of the clean technologies and green products and services sector, and toward this end, support implementation of the Écotech Québec action plan	X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 3	Optimize sustainable transportation service to the employment poles	Timeline			Partner
		S	M	L	
<b>Action 3.1</b>	Develop a local travel and active mobility plan at the City of Dorval level in order to ensure interconnection and intermodality among the transportation networks and modes and improve service (frequency, routes, etc.)	X			City of Dorval Public and Private Partners (ADM, AMT, STM, Via Rail, etc.)
Example of an intervention:					
- Extension of bicycle path and multi-use path networks to employment poles					

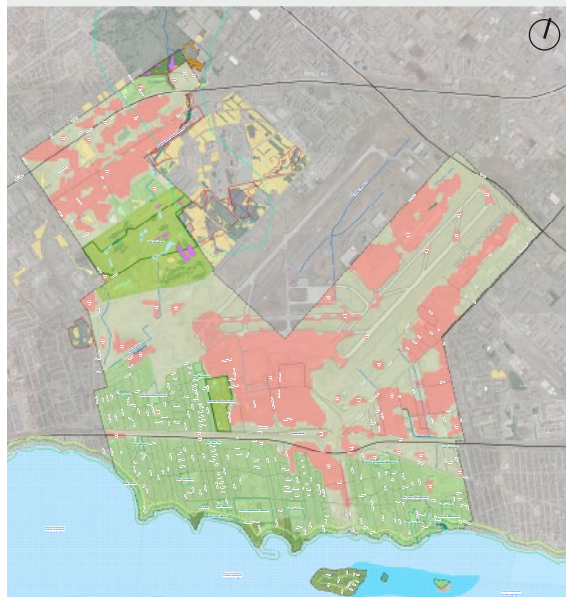
S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 4	Enhance the development of the industrial poles and provide incentives for companies to adopt and incorporate sustainable practices	Timeline			Partner
		S	M	L	
<b>Action 4.1</b> Improve gateways into the city and the areas alongside the highways by implementing a public lands development program and regulatory strategies governing use and architectural quality (Architectural Implementation and Integration Plan)		X	X	X	City of Dorval Public and Private Partners
<b>Action 4.2</b> Update urban planning regulations in order to incorporate certain sustainable practices  Examples of Interventions: <ul style="list-style-type: none"><li>- Sustainable buildings and energy efficiency</li><li>- Sustainable parking management (reduce quantities; limit the surface area of undeveloped lands, etc.)</li><li>- Planting of trees and landscaping to reduce heat islands and enhance biodiversity</li><li>- Utilization of permeable materials</li></ul>		X			City of Dorval Public and Private Partners
<b>Action 4.3</b> Develop and implement an incentive and awards program for sustainable projects		X	X	X	City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## LIVING ENVIRONMENTSS



Despite being almost completely urbanized, the City of Dorval includes certain natural environments that are of interest and numerous green spaces that are home to flora and fauna that contribute to biodiversity.

## BIODIVERSITY, GREEN SPACE AND RESOURCE MANAGEMENT

### CONTEXT – BIODIVERSITY AND GREEN SPACE

Based on a 2011 analysis of the biodiversity within the City of Dorval, it was observed that only a small number of green spaces are in a natural state. These include watercourses, wetlands (0.3 % of the territory), woodlands (1.1 % of the territory), and undeveloped land (0.5 % of the territory). The small, fragmented forested area within the city limits provides edge habitats for very small populations of animal and plant species. The urban parks primarily consist of grassed areas and are of limited interest in terms of biodiversity. In addition, the large vegetation-free areas that cover 27 % of the territory, such as the industrial and airport sectors, contribute to the formation of large urban heat islands.

Despite these findings, there are some ecologically interesting environments that require conservation and reclamation measures given the development pressure exerted on or around them. These environments include the following:

- The Bertrand Creek Green Corridor ecoterritory. The sectors of ecological interest for Dorval are located along Bertrand Creek and in the wooded sector located south of the Bois-de-Liesse Nature Park. This wooded sector harbours a mature forest and several at-risk species (e.g.: black maple, sharp-leaved sedge), and is connected to the Bertrand Creek ravine. This sector borders the southeast part of the Dorval Golf Course adjacent to the airport marshes in the Saint-Laurent Borough. This sector, which is to be the site of a future nature park, is characterized by wetlands and young woodlands.

- Lake Saint-Louis and its shores. This sector provides quality wildlife habitats for water birds, fish, and reptiles. Threatened and vulnerable species or species that are likely to be so designated have had their presence recorded here (e.g.: river herring, map turtle, spiny softshell, American shad, and lake sturgeon). The sector between Dorval Island and Dixie Island is a recognized and mapped fish reproduction area
- Numerous watercourses and ditches totalling more than 23,842 linear metres (e.g.: Denis Creek, Bertrand Creek, Bouchard Creek, and Smith Ditch)
- Golf courses (Dorval Golf Course and Club de golf municipal de Dorval) containing a few wooded areas and a certain number of small-area wetlands. The latter may constitute habitats of interest for certain open-country species (e.g.: bluebird, swallow, red-winged blackbird, etc.). The Dorval Golf Course allows for interconnectivity of the green spaces with the Bertrand Creek Green Corridor ecoterritory located in the Borough of Saint-Laurent. This interconnectivity helps to maintain Dorval's biodiversity



Mineralized Surface Area Contributing to the Heat Island Phenomenon

## ISSUES

- Preservation and reclamation of natural environments in order to maintain biodiversity and habitats, including small wetlands, wooded areas, golf courses, undeveloped land and Dixie and Bushy Island
- Preservation of the environmental functions specific to the natural environments (e.g.: climate regulation, contribution to health and well-being, recreation and leisure, production of atmospheric oxygen, capture of greenhouse gases, maintenance of the hydrological cycle, etc.)
- Conservation of rare species that significantly increase biodiversity within the territory of the City of Dorval
- Preservation of green corridors that allow for connectivity between habitats of interest for fauna and flora
- The fight against heat islands and their negative impacts on health, the environment, and water and energy consumption
- Information and awareness are rising with respect to the protection of natural environments



Large Parking Areas

## INTERVENTION AREAS

### MAINTAIN BIODIVERSITY AND INCREASE HIGH QUALITY GREEN SPACE

By 2031, the natural environments that are of interest in terms of biodiversity will have been characterized, reclaimed, or preserved. These natural environments, namely forests, wetlands and undeveloped land, will be part of a network of interconnected green spaces that form true corridors that will allow for the transit, propagation, and reproduction of both common and at-risk species within the territory of the City of Dorval and the adjacent boroughs. Among the corridors of interest, priority will be given to the establishment of legal structures to ensure protection of the Bertrand Creek Green Corridor ecoterritory, the wooded sectors located south of the Bois-de-Liesse Nature Park, and the adjacent natural environments. The ecological value of the natural environments that will make up these corridors will have been enhanced as a result of the implementation of programs for the greening of watercourse shorelines, the development of urban parks for bird life, and the diversification of the vegetation strata and the species planted in urban parks.

The actions that are undertaken will ensure maintenance of biodiversity and an increase in quality green spaces for fauna, flora, and the population of the City of Dorval. Implementation of a greening program for the industrial and airport zones, along with the measures taken to promote planting in development and redevelopment projects, will have made it possible to reduce heat islands.

#### A Few References...



Ecological Landscaping



Use of Indigenous Species in Landscaping, Stockholm, Sweden

## SUSTAINABLE PRINCIPLES

### Mix of Uses

- Biodiversity in urban environments depends on the preservation of the smallest natural spaces, their heterogeneity, their spatial distribution, and the natural corridors that link them. The mixed-use principle must allow for the integration of conservation areas, development sectors, and recreational parks that are developed within the urban framework

### Density

- Densification of urban sectors is one of the key factors of sustainable development that makes it possible to conserve biodiversity. Vertical development (favouring multi-storey buildings with a minimal footprint) helps to conserve a greater proportion of green spaces

### Urban Form

- The urban form must provide access to quality natural environments. Light infrastructures will be developed in order to provide the public with access to flora, fauna, and green spaces (e.g.: pile-supported walkways in the wetlands, pedestrian corridors that provide access to the wooded sectors and the various parks, wade-fishing sectors, etc.) while incorporating an educational aspect
- The preservation of biodiversity and natural habitats is closely related to the quality of life of the population. Natural environments provide numerous ecological services related to air quality, temperature regulation, flood control, reduced land erosion, soil formation, biological insect control, recreation, and scenery
- The preservation of green spaces helps to ensure the quality of life for the people of Dorval

### Sustainability

- In order to be sustainable, the preservation and enhancement of green spaces must take place within a legal framework that encompasses the financial, human, and environmental aspects
- Green space developments must be safe, especially in urban parks. Toward this end, riparian strips can serve as useful barriers between recreational sectors and bodies of water. Access points, paths, and plantings must ensure the safety of users
- It is generally recognized that the ecological services provided by quality natural environments may include the improvement of air quality and promote a general feeling of well-being through contact with nature

### Mobility

- The green and blue corridors should favour active mobility among Dorval residents while facilitating wildlife movements and the propagation of flora. To the extent possible, the corridors should include hiking trails and bicycle paths

