



Project LÉO

DECEMBER 2021
FINAL REPORT

LAYOUT
CENTERING YOU IN OUR DESIGN

December 20, 2021

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Dear all,

We are pleased to present to you our final report on the redevelopment plan for Secteur Langelier as a transit-oriented development flanking the proposed Blue Line metro extension. This report, titled Project LÉO, details the transformation of the site from a primarily retail-and-parking space to a thriving and liveable neighbourhood with increased residential and commercial density, ample green space, public transit, walkable streets and numerous communal amenities.

The main contents of this report are prefaced by a detailed summary of the site as it stands today, existing policy and plans, case studies and takeaways from other TODs around Canada and the world, and an overall understanding of the site and its potential. This is followed by a comprehensive narration of our master plan which includes the vision, guiding principles, recommendations and interventions. The report also includes a detailed phasing plan to effectively stagger the development of Secteur Langelier over a 10-year period which takes into consideration the potential completion time of the proposed metro station, redeployment of retail and commerce with minimal disruption, and timely densification of residential usage for a harmonious transition.

We would like to take this moment to thank and acknowledge our various clients for your input, encouragement and constant involvement in bringing this proposal to fruition. LAYOUT Consultants is incredibly grateful for this opportunity to be a part of the transformation planning of a neighbourhood such as Secteur Langelier and look forward to future opportunities to work with you. We invite you to contact us should you have any questions or comments regarding this proposal, and hope this report contributes positively to the progress of this project at large.

Sincerely,

LAYOUT Consultants,

Assim Sayed Mohammed | Causta Habedus-Sorensen | Fiona Sterritt | Samuel Mehenni | Sayana Sherif

McGill School of Urban Planning, Class of 2022

“

All the old cities were built on the way people moved with their feet, how far they could look with their eyes, and how they used the environment. So first you have the life, then you have the space for the life, and then you put the buildings on the side of the spaces. Life, space, buildings in that order.

- Jan Gehl

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Executive Summary

Figure II: Rue Jean-Talon

Responsive and thriving, Secteur Langelier will progressively transform from idle shopping parcels to a cohesive community...

The objective of this report is to establish redevelopment recommendations for Secteur Langelier – a key location on the Blue Line extension of Montréal’s metro network – into a harmonious and prosperous transit-oriented development (TOD). First, a situational analysis of urban form, land use, mobility, the natural environment and local populations contextualizes the site within the borough of Saint-Léonard. An international TOD best-practice analysis is then presented, with insights summarized for the benefit of identifying desirable site development concepts. The process for refining these concepts and their supporting elements is then described. Our masterplan is then presented. Supporting this, the four principles which we found best reflected the needs of the borough and stakeholders are illustrated and described in detail. Finally, a phasing strategy is proposed in order to mitigate the impacts of the future development of the site on current commercial activities.

Currently, retail constitutes the main use of the site, as there are no residences, and only a handful of office and service spaces. The commercial landscape is dominated by big-box stores and bulk-shopping, contrasting the adjacent Galeries d’Anjou. Site visits and aerial imagery show that mobility and connectivity is heavily car-oriented. Official reports indicate that the extensive parking is under-utilised. Environmentally, the site is severely underperforming. To the east of the site is Parc du Boisé-Jean-Milot, which contains a small forest-wetland ecosystem that needs to be protected. Several policy documents discuss key objectives for the area, such as increasing greenspaces and improving active transport infrastructures. The city’s TOD strategy also indicates a minimum residential density of 110 units per hectare for the site.

The findings from these assessments, along with the TOD examples from other cities, were used to create three development concepts for the area and substantiate a vision based on a cohesive community. Four guiding principles and numerous goals and actions are detailed in support of the masterplan. The principles, as elucidated in the report, are: (1) Inclusive and Diverse Milieu, (2) Rich Human-Scale Experience, (3) Innovative Spaces, and (4) Communal and Environmental Resilience.

The objectives presented are complementary and support the idea of a dense and vibrant neighborhood on a human scale. Active transport occupies a central place, and the imagined corridors – with a strong connection to the Langelier metro – promote gatherings within the planned public spaces. Moreover, 23% of the site’s footprint shall be occupied by green spaces in order to reduce heat islands and create a pleasant living environment. Additionally, 3,495 housing units are on offer, for an average density of 112 units per hectare. The site will also almost double its retail area with the new building density, while offering a better shopping experience for residents and visitors.

Finally, the proposed phasing strategy aims to limit the impact of construction of different zones on existing commercial activities. Particular attention was paid to essential businesses in order to meet the needs of the surrounding populations throughout the process.

LAYOUT Consultants is pleased to present this report, which contains information provided by a diverse set of cultural and academic backgrounds. This report builds off of feedback and planning goals developed between the clients and LAYOUT Consultants. The ideas and concepts presented in this report will hopefully contribute new strategies in policy making to develop Secteur Langelier as a model of sustainable transit-oriented development.

3,495 units

of new residential added, with population density of 112 units/hectare

23%

of total site area is attributed to resilient greenspace

10 year

phasing plan to minimize development disruptions

183,208 m²

of rebuilt commercial space, an increase of almost 63%

Le secteur Langelier connaîtra une transformation identitaire, passant d'un site commercial statique à une communauté cohésive, dynamique et prospère...

L'objectif de ce rapport est de soumettre des recommandations d'actions pour le secteur Langelier — un lieu clé de l'extension de la ligne bleue du métro de Montréal — afin de créer un développement orienté transit (TOD) harmonieux et prospère. Une analyse situationnelle de la forme urbaine, de l'utilisation du sol, de la population, de la mobilité ainsi que de l'environnement naturel permet d'abord de contextualiser le site dans l'arrondissement Saint-Léonard. Puis, un compte rendu des meilleures pratiques TOD à l'international révèle des leçons pertinentes à l'élaboration de concepts pour le secteur. Un plan d'ensemble du site est proposé suivant quatre grandes orientations qui reflètent les besoins de l'arrondissement et des parties prenantes du site actuel. Finalement, une stratégie de phasage est introduite afin de mitiger les impacts du futur développement du site sur les activités commerciales présentes.

Actuellement, le site est strictement à vocation commerciale: aucune résidence ne s'y trouve, puis seulement une minorité de services et d'espaces de bureaux sont accessibles. Le paysage commercial est dominé par des magasins de grandes surfaces. Des visites terrains et des analyses des imageries satellites ont permis de constater la place prépondérante allouée à la voiture, entraînant des enjeux de connectivité importants. Des rapports officiels indiquent que la vaste majorité des espaces de stationnement sont sous-utilisés. D'un point de vue environnemental, le site est sous-performant. Le parc du Boisé-Jean-Milot se situe à l'est du site; il renferme un écosystème forestier et un milieu humide importants à protéger. Plusieurs documents de planification décrivent les objectifs du secteur, notamment la création d'espaces verts et l'amélioration des infrastructures de transports actifs. La stratégie TOD de la ville attribue d'ailleurs un minimum de densité résidentielle de 110 logements par hectare pour le site.

Les constats de l'analyse contextuelle et des meilleures pratiques TOD ont servi au développement de concepts pour le secteur et à la définition d'une vision pour une communauté florissante. Quatre grandes orientations et plusieurs objectifs sont ainsi détaillés en appui au plan d'ensemble; (1) Un milieu divers et inclusif, (2) Une expérience riche à taille humaine, (3) Des espaces innovants et (4) Une résilience environnementale et communale.

Les objectifs présentés sont complémentaires et supportent l'idée d'un quartier dense, vibrant et à taille humaine. Les transports actifs occupent une place centrale, et les corridors imaginés — avec un lien fort à la station de métro Langelier — servent de lieux de rencontres. 23% de l'empreinte du site est occupé par des espaces verts afin de réduire les îlots de chaleur et favoriser un milieu de vie agréable. Néanmoins, 3,495 unités d'habitation sont proposées, pour une densité moyenne de 112 logements par hectare. Le site va aussi pouvoir presque doubler sa superficie commerciale avec la nouvelle densité de bâti, tout en offrant une meilleure expérience d'achat pour les résidents et visiteurs.

Finalement, une stratégie de phasage est proposée afin de limiter l'impact de la construction des différentes zones sur les activités commerciales existantes. Une attention particulière a été portée sur les commerces essentiels afin de satisfaire les besoins des populations environnantes tout au long du processus.

La firme LAYOUT Consultants est heureuse de présenter ce rapport conçu par une équipe multidisciplinaire expérimentée. L'analyse est la résultante des discussions et objectifs entendus avec les parties prenantes. Nous espérons que les idées et concepts proposés dans ce rapport pourront contribuer au développement de nouvelles stratégies et politiques afin de faire du secteur Langelier un modèle de TOD durable.

3,495 log.

résidentiels, pour une densité de 112 logements/hectare

23%

de l'empreinte du site dédiée aux espaces verts

10 ans

plan de phasage afin de mitiger l'impact du développement

183,208 m²

de superficie commerciale, une augmentation de 63%

The Current Situation in Context

Introduction

Montréal is a vibrant city with a growing need to get people moving. The Blue Line extension is an exciting opportunity for the Est-de-l'Île of Montréal. It constitutes the first confirmed expansion of the metro system since the Orange Line's extension into Laval in 2007. The new extension will run through the boroughs of Saint-Léonard and Anjou, connecting these communities to the rest of Montréal with reliable, frequent, and comfortable transportation. Within Saint-Léonard, a particular area of interest is Secteur Langelier, situated at the crossroads of Rue Jean-Talon and Boulevard Langelier. The site of Project LÉO, which is bound by the Trans Canada Highway to the north, Boulevard Langelier to the south, and Parc du Boisé-Jean-Milot to the east, will be the future home of the second-last station on the Blue Line extension. The site provides an opportunity for a transit-oriented development with a unique identity that also pays homage to Montréal's distinct built environment. Project LÉO aims to create a neighbourhood that emphasizes the importance of sustainability, encourages commercial activity, and fosters a liveable community.

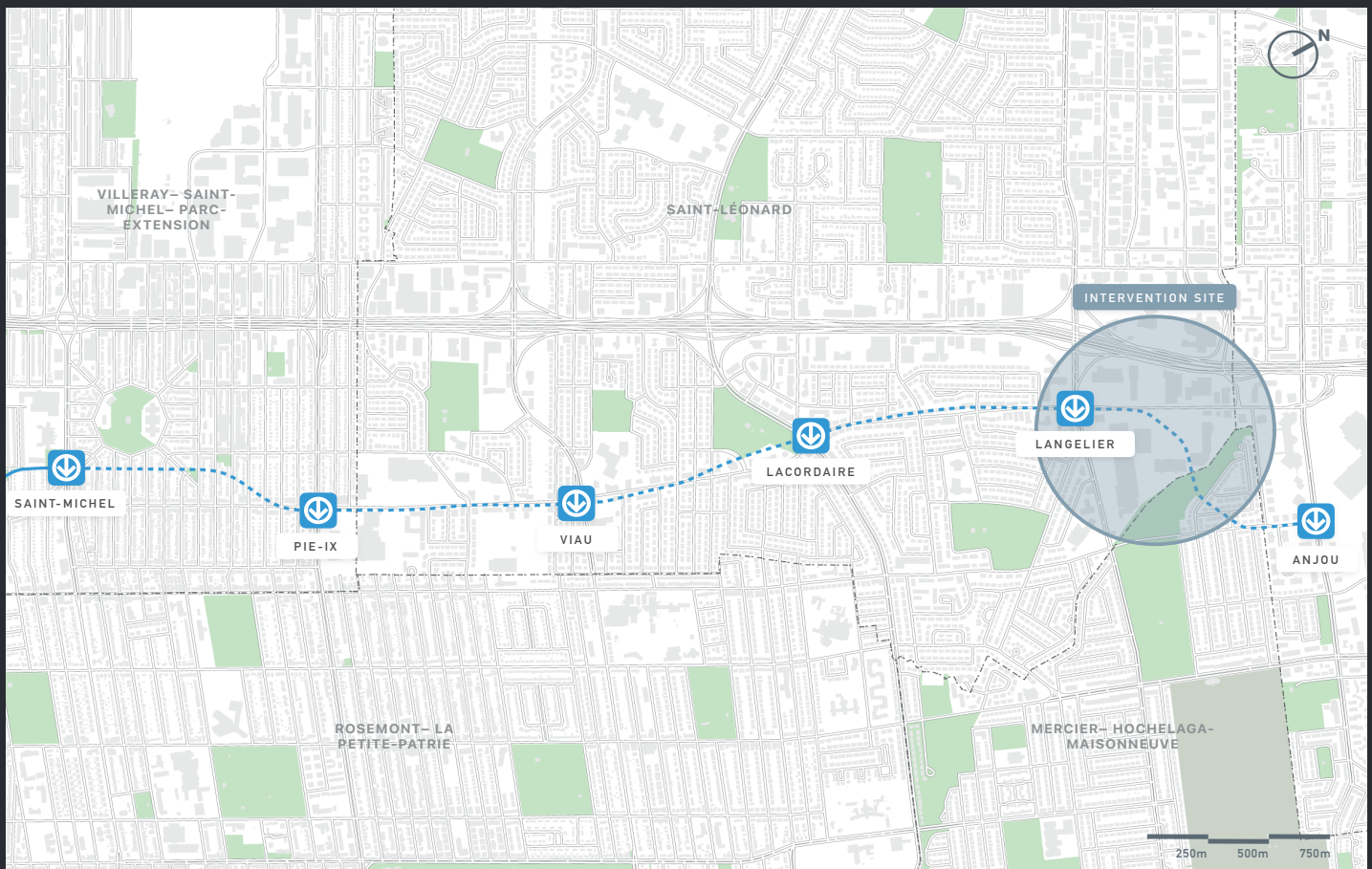
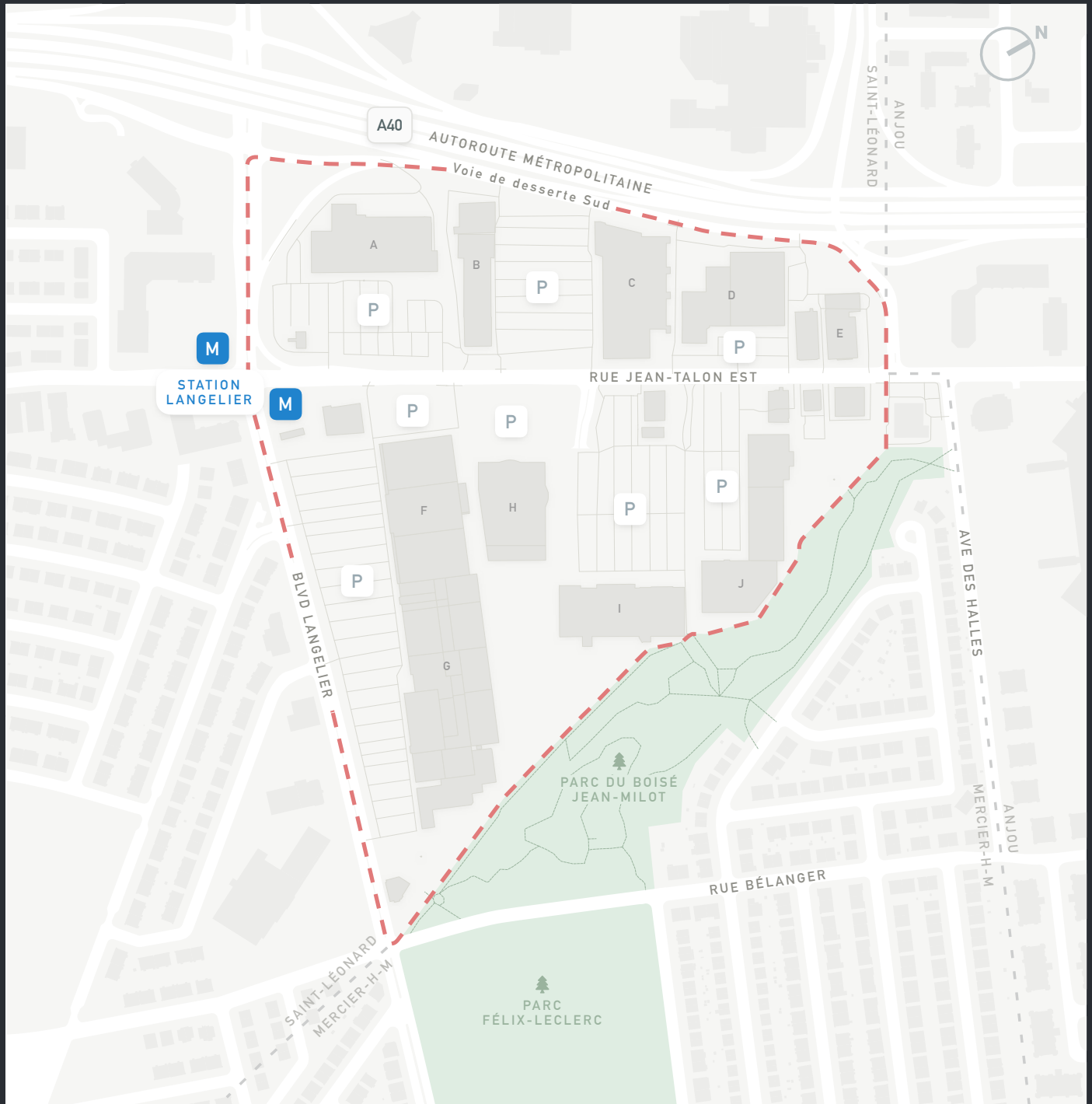





Figure 1.1: Expansion of the Blue Line



-  Study Area
-  Langelier Edicules
-  Parking Lots

- | | | | |
|---|-------------------|---|----------------------------|
| A | Canadian Tire | G | Carrefour Langelier |
| B | Retail & Offices | H | Brault & Martineau |
| C | Super C & Retail | I | Maxi & Village des Valeurs |
| D | Clement & Retail | J | Marché Bonanza & Retail |
| E | Caisse Desjardins | | |
| F | Walmart | | |

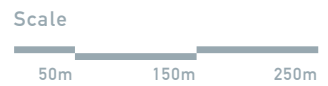


Figure 1.2: Site Plan

Building Typology & Urban Form

The project site, as it stands today, covers an area of 312,000 sq.m. (31.2 hectares or 77 acres), and is loosely triangular in shape with the Parc du Boisé-Jean-Milot flanking its longest side to the east. It is characterized by large single and double storeyed box stores and retail spaces with large extensive parking lots catering to shoppers and other users of the space. The 21 buildings are constructed using a variety of materials with exposed brick, textured concrete, stone and metal cladding, aluminium and glass cladding as common façade finishes. As these buildings were intended for large-scale retail purposes, there is limited potential to expand the existing structures vertically.