### Economic Vitality

- Natural environments provide numerous ecological services that benefit the population. Some studies have valued these services at \$5,414/hectare/year for woodlands, \$14,153/hectare/year for wetlands, and \$1,618/year for wildlands (David Suzuki Foundation, 2008. Argent, 2005)
- Preservation of these sectors also generates indirect economic benefits

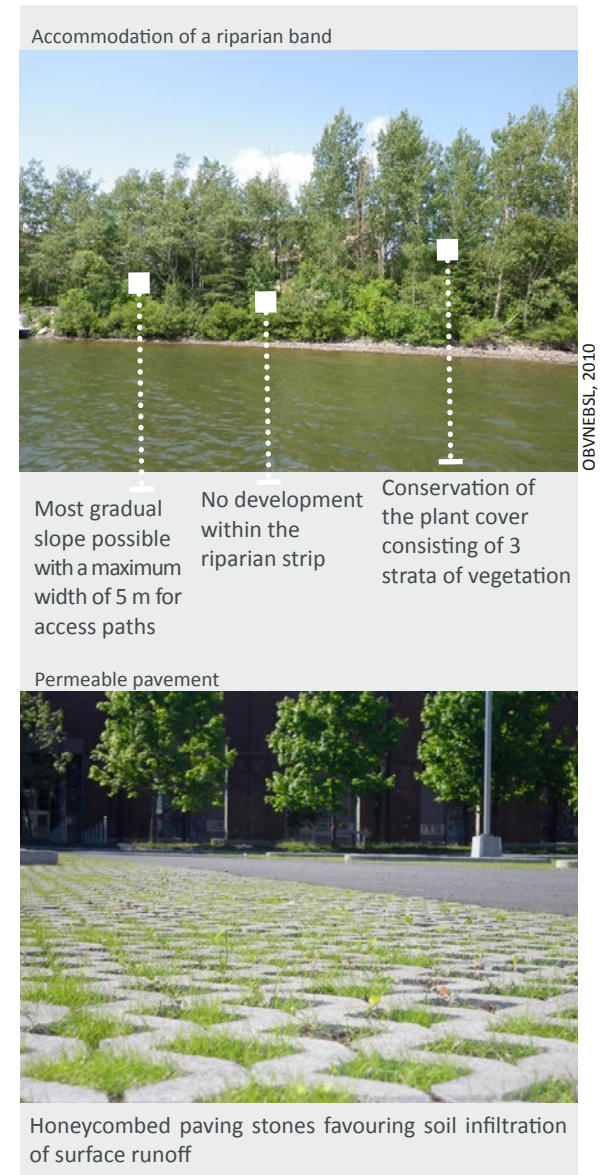
## A Few References...



Green Roof Supporting Urban Biodiversity



Enhancement of Urban Flora, Stockholm, Sweden



## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Increase existing knowledge about the ecological and environmental value of natural environments and green spaces for purposes of better conservation of elements of interest	Timeline			Partner
		S	M	L	
<b>Action 1.1</b>	Carry out an inventory and characterization study and develop a management plan with respect to the ecological value and state of health of the natural environments and green spaces (wetlands, forest environment, wildlands, and watercourses)	X			City of Dorval Public and Private Partners
<b>Action 1.2</b>	Implement a program to maintain, reforest, and develop parks and spaces of interest with a view to diversifying the vegetation strata and the planted species in order to support biodiversity	X	X	X	City of Dorval Public and Private Partners
<b>Action 1.3</b>	Preserve the golf courses for recreational purposes and encourage them to participate in the Audubon program for the environment (acspgolf.auduboninternational.org)	X	X		City of Dorval
<b>Action 1.4</b>	Strengthen the regulatory provisions for protecting the woodland located south of the Bois-de-Liesse Nature Park	X			City of Dorval Public and Private Partners
<b>Action 1.5</b>	Carry out a study and follow-up of occurrences of rare species spotted within the territory		X		City of Dorval Public and Private Partners
<b>Action 1.6</b>	Participate in the MRNF's select committees and in the Lake Saint-Louis ZIP committees on at-risk species	X	X	X	City of Dorval
<b>Action 1.7</b>	Protect existing municipal green space and improve all aspects of biodiversity (tree species, aquatic and land fauna, plants and shorelines)	X	X	X	City of Dorval
<b>Action 1.8</b>	Preserve and enhance Dixie and Bushy Island by devoting their limited amounts of protected natural land for extensive recreation that is respectful of the environment	X	X	X	City of Dorval Public and Private Partners
OBJECTIVE 2	Minimize the ecological footprint within the riparian strips and watercourses and support site restoration efforts	Timeline			Partner
		S	M	L	
<b>Action 2.1</b>	Carry out a characterization study of the watercourses and encroachments on or shoreline hardening of the riparian strips	X	X	X	City of Dorval Public and Private Partners
<b>Action 2.2</b>	Tighten protective measures along Bertrand Creek, other watercourses and at the Bouchard Creek outlet (concentration of species along the shores of Saint-Louis Lake)	X			City of Dorval
<b>Action 2.3</b>	Develop and implement a greening and revitalization program, especially along Lake Saint-Louis (increase vegetated surfaces)	X	X	X	City of Dorval Public and Private Partners
<b>Action 2.4</b>	Enhance the natural and urban landscapes of the shores of Saint-Louis Lake and conserve sightlines towards the lake	X	X	X	City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 3	Reduce heat islands and their impacts on human health, outdoor air quality, water and energy consumption, aquatic ecosystems, and natural habitats	Timeline			Partner
		S	M	L	
<b>Action 3.1</b>	Revise the standards in order to:				
	<ul style="list-style-type: none"> <li>- Favour expansion of the plant cover (expansion of the tree and shrub canopy, especially in the industrial and airport zones)</li> <li>- Require the development of vegetated open spaces around buildings</li> <li>- Increase the water-holding capacity of sites in order to raise the moisture content of the soil (e.g.: rain garden, retention pond, etc.)</li> <li>- Adopt measures that foster the reflectance of surfaces and the permeability of infrastructure (e.g.: white roof or green roof)</li> </ul>	X			City of Dorval
<b>Action 3.2</b>	Develop and implement an urban park development program designed to diversify the vegetation strata and the planted species, for the benefit of birdlife in particular	X	X	X	City of Dorval Public and Private Partners
<b>Action 3.3</b>	Foster high quality landscaping on public and private land and encourage biodiversity by putting in place objectives and criteria in the SPAIP by-law	X			City of Dorval
<b>Action 3.4</b>	Introduce regulatory provisions that will guide and control the trimming of trees on private land	X			City of Dorval
<b>Action 3.5</b>	Require the planting of trees for new construction projects	X			City of Dorval
<b>Action 3.6</b>	Promote the acquisition and extension of the municipal public domain for green space for all new development projects	X	X	X	City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## CONTEXT – MANAGEMENT OF RESOURCES

The City of Dorval applies and implements a variety of measures that favour responsible management of natural resources. Examples include the restriction on the use of potable water during dry spells, certain measures aimed at reducing pollutants and surface runoff volumes, and the rain barrel rebate program. Within the context of its sustainable urban planning effort, the municipality aims to optimize certain practices and increase public awareness by favouring the implementation of on-site measures for natural rainwater management, among other things. It will also be necessary to identify solutions to the problem of the storm water outfall into the lake.

In terms of managing residual materials, the City of Dorval has been managing its waste in exemplary fashion for a number of years. In fact, the recovery targets established by the Montréal Metropolitan Community have been met.

The presence of contaminated lands within the territory, particularly those used for industrial or commercial purposes, will require particular attention in order to curb the potential impacts on the environment and on natural resources.

Finally, the snow dump that was established within the territory of the City of Dorval makes it possible to manage used snow locally.

## ISSUES

### Water Management

- Responsible consumption of water resources
- Reduction of the volume of water entering the wastewater system and its pollution load
- Reuse of rainwater in order to reduce consumption of potable water
- Water quality and biodiversity of the St. Lawrence River, into which the outflow from the water treatment plant is discharged

### Waste Management

- Raising awareness among the public and companies with respect to green purchasing in order to reduce the quantities of discarded residual materials at source
- Pursuing the initiatives proposed by the City of Dorval with respect to the 3 R's (reduce, reuse, and recycle)

### Contaminated Soil Management

- Servicing of contaminated lands

### Snow Management

- Reduction in the volume of contaminants in used snow and in the volume of snow transported to the snow dumps



Collection of Christmas Trees



Snow Removal



Three-Way Collection



Protection of the Water Quality of the Outflow

## INTERVENTION AREAS

### AN INTEGRATED AND SUSTAINABLE MANAGEMENT OF RESOURCES AND WASTE MATERIALS

Responsible management of natural resources involves a reduction in their consumption or utilization at the source and an integrated approach that favours reuse, recovery, and treatment methods that allow for impact-free disposal.

The City of Dorval has positioned itself as a leader in the area of sustainable management of residual materials, and therefore, it must continue its efforts and even expand the scope of its actions to cover all non-residential activities.

In addition, it is crucial to expand the scope of its actions in order to take into account all resources used and all materials generated through human activities (water, soil, and used snow). The water resource will require integrated management with measures aimed at reducing consumption and managing surface runoff based on a comprehensive approach that takes into account both the drinking water supply and disposal into the sewer system and at the snow dump. Finally, soil constitutes a resource that must be conserved and rehabilitated, particularly for the purpose of supporting the intensification of urban activities.