The low density and large parking lots contribute to a high built footprint with low water to soil permeability. The surrounding areas are also populated with other large box stores and 2-3 storeyed residential buildings. To the west and north-west boundaries of the site runs the Trans Canada Highway which spans a distance of approximately 60 meters across several lanes. This urban-meets-suburban area largely follows a loose-grid street pattern with curved streets and cul-de-sacs. The western corner of the site, which is the proposed location for the new metro station, houses the Canadian Tire and Shell gas stations.

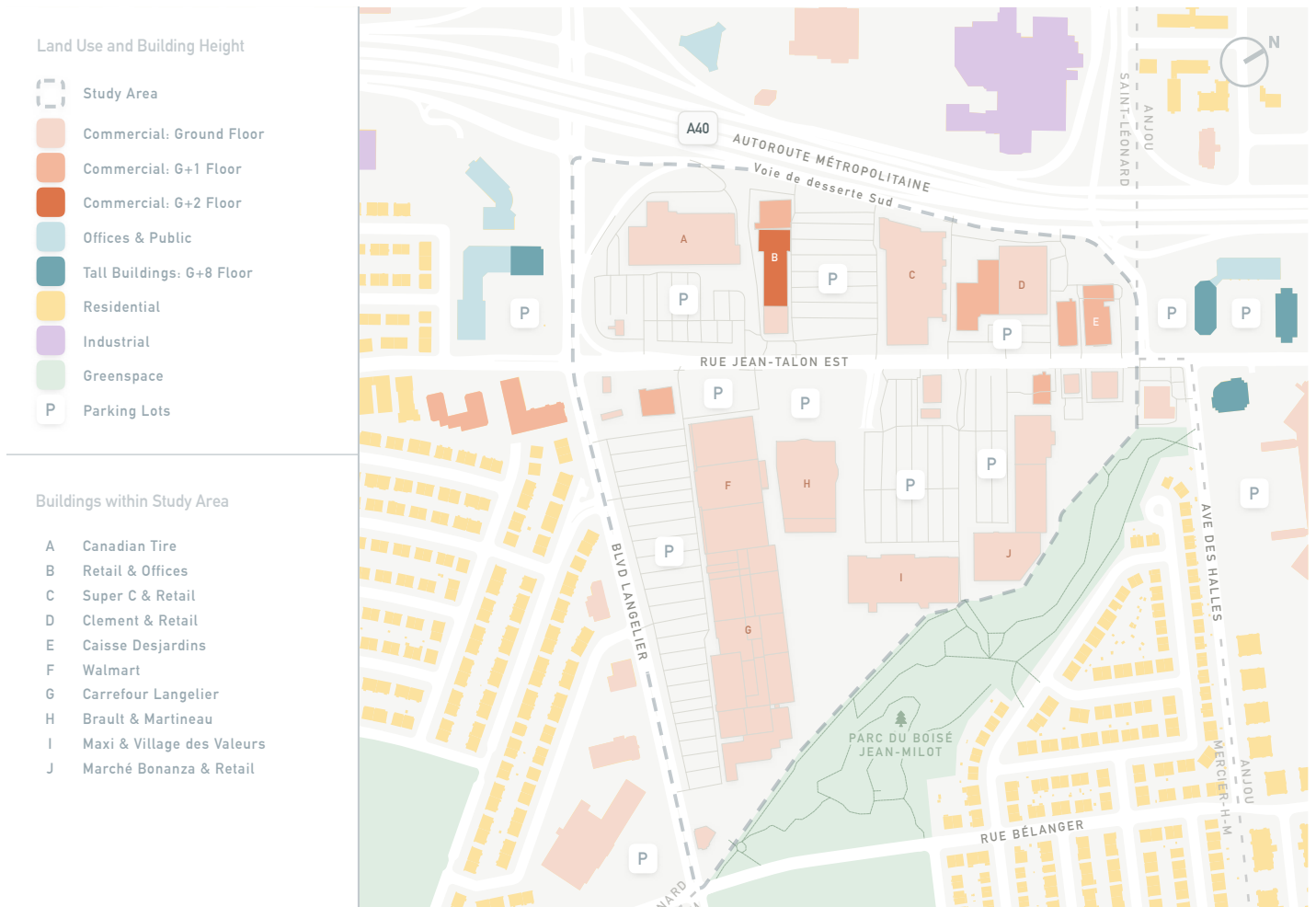


Figure 2.1: Land Use and Building Height

Mobility & Connectivity

In Secteur Langelier, connectivity is limited and constrained. Accessibility to and within the site is primarily car-oriented with no bike lanes leading to or from the site. The main north-south arteries are Boulevard Langelier and Boulevard Galeries d'Anjou, of which Langelier is the more prevalent and far-reaching. Boulevard Langelier has four traffic lights and four car access points into the Langelier Crossroads shopping mall, as well as two entrances to a gas station, two to Canadian Tire, and two which are currently barricaded leading to a former Pizza Hut. Along this length there are also four pairs of curbside bus stations, sidewalks, and crosswalks at most of the major intersections. Bike accessibility within the site is almost nil as there are no bike lanes.

The east-west flows are facilitated by Rue Bélanger and Rue Jean-Talon, and the eastbound side of the Trans-Canada highway, which has six direct access points into the northern series of department stores. There is also an express bus stop along the highway at the interchange with Boulevard Langelier, though the westbound stop is 250m from the very edge of the site and lacks a crosswalk at the eastbound Boulevard Langelier on-ramp. Similarly, while Rue Bélanger has a bike lane, a pair of bus stations at the intersection with Langelier, and two lanes of car traffic, it only intersects the south-west corner of the site, making it another 200m to the nearest entrance of the Crossroads mall. Rue Jean-Talon is therefore the primary vector of access, and bisects the site approximately two-thirds of the way north-south. Jean-Talon provides 21 points of car access, but only four intersections. Sidewalks exist along the length of the street, though crosswalks are only present at three of the four intersections. There are four pairs of bus stops, serving two bus routes.



Figure 2.2: Vehicle Connectivity

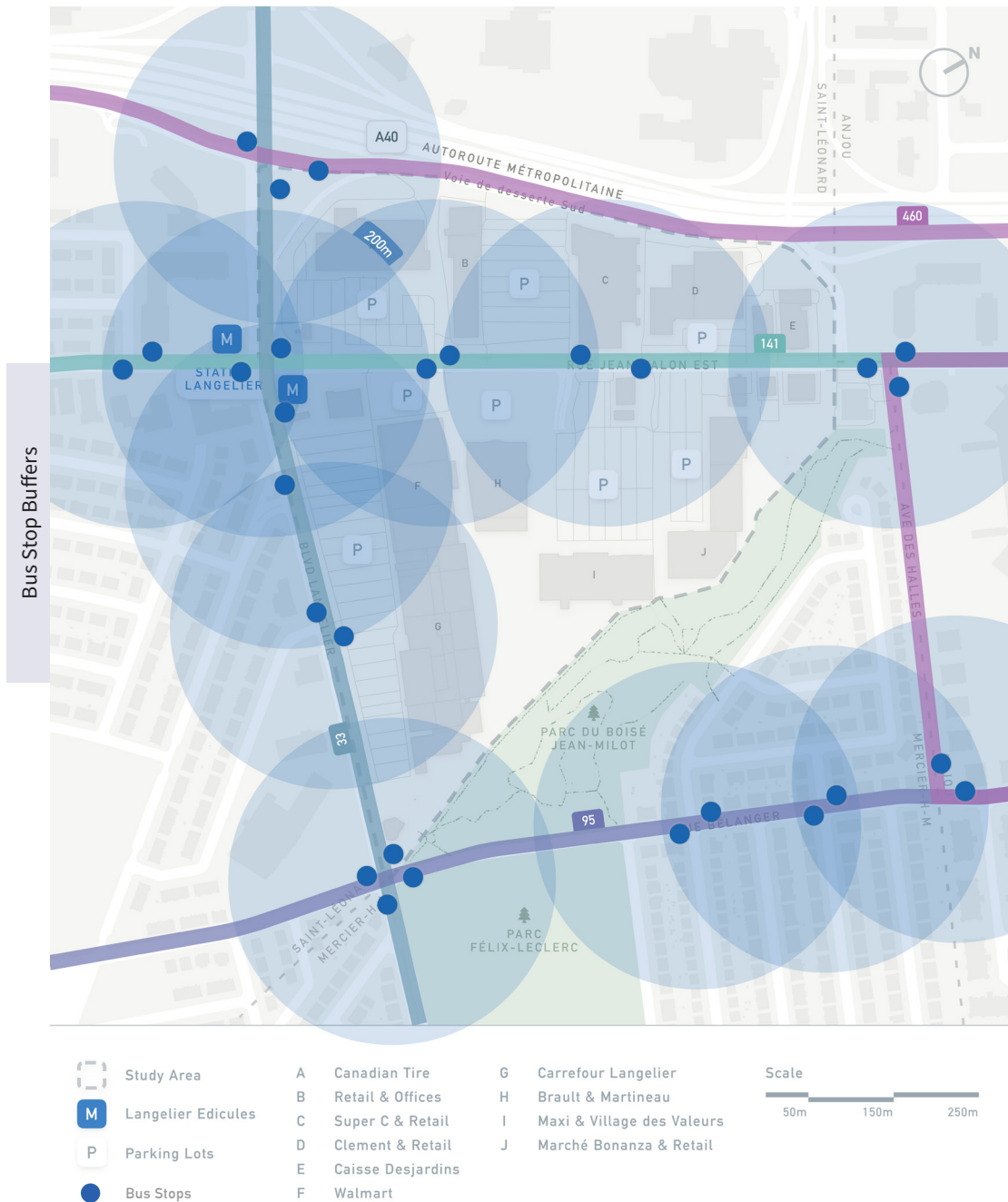


Figure 2.3: Bus Stop Walking Distance (200m)

Pedestrian accessibility within the site is also sparse as there are almost no sidewalks or pathways except for a small section within the Crossroads Mall itself. Pedestrians are thus forced to cross wide parking lots and skirt non-purpose-built greenways (as can be evidenced by several desire lines trodden into the earth). In addition to disenfranchising active transport, these factors doubly discourage public transit, as the journey from the stations to the shops is further, less direct, less pleasant and more dangerous than it otherwise could be. For instance, to get to “Marché Bonanza” - a specialty grocer that caters to niche foodstuffs - from

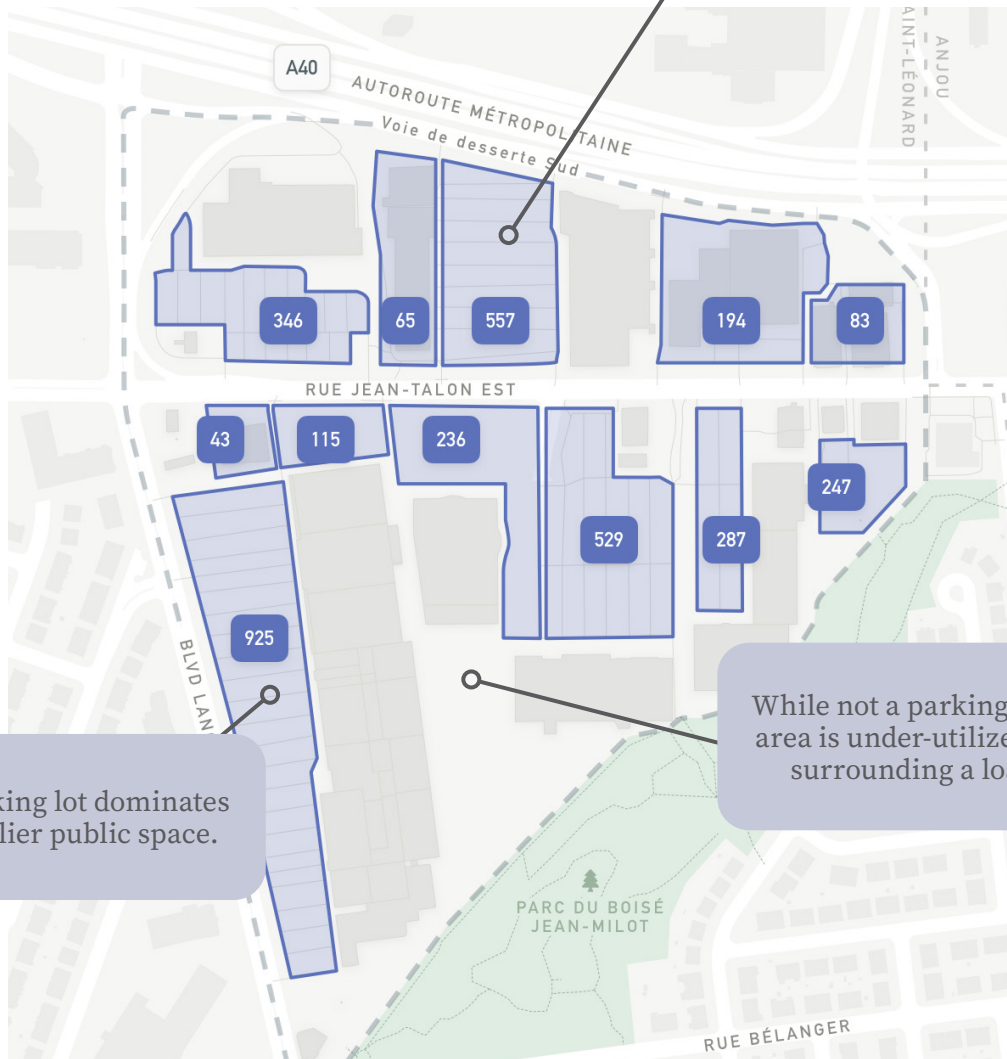
the nearest bus-stop, the most direct route of reasonable safety is an astonishing 275m and cuts across major parking lots. Connectivity is further discouraged by fences and the sprawling building layout as they create barricades to movement. In fact, even a car user is forced to use Jean-Talon as a means to traverse between sections, which has minimal signals, five lanes, a speed limit of 50km/hr, and no traffic-calming.

Parking

The map below shows the current number of parking spaces within the site. WSP reported that approximately 50% of the parking is underused, and therefore can be converted to a new use¹.

Large parking lots occupy a vast area on this site to service the big box stores and retail spaces. A total of 3,627 grade-level open parking spaces occupy around hectares of space out of the site's 31.2 hectare area. This is about 38.5% of the total site cover and is a significant proportion of underdeveloped space in a city such as Montréal. The site has no significant bike parking facility as it is a heavily car-oriented neighbourhood.

A large proportion of parking is provided for grocery shopping.



A sprawling parking lot dominates the Boul. Langelier public space.

While not a parking lot, this blank area is under-utilized green space surrounding a loading dock.

Figure 2.4: Parking Inventory

Retail

This site is overwhelmingly retail oriented. The landscape is dominated by three typologies of retail structures – an enclosed mall anchored by Walmart, large big-box stores dispersed over the site, and L-shaped strip malls.