Physical Layout Favouring Urban Biodiversity, Stockholm, Sweden

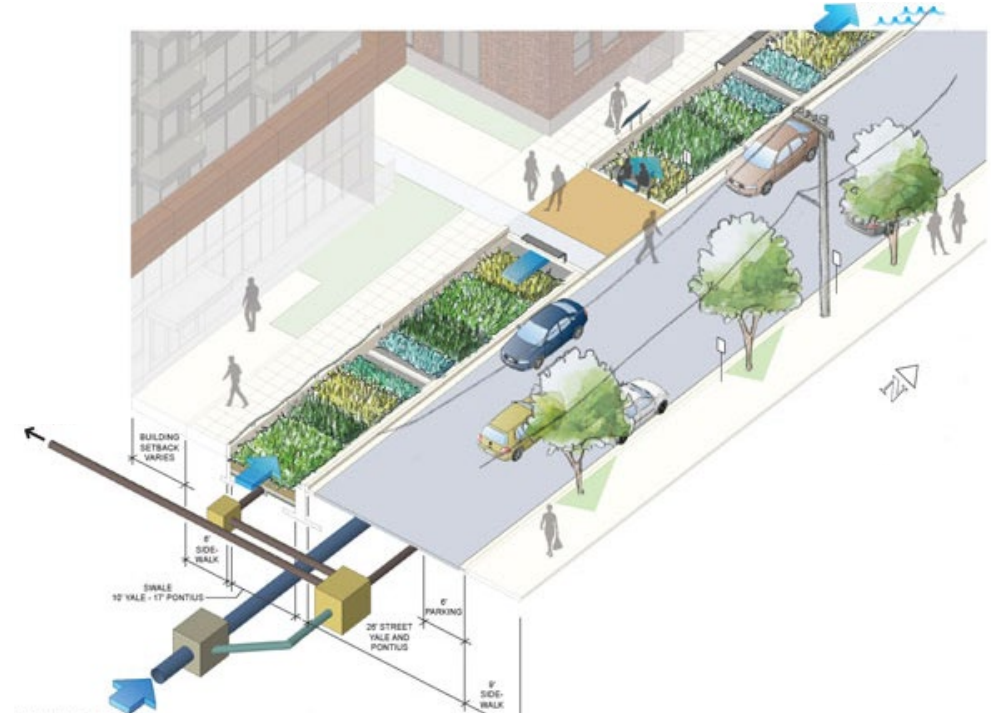
## SUSTAINABLE PRINCIPLES

### Density

- Integrate the new resource management practices (water, residual materials, soil, and used snow) into the design or redevelopment of sites

### Biodiversity

- Preserve natural environments and the existing ecological balance during site development



Integrated Rainwater Management, Seattle

Illustration by KPG, Incorporated. Source: Seattle Public Utilities

## IMPLEMENTATION STRATEGY

OBJECTIVE 1	Reduce the consumption of potable water	Timeline			Partner
		S	M	L	
<b>Action 1.1</b> Retain the regulations restricting the use of the municipal water supply for the cleaning of outdoor impermeable surfaces		X	X	X	City of Dorval
<b>Action 1.2</b> Amend the urban planning by-laws (e.g.: building by-law) in order to favour the installation of equipment and materials that reduce the consumption of water and energy		X			City of Dorval
<b>Action 1.3</b> Develop and implement a program to increase public awareness with respect to responsible consumption of potable water in particular (green guide)		X	X	X	City of Dorval Public and Private Partners

OBJECTIVE 2	Manage rainwater on site in order to reduce peak storm sewer flows and the pollution load of the rainwater	Timeline			Partner
		S	M	L	
<b>Action 2.1</b> Develop a master plan for rainwater management and identify water consumption levels by activity		X	X		City of Dorval Public and Private Partners
<b>Action 2.2</b> Amend the urban planning by-laws in the following areas: <ul style="list-style-type: none"> <li>- Monitoring of the water quality</li> <li>- Control of peak flows (ensure that post-development peak flows do not exceed pre-development peak flows)</li> <li>- Favouring rainwater infiltration by means of vegetated open spaces around buildings and landscaping (retention, natural infiltration)</li> <li>- Including rainwater recovery and reuse systems in development projects (e.g.: rain gardens, rain-fed tanks)</li> </ul>		X			City of Dorval
<b>Action 2.3</b> Monitor water quality in storm sewer system outfalls on a regular basis, and establish an infrastructure program to correct the situation		X	X	X	City of Dorval
<b>Action 2.4</b> Develop a plan to prevent reversed connections to the sewer systems (inspection of buildings in order to detect reversed connections that contaminate the storm sewer system and correction of the situation)		X	X	X	City of Dorval

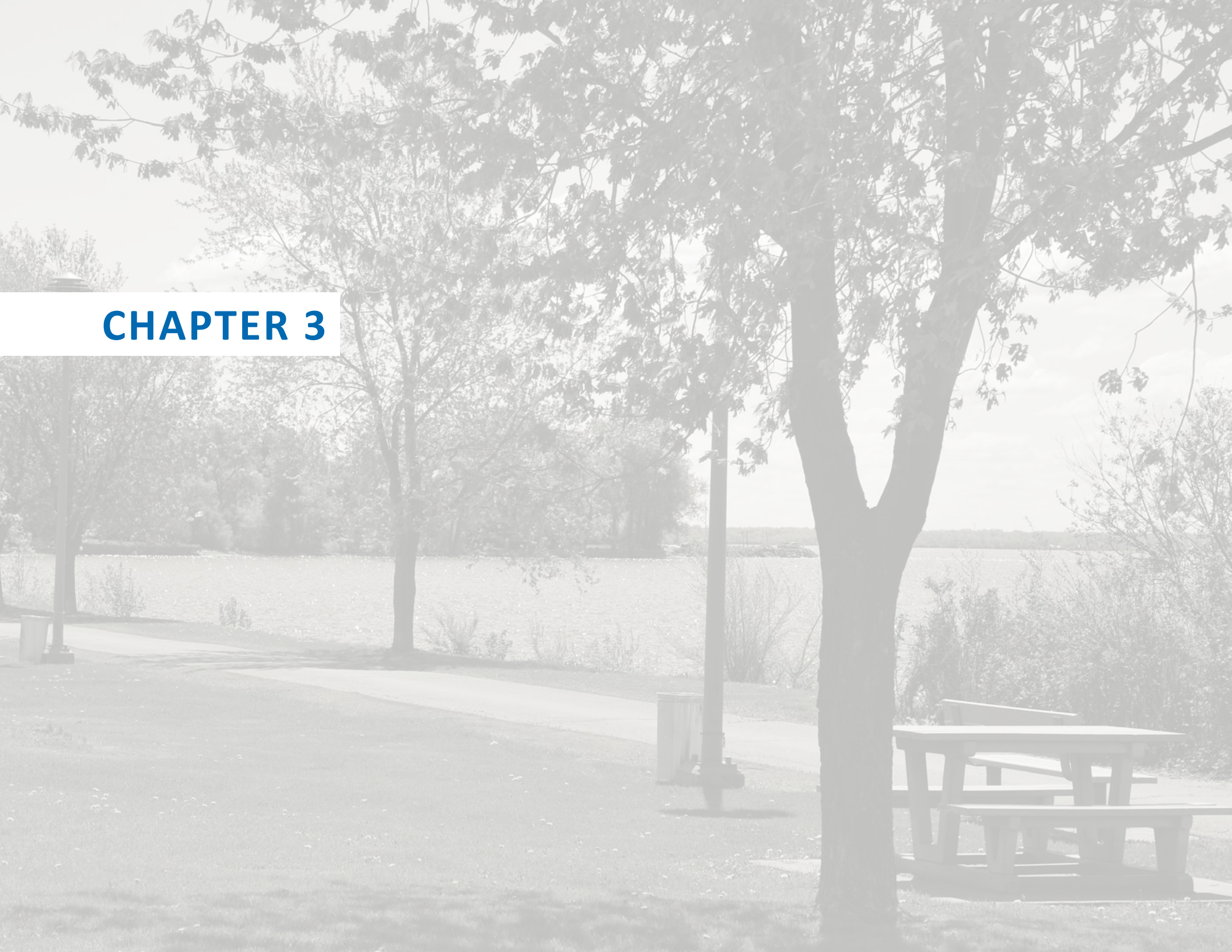
S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## IMPLEMENTATION STRATEGY

OBJECTIVE 3	Timeline			Partner
	S	M	L	
<b>Action 3.1</b> Promote responsible consumption habits  <b>Examples of interventions:</b> <ul style="list-style-type: none"> <li>- Develop a corporate action plan for the City of Dorval and retain the Green Purchasing Protocol</li> <li>- Develop specific local action sheets for each residual material</li> <li>- Implement a green purchasing and at-source sorting awareness program for residents, companies, and businesses in order to reduce the volume of discarded residual materials</li> </ul>	X	X	X	City of Dorval Public and Private Partners
<b>Action 3.2</b> Continue collecting organic matter (plant and food waste) and work toward a steady progression in the volume of material processed annually, while simultaneously promoting public awareness of grasscycling	X	X	X	City of Dorval Public and Private Partners
<b>Action 3.3</b> Reduce the volume of CRD (construction, renovation, and demolition) waste being buried and characterize the situation within the territory	X	X		City of Dorval Public and Private Partners
<b>Action 3.4</b> Encourage industrial ecology by recovering residues in order to give them a new use at another company, and provide a list of renovation and demolition recyclers (e.g.: Centre de transfert technologique en écologie [Industrial Ecology Technocentre])	X	X	X	City of Dorval Public and Private Partners
<b>Action 3.5</b> Reassess ice and snow removal methods in order to use less environmentally harmful alternatives  <b>Examples of interventions:</b> <ul style="list-style-type: none"> <li>- Favour on-site management of used snow, as well as natural soil infiltration</li> <li>- Encourage ecological snow removal by reducing the amount of de-icing salt used</li> </ul>	X	X		City of Dorval Public and Private Partners

S : Short Term (0-5 years), M : Medium Term (6-10 years), L : Long Term (11-20 years)

## CHAPTER 3













### 3. CONCEPT AND LAND-USE DESIGNATIONS

#### THE CONCEPT PLAN

Map 9 (TOD and living area concept plan) illustrates the long-term planning goals of the City of Dorval. This concept plan stems from the Vision 2031 plan presented on page 22 and more specifically defines the spatial organization of the city.

The information presented takes into account the main characteristics of the existing city as well as the development goals derived from the metropolitan plan, the City's vision and the implementation strategies for living environments. The proposed guidelines promote conviviality, quality of life, diversity and economic dynamism.

-  Employment Sector
-  Inhabited Sector
-  Airport Sector
-  Village Centre
-  Commercial and Service Sector
-  Waterfront Area
-  Green Corridor
-  Recreational Sector
-  TOD
-  Municipal Limit



Map 9 – TOD and Living Area Concept Plan

## PLANNING SECTORS

The concept plan presents the planning sectors for the Dorval territory. More specifically, there are 8 sectors with unique characteristics illustrated on the plan whose development is guided by innovative sustainable principles.

The following outlines the characteristics of the different planning sectors in more detail:

### 1. EMPLOYMENT SECTOR

The Employment Sectors presented on the concept plan refers to the “Employment Poles” outlined in Chapter 2 and are located along Highways 40, 20 and 520. The industrial park is also included within this sector. Within these areas, the establishment of new strategic businesses is encouraged in conjunction with the Saint Laurent Technoparc, where major investments relating to aeronautics, clean and information technologies as well as life sciences are preferred. Moreover, the addition of new businesses will encourage the renewal of certain areas such the zone between Highway 20 and Highway 520 which is currently occupied by ageing businesses and vacant lots. A more specific planning for the highway corridor is encouraged through guidelines for structuring the landscaping in order to create an employment sector that is attractive to new investment. Another Employment Sector is identified along Bouchard Boulevard. This area constitutes an employment and strategic development pole that must be acknowledged in the future planning of the city.

### 2. INHABITED SECTORS

The Inhabited Sectors presented in the concept plan refers to the “Residential Neighbourhoods” presented in Chapter 2. The presence of Highway 20 has created a physical barrier between the residential neighbourhoods north and south of this highway. A consolidation of the inhabited areas is encouraged through creating links that will facilitate access to the Dorval and Pine Beach commuter train stations, through a bike path and pedestrian crossing over the highway. This consolidation will also be realized through a gradual densification of housing around the two train stations, beginning with the areas identified for “construction and redevelopment” in the *Schéma d'Aménagement et de Développement de l'Agglomération de Montréal*.

### 3. AIRPORT SECTOR

While the Airport Sector is part of the “Employment Poles” outlined in Chapter 2, this sector is considered a separate area in the concept plan due to its intrinsic qualities that make it a distinct zone. While a significant number of jobs are found within this area, the Airport Sector is also an important transportation infrastructure that requires special attention when it comes to land use and development. It occupies a significant portion of the northern section of the city’s territory. Moreover, the Airport Sector needs renewal in the areas around the industrial sector located along Highways 13 and 520. The consolidation of businesses located around the runways, both within the City of Dorval and the Saint-Laurent Borough, is desirable. Sustainable site development will be encouraged for new developments in this area (specifically for the properties located close the green corridor of the Bertrand Creek), in order for better management of stormwater. The implementation of a public transit connection between the Airport Sector and Downtown Montreal will also be a priority in terms of development for the entire Montreal region.

### 4. VILLAGE CENTRE

The Village Centre presented on the concept plan refers to the “Historic Central Sector and its Origins” area outlined in Chapter 2. In order to improve the ambiance and animation of this sector and also to reduce the loss of commercial uses to regional-scale shopping centers, the concept plan favours a renewal of the commercial structure and a mix of uses in this area. While a significant effort has already been made by the City of Dorval over the last few years, a reaffirmation, consolidation and diversification of the local commercial uses and services is encouraged. The harmonization between the Village Centre, Dorval Avenue and the waterfront via a bike path and several pedestrian crossings is also promoted, making this area a lively and welcoming place. Finally, the preservation of built heritage will enable the development of the traditional character of this artery.

## 5. COMMERCIAL AND SERVICE SECTOR

The Commercial and Service Sector presented on the concept plan refers to the “Central Urban Sector” outlined in Chapter 2. It is the key sector of the City of Dorval where the consolidation of retail commerce and professional services are desired. This commercial concentration will allow the intensification and diversification of activities while also stimulating the economic development of the municipality. By improving the commercial diversity offered this area will benefit from the significant clientele coming from the airport. A mix of uses is highly encouraged in order to create a living area that is dynamic and friendly. Bike and pedestrian paths will connect the Dorval axis with the existing residential neighbourhoods and the Dorval Train Station. Active mobility and public transit are favoured here.

## 6. WATERFRONT AREA (SHORELINE OF LAKE SAINT-LOUIS)

The Waterfront Sector presented on the concept plan refers to the “Historic Central Sector and its Origins” area outlined in Chapter 2. The redevelopment of the shoreline along Lake Saint-Louis as well as the waterfront landscaping is prioritized here. Interventions with regard to the built heritage, the natural spaces and the architecture will give this area a unique character along the waterfront. Public access to the waterfront will also be promoted.

## 7. GREEN CORRIDOR

The Green Corridor presented on the concept plan refers to the “Biodiversity, Green Spaces and Management of Resources” area outlined in Chapter 2. The presence of the green corridor created by the Bertrand Creek has a large impact on the Dorval territory as it constitutes an undeniable natural attraction at a Montreal-wide scale. The green corridor of the Bertrand Creek crosses through numerous boroughs and cities throughout the island of Montreal such as Dorval, Pierrefonds-Roxboro, Dollard-des-Ormeaux and Saint-Laurent. It begins at the Bois-de-Saraguay Nature Park and extends towards the Bois-de-Liesse Park. The City of Dorval aims to enhance this green corridor by naturalizing its shoreline through landscaping that encourages indigenous fauna and flora growth.

## 8. RECREATIONAL SECTOR

The Recreational Sectors presented on the concept plan refers to the “Biodiversity, Green Spaces and Management of Resources” areas of Chapter 2. In the concept plan, the recreational sectors consist essentially of the golf courses. As they are large green areas, often located close to established residential neighbourhoods, the Master Plan promotes the management and ecological development of these areas. More specifically, the harmonization between the municipal golf course, located near the airport, and the green corridor of the Bertrand Creek is prioritized.

Ultimately, a detailed planning of all the areas presented in the concept plan can lead to:

- The adoption of a Special Planning Program (PPU), for areas such as Dorval Avenue, the Employment Poles and the Village Centre;
- The execution of an implementation plan for living areas such as the ones along the waterfront and the highway corridor;
- The realization of a positioning study for the commercial uses on Dorval Avenue and the Village Centre.

## TOD PERIMETER

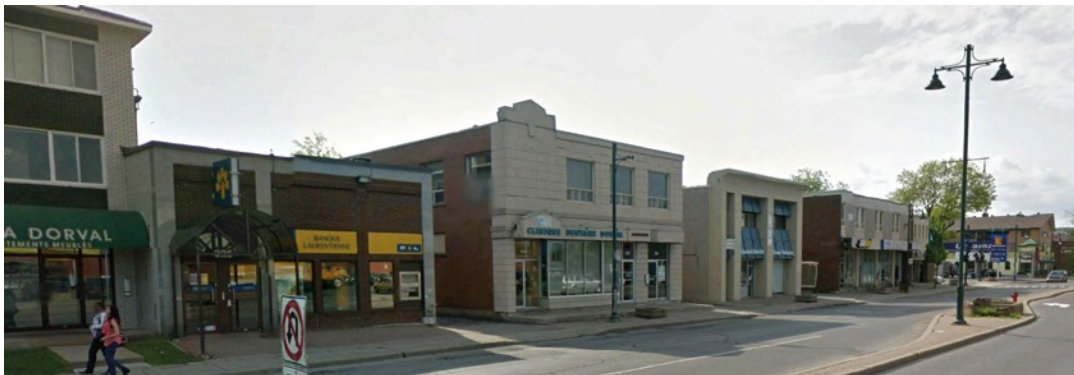
Areas for higher-density construction were identified around the commuter train stations of the City of Dorval. They are areas where higher density is proposed because of its proximity to regional scale transportation infrastructure. Normally, this kind of densification would take place in the form of a TOD (Transit-Oriented Development) development. The common development standard for a TOD is within a radius of 1 kilometre from the transportation infrastructure. This radius constitutes the maximum walking distance for a pedestrian to go from its residence to the train station or conversely, from the train station to a commercial establishment or residence.