The enclosed mall - Carrefour Langelier - is host to the largest variety of smaller storefronts that caters to a wide audience by offering retail, service, and food opportunities. Current retail trends point toward dated malls, such as Carrefour Langelier, being renovated to attract more upscale clientele or being integrated into adaptive reuse plans.

Newer big-box stores on this site host large-scale retail, which can only be accessed comfortably by car. Similar to other retail landscapes in Canada, there is a preference for large retailers to be located in standalone steel structures surrounded by parking. Less is known about retail trends to improve big-box stores, as the decline of this retail typology is relatively new.

Finally, there are two major strip malls on site interspersed between the big-box stores. These reflect the variety of retail opportunities available in Carrefour Langelier, but with larger storefront potential.

The retail landscape of Secteur Langelier is well-established due to external factors that are drawing consumers to this area. Easy vehicle accessibility to Autoroute 40, combined with ample free parking close to store entrances, provide a sense of convenience to consumers arriving by car. Approximately 67% of users arrive from northern boroughs, which are multi-ethnic. These areas are hubs for young families and elderly populations, resulting in an older mix of shoppers who consistently utilize the stores throughout the week.

This site could also be considered an extension from the larger retail hub of Galeries d'Anjou, located within one kilometer from Boulevard Langelier. Similar to Anjou, Langelier retains big box stores as well as an enclosed mall. Of the two, Anjou focuses on boutique clothing options anchored by larger stores. Langelier's shops are more mixed, with Walmart and Dollarama providing options for odds-and-ends, and niche stores occupying the Carrefour. Both face uncertainty in regards to online shopping trends and consumer mobility, but of the two, Langelier's grocers and niche focus make it more resilient in this regard.

STORE	AREA	TYOLOGY	
Carrefour Langelier	19,561 m ²	Enclosed Mall	
Walmart	11,134 m ²	Enclosed Mall	
Canadian Tire	8,605 m ²	Standalone Big-Box	
Gas Stations	4,151 m ²	Standalone	
Brault and Martineau	7,126 m ²	Standalone Big-Box	
Maxi	4,587 m ²	Strip Mall Big-Box	Retail Inventory
Super C	5,524 m ²	Strip Mall Big-Box	
Village des Valeurs	2,591 m ²	Strip Mall Big-Box	
Marché Bonanza	3,997 m ²	Strip Mall Big-Box	
All Banks	3,308 m ²	Standalone	
South of Jean-Talon: Restaurants	3,315 m ²	Various	
South of Jean-Talon: Other Retail	5,326 m ²	Various	
North of Jean-Talon: Restaurants	1,783 m ²	Various	
North of Jean-Talon: Other Retail	13,250 m ²	Various	
TOTAL	95,513m²		

Table 2.1: Retail Area and Typologies

Environment

Currently, the site lacks naturalized or manicured greenspaces, with the exception of Parc du Boisé-Jean-Milot, which is also the site's main point of interest. This relatively narrow 6.88 hectare (17 acres) space consists of various sign boards describing the flora and fauna that can be found along the trails. The space is bound to the west by loading docks and parking spaces, and to the east by a housing subdivision. As a result, there is little connectivity to the space, and the habitat is severely fragmented from the rest of Saint-Léonard, and by extension, the Island of Montréal. The conservation area is sloped upwards towards the east. From the top of this hill, at the edge of the residential subdivision, is a westward view of the city. In the evenings, this point provides

unbroken views of the sunset, which may be of interest for visitors and residents alike. Directly adjacent to the park, outside the site, is Parc Felix-Leclerc, which is predominantly recreational. The park contains a soccer field, a basketball court, a volleyball court, playgrounds, public art, and various pathways.

Aside from these spaces, there are occasional large patches of field between the commercial blocks, which provide some soft surface for drainage, and possibly minor mitigation of the urban heat island (UHI) effect. These patches of field are highly manicured however, and pose no environmental benefit beyond minor cooling and water management. In other words, the area severely lacks tree canopy,

native plants, and pollinator species. The area is also generally hostile to wildlife due to high traffic, wide roads, and extensive greyspace. There is a large proportion of hard surfaces, which could pose issues for water quality, storm-water drainage, and future greening efforts. The area surrounding the site also generally lacks greenspace, with the exception of Parc Felix-Leclerc, which is a manicured space that consists of recreational amenities. Though the park is technically a greenspace, it too does not provide any ecosystem benefits beyond minor water and climate regulation.

The site also has an interesting hydrological history. The area was once home to a section of the Molson Creek, a historical river that was buried and redirected in the mid-20th century. The old creek eventually feeds the Molson Marsh, which is located within Parc du Boisé-Jean-Milot. The marsh is a site of concern for the Comité de Surveillance Louis-Riel (CSLR), which aims to restore, protect, and enhance the natural state of the wetland. Current threats to the marsh include urban pollutants and the invasive common reed. The CSLR has taken measures to reduce the impact of pollutants on the marsh and to remove common reed from the site.

Secteur Langelier has various environmental degradation concerns that must be addressed prior to re-development. The most important of these is the decontamination of the soil in and around the current gas stations at the site. Residue from the stations can be harmful for human health, wildlife, the water table, and may pose a risk to building safety if not adequately removed.

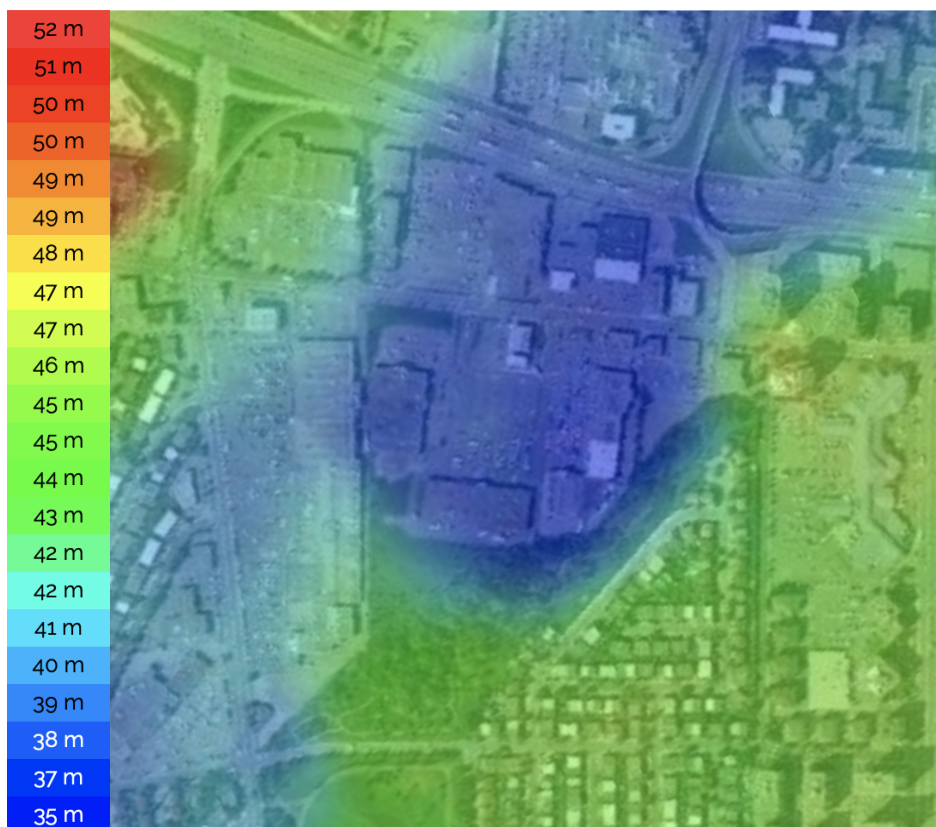


Figure 2.5: Topographic Map of Site and Parc du Boisé-Jean-Milot



Figure 2.6: Parc du Boisé-Jean-Milot



Figure 2.7: Makeshift Pedestrian Connectivity



Figure 2.8: Strip Mall Car Dominance



Figure 2.9: Hilltop View

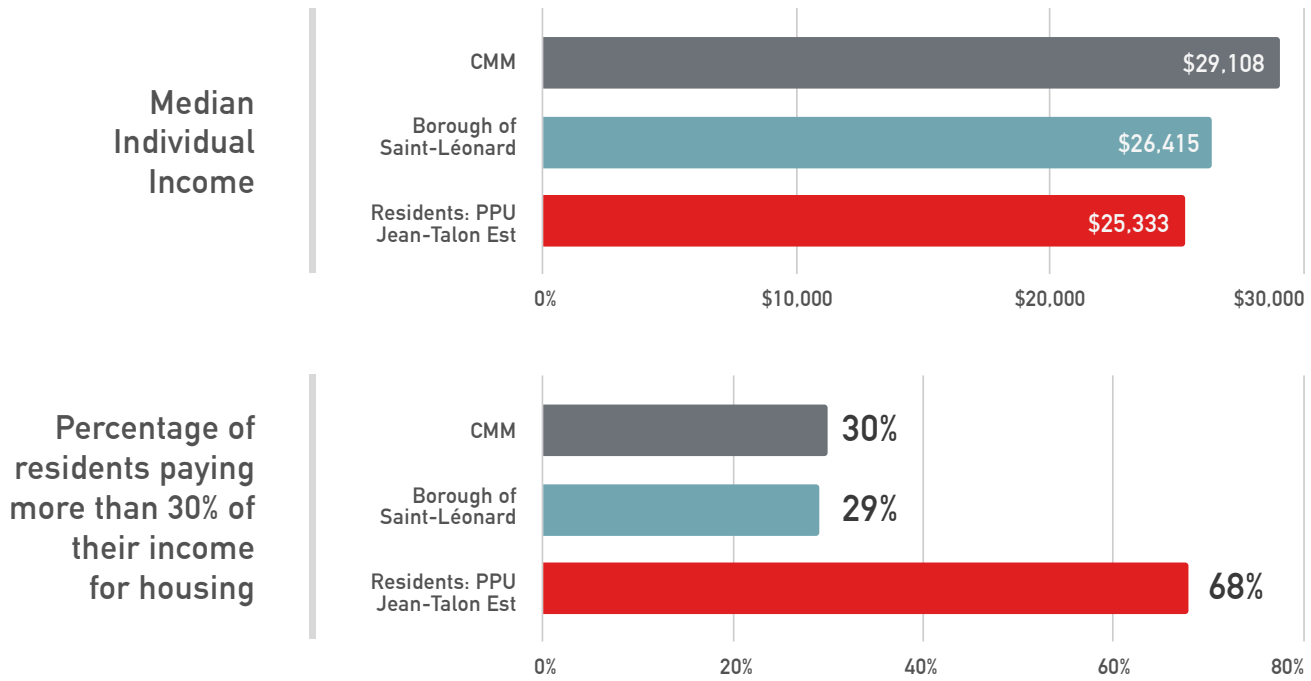


Figure 2.10: Saint-Léonard Income Expenditure

Sociodemographics

Although there are no residences in the study area given its commercial character, it is located near several residential areas. The site itself is located in the borough of Saint-Léonard, one of the densest boroughs on the island with a population of 78,305 people.

A place of great multicultural diversity, 49% of the local population has an immigrant background: new residents alone represent over 20% of this immigrant population. Almost 60% of the population have a mother tongue other than English or French. Young people under 25 make up 30% of the population, while 20% are aged 65 and over. There are 21,150 families in the area, including 14,760 with children.

More than 32,000 people in Saint-Léonard are employed, for a median annual household income of \$51,797. Nevertheless, more than 15% of the population is considered low income, and the borough is one of Montréal’s worst performing areas on the deprivation index.

With a population growth of 12.5% since 2001 and the limited number of housing units, housing needs are acute. The need is estimated at 2,100 additional social housing units to meet local demand². Saint-Léonard is currently ranked 17th – out of 19 – among the Montréal boroughs, with only 407 community housing units (2018). Given the site’s location at the junction of Saint-Léonard, Anjou and Mercier-Hochelaga-Maisonneuve, it is important to mention that the site is a commercial destination for many residents of other boroughs in the east of the island.

60%

mother tongue other than French or English

2,100

additional social housing units needed

Policy & Development

The study area falls within the boundaries of the Saint-Léonard borough with Jean-Talon Est – one of Montréal’s major streets - passing through the site. Thus, the 2030 Plan Stratégique for Saint-Léonard is directly applicable to the site. The Jean-Talon Est PPU addresses redevelopment of the areas next to the street but does not specifically include areas within the site itself. With the extension of the Blue Line of the metro to the western point of the study site, Secteur Langelier is slated for denser redevelopment with a good mix of uses and improved public and active transport accessibility.

The Montréal Master Plan (May, 2012) has designated the section of the site north of Jean-Talon for dense redevelopment with building heights ranging from two to twelve

stories, medium site coverage, and F.A.R. between 0.7 and 6.0. South of Jean-Talon, construction on the site shall be limited to a maximum of six stories above ground with medium site coverage and F.A.R. ranging between 0.5 and 3.0. Adjacent areas flanking the Trans-Canada highway have a maximum building height of ten stories above ground and are predominantly detached with medium site coverage.

Saint-Léonard’s 2030 Plan Stratégique proposes increasing green spaces and amenities within the borough, and consequently the project site. It proposes inclusion of dog parks, heat island mitigation strategies, permeable pavements, energy efficient construction, community gardens and additional green spaces. In thinking forward to greater sustainable

mobility, the plan also proposes installation of ample charging stations for electric-vehicles, improved bike networks and extensive pedestrianization centred around the newly proposed metro Blue Line station and the Anjou metro station. Diverse housing options including seniors’ homes, social and affordable housing have been proposed to cater to the growing population of Saint-Léonard.

In developing the areas around the metro stations, high-density real estate development has been proposed over the metro edicules with public spaces around the metro entrances. A key objective in the redevelopment of this area includes integration of commercial and economic activities with residential uses in an animated and convivial way. The site is envisioned as a mobility hub with bike parking, bikeshare, bike repair facilities, a taxi zone and carshare options. The vision for the Blue Line extension project also calls for limiting the environmental footprint by increasing greenspace, improving stormwater management and establishing green building practices.

Concurrently, the PPU for Jean-Talon Est envisions the street as a “space for everyone” where users can experience a mix of activities in a sustainable and multimodal environment. In order to coherently develop

Saint-Léonard

2030 Plan Stratégique

- Ecological Living
- Sustainable Mobilities
- Metro Expansion
- Diverse, Dense Housing

Saint-Léonard

Jean-Talon Est PPU

- Space for Everyone
- Sustainable Mobilities
- Mixed-Use Development
- Densification

the site in its full spatial context, the redevelopment goals of Jean-Talon Est are pertinent to the plan for our site. The PPU proposes commercial activities on the ground/first floor of buildings with enhanced cultural and community spaces. The urban landscape shall be one that encourages and enables social interactions and includes mixed building typologies. Protected bike lanes and high-density mixed-use buildings shall be key components of the urban development around Jean-Talon Est.

As of January, 2021, Montréal has adopted a by-law for a “Diverse Metropolis” which mandates that any new residential development with five or more units (i.e. area greater than 450 sq.m.) shall contribute to the city’s supply of social, affordable and family housing. This is achieved through governing building permit issuance and aims at addressing the severe affordable housing shortage in the city. Since Project LÉO entails construction of new residential buildings in addition to commercial and retail spaces, this by-law shall also be in effect when considering the redevelopment of Sector Langelier.