Within the City of Dorval, a perimeter for the impacted zone is identified in order to indicate which properties are affected by this higher density. This approach allows the City to target specific properties to be affected by the densification objective. Unlike using the approach of a TOD radius, the TOD perimeter approach is much more precise as it follows the actual limits of properties or land-use zones in place. The identified perimeters for TOD development in the concept plan are located around the Dorval and Pine Beach stations, the two commuter train stations located within the City of Dorval.



Medium-Density Residential Development

Source: Espace MV3 blog, espacemv3.wordpress.com



Local Businesses Along Dorval Avenue















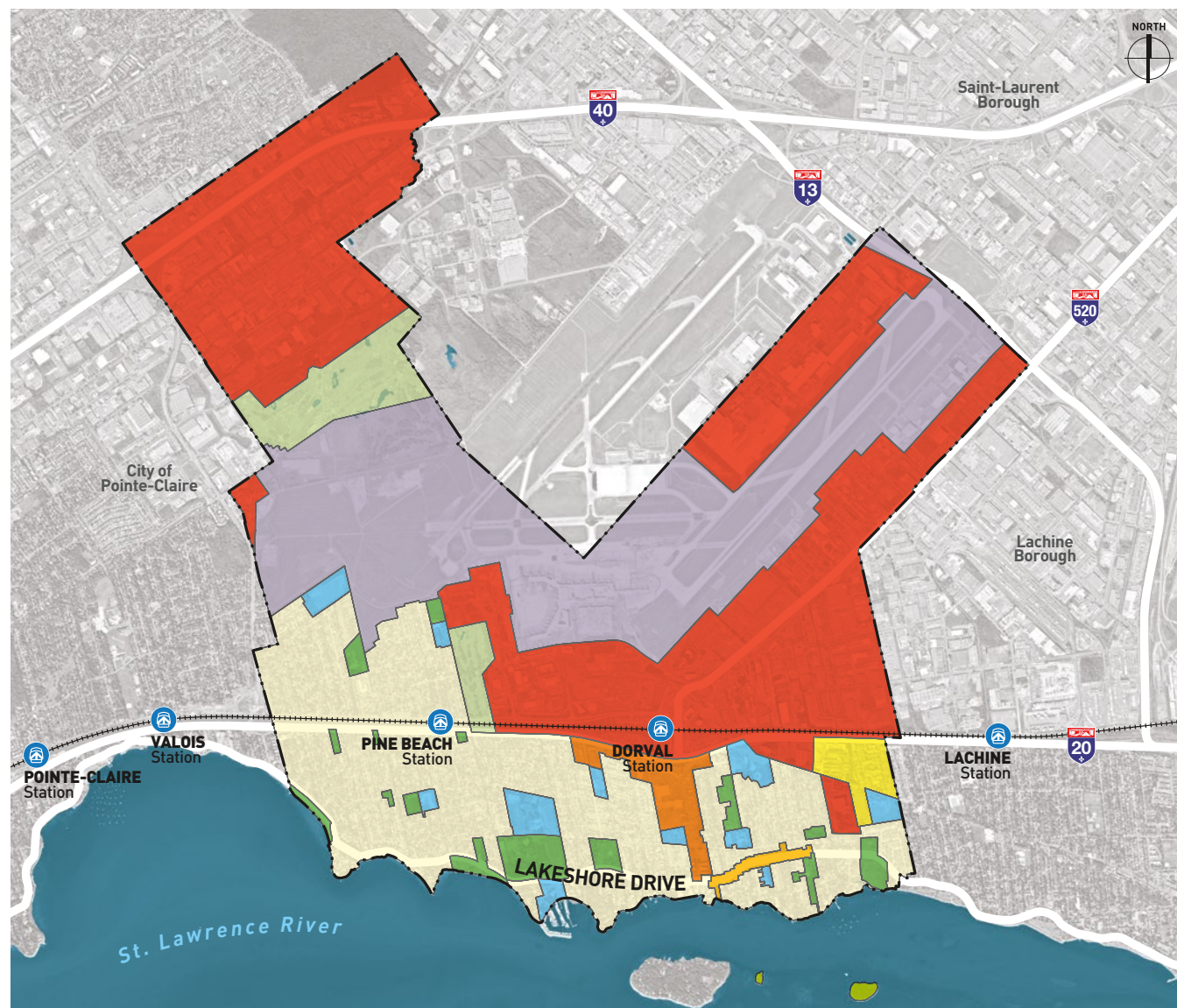
Example of a Bike Path

Source: Google Earth Pro

## LAND-USE DESIGNATIONS AND DENSITY THRESHOLDS

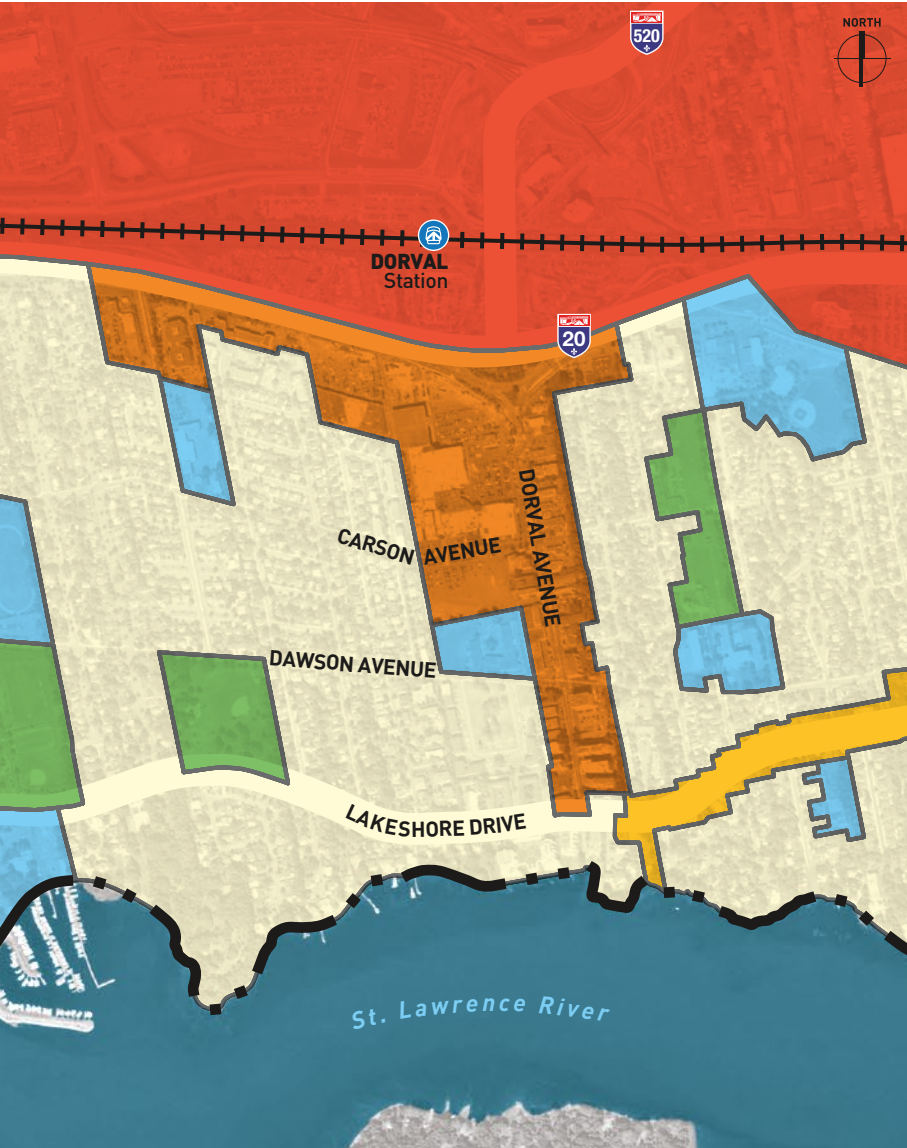
Plan 2 (Land-Use Designations and Densities) presents the principal land-use designations for the territory of Dorval. The following table outlines the different land-use designation categories and the specific uses associated with each designation. A definition of each use is presented after the table.