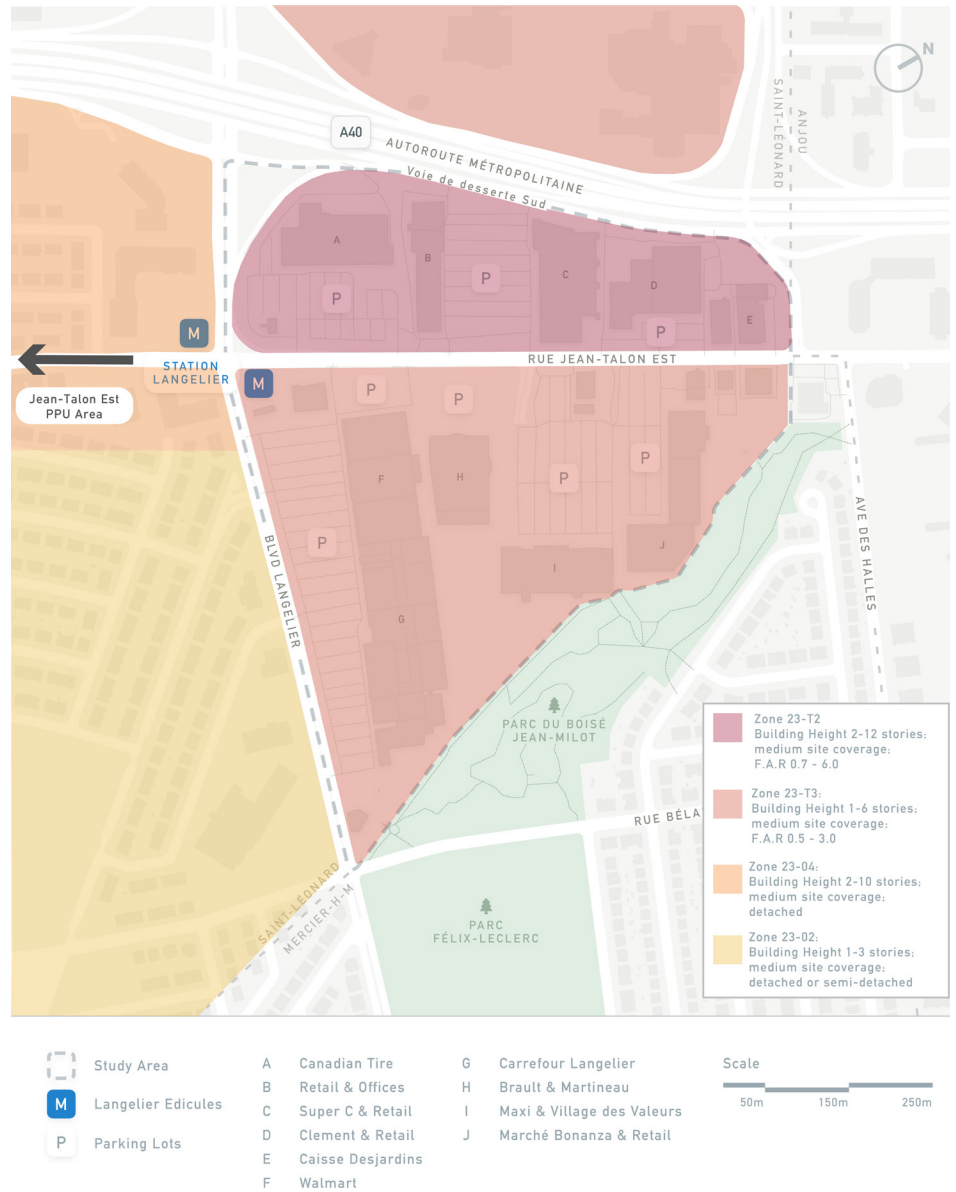


Figure 2.11: Current Development Density

Assets & Constraints

The following attributes were selected from the categories of site context, that were described above, and were assigned as either an asset or a constraint. Each asset is an opportunity for building off of existing positive aspects of the site and highlighting them in the future development. Each constraint shows the challenges that should be overcome for this development to reach its full potential. Reframing these constraints as points for improvement, if changeable, will serve to strengthen the resilience of the future development.



Figure 3.1: Assets & Constraints



The assets and constraints above will guide the intervention priorities of Secteur Langelier in order to create a dynamic community and a better commercial experience for visitors.

Exploration of Development Potential

Transit- Oriented Design

First coined by Peter Calthorpe in the 1990's, the Transit-Oriented Development (TOD) is a response to the car-oriented urban sprawl that pervades much of North American cities. Designed to encourage transit usage, proximity to amenities, and density, a good TOD also retains principles of the 5-minute city and new urbanism. The Institute for Transportation and Development Policy defines TOD principles as the following:

WALK:

Develop neighborhoods that promote walking. This could mean pedestrian paths, buffered sidewalks, covered walkways, beautified streets, etc.

CYCLE:

Prioritize non-motorized transport networks. This involves separating bike lanes, increasing safe crossings, considering shared streets, and ensuring connectivity.

CONNECT:

Create dense networks of streets and paths. Key destinations should be easily accessible, nodes and pathways should be thoughtfully placed, and safety should be an incorporated principle of design.

TRANSIT:

Locate development near high-quality public transport. It is important to make the node of the transit station(s) a destination for more than transit itself.

MIX:

Plan for mixed use. Variation in services, demographics, form, character, and function are synergistic when thoughtfully combined.

DENSE:

Optimize density and transit capacity. A good practice is to stagger density outwards from the station site, and not leave residents with a long walk to the transit station.

COMPACT:

Create regions with short commutes. Clustering of services that compliment those offered at adjacent transit stops is doubly beneficial to increasing transit ridership, livability, and activity of a TOD.

SHIFT:

Increase mobility by regulating parking and road use. Reducing demand by reducing supply can often be achieved through gentle redesign and subtle policy changes that reduce conflict with legacy users.

If implemented correctly, these principles together create a whole that is greater than the sum of its parts. In addition to a substantially improved quality of life, convivial public spaces and sustainable lifestyles can manifest in a good TOD. However, this outcome is not a given, and a token or inconsistent implementation of these principles does not yield the intended results. TODs can and do fail when residents choose to maintain their usage of cars, and minimally interact with the public space. Avoiding these outcomes ultimately requires a consideration of local conditions and more sophisticated urban planning principles. LAYOUT has therefore considered the following, more nuanced factors:

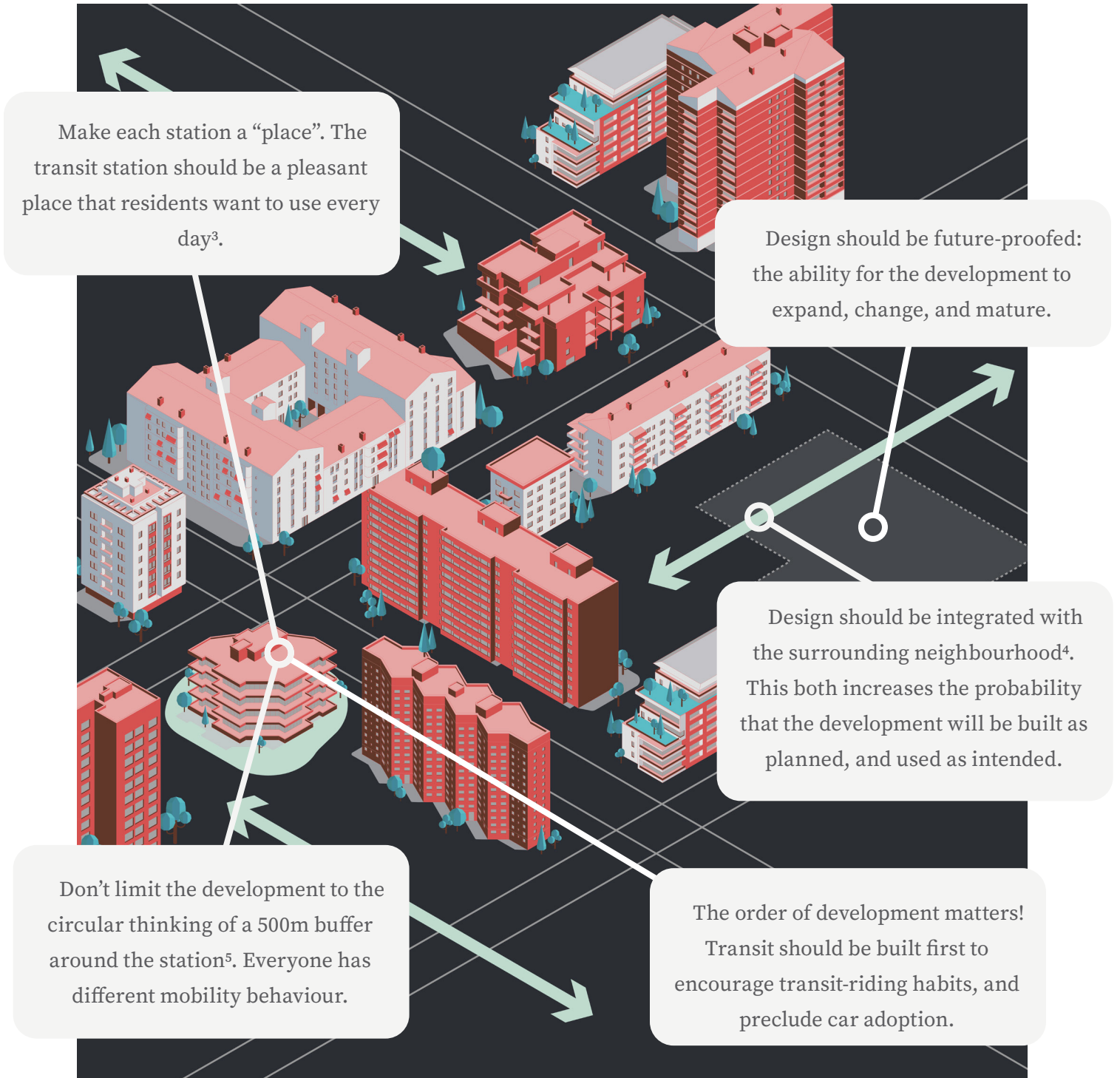


Figure 4.1: TOD Principles

ALSO...

If a phased approach is taken, each phase should involve a meaningful level of public consultations and consideration by planners.

Project stakeholders should be well-coordinated. The municipal plan needs to be aligned with the developer's vision and the transit authority's progress.

Metropolis at Metrotown

BURNABY, BRITISH COLUMBIA

The Metropolis at Metrotown project in Burnaby, British Columbia provides various useful insights for the development of Project LÉO. The project, which is still under development, aims to transform British Columbia's busiest shopping mall into a mixed-use development.

Metropolis at Metrotown covers roughly 19 hectares (47 acres), ambitiously creating a major town centre for Burnaby in a space half the size of Secteur Langelier. This is done by taking advantage of the amenities available outside the site, such as local greenspaces, community centres, schools, libraries, and recreational facilities. The site, similar to the future situation at Secteur Langelier, is directly adjacent to a rapid transit station, as well as walking distance to a second station, providing multiple access points for people from outside the neighbourhood.

Other similarities to the current site at Secteur Langelier include extensive parking and the general focus on commercial space.

From the goals shown below, the Metropolis at Metrotown project has developed various guiding principles to make the development a desirable place to live, work, and play. These include providing access to greenspace, creating a 24-hour environment, embracing the arts, and improving retail. Importantly however, the project includes various efforts to improve access to affordable rental, while simultaneously providing the space for investment. Ambitious aspects of the project include boosting tree canopy cover from an existing 4% to 40% by 2080, creating 157,935 square metres (1.7 million square feet) of new flexible job space, and ensuring 30% of housing is rental, half of which will be controlled or affordable rental.

A pre-construction plan around British Columbia's largest mall. Similar to Secteur Langelier, Metropolis at Metrotown evokes optimism about suburban mall retrofits.

To engage the public throughout the project's planning, the project masterplan development includes various consultation phases. This includes two public information sessions, two council workshops, and two public hearings, all staggered with the report writing and reading phases. Thus between each report and concept plan, public opinion has been taken into consideration.

The project concludes with a summary of how the development will improve inclusivity, culture and activity, connectivity, job growth, livability, and will build on sustainability and resilience. Key distinctions between Metropolis at Metrotown and the project at Secteur Langelier must be acknowledged, however. Primarily, the mall that exists at Metrotown currently experiences much heavier traffic than the mall at Secteur Langelier. This comes with various assets as well as challenges. Assets include existing customer base and easier modelling of future demand for commercial space. However, existing heavy traffic also makes the construction process more challenging to navigate. Another major difference is that the Skytrain line passing Metrotown already exists, contrary to the Blue Line extension under development in Montréal. These differences need to be taken into consideration during the phasing of the TOD at Secteur Langelier.

City of Burnaby's

Goals

1. To create an official downtown
2. To establish neighbourhoods and community
3. To provide greater connectivity
4. To enhance the public realm
5. To provide new amenities

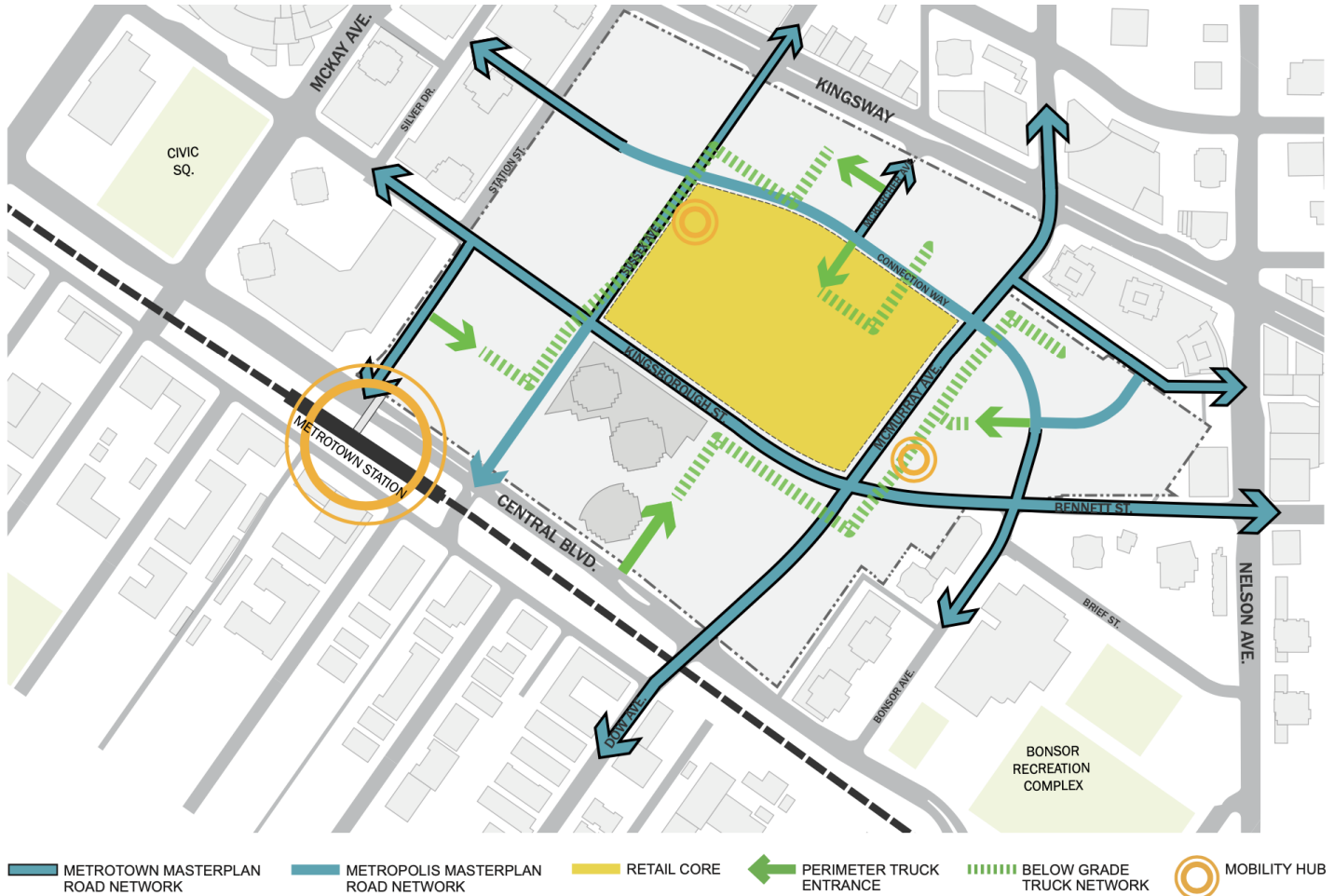
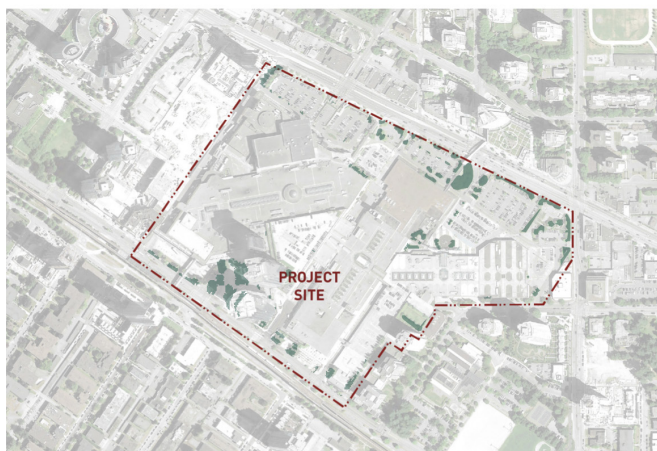


Figure 5.1: Metrotown Transportation and Mobility Masterplan

EXISTING 4.5% TREE CANOPY COVERAGE



BURNABY: IN PROGRESS	TORONTO EXISTING: 18%	SEATTLE EXISTING: 28%
VANCOUVER EXISTING: 18%	TORONTO 2035 TARGET: 40%	SEATTLE 2037 TARGET: 30%
VANCOUVER 2050 TARGET: 25%	CALGARY EXISTING: 8.25%	PORTLAND EXISTING: 30%
NEW WESTMINSTER EXISTING: 18%	CALGARY TARGET: 14%	PORTLAND 2030 TARGET: 33%
NEW WESTMINSTER 2035 TARGET: 27%		

CREDIT:
Ivanhoe Cambridge

BEST MANAGEMENT 40% TREE CANOPY COVERAGE (INCL. PODIUMS AND ROOFS)
25% TREE CANOPY COVERAGE AT GRADE.
NORTH AMERICAN AVERAGE: 27% / BEST MANAGEMENT: 40%

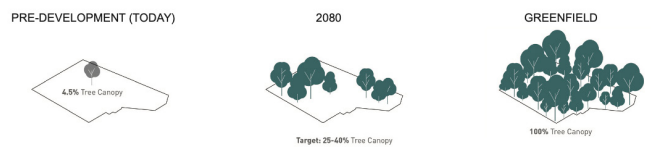


Figure 5.2: Metrotown Best Practice Tree Canopy Coverage

DIX30

BROSSARD, QUEBEC

Quartier DIX30 is a shopping center project that opened in Brossard in 2006. Initiated by Carbonleo — ex Devimco — the project aims to emulate an urban shopping and lifestyle experience in the suburbs. The site sits on more than 85 hectares in total and has been the focus of acute criticism as much farmland has been removed for its development. Built in several phases, the complex now has more than 400 stores and covers a commercial area of over 400,000 sq.m. It is one of the busiest shopping centers in the metropolitan area, with nearly 24 million annual visits. Nevertheless, certain development issues in recent years raise questions for the design of new commercial projects such as the Secteur Langelier.