-  Residential – Low Density  
10 to 24 dwellings / ha
-  Residential – Medium Density  
25 to 79 dwellings / ha
-  Residential – High Density  
80 dwellings or more / ha
-  Mixed Use Local Pole  
40 dwellings or more / ha
-  Mixed Use and Service Pole  
80 dwellings or more / ha (+ regional scale)
-  Employment and Economic Pole
-  Institutional Sector
-  Conservation Sector
-  Parks and Green Spaces
-  Golf
-  Airport Sector
-  Municipal Limit



Map 10 – Land-Use Designations and Densities

LAND-USE DESIGNATIONS AND DENSITY THRESHOLDS



Montréal-Trudeau International Airport



Pine Beach Park



Village Centre

Source: Ville de Montréal (Flickr)









Millenium Park

Source: Parcours riverain – Ville de Montréal (Flickr)



## LAND-USE DESIGNATIONS AND DENSITY THRESHOLDS

LAND-USE DESIGNATION CATEGORIES	
Land-Use Designation	Authorized Uses
 <b>Residential – Low Density (10 to 24 dwellings / ha)</b> This designation refers to the residential category with the lowest density. The areas identified by this category are the well-established existing residential neighbourhoods.	<ul style="list-style-type: none"> <li>- Residential;</li> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
 <b>Residential – Medium Density (25 to 79 dwellings / ha)</b> This designation refers to medium-density residential uses.	<ul style="list-style-type: none"> <li>- Residential;</li> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
 <b>Residential – High Density (80 dwellings or more / ha)</b> This designation refers to the highest density residential uses.	<ul style="list-style-type: none"> <li>- Residential;</li> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
 <b>Mixed Use Local Pole (40 dwellings or more / ha)</b> This designation refers to the village centre of the City of Dorval. It is composed of local commercial uses and professional services. The development of architectural heritage is promoted considering that a majority of the building in this area are ageing.	<ul style="list-style-type: none"> <li>- Residential;</li> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
 <b>Mixed Use and Service Pole (80 dwellings or more / ha)</b> This designation refers to the area around the Dorval Train station, specifically Dorval Avenue up to Lakeshore Drive. It is the centre of the municipality, where most of the small to medium size retail uses are located as well as a significant portion of the services for the population. The City of Dorval aims to restructure this economic pole into a friendly and accessible place for various methods of active mobility. A mix of commercial uses, services and residential uses (medium to high density) are promoted.	<ul style="list-style-type: none"> <li>- Residential;</li> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
 <b>Employment and Economic Pole</b> This designation refers to the area where high rates of employment are found. It is primarily businesses and prestige industry located along the corridors of Highways 40, 20 and 520. The intended uses are medium to large area commerce and prestige industry, where sustainable development practices are incorporated in the site planning. Considering most of these businesses and industries are located along major transportation routes, a distinct character for the built form is favoured.	<ul style="list-style-type: none"> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- High Technology and Research and Development Activities;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Industry Compatible with the Principal Designation;</li> <li>- Urban Parks, Public Places and Green Spaces;</li> </ul>

## LAND-USE DESIGNATIONS AND DENSITY THRESHOLDS

LAND-USE DESIGNATION CATEGORIES	
Land-Use Designation	Authorized Uses
<b>Institutional Sector</b> This designation refers to, but is not limited to, public institutions and municipal infrastructure such as schools, libraries, arenas, pools, tennis clubs, marinas, water filtration plants and public works facilities.	<ul style="list-style-type: none"> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Local and/or Neighbourhood Health Infrastructure;</li> <li>- High Technology and Research and Development Activities;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
<b>Conservation Sector</b> This designation refers to areas reserved for the protection, improvement and enhancement of biodiversity and natural heritage. This designation includes Dixie and Bushy Island.	<ul style="list-style-type: none"> <li>- Natural Environment Conservation Areas;</li> <li>- Extensive Recreation Facilities.</li> </ul>
<b>Parks and Green Spaces</b> This designation refers to the numerous green spaces located within the municipality. It includes primarily the parks and playgrounds which are often located near institutional infrastructure. The development of parks is guided by the protection and enhancement of indigenous trees, shrubs and flowers species, and this in order to create a greater respect towards the environment and the fauna within the City. This designation also includes conservation areas such as Dixie Island and Bushy Island.	<ul style="list-style-type: none"> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Cultural, Recreational and Leisure Infrastructure;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Urban Parks, Public Places and Green Spaces;</li> <li>- Installation, équipement ou aménagement de récréation extensive.</li> </ul>
<b>Golf</b> This designation refers to the golf courses present within the City of Dorval.	<ul style="list-style-type: none"> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- Urban Parks, Public Places and Green Spaces.</li> </ul>
<b>Airport Sector</b> This designation refers to the Pierre-Elliott Trudeau International Airport area. Considering the large number of jobs concentrated in this area, a distinct treatment for the land-use designation of this area is required. It is a transportation infrastructure that falls under the responsibility of the Federal Government.	<ul style="list-style-type: none"> <li>- Commercial and Activities Associated with the Principal Designation;</li> <li>- High Technology and Research and Development Activities;</li> <li>- Public Institutions and Municipal Infrastructure;</li> <li>- Industry Compatible with the Principal Designation.</li> </ul>

### AUTHORIZED USES DEFINITIONS:

**1. Residential:** Low, medium and high density housing. Density rates are determined according to the thresholds associated with the land-use designation.

**2. Commercial and Activities Associated with a Residential Designation:** Local commerce, retail uses and services that respond to the needs of residents.

**3. Commercial and Activities Associated with the Mixed Use Local Pole:** Local retail sales and services which respond to the needs of all of Dorval and presents a distinct built form for the Village Centre.

**4. Commercial and Activities Associated with the Mixed Use and Service Pole:** Local retail sales and services, occupying a building or a group of buildings that respect the scale of a shopping street. These businesses and services respond to the local needs and also service the clientele coming from the airport.

**5. Commercial and Activities Associated with the Employment and Economic Pole:** Offices, retail sales and services at a regional scale, responding to the needs of workers, Dorval residents and customers from neighbouring cities.

**6. Commercial and Activities Associated with the Airport Sector:** Retail sales and services associated with airport activities.

**7. Public Institutions and Municipal Infrastructure:** Public buildings for education and municipal infrastructure that belong to the City of Dorval.

**8. Health Infrastructure:** Public or private buildings where activities associated with health services are carried out.

**9. Cultural, Recreational and Leisure Infrastructure:** Public infrastructure for cultural, recreational and leisure activities for the residents of the municipality.

**10. Urban Parks, Public Places and Green Spaces:** Public spaces, created for walking, enjoyment and/or certain recreational activities.

**11. High Technology and Research and Development Activities:** Businesses associated with information and research and development for new technologies. Uses intended for these areas include but are not limited to, businesses and industries in manufacturing pharmaceutical, medical, computer, electronic and aerospace products.

**12. Industry Compatible with the Employment and Economic Pole:** Industrial uses associated with general industry activities.

**13. Industry Compatible with the Airport Sector:** Industrial uses compatible with airport activities.

**14. Natural Conservation Sites:** Areas designated for the conservation of fauna and flora.

**15. Extensive Recreation Facilities:** Recreation facilities that require "aménagement légers" and their accessory buildings, used for extensive recreational activities that generally take place outdoors. These facilities generate little impact on the surrounding environment.

## LAND-USE DESIGNATIONS AND DENSITY THRESHOLDS

COMPATIBILITY TABLE

COMPATIBILITY TABLE

		LAND-USE DESIGNATION										
		RESIDENTIAL – LOW DENSITY	RESIDENTIAL – MEDIUM DENSITY	RESIDENTIAL – HIGH DENSITY	MIXED-USE LOCAL POLE	MIXED USE AND SERVICES POLE	EMPLOYMENT AND ECONOMIC POLE	INSTITUTIONAL SECTOR	PARKS AND GREEN SPACES	GOLF	AIRPORT SECTOR	CONSERVATION SECTOR
USES	Residential	X	X	X	X	X						
	Commerce and Activities Associated with the Principal Designation	X	X	X	X	X	X	X	X	X	X	
	Public Institutions and Municipal Infrastructure	X	X	X	X	X	X	X	X		X	
	Health Infrastructure	X	X	X	X	X	X	X				
	Cultural, Recreational and Leisure Infrastructure	X	X	X	X	X	X	X	X			
	Urban Parks, Public Places and Green Spaces	X	X	X	X	X	X	X	X	X		
	High Technology and Research and Development Activities						X	X			X	
	Industry Compatible with the Principal Designation						X				X	
	Natural Conservation Sites								X			X
	Extensive Recreation Facilities								X			X

X Uses that are compatible with the land-use designations outlined in the Sustainable Master Plan. However, the Zoning By-Law provides a more precise delimitation of the different land-use designation zones.

A photograph of a greenhouse or conservatory filled with various plants. In the foreground, there are several large, dark-colored planters filled with dense green foliage and white flowers. Above these, several hanging baskets filled with similar plants are suspended from the greenhouse's frame. In the background, the large, curved glass structure of the greenhouse is visible, with more plants and possibly a person inside. The overall scene is bright and lush.