With more than 5,600 outdoor parking spaces, the need for sustainable mobility alternatives in the area is evident. The project only has one section - Le Square - designed on a human scale. A pedestrian avenue crosses this part of the complex, and underground parking allows for a better lifestyle and shopping experience for visitors. Given the success of this part of the site, the manager made an announcement to redevelop the outdoor parking spaces located in the other areas of the complex in order to build more than 30,000 sq.m. of commercial and office space in a subsequent phase. The goal is to achieve an average built-up area of almost 90%, compared to 25% currently. This

A phased rail-adjacent development, DIX30 is a suburban-adjacent commercial hub undergoing heavy densification.

new development will also allow a better connection between the different sectors of the site, which are currently disjointed given the initial vision of the commercial project.

The complex is also near the REM (Réseau Express Métropolitain) terminal station on the south shore. However, given the development of the site several years before the REM's first shovel in the ground, adapting the site to facilitate access to the station by active transport is proving to be a major challenge. A pedestrian bridge will allow commuters to access the station, but the environment is un-

attractive given the proximity to the highways. Transit-Oriented Development's best practices seem to have been discarded for the development of the station; despite the opposition of many stakeholders, CDPQ Infra planned a large park and ride lot right next to the Brossard station. The new mixed-use development projects nearby — Solar City: considered an extension of DIX30 — will accommodate more than 5,000 people in 2,500 units. It remains to be seen how the new developments and mobility projects will improve the quality of life of Brossard residents.

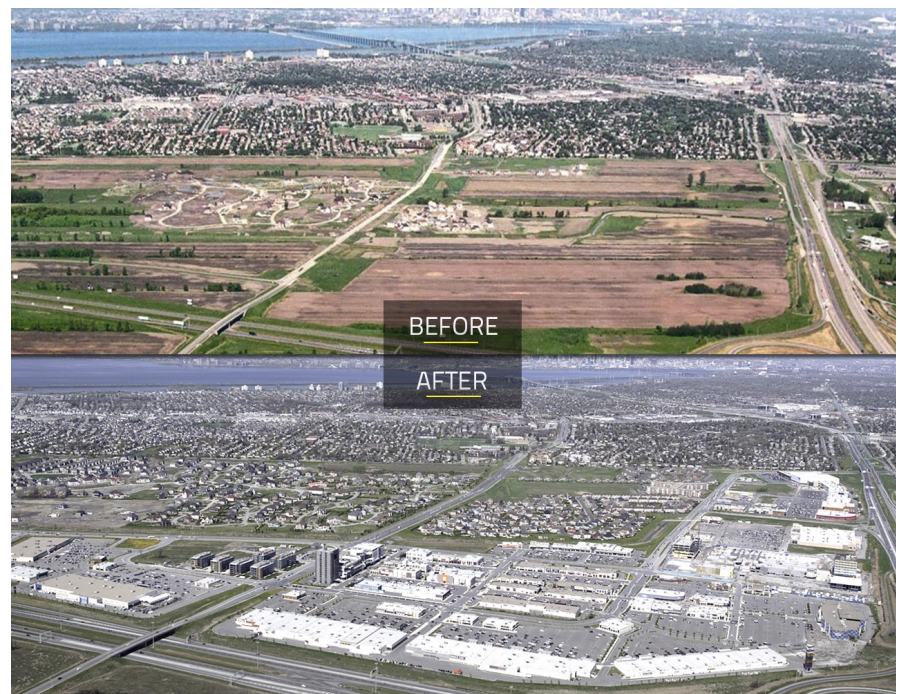


Figure 5.3: Brossard Pre- and Post-Development



Figure 5.4: DIX30 Pedestrian Thoroughfare



Figure 5.5: DIX30 at Night

CREDIT:
DIX30, Bonjour Quebec, BOMAQuebec



Figure 5.6: Solar City Conceptual Diagram

Uptown

VICTORIA, BRITISH COLUMBIA

A project that combines well-established, large scale retail into a user-friendly city centre.



Figure 5.7: Uptown Courtyard

Uptown is a transit-oriented redevelopment project in Victoria, British Columbia. Beginning in 2009, Uptown is currently in Phase 4 of 4 of its development. Key features of Uptown include a transit exchange, underground parking, a pedestrian boulevard, and a mix of large department stores, small outlets, offices and residences.

Uptown has managed to maintain existing retail and big-box store requirements while creating a human-scale, multi-modal access space. The Walmart, despite a hidden location and minimal footprint, is currently the highest grossing in Canada. It accomplishes this by hiding the frontage within a multi-story parking garage and integrating the entrance into a plaza of small shops and local businesses. Car-based shopping is accommodated by cart-carrying escalators, while pedestrians and transit riders can just as easily access the Walmart via the mixed-use street if they desire.

Meanwhile, BC Transit (the regional transit service provider) has made Uptown a key transit exchange, and plans to make Uptown a primary node of the proposed Bus Rapid Transit (BRT) network. Anticipating this, the developers of Uptown planned a participatory, phased approach to construction, with community consultation recurring at each of the four phases. Notably, these phases occur in an order that induces transit ridership, with the high-density residential tower planned in the last

phase, following the completion of the commercial, office, and transit infrastructure. This final phase also converted some of the already-constructed retail parking to residential stalls, allowing the developers to minimize parking while averting complaints resulting from an up-front reduction in stalls.

Finally, Uptown is LEED-Gold certified, with efficient building design, green roofs, and garden beautification throughout. Green roofs are frequently integrated into rooftop patios for retail and office staff, simultaneously increasing livability and sustainability.

While not entirely uncontroversial in the eyes of the public, these design choices have largely succeeded in creating an innovative TOD that exemplifies good parking, transit, retail, and phasing practices. The similarity of Uptown to Secteur Langelier as a mixed-use TOD surrounded by suburban space makes these outcomes all the more applicable to Project LÉO.

150K

square footage of highest grossing Walmart in Canada, located at Uptown.

8.4

million visitors per year.

4

phases of Uptown development, with residential last.



Figure 5.8: Uptown Aerial View

1.1 5 Key Design Initiatives

- 1 Realize the Complete (live-work-play) Community with the Addition of Residential Homes
- 2 Improve Connectivity to the Surrounding Community & within Uptown
- 3 Complete Uptown's Retail High Street
- 4 Encourage Multi-Modal Transportation & Sustainable Practices
- 5 Respond to the Unique Context with Thoughtful Architecture & Urban Design



Above-and-beyond cycling amenities
(Image: 45 Main St., New York)



The corner of Carey Road and Ravine Way



Rooftop green spaces
(Image: The Spot on Cambie, Vancouver)

Figure 5.9: Uptown Key Design Initiatives

CREDIT:
SHAPE Uptown



Hong Kong

Pedestrianisation Conflicts

Hong Kong has made some strides to improve pedestrian-friendliness in the city core. However, many conflicts arose in the over 20-year long project to pedestrianise major streets. Two of these major projects are Des Voeux Road Central and Sai Yeung Choi Street South. The former project has been struggling to be implemented since 2000. This is in part due to the existing infrastructure, which is already heavily built-up. Thus changing the streetscape requires severe disruptions to current

tenants, both commercial and residential. The second project was implemented as a fully pedestrianized street between the years 2000 and 2018. The street attracted significant pedestrian traffic, which although beneficial for businesses, was very highly disruptive to local residents who complained of sleeplessness and mental health issues. Following consistent and serious complaints, the City of Hong Kong decided to end the 18-year-long pedestrianization and reopen the street to cars.

Who	Hong Kong Municipality
When	2000 - 2018
What	A cautionary tale of different ways in which pedestrianisation can be improperly planned in a dense, TOD-friendly city.
Why	The pedestrianisation efforts are often expensive to implement, and can heavily disrupt the surrounding area.

Toronto, Canada

East Harbour



Who	Cadillac Fairview & Urban Strategies
When	Under Construction - Estimated 2023
What	Development of a mixed use transit-oriented community located East of Downtown on over 32 hectares of land.
Why	Create a dynamic and lively centre, and link the site with the surrounding communities and broader city.

Toronto's East Harbour is a transit-oriented development east of the city's Downtown. It recognizes that vehicular access is integral in developing the site as a multi-modal hub and has thus strategically integrated parking facilities into the development

plan. Around 860 resident parking spaces and 2750 non-residential/commercial car parking spaces have been proposed, both on-street and below-grade. On-street parking has been designated primarily on secondary streets to

minimize the impact of vehicular parking on the public realm. Pick-up and drop-off points have been integrated into the street design in a way so as to not impede on other pedestrian and vehicular movement. Parking and loading functions shall

be consolidated into buildings to minimize curb cuts across the public sidewalk. As the site is envisioned as a multi-modal hub, ample short-term and long-term bicycle parking shall also be designated within the site. To cater to the commercial need, loading access points are planned for within each development, largely at below-grade levels. Furthermore, to enhance the pedestrian experience, buildings will be setback from the property line to create wide and seamless sidewalks with intense landscaping and tree covers (1.5m wide planting zone).



Vancouver, British Columbia

The Electric Future

Who	QuadReal
When	Under construction - Expected 2026
What	Redevelopment of a shopping centre into a mixed-use project with over 2,600 residential units.
Why	Create a new downtown community in the heart of Vancouver's affluent West Side following TOD principles.

The Oakridge Centre in Vancouver, Canada is a vast old shopping mall that is currently being converted into a mixed-use community and neighbourhood. With the global shift towards electric vehicles, the Oakridge centre redevelopment is one that proposes a high proportion of e-vehicle charging stations integrated into its 6000 underground parking stations.

Paris, France; Toronto, Canada

Integrated IKEA

Who	IKEA
When	Paris: 2019; Toronto: Expected 2022
What	IKEA developed a mixed-use model for its stores in selected cities.
Why	This strategy allowed the Swedish group to reach an even wider clientele and create a downtown presence.



Ikea is known for being a large-scale furniture retail store with a significant global presence. Their typical stores are often standalone and occupy sprawling floor spaces. In recent years, the brand has been experimenting with opening

locations that are integrated into otherwise residential or office/commercial buildings like the Ikea Paris La Madeleine that opened in 2019 just a short walk away from the city's iconic Champs Elysees Avenue. The store occupies a relatively small

floor space of 5000 sq.m over two floors, with five storeys of office spaces above. Another example is one of Toronto's newest Ikea outlets, slated for a 2022 opening, which will occupy the retail podium of Aura, Canada's tallest residential building in

the city's Downtown Yonge district. Aura was completed in 2014 and has a 3-storeyed retail podium with gross leasable area of 12,270 sq.m. The Downtown Ikea store shall occupy 6,148 sq.m. on the ground and second floor.

Key Takeaways

Secteur Langelier in its current state faces the challenge of being discontinuous, one-dimensional, and car-dominated. Retail is increasingly redundant and unappealing, while environmental quality is low and points of interest are minimal. The typology and competitive layout of infrastructure hinder a human-scale experience, and parking lots are a persistent and inefficient use of space.

Current policies outline a need for change on the site, and the tenets of these policies are aligned with findings from LAYOUT's research into what constitutes a desirable vision. The size of the site provides considerable room for creative and varied design choices. The relatively high density and low income of surrounding neighbourhoods results in higher transit ridership, and Secteur Langelier's current status as a commercial centre for nearby residents will help facilitate business for future retail. Multiple layers of municipal government, including the local transit authority STM, are aligned in their recognition that change is needed in the area. Thus, while the current state of Secteur Langelier is largely car-oriented, the potential for realizing a pedestrian friendly and liveable TOD, with effective redeployment of retail, is high.

Based on our research, the key takeaways for conceptualizing this development are as follows:

MOBILITY AND ACCESSIBILITY

First and foremost transit-oriented, our concept must be walkable, cyclable, and accessible. Key buildings should be proximate to the metro station, and parking should not block soft mobility connections.

ENVIRONMENT

Well placed greenspace, microclimate considerations, and as many green roofs as possible are envisioned to provide a livable environment.

COMMERCIAL

Commercial needs will be balanced by innovative approaches to big-box store design and a dense, enticing typology of smaller ones.

RESIDENTIAL

The density and placement of housing will take into account transit access, noise pollution, greenspace, and neighbouring urban form.

PUBLIC AMENITIES

A school, library, community centre, recreation facilities, and public washrooms are all desirable public amenities that may be thoughtfully placed within our site

AESTHETICS

Enclosure, directionality, viewshed, and points of interest will all be considered in the layout of our concept plan⁶. Renderings and example photos will be provided where and when further detail is desirable

VIABILITY

To ensure our vision is completed and used as intended, our concept must be in line with the desires of the community and the city, outline a logical approach to construction, and remain reasonably cost-effective.

Concept Development

To provide a basis for the realization of our plan, street pattern conceptualizations were drafted. These two concepts, shown on the right, sparked discussions regarding block size and building typology, permeability and metro connectivity, and placemaking/aesthetic potential. Pros and cons of each were weighed, and client preference was carefully considered.

Based on these discussions, a combination of the grid and radial concept was chosen. This was deemed to have the highest accessibility potential overall, and could provide safe, direct options for pedestrians to reach public transit. Block typology would allow for an appropriate mix of traditional and creative building types, and placemaking would be achieved through shared-street connections to the metro.

With these foundational armatures solidified, the planning process moved to the organization of ideas. LAYOUT's diverse team conceptualized an equally diverse and extensive list of proposed interventions, herein referred to as actions. Groups of actions with a common objective were identified, and are herein referred to as goals. Lastly, after initially organizing these goals in a traditional fashion based on their effect, a decision was made to instead make value-based categories for greater evocation and conformity. This set of values are herein referred to as principles, and provide the basis for our master plan.