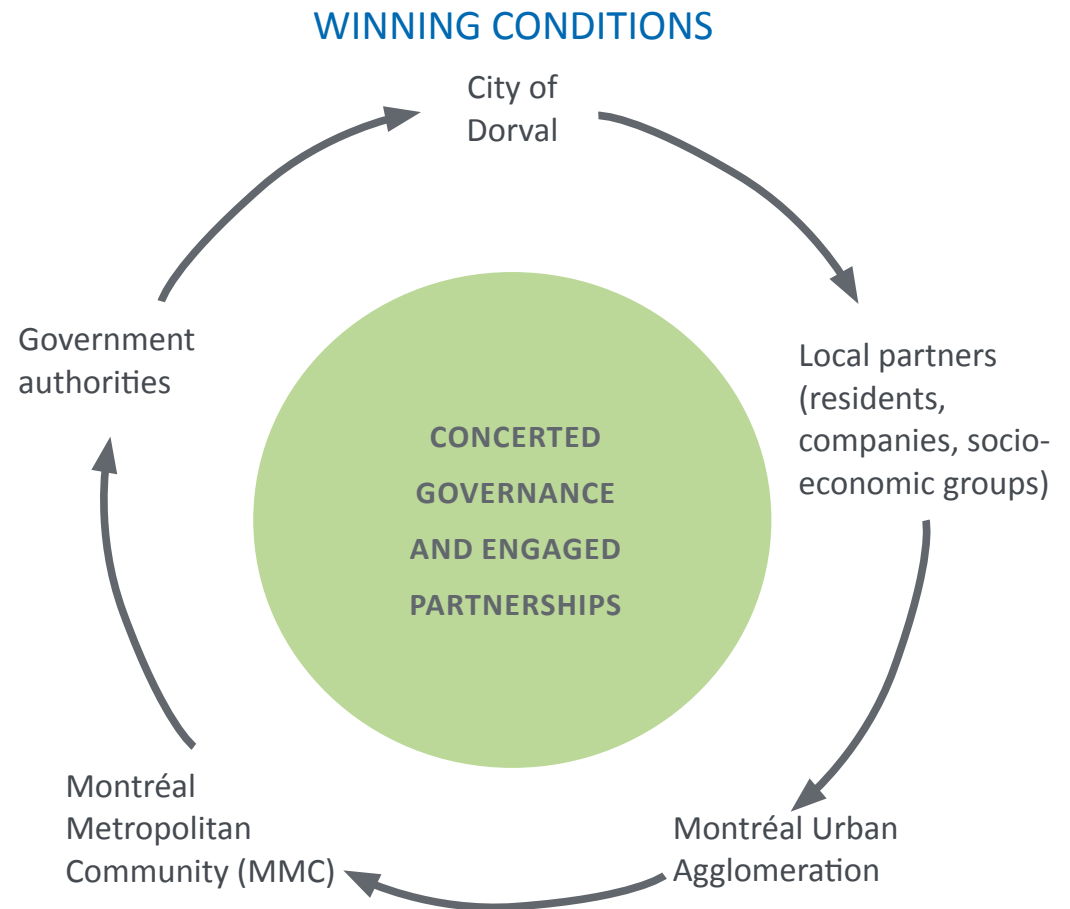
## CHAPTER 4

## 4. A CONCERTED GOVERNANCE AND ENGAGED PARTNERSHIPS

Becoming a sustainable community is not an easy task. Through this very specific action of adopting its first sustainable development plan, the City of Dorval is demonstrating its firm commitment to implementing a land-use planning and development vision that respects the proper use of human and natural resources. This action, which is closely related to the social contract that links the City of Dorval as a corporate citizen to all of its residents and socio-economic partners, constitutes an invitation to take collective responsibility.

Therefore, the success of this initiative rests on concerted governance and engaged partnership. In order to achieve this, the City of Dorval calls upon all stakeholders to ratify and contribute to the achievement of this vision for Dorval living spaces and the actions to be implemented. Without this agreement and involvement, the sustainable development plan will become an irrelevant strategic document.

This inaugural Sustainable Development Plan for the City of Dorval, which reflects the expectations of the Dorval community, will evolve over time with a view to continuous improvement. With this in mind, the City of Dorval will publish a biennial report on progress made toward the attainment of the objectives and targets based on the twelve criteria that have been set out in advance, which will lead to the establishment of a sustainable community.



## SUMMARY OF MAJOR PROJECTS

	INTERVENTIONS
STUDIES	Specific development plans: Historic central sector – Old Village and central urban sector – Dorval intermodal pole (DPP)
	Local travel and active mobility plan
	Integrated master plan for economic development of the industrial poles (including a market positioning study)
	Master plan for equipment, green spaces, and bicycle networks from a sustainable development perspective
	Inventory, characterization, and management plan with respect to the ecological value and state of health of natural environments and green spaces (wetland, forest environment, wildland, and watercourses)
	Urban safety committee plan
POLICIES AND PROGRAMS	Rainwater management master plan and inventory of water consumption by activity
	Municipal social development policy and action plan (affordable infill housing policy)
	Incentive program for sustainable residential construction and ecological land development
	Updating plan for municipal equipment and infrastructures
	Infrastructure and public lands development program
	Tree policy and maintenance, reforestation, and development program for natural environments and green spaces, including riparian environments
	Monitoring of water quality in storm sewer system outfalls and infrastructure program
	Plan for the prevention of reversed connections to sewer systems
	Green purchasing protocol
	Revitalization and awareness-raising program for the preservation of heritage-interest buildings (facades and signs)
PROJECTS	Request to MTQ for the installation of sound barriers
	<ul style="list-style-type: none"> <li>• Development of awareness-raising and communication media</li> <li>• Sustainable building and development</li> <li>• Responsible consumption of potable water</li> <li>• Protection of natural environments</li> <li>• Green purchasing and at-source sorting of residual materials</li> <li>• Industrial ecology (Centre de transfert technologique en écologie)</li> </ul>
	Retention of the Main Streets Committee
	Establishment of a joint intermunicipal-industry committee for economic development of the Saint-Laurent/Dorval metropolitan pole
	Establishment of a City of Dorval/Aéroports de Montréal (ADM)/Industry joint committee
	Support for implementation of the Écotech Québec action plan
	Establishment of an urban safety committee and development of an urban safety plan (City of Dorval and partners)
	Representations regarding rehabilitation of the Pine Beach Tunnel
	Preparation of a characterization study of abandoned lots and a redevelopment opportunity study in cooperation with stakeholders
	Representations to the appropriate authorities in favor of an airport/downtown Montréal shuttle and the integrated public transit network
	Representations regarding the improvement of public transit and commuter train service (routes, schedules, etc.)
	Participation in the MRNF's special committee and the Lake Saint-Louis ZIP committee
	Preparation of specific local action sheets for each residual material (portrait, vision, action)
	Planning and construction of an Aquatic Centre
	Representations regarding the West Island Eco-centre and establishment of a temporary local service centre for Dorval (interim measure)
	Enrolment in the Programme Climat municipalités [Municipal Climate Program] to inventory greenhouse gas (GHG) emissions and develop action plans for their reduction, along with adaptation plans

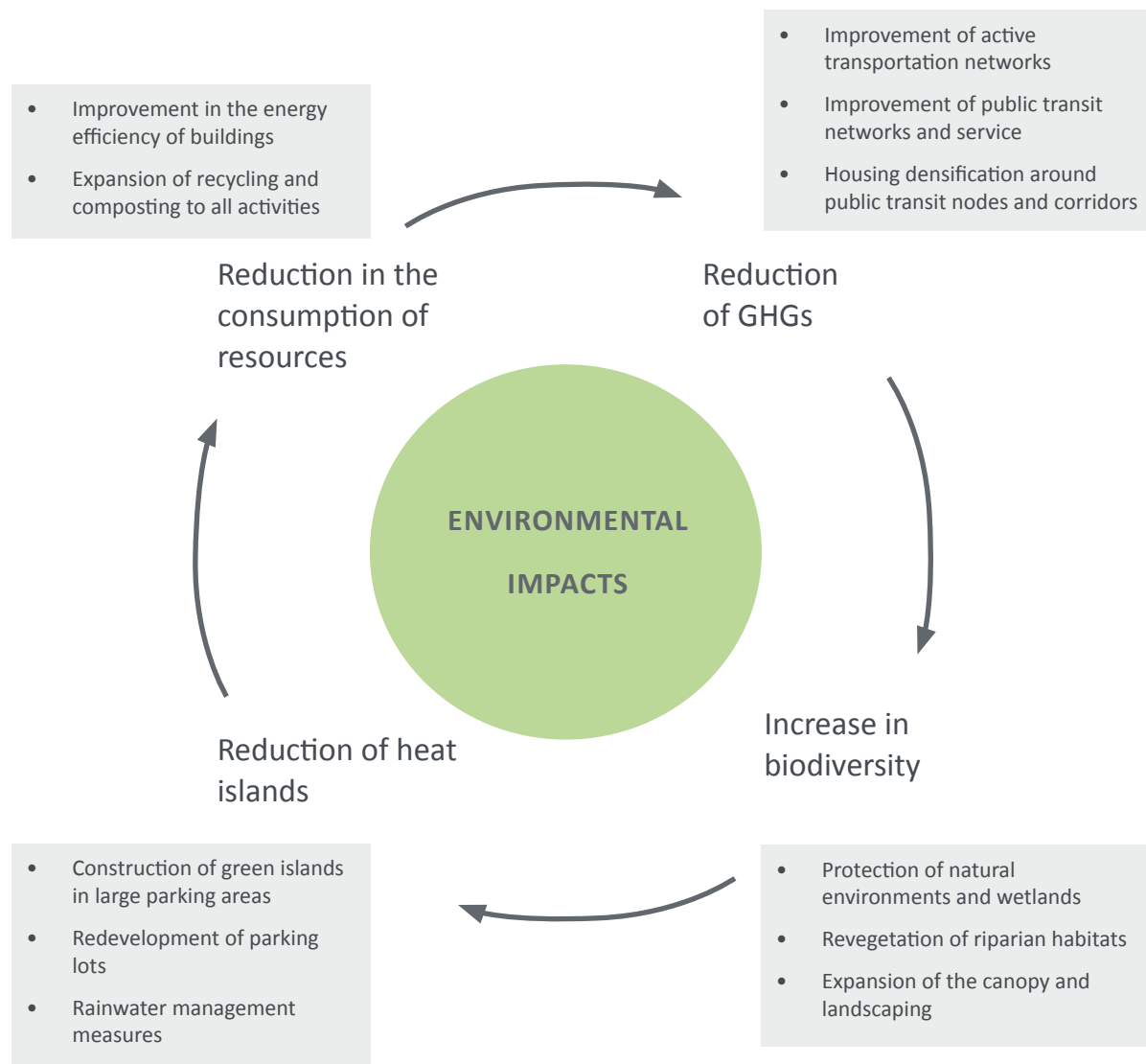
## ANALYSIS OF THE ANTICIPATED SIGNIFICANT IMPACTS ON THE IMPLEMENTATION OF AN ENVIRONMENTAL MASTER PLAN

The purpose of the development objectives of the Master Plan and their related implementation strategies is to achieve a positive and sustainable structuring of the living environments, economic spaces, and natural environments. With a focus on sustainable development, the entire content of the Master Plan has been designed to take into account the anticipated impacts on the environment. The assessment of these environmental effects will be carried out with respect to four main foreseeable impacts:

- Reduction of greenhouse gases (GHGs) generated by human activity
- Reduction of heat islands
- Increase in biodiversity
- Improvement in the energy efficiency of buildings

The diagram opposite identifies those actions or strategies proposed in the Master Plan that are likely to have a positive impact on the environment. These anticipated environmental impacts were an integral part of the reflection process underlying the development decisions, with the goal of reducing the impacts of our approaches to housing, work, consumption, and recreation.

Monitoring of the indicators identified in Chapter 1 of this plan will quantify the evolution of the anticipated environmental impacts so that course adjustments can be made in the next revision of the planning document.





# GLOSSARY

**ADM:** Aéroports de Montréal, the federal agency responsible for the management, operation, and development of the Montréal-Trudeau and Montréal-Mirabel international airports.

**Urban agriculture:** Urban agriculture is an emerging form of agriculture that is practiced in cities, generally on shared plots of land or in individual and/or communal gardens.

**AMT:** Agence métropolitaine de transport, the agency responsible for the planning and operation of metropolitan transportation in the Greater Montréal Area.

**Biodiversity:** Urban biodiversity is defined as the variety of living organisms, including their genetic variations, as well as the diversity of ecosystems. Urban ecosystems are characterized by their heterogeneity. The biodiversity of urbanized environments is the result of a complex mosaic of residual natural environments and urban and industrial landscapes (central business districts, residential areas, industrial parks, roads, parking lots, railways, developed parks, vacant and abandoned lots, etc.), as well as woodlands, farmland, or bodies of water located along the periphery of urban areas.

**Sustainable community:** A community that adheres perfectly to the principles of sustainable development, as much because of its current state and operation as because of its development. This involves integrating, adapting, and applying the fundamental values and principles of sustainable development into the practice of urban planning, development, urban design, architecture, socio-economic development, transportation, and any other areas that influence urban and land-use development.

*Excerpt from Vivre en Ville's "Guide de la théorie à l'action" [From Theory to Action], p. 20*

**MMC:** Montréal Metropolitan Community, the planning, coordination, and financing agency that comprises the 82 municipalities of the Greater Montréal Area.

**Building density:** Building density is measured in terms of the number of dwellings per gross hectare (dwell./ha), including public infrastructures such as traffic lanes.

**Sustainable development:** Within the context of the proposed measures, sustainable development refers to development that meets present needs without compromising the capacity of future generations to meet their needs. Sustainable development is based on a long-term vision that takes into account the indissoluble connection between the environmental, social, and economic dimensions of development activities.

*Québec Act respecting Sustainable Development*

**Écotech Québec:** Contributes to positioning Québec as a pole of excellence for clean technologies in North America. It plays an indispensable role in the development of this industry, which is recognized as an engine of wealth creation and prosperity. Écotech Québec is involved in making Québec a greener, healthier, and more competitive location.

**Renewable energy:** Renewable energy is energy that can be exploited by humans without being depleted. In other words, it must be formed faster than it is used. The various types of renewable energy include solar energy, wind energy, hydroelectric power, biomass (organic plant matter), and geothermal energy.

**Ecological footprint:** The ecological footprint measures human demand on the "ecological services" provided by nature. More precisely, it measures the biologically productive land and water surface areas required to produce the resources consumed by an individual, a population, or an activity and to absorb the wastes generated, given the existing technologies and resource management.

**Greenhouse gases:** Greenhouse gases (GHGs) are gaseous components of the atmosphere that absorb infrared radiation emitted by the Earth's surface, thus contributing to the greenhouse effect. Their increased concentration in the atmosphere is suspected of being a factor in the recent global warming.

**Heat island:** Urban heat islands (UHIs) are areas where the temperatures recorded in the urban environment, and especially the maximum diurnal and night-time temperatures, are elevated in comparison with neighbouring rural or forested areas or relative in comparison with the mean regional temperatures.

**Density:** A dwelling is considered to be affordable when the rent or monthly mortgage payment (including property taxes and heating costs) associated with it does not exceed a given household's ability to pay, namely 30% of its monthly gross income. On the one hand, a dwelling must suit the needs of the household, especially in terms of living space. On the other hand, the dwelling must also have a good location at a reasonable distance from jobs, services, and public transit. A dwelling is not really affordable if its location gives rise to high transportation costs.

*City of Montréal, Service de mise en valeur du territoire et du patrimoine [Department of land and heritage development]: Stratégie d'inclusion de logements abordables dans les nouveaux projets résidentiels [Strategy for the inclusion of affordable dwellings in new residential projects], August 2005*

**Social housing:** Social housing is a form of affordable housing. Supplementing the private sector, social housing meets various needs that the market cannot satisfy if left to itself. Over the years, a number of social housing formulas have been developed, ranging from government-owned low-rent housing (LRH) to self-managed cooperatives.

*City of Montréal, Service de mise en valeur du territoire et du patrimoine [Department of land and heritage development]: Stratégie d'inclusion de logements abordables dans les nouveaux projets résidentiels [Strategy for the inclusion of affordable dwellings in new residential projects], August 2005*

**MAMROT:** Ministère des affaires municipales, des régions et de l'occupation du territoire [Department of Municipal Affairs, Regions and Land Occupancy].

**Alternative modes of transport:** Alternatives to the automobile, such as public transit, carpooling, car sharing, and active modes, such as walking and cycling.

**Sustainable mobility:** In an urban context, sustainable mobility is defined as the capacity for people of all conditions to move about safely, efficiently, and comfortably and with a wide selection of means of transport integrated into fluid networks that give priority to those modes of travel that are most respectful of the environment, such as walking, cycling, car sharing, carpooling, and public transit. This is an approach to land-use planning and management that favours alternatives to single-occupant vehicles and the reduction of pollutants and GHG emissions.

*Québec Sustainable Mobility Plan*

**MRNF:** Ministère des ressources naturelles et de la faune [Department of Natural Resources and Wildlife].

**SPAIP (PIIA):** The by-law on the Site Planning and Architectural Integration Program which permits a discretionary approach to the evaluation of project based on criteria rather than specific norms, and which favour innovative solutions in an open discussion between the municipality and the developer.

*Ministère des Affaires municipales, des régions et de l'occupation du territoire (MAMROT)*

**PMAD:** Metropolitan Land Use and Development Plan (Greater Montréal Area), adopted in December 2011 by the MMC.

**SCAOPB (PPCMOI):** Specific Construction, Alteration or Occupancy Projects for Buildings aimed at allowing, according to certain conditions, a project to be realized despite the fact that it is in derogation of one or a number of the standards of the Planning By-Law of the municipality.

*MAMROT*

**PPU:** The Programme Particulier d'Urbanisme (PPU) or Detailed Planning Program is an element of the Master Plan. The Master Plan refers to the planning of the entire municipal territory whereas a Detailed Planning Program enables more precision in terms of the planning of certain sectors that require specific attention from the municipal council.

*MAMROT*

**Schéma:** Montréal Agglomération Land Use and Development Plan (Schéma d'aménagement et de développement de l'agglomération de Montréal), entered into force on April 1<sup>st</sup>, 2015.

**CMHC:** Canada Mortgage and Housing Corporation

**STM:** Société de transports de Montréal, the government-owned public transit authority that is responsible for the planning and operation of local public transit services on the island of Montréal.

**Transit-Oriented Development (TOD):** An integrated community with a compact and multipurpose mix of urban uses centred around a massive public transit infrastructure, with a design favouring pedestrian activity, user-friendliness, protection of the environment, and the efficient use of public infrastructures and services.

*Agence Métropolitaine de Transport (AMT, 2002)*

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DORVAL

## *Sustainable* MASTER PLAN