Grid Concept

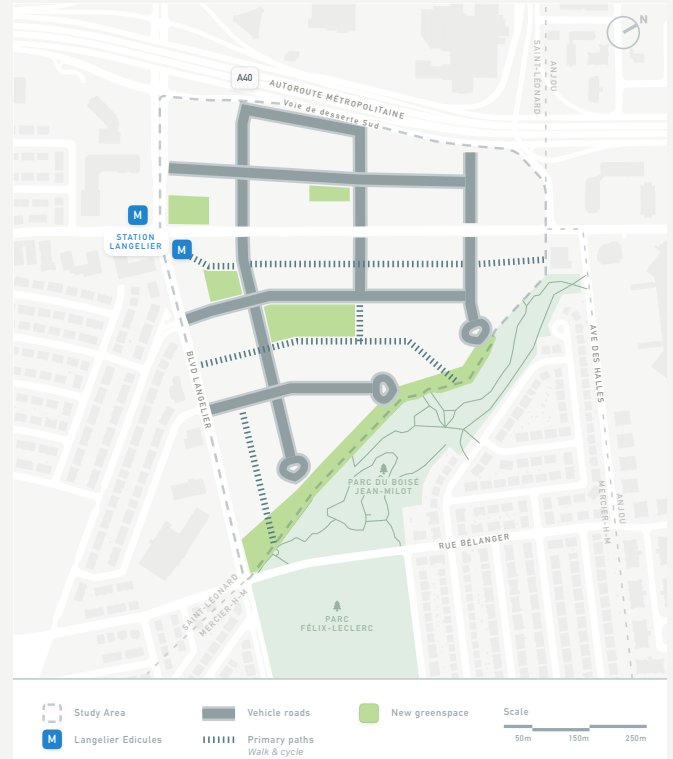


Figure 6.1: Grid Conceptual Plan

Radial Concept

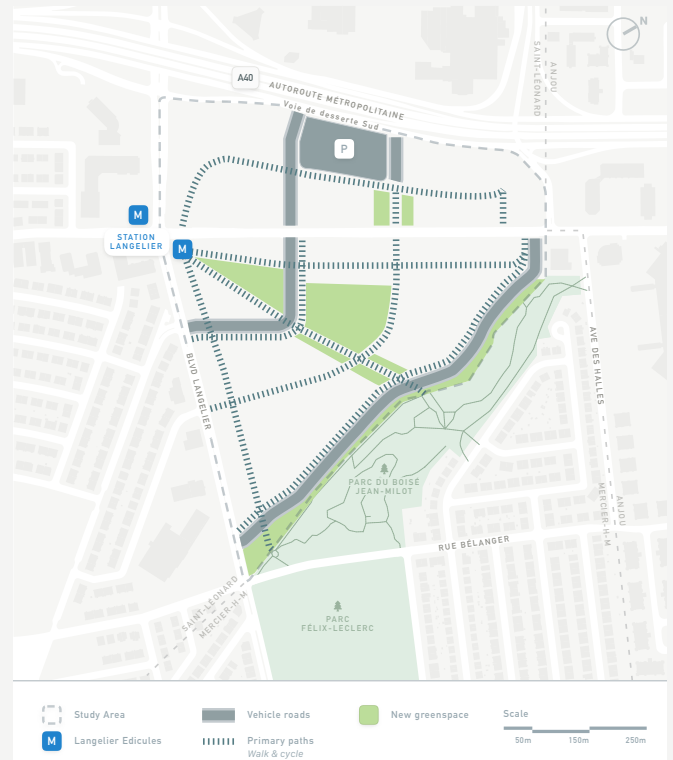
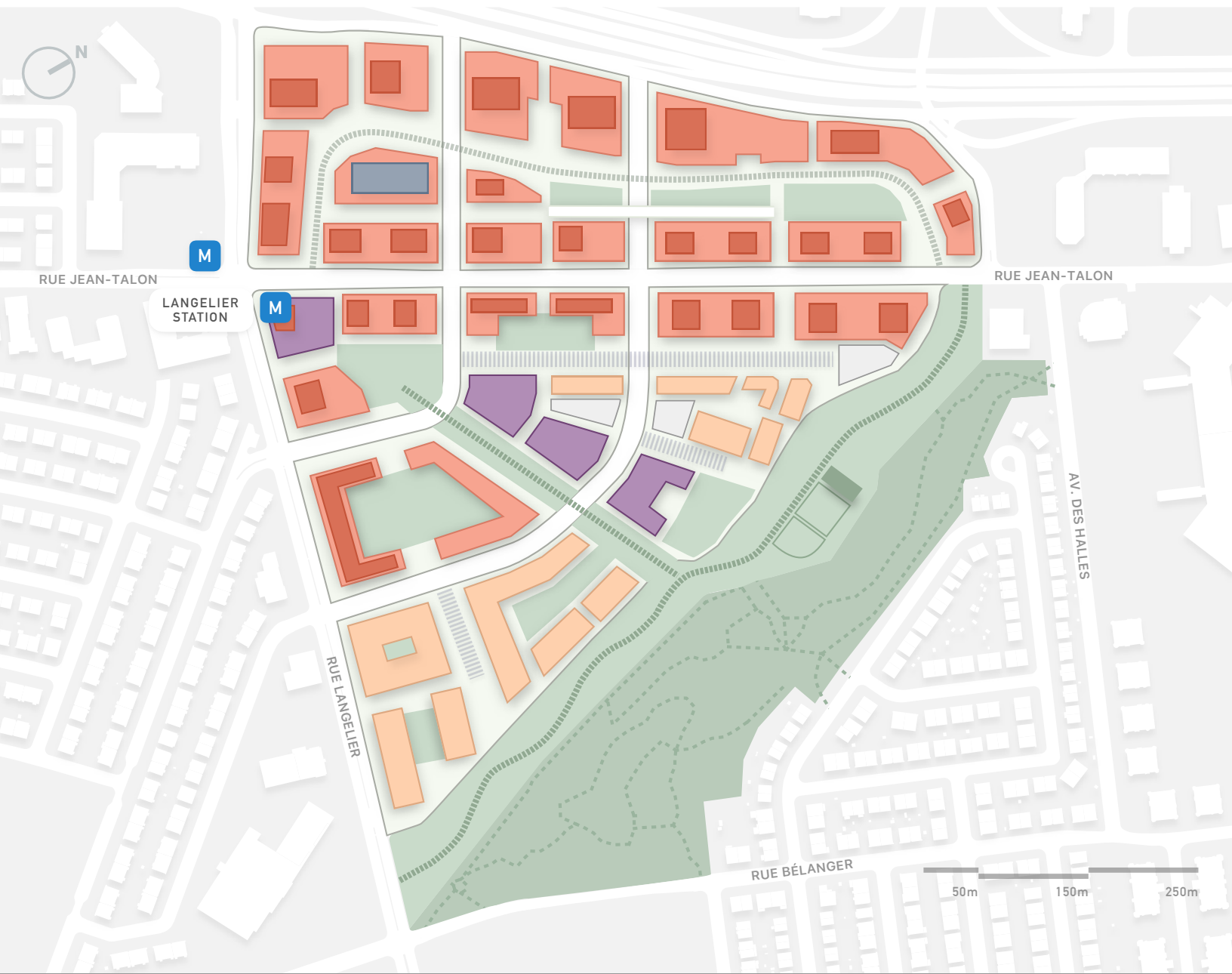


Figure 6.2: Radial Conceptual Plan

Project LÉO Master Plan

Responsive and thriving, Secteur Langelier will progressively transform from idle shopping parcels to a cohesive community...











- | | | |
|--|---|---|
|  Commercial / Mixed-use |  Residential |  Parking lot |
|  Residential podium |  Civic & Institutional |  Shared street |
|  Office podium |  Greenspace |  Walkway |

Figure 7.1: Project LÉO Master Plan



Figure 7.2: 3D Project LÉO Master Plan

Principles, Goals & Actions

Guiding Principles

LAYOUT's vision is founded on a set of four principles, meant to articulate the values ascribed to our plan. Those principles are:

INCLUSIVE & DIVERSE MILIEU Meant to encompass efforts towards affordability and accessibility, Project LÉO shall be a space which has something to offer everyone.

RICH HUMAN-SCALE EXPERIENCE Aimed at capturing the feel of the site, Project LÉO to feel safe, friendly, and stimulating.

INNOVATIVE SPACES Intended to represent the forefront of contemporary urban thinking, comfort and livability shall be integrated into the site design itself.

COMMUNAL & ENVIRONMENTAL RESILIENCE Looking ahead to prepare the community, lasting connections shall be fostered to, and within, the natural and built environment of the site.

Underscoring each of these principles is a set of four to five goals. Each goal is based on a series of actions considered important to achieving the desired vision for Project LÉO. The following pages detail these goals with reference to the actions they ascribe.







Inclusive & Diverse Milieu



Figure 8.1: Inclusive & Diverse Milieu Plan

PRINCIPLE No.1
Inclusive and diverse milieu

- 1 Implement spaces and services for all accessibility needs
- 2 Provide a diverse range of housing options
- 3 Create a bus friendly transportation network
- 4 Build institutional amenities that enhance quality of life
- 5 Encourage cycling among residents and visitors

-  Active transport corridors
-  Bus network & traffic measures
-  Boisé — Existing greenspace
-  Planned greenspace
-  Institutional amenities
-  Residential typologies

Inclusive & Diverse Milieu Goals

Provide a diverse range of housing options

The housing that Project LÉO provides should be amenable to everyone. Construction of a range of housing sizes and typologies is proposed to fit the needs of different individuals, families, and other groups. In addition to this wide range of housing styles, affordable housing is a key in promoting social mixity, creating a neighbourhood for a diverse range of groups.

Create a bus-friendly transportation network

The implementation of the metro station provides an opportunity to upgrade complementary public transport. Priority bus right-of-way lanes, sheltered bus stops, and a frequently-served pick-up and drop-off terminal at the metro are also proposed as ways to enhance the utility of public transport in the area.

Encourage cycling among residents and visitors

Cycling in Project LÉO should be an inviting, safe, and fun activity for everyone, from beginners to enthusiasts. A distinguished cycling environment is envisioned, punctuated by wide and separated bike paths, clean and covered bike parking facilities, and bike-share stations (eg. BIXI) strategically located throughout the site.

Implement spaces and services for all accessibility needs

Considerations should be made for people with physical disabilities in the community. Buildings and accessways should be made accessible to wheelchair users, and straightforward wayfinding should be made a priority. Spaces for seniors should be constructed in desirable locations, with ample resting places. These buildings should be easily accessed by those with physical disabilities by having designated accessible drop off zones.

Build institutional amenities that enhance quality of life

With a large increase in population expected, residents shall be given opportunities to engage with their community. A central institutional zone will provide space for a community centre and library, while an elementary school will be located nearby with good access to communal greenspace. The project also envisions healthcare facilities such as clinics in central commercial buildings.

Rich Human-Scale Experience



Figure 8.2: Rich Human-Scale Experience Plan

PRINCIPLE No.2

Rich human-scale experience

- 1 Build a permeable and accessible street network
- 2 Bring small commercial spaces to the forefront of customer experience
- 3 Make streets safe and pleasant to walk on
- 4 Create a visually memorable neighbourhood

- ⋯ Commercial promenade
- Commercial corridor
- Roads & traffic flow
- Shared streets
- Amenities

Rich Human-Scale Experience Goals

Bring small commercial spaces to the forefront of customer experience

Many of the businesses that currently exist in Secteur Langelier are small, niche shops that cater to a specific clientele. These offerings should not only be accommodated, but enhanced. Retail and commercial appeal will be increased by human-scale storefronts that are minimally set back from the sidewalk. Outdoor patios can liven-up the streets they serve, as can pop-up stalls along the green alley in the summertime. Lastly, by clustering specific small-business services, a synergistic alternative to all-purpose department stores will be provided.

Create a visually memorable neighbourhood

For both the enjoyment of residents and the attraction of visitors, Project LÉO should exude a unique, appealing identity. Elements such as the building colour palette should respectfully complement existing Saint-Léonard neighbourhoods. Public art installations on the other hand can help to set it apart. These and other installations could be placed in proximity to the metro to give it an animated, accented feel -- similar to the architecture of the metro stations themselves.

Build a permeable and accessible street network

To facilitate pedestrian flow and align our site with the principles of TOD, Project LÉO proposes a permeable built form. Streets will be seamlessly aligned with the surrounding area, and small block sizes will be created by breaking-up building footprints where possible. The space between these footprints will provide short-cuts for pedestrians and cyclists alike.

Make streets safe and pleasant to walk on

Representing the largest public asset in terms of space, streets in Project LÉO should cater to much more than just automobiles. Some will be shared, with obvious markings and continuous speed deterrents. Many others will be pedestrianized entirely, balancing adequate width with sufficient enclosure for convivial street life, as well as street furniture to enable socialization and gathering. Even the more car-centric streets like Jean-Talon will have sidewalks made of aesthetically-pleasing components built to a comfortable width.

Innovative Spaces



Figure 8.3: Innovative Spaces Plan

PRINCIPLE No.3
Innovative spaces

- 1 Integrate environmental comfort into building and street design
- 2 Modernize familiar shopping experiences
- 3 Balance modern building design with neighbourhood character
- 4 Re-purpose and redeploy parking

- Commercial promenade
- Highway buffers
- Loading Zones
- Off-Street Parking
- On-Street Parking
- Actions

Innovative Spaces Goals

Modernize familiar shopping experiences

In order to enhance the needs of anchor tenants while promoting human-scale design principles, tactful adjustments to the operations of high-volume retail is proposed. By creating multi-level stores with shopping-cart compatible escalators, large retailers can be integrated into mixed-use buildings. Operations can also be modernized via smart delivery systems such as click and collect, as well as the implementation of more efficient loading docks. The sum of these modernizations should help invigorate the customer experience.

Balance modern building design with neighbourhood character

The built form of Project LÉO should be both forward-thinking and context-sensitive. Creative building shapes and facades can be architecturally expanded upon for a rich neighbourhood feel. Facade-control measures and podium towers should help to achieve density requirements while maintaining small-scale experience. Building heights will be tapered so that sightlines from residences across Parc Boisé-Jean-Milot are maintained.

Integrate environmental comfort into building and street design

Intelligent design of the built form will ensure that environmental conditions complement the usage of the site. Noise from the highway can be minimized by sound buffers, and residents should primarily be south-facing. Cold wind from the north during the winter season can also be reduced by these structures. Meanwhile, a favourable East-West layout for much of the site and podium buildings will provide a foundation for shadow minimization efforts. Nighttime street lighting will enhance the safety and vibrancy of outdoor spaces, but should be strategically oriented to minimize disturbances to residents at home. Lastly, smart snow and garbage removal can optimize the speed and environmental footprint of these services.

Re-purpose and re-deploy parking

Meeting sustainability targets while allowing for structural necessities requires a balanced approach to parking. Underground parking will afford more efficient use of the surface space. Designated car-share parking will further encourage this efficiency. Electric vehicle charging stations should also be provided on a rolling basis as electric vehicles gain popularity in the coming years. Lastly, some on-street parking will be provided where appropriate, to help with accessibility requirements, bike path protection, and traffic-calming.

Communal & Environmental Resilience



Figure 8.4: Communal & Environmental Resilience Plan

PRINCIPLE No.4
Communal and environmental resilience

- | | |
|--|---|
| <ol style="list-style-type: none"> 1 Foster outdoor gathering and recreation 2 Provide and protect green infrastructure 3 Design storm-resistant infrastructure 4 Reduce the environmental footprint and cost of the redevelopment | <ul style="list-style-type: none"> Pedestrian paths Forest trails Tree canopy corridors Gathering spaces Green roof buildings Actions |
|--|---|

Communal & Environmental Resilience Goals

Foster outdoor gathering and recreation

Creating connections between residents and the outdoors should be done to achieve greater understanding of the environment and its relationships with people. Communal green gathering spaces will be provided throughout the site; a short walk from all residents. Parks and playgrounds would make the community more family friendly, and sports and recreation facilities will provide leisure spaces for all ages. These destinations will be supported by public washrooms so that can be lasting and inclusive to non-residents.

Design storm-resistant infrastructure

With climate change adaptation becoming an increasing necessity, storm-resistant infrastructure should be built into future developments. Permeable pavement throughout the site and bioswales next to street parking, or along medians, can minimize micro flooding and black ice formation. Rainwater can be harvested from rooftops to support vegetation growth on varying levels of buildings.

Provide and protect green infrastructure

A growing issue in Montréal is the need to adapt to heat waves. Green infrastructure is an effective way to achieve this for the site, where green roofs and a network of biodiverse tree canopies can reduce the urban heat island effect and maintain moderate street temperatures. Meanwhile, a green buffer will protect biodiversity in the neighbouring Boisé Jean-Milot from human encroachment, similar to Parc Jeanne-Mance and Mont-Royal.

Reduce environmental footprint and cost of the redevelopment

For the purposes of efficiency and environmental sensitivity, it is proposed to use sustainable, locally sourced building material alternatives in all buildings. Examples include supplementary cementitious materials like fly ash, slag and silica fume, hempcrete, or hemp fibre. It is also encouraged to reduce demolition/construction waste by reusing and recycling existing materials where possible. Plastic and concrete can be locally recycled, and existing trees and grass can be transplanted throughout the phases of construction.



Figure 8.15: Lively Commercial Street



Figure 8.16: Big Box Store Integrated into Podium



Figure 8.17: Jean-Talon Elevation, North Side



Figure 8.18: Green Roof on Podium



Figure 8.19: Greenway Section



Figure 8.20: Comfortable Winter Street

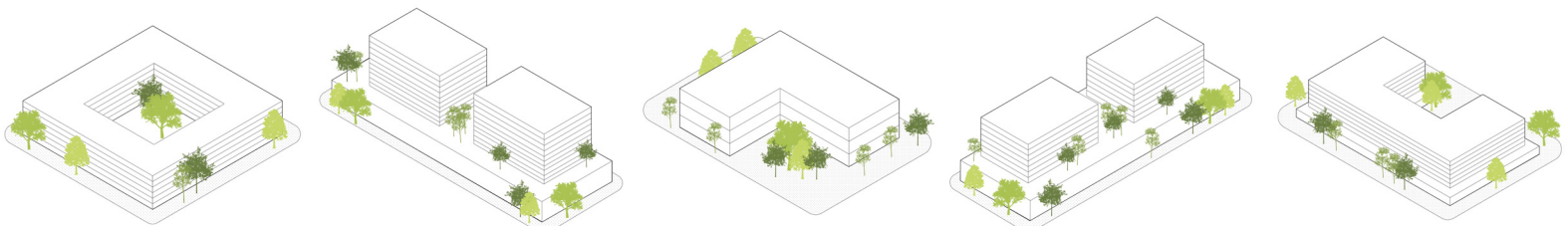


Figure 8.21: Sample Housing Typologies

Lasting Constraints

In many ways, the realization of the above goals and principles is complementary. A comfortable, stimulating environment will have positive effects on business performance and diversity. Active and public transit improvement synergize, as does greenspace and permeability. Through implementing these principles and their supporting actions, Project LÉO hopes to create a complete, livable community that is more than the sum of its parts.

It is acknowledged that the vision for Project LÉO is ambitious. Constraints exist which are practically impossible to eliminate, and must instead be worked with. Mindful of this, the following table has been developed which demonstrates how the combined effect of the four principles and actions can ameliorate the structural permanencies and global trends that are limiting and likely to last.

Constraint	Description	Remedies	Description
Oversized Site	At over 300,000 sq m, creating a human scale environment while achieving the sense of a complete community remains a challenge. Additionally, with the metro entrance existing at the corner of our site, residences do not always fall within the recommended 500m distance metrics suggested by TOD handbooks.	<ul style="list-style-type: none"> ○ Safe, pleasant streets ○ Permeable and accessible streets ○ Environmental comfort ○ Diverse housing ○ Rich human-scale experience 	As remediating measures, the site makes frequent use of environmental comfort measures while providing diverse housing. The layout of the streets itself is also designed to minimize real and perceived metro distance by preserving viewsheds and creating rich, human-scale experiences along the way.
Distance from Downtown	Even with a direct connection to the metro network, downtown is likely to remain well over 30 minutes away by public transport, and nearly an hour by bicycle. Metrics of total accessibility will therefore remain limited.	<ul style="list-style-type: none"> ○ Complete community ○ Small commercial spaces ○ Visually memorable neighbourhood 	Much of the need to travel downtown will be alleviated by provision of local services, amenities, and employment. This will be complemented by the unique and interesting character of the site. In many ways, the project will be its own downtown.



<p>Competition with Anjou</p>	<p>Plentiful retail opportunities already exist nearby. Vacancies on those properties may preclude the occupation of commercial space on our site.</p>	<ul style="list-style-type: none"> ○ Modernize familiar shopping experiences ○ Small commercial spaces 	<p>Intelligent mixity, unique spaces, and significant population uptick will set this development apart from its competitors, and provide unique leasing opportunities that will be attractive to desirable clientele.</p>
<p>Structural Car Dependencies</p>	<p>Surrounded by car infrastructure on a key highway network, there is only so much we can do to discourage drivership. Many commercial tenants currently offer goods best transported by car.</p>	<ul style="list-style-type: none"> ○ Repurposing parking ○ Encouraging biking ○ Bus network 	<p>Gradual habituation is key. The various transport alternatives provided will complement one another and synergize with a new citizenry to shift cultural preferences. Phasing will also consider how best to achieve this.</p>
<p>Decline of Retail</p>	<p>Consumer trends are shifting away from in-person shopping. Business owners may find operations challenging in this environment.</p>	<ul style="list-style-type: none"> ○ Make streets safe and pleasant to walk on ○ Foster outdoor gathering and recreation ○ Build institutional amenities that enhance quality of life 	<p>Encouraging outdoor activity leads to increased consumer exposure, as does locating retail along key pedestrian connections. Placemaking and amenity provision will also act as a draw to potential clients.</p>
<p>Remote Work Trends</p>	<p>Pre-pandemic transit ridership has yet to return to normalcy, and some predict it may never. Building a TOD in these circumstances may not be as effective as it once was.</p>	<ul style="list-style-type: none"> ○ Create a bus-friendly transportation network ○ Encourage cycling among residents and visitors ○ Create a visually memorable neighbourhood ○ Provide a diverse range of housing options 	<p>Improvements to bus and active transit infrastructure may serve to induce demand which otherwise would have been car-based. Placemaking around the metro station will vitally improve the ridership experience. Lastly, densification and diversification surrounding the other stations on the blue line will serve to create an interconnected network of TOD's, which has been shown to dramatically increase ridership in other contexts⁷.</p>

Phasing

Phasing Options

Phasing is a tool that can be used to influence project outcomes. A single phase can allow for more dramatic design choices, while gradual phasing can ease disruption and maintain commercial interests whilst also considering possible economic market fluctuations. Certain good and bad practices of phasing always apply (i.e. residential should be built after transit, each phase should have contingency upon the previous, etc), but the choice of how and what to phase is dependent on the final intended concept. Our plan considered the pros and cons of the following two options as a means to achieve these outcomes:

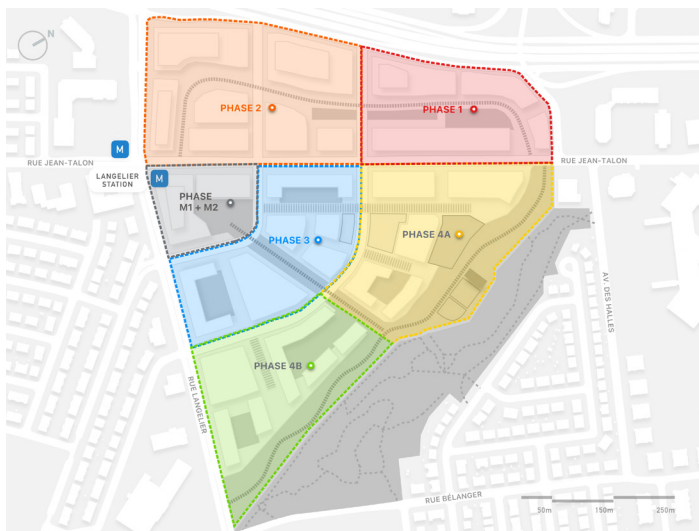


Figure 9.1: Phasing Option 1

OPTION 1:

PROS:

- Minimized retail disruption at outset
- Early creation of community centre and amenities
- Progressive connectivity from metro
- Preserved open frontage for business operations on section south of Jean-Talon
- High property value in final stage

CONS:

- Uneven development of Jean-Talon
- Greenspace vulnerable to construction effects
- Lower greenspace priority

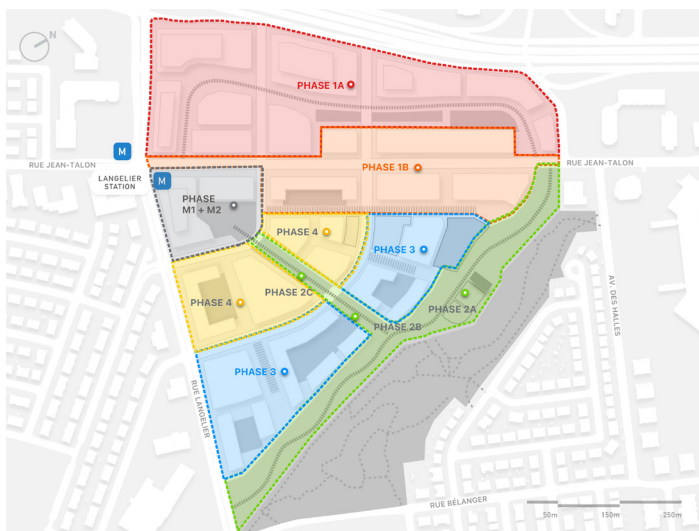


Figure 9.2: Phasing Option 2

OPTION 2:

PROS:

- Developer flexibility
- Single-stage development of Jean-Talon
- Greenspace connectivity prioritization
- Green buffer developed early
- Minimized construction noise in case of metro delays

CONS:

- Significant retail disruption at outset
- Bifurcated south section between stages 3 and 4
- Lower public transit connectivity priority

Phasing Plan

The final selected phasing plan is shown below. It is divided into five separate stages, numbered by the recommended order of completion. Each stage lasts three to four years, allowing the full project to be complete in as little as ten years. The delineation and numeration of these stages was selected to best meet future ideals while complying with existing needs. Each stage, excluding the special *S* stage, is broken down into multiple subphases to better guide the future development. These subphases are suggested to better meet the phasing goals, as they afford less retail disruption, greater flexibility, and seamless transitions to later phases.

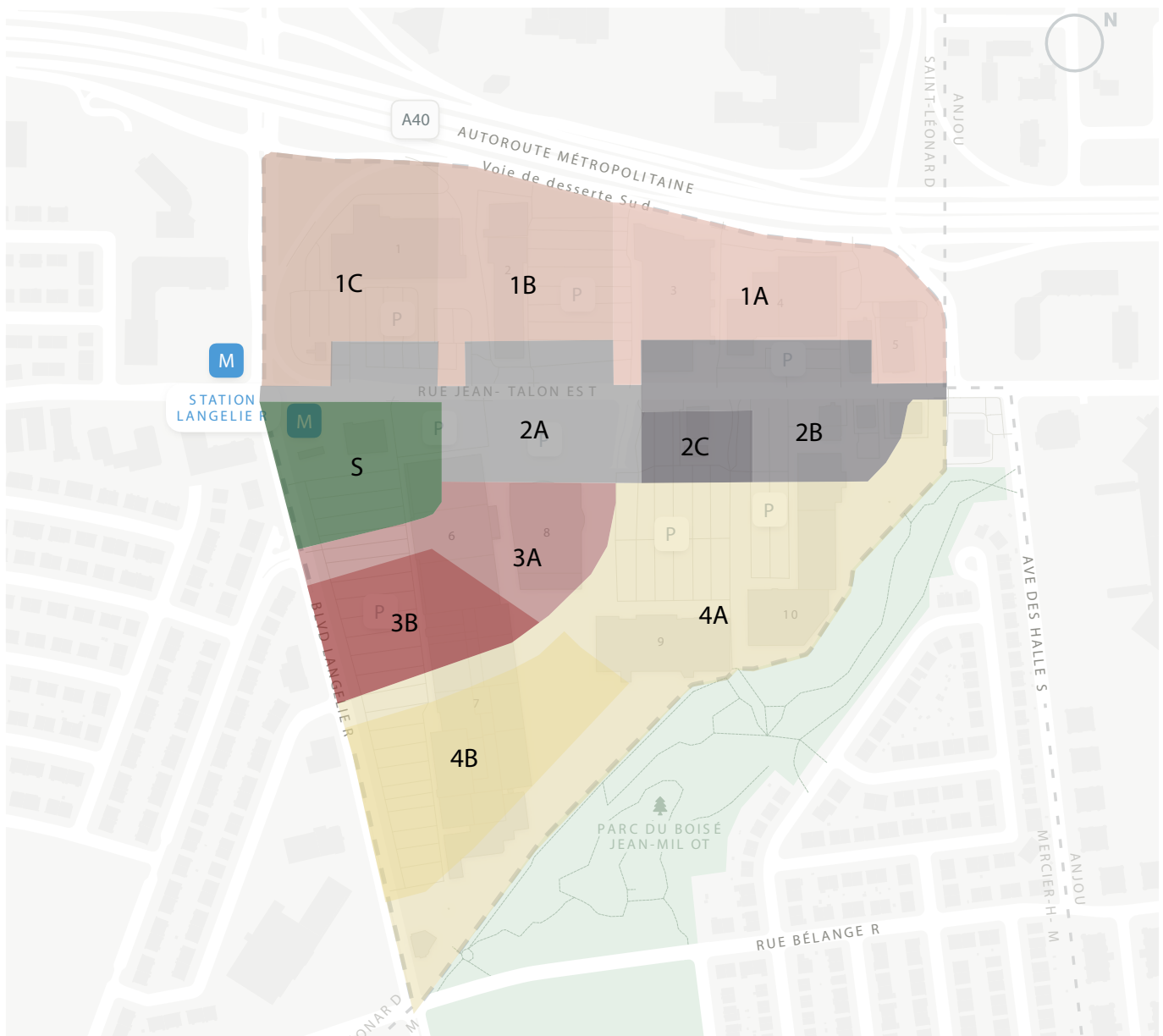


Figure 9.3: Final Phasing Plan

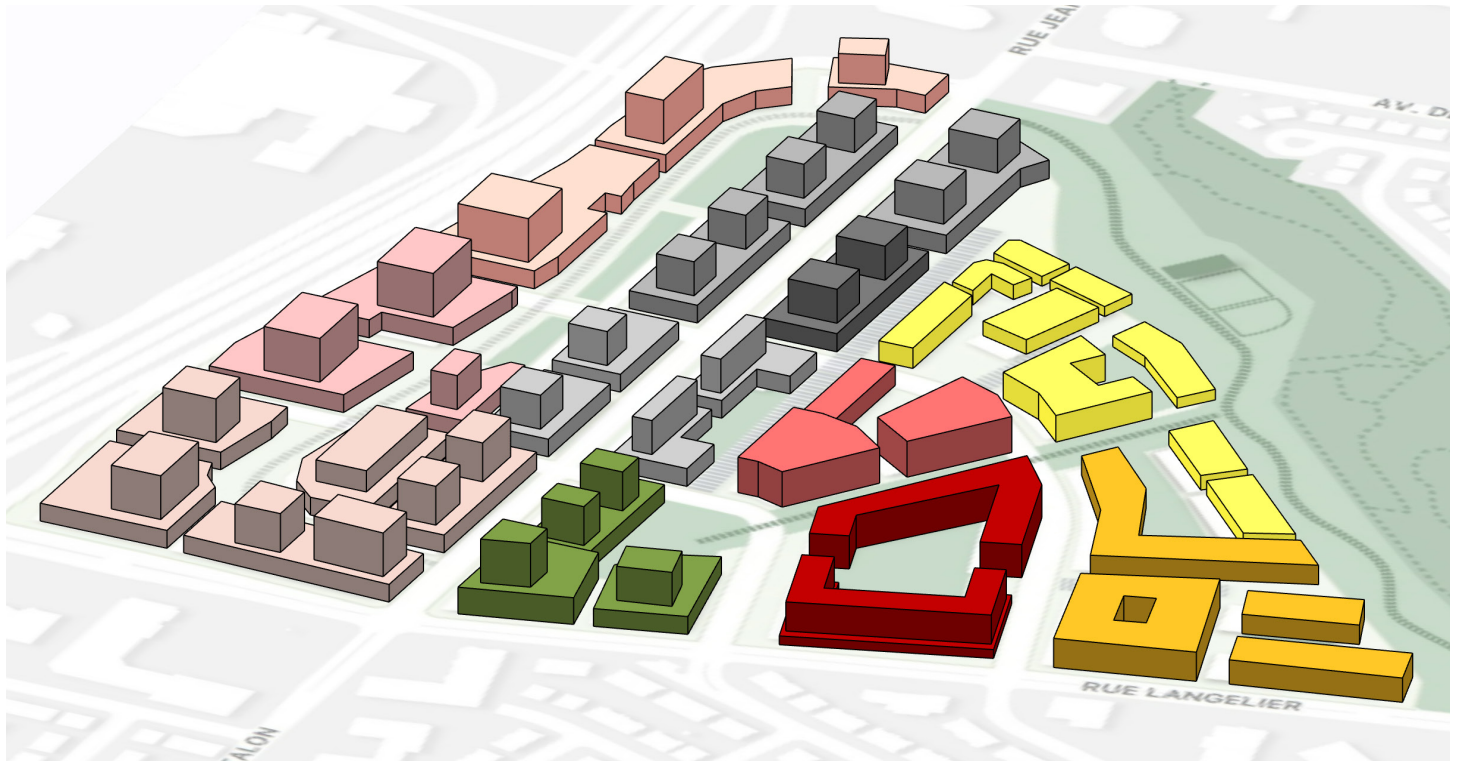


Figure 9.4: 3D Final Phasing Plan

The practicalities identified are listed below in descending order of priority, by present/future condition:

FUTURE IDEALS:

- Ensure adequate transportation alternatives are in place before the majority of residences are constructed⁸
- Allow for temporal contingency surrounding the metro construction
- Create fully-functioning spatial zones that can be self-sufficient in case of project delays
- Avoid construction noise near newly-built sectors
- Promptly complete major green corridors to ensure connectivity and outdoor activity
- Re-deploy and re-purpose outgoing materials and vegetation

EXISTING NEEDS:

- Minimize disruption to sensitive existing retail
- Maintain anchoring commercial offerings throughout construction
- Provide adequate parking to avoid sudden shocks to consumer habits
- Account for existing property lines
- Accommodate thru-traffic on Jean-Talon throughout the entirety of the project

These principles provide the basis for choosing which zones will be constructed when and where. However, it should be noted that concurrent development of stages is entirely possible; sometimes peripheral construction noise and residential-commercial synergy makes this desirable. In particular (given the uncertainty of any major project like the Blue Line expansion) a special phase has been designated including the environs around the planned metro station. This phase should ideally be completed between stages two and three, but remains amenable to development fluctuations. A timeline of how these stages interact is shown below:

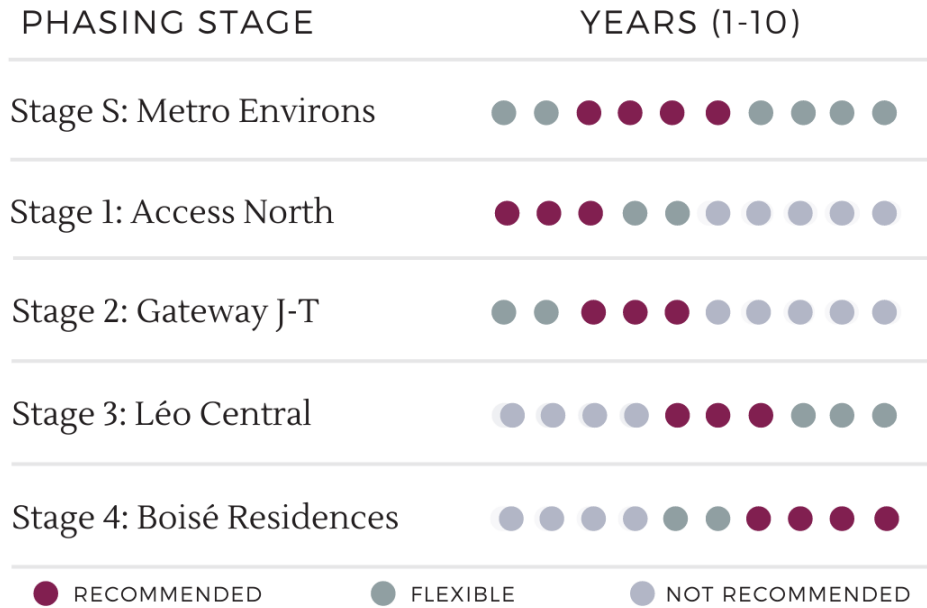


Figure 9.5: Phasing Timeline

Stage S Metro Environs

3-4 YEARS

Although there is confidence that the Blue Line metro extension will be implemented, it would be prudent to plan for the possibility that government, financial, or viral changes may delay the development timeline. In the case that Project LÉO developers wish to move forward regardless, the zone around the metro can be designated as a special phase, especially flexible to project timeline changes. Suggestions are as follows:

As soon as Walmart has relocated (preferably during Phase 1), redevelopment of Stage S should start. At this point, two scenarios are possible. In scenario i), the metro is beginning construction; development of buildings can proceed as planned as soon as core metro infrastructure is complete. In scenario ii), the metro construction is indefinitely delayed; Stage S should be temporarily converted into a bus hub surrounded by greenspace. This will function as a stop-gap measure to maintain TOD principles until construction of the metro can begin, at which point the stage can be developed as planned.

In the case of scenario i), Stages 3 and 4 can proceed unimpeded. For scenario ii) however, it is recommended that Stages 3 and 4 be delayed until condition i) is fulfilled.

Stage 1

Access North

3 YEARS

Most of the planned future retail space is allocated to the north. Nestled between Highway 40 and Jean-Talon, this space will always be accessible by car, and is thus conducive to department store locations and their supporting parking infrastructure. Development of this section would thus be minimally abrasive to consumer habits, and can accommodate large anchor-tenants such as Walmart. Additionally, much of the current usage of this section are made redundant by alternative services south of Jean-Talon: the Dollarama is duplicated by another in the Carrefour, the Super C serves a nearly identical consumer base to the Maxi, and the furniture and clothing stores are but one of many spread throughout the whole sector. For these reasons, it is strongly recommended that the section north of Jean-Talon be developed first. Supplementarily, the following is suggested:

Sub-stage development should take place from east to west. This would permit the Canadian Tire and Nautilus Plus Fitness (unique services) to continue operations longer, and potentially transition undisrupted to the completed east section before demolition.

If possible, residential podium towers should be constructed only once the metro is completed.

Vegetation from the vegetated traffic island on the north-east corner can be transplanted either to the eastern parks, or to the metro phase before the metro is completed.

Stage 2

Gateway Jean-Talon

2-3 YEARS

The plan for Jean-Talon envisions extensive small-business frontage on a reinvigorated commercial street. It is therefore advantageous for those small businesses to have Jean-Talon completed early. As a principal point of access for the sector, a transformed Jean-Talon would also have the psychological effect of demonstrating the envisioned future of Project LÉO. Completing the whole street at once would also relegate traffic disruption to a single stage, and allow vegetation planted along the route to grow synchronously. Bus transit, bike lanes, pedestrian connections, water mains, and electrical lines would all be upgraded during this time as well, providing for the future increase in population throughout the sector. Thus, it is recommended that redevelopment of Jean-Talon be completed early, and as a single stage. If a single stage is too large for developer preferences, the following subphase framework may be adopted:

There is significant empty land between Jean-Talon and Brault & Martineau. This would be desirable to develop first.

The newly constructed buildings that house the Souvlaki and A&W restaurants are aligned with neighbouring buildings and do not disrupt the future vision. These sites may be left undisturbed until upgrades are required.

North-south staggering is cautioned against, as the resulting lag in tree growth would lead to a disorienting aesthetic.

Stage 3

LÉO Central

2-3 YEARS

At this point, the northern portion of Project LÉO should be fully functional. The metro will now be at or nearing completion, much of the retail in the south will have relocated to the north or along Jean-Talon, and residents will have moved into the towers above. Active and public transportation will be able to offer alternatives to car-based transit, but the parking lots below Stage 1 and 2 will still provide enough parking to ensure that demolition of the parking to the south can now begin without drastic shocks to consumer habits. The next logical step would be to develop the inner ring around the metro as a means to ramp-up population and transit ridership, create a thriving community centre, and provide the increasingly needed amenities such as a library and public school. If this phase is too large, an incremental development from the north to south of the phase is suggested, such that the public amenities realize placemaking objectives early and Jean-Talon feels more complete.

Stage 4

Boisé Residences

3-4 YEARS

The final stage will be to complete the lower-density residential at the periphery of the site. By this point, all commercial tenants in the sector should have relocated, allowing development to proceed unimpeded. The completion of this sector will enhance the natural value of the site, provide active transit connectivity, and integrate the project into the surrounding neighbourhood. Additionally, the lower-density, quiet location, and proximity to now-completed amenities will make the residences in this section of higher value and therefore very profitable to developers. This will minimize the risk of project incompleteness. Once again, if this phase is too large for developer preferences, incremental development from north to south is recommended, so that the public amenities increase the property values and quality of life for the southern residences.

Conclusion

LAYOUT Consultants is proud to present Project LÉO to the City of Montréal and the Arrondissement of Saint-Léonard. The recommendations in this report are meant to provide a framework for how to create a transit-oriented development that blends with the surrounding community, while providing new and exciting spaces for more residents and businesses. Our vision, “responsive and flourishing, Secteur Langelier will progressively transform from idle shopping to a cohesive community”, encapsulates the overarching message of this report. It summarizes our guiding principles, which are to create an inclusive and diverse milieu, cultivate a rich human-scale experience, promote innovative spaces, and foster communal and environmental resilience. Each of these principles carries a series of goals which make good TOD development easier to conceptualize. Further, these goals are broken down into individual action items that future developers can use to build the community with consideration to various social, environmental, economic, and technological factors.

The strategies put forward for this report take inspiration from TOD principles developed from projects around the world. These principles can be summarized by density, diversity, distance, destination, and design. Density is crucial to Project LÉO, and has been arranged such that little disruption is caused to surrounding communities, while providing housing options for over 8,000 new residents. Diversity is also imperative in creating a community that is cohesive, safe, and inclusive. The site is planned with consideration to distance and access to the future metro station, as well as other amenities such as public services and institutions. Project LÉO also aspires to create a destination in its own right, thinking beyond residential development, and creating unique and attractive spaces for locals and visitors alike. And finally, design plays an integral role in tying all the TOD principles together, and ensuring that they reflect the goals and guiding principles that LAYOUT Consultants has developed for this project.

Collectively, the guiding principles, TOD principles, and goals were used to create a series of concepts that fit the vision developed for Project LÉO. Of these concepts, a combination of the grid plan and radial plan was decided between LAYOUT Consultants and the clients to be the most effective strategy to see the vision come to fruition. Through this combining of concepts, the master plan was created, with the guiding principles and their respective goals nested within. The plan maintains a grid network for automobiles, but creates an accessible, unique, and attractive radial network for pedestrians and cyclists. Correspondingly, the building footprints, zoning, and natural spaces were developed to tie all the goals together into a single plan. Finally, based on the master plan, a series of phasing options were suggested to conceptualize how and when the project will be built. In an effort to balance the needs of existing businesses and commuters with the need for efficient development, the phasing plan consists of multiple stages. It provides alternative spaces for retailers on site as needed, while causing as little disruption as possible on Langelier and Jean-Talon.

LAYOUT Consultants is excited to see the development of Secteur Langelier unfold over the next several years. We hope this report provides the City of Montréal and the Arrondissement of Saint-Léonard with the tools to develop policy to create the best possible transit-oriented development.

Appendix

Principles, Goals, & Actions

The following guiding principles, with their corresponding goals and subsequent actions, are the underlying framework of the masterplan. This table was conceived by first listing the actions and interventions that would best transform the site, and then grouped into actionable goals. This table helped guide both our master and phasing plans.

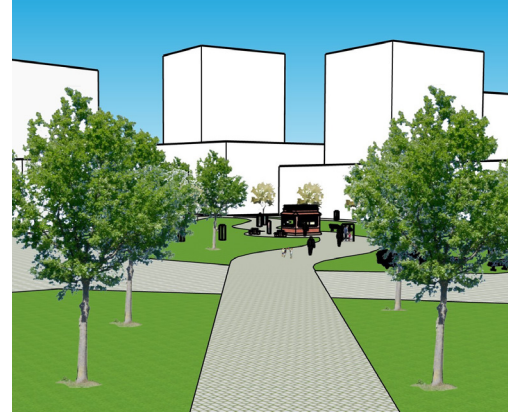
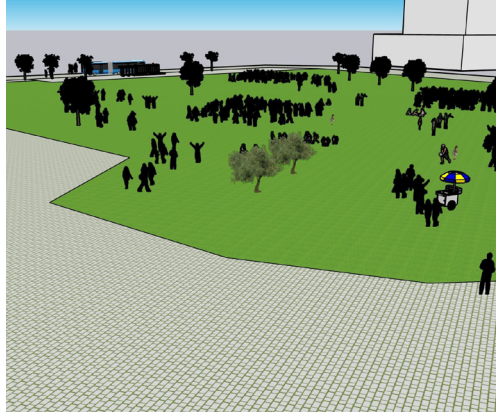
Inclusive and diverse milieu	<i>Provide a diverse range of housing options</i>	Mix of housing sizes Mix of housing typology Affordable housing
	<i>Implement spaces and services for all accessibility needs</i>	Universal accessibility Ride hailing/handicapped drop off zones Indoor senior spaces
	<i>Build institutional amenities that enhance quality of life</i>	Community centre Elementary school Community Library Clinic
	<i>Create a bus friendly transportation network</i>	Bus shelters Bus terminal/drop off zone at metro station Bus ROW/lanes
	<i>Encourage cycling among residents and visitors</i>	Bike lanes Bike facilities (parking) Bike share
Rich human-scale experience	<i>Bring small commercial spaces to the forefront of customer experience</i>	Human scale commercial storefronts Small businesses Narrow/no setbacks for retail Street patios Clustered services Pop-up stalls and kiosks
	<i>Create a visually memorable neighbourhood</i>	Animating metro station space Public art Respectful colour palette Unique public space (identity)
	<i>Build a permeable and accessible street network</i>	Pedestrian and bicycle shortcuts Small block size New street pattern connected with surrounding area
	<i>Make streets safe and pleasant to walk on</i>	Pedestrian streets Street furniture Nice sidewalks Shared streets
Innovative spaces	<i>Integrate environmental comfort into building and street design</i>	Smart snow/garbage removal Highway noise buffers Noise and lighting considerations Wind-minimizing design Shadow considerations
	<i>Modernize familiar shopping experiences</i>	Integrated big box stores Ground level big box Smart livraison for big boxes (click and collect) Smarter retail loading docks Encourage multi-storey big boxes
	<i>Balance modern building design with neighbourhood character</i>	Podium towers Staggered building density Creative building shapes and facades Facade control measures
	<i>Re-purpose and redeploy parking</i>	Car share On-street parking Structured parking Charging stations
Communal and environmental resilience	<i>Foster outdoor gathering and recreation</i>	Parks and playgrounds Communal green gathering space Public washroom Recreation/minor sports facility
	<i>Design storm-resistant infrastructure</i>	Permeable pavement Bioswales Rainwater harvesting
	<i>Provide and protect green infrastructure</i>	Green roofs Green buffer at boise Increased tree canopy System biodiversity
	<i>Reduce the environmental footprint and cost of the redevelopment</i>	Reduced construction waste Sustainable building materials

Residential Unit & Population Calculations

The potential number of residential units and population that Project LÉO can accommodate was calculated to ensure optimal TOD population density. Considering a floor area of 90 sq.m. for each unit, the number of units was estimated at 3495 units, giving a residential density of 112 units/hectare, which exceeds the city's requirement of 110 units/hectare. Assuming 2.3 residents to each unit, over 8,000 residents can be accommodated within the site and its new residential amenities.

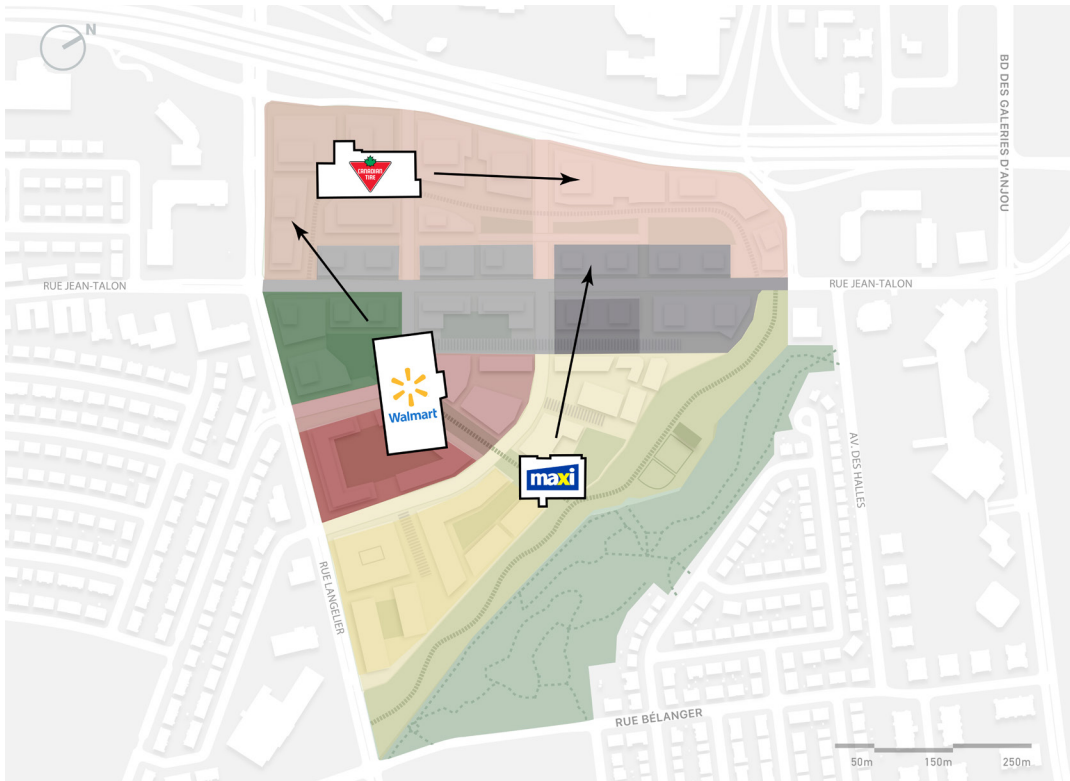
	m ²	Number of units	Number of residents
Residential	314,630	3,495	8,039
Podium	168,789	1,875	4,313
Mixed	41,592	462	1,063
HDR (4-6)	63,638	707	1,626
MDR (2-3)	40,611	451	1,037
Commercial	183,208	-	-
Institutional	34,833	-	-
Office	6,108	-	-
Greenspace (ftp)	72,375	-	-

Metro Environs Transformation



This trio of renders depicts the transformation of the park area adjacent to the metro entrance. The first graphic shows the current situation, with a gas station and mall parking. Next, the middle graphic shows what the site could be while waiting on the metro construction. A greenspace with a bus terminal allows for temporary amenities for incoming early residents. Finally, the last graphic shows the completed park behind the metro with an active transportation corridor flowing into the greenway.

Big Box Retail Redeployment



This graphic depicts how the big box stores fit into the new building footprints and phases. The large structures will be moving into new buildings within phases that will be completed early into the development.

Jean-Talon Section near Metro

This street section depicts the view down Jean-Talon looking west, and gives an idea of how the 26m wide street could be designed in a way to implement that rich human-scale environment and comfortable public space.



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