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Pointe-Claire Access Project

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1.0 Executive Summary

I. Background

The Municipality of Pointe Claire, Qc recently released a planning document identifying the issues the city is currently facing as well as potential issues to come. Pointe Claire is a typical North-American suburban town designed for the car, low-density, segregated in land-use and aging in population. The city has recognized some of the potential repercussions these dated trends can bring and is looking to update the city's planning program, image and function while preserving its valued elements. Pointe-Claire is an integral part of the West-Island community of Montreal with its central location, the world-class facilities of the 'Civic Centre,' Fairview Pointe Claire as a major commercial destination, and Pointe Claire Village's heritage buildings and waterfront attraction.

II. Transit Oriented Development (TOD)

Automobile dependancy has come as a result of sprawling urban development trends over the last 60 years with severe environmental, economic, and social impacts attached to it. Pointe Claire's predominant single family housing, segregated land use and curvilinear street network make it a typical example of automobile dependance. TOD is a development strategy designed to counter this issue with high-density, walkable neighborhoods surrounding a transit node that is connected to the CBD. The Agence Metropolitaine de Transport's (AMT) commuter rail line (Vaudreuil/Hudson line) runs through Pointe Claire stopping at three stations - an ideal site for TOD.

III. Site Selection

Three stations line the the AMT rail corridor in Pointe Claire: Valois station (east); Pointe Claire Station; and Cedar Park station (west). Autoroute 20 runs alongside the rail line to the south. Although there is room for development intervention in Valois Village surrounding its station, the village has a sense of unique character worth preserving. A dated strip mall with massive parking lot and Civic Works building with adjoining yards between Pointe Claire Station and Cedar Park are large, valuable lots with under-used land. The proximity to the 'Civic Centre,' Terra Cotta Park and the AMT line linked to downtown Montreal as well as the Donegani/St Jean Blvd axis make these lots with adjacent single family housing units an ideal site location for a TOD project.

IV. Site analysis

The site limits are Pointe Claire Station to the east, Cedar Park Station to the west, Terra Cotta park to the north and the rail line to the south.

IV.I Landscape Analysis

The rail line and Autoroute 20 split apart between Pointe Claire Station and Cedar Park Station creating a large gap of unused land and an inefficient use of land in the design of the St-Jean/Autoroute 20 interchange. Large parking lot at Plaza Pointe Claire, Civic Works yards, and faceless single family housing are on valuable land that is not being used to its potential.

IV.II Movement Analysis

St-Jean Blvd. is the main traffic artery through the site running north/south with Donegani a perpendicular secondary road running east/west. The two have no direct access to each other, St-Jean crosses Donegani via overpass. The site exhibits a very low intersection-density with limited and narrow sidewalks and an unused bicycle path that runs along Donegani.

V. Proposal

The concept theme is to create dense, mixed use TOD along the AMT rail corridor. The entire site is to be redeveloped for mixed-use residential, commercial, office and green space with pedestrian and bicycle networks connecting to the surrounding area.

V.I Features

- The rail tracks to be realigned with Autoroute 20 opening up the large, unused tract of land to the site and reconfiguring the St-Jean/Autoroute 20 interchange to accomodate the rail tracks and for more efficient use of land.
- New grid-style street network more than doubling the north/south streets between St-Jean Blvd and Coolbreeze Ave. and quadrupling the east/west streets.
- Opening access between St-Jean and Donegani.
- Redistributing Plaza Pointe Claire's commercial activity along a new Donegani mixed-use commercial Boulevard running between St-Jean and Pointe Claire Station.
- Moving the Civic Works building and adjoining yards to the industrial park.
- Increasing the housing density surrounding Pointe Claire Station west of Coolbreeze Ave. and densifying the entire site.
- Improving pedestrian and bicycle connections within the area and surrounding it.
- New service road behind Donegani, along the rail tracks leading to two-story rear parking replacing the existing Park-and-Ride that is between the tracks.

2.0 Pointe-Claire Planning Program Requirements

Planning Program Objective A:

Continuing residential growth:

- Optimize the residential use of currently vacant areas
- Consider the conversion of underused commercial areas for residential uses
- Under take a cost-benefit analysis regarding the conversion of the municipal works yard for residential purposes

Our Approach A:

- Development of high density housing throughout project site
- Vacant areas reclaimed for mixed-use development, with plenty of space devoted partially or completely to residential use
- The distribution of commercial uses from Plaza Pointe Claire along Donegani Ave. allows for the use of previous commercial space for mixed-use and residential development
- Area currently occupied with the municipal works yard has been redesigned for mixed-use and residential uses

Planning Program Objective B:

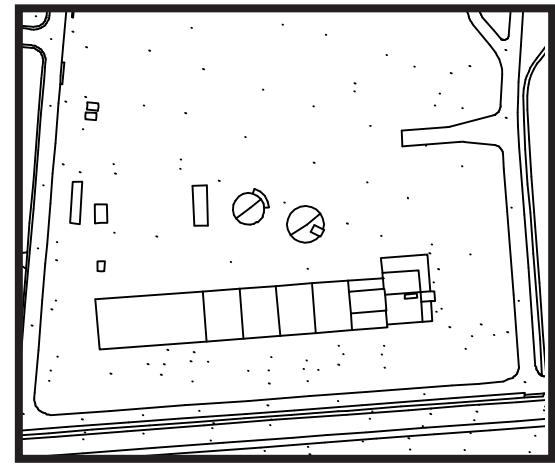
Adopting sustainable development measures:

- Promotion of non-motorized transportation through the use of functional pedestrian and cycling paths linking residential areas with commuter train stations and commercial and community services.
- Promotion of multi-level parking structures to avoid environmental impacts of surface parking lots
- High density development within walking distance of commuter train stations

Our Approach B:

- Development of high density walkable environments surrounding commuter train stations in close proximity to major transportation networks
- Following analysis, pedestrian and cyclist networks have been designed to connect the commuter train stations with nearby residential, mixed-use and commercial areas
- Two storey parking structures have been designed to replace surface and on-street parking
- Commuter train stations and the surrounding transportation corridor served as the inspiration for intervention and development

Example:
Municipal Works Yard Redesign

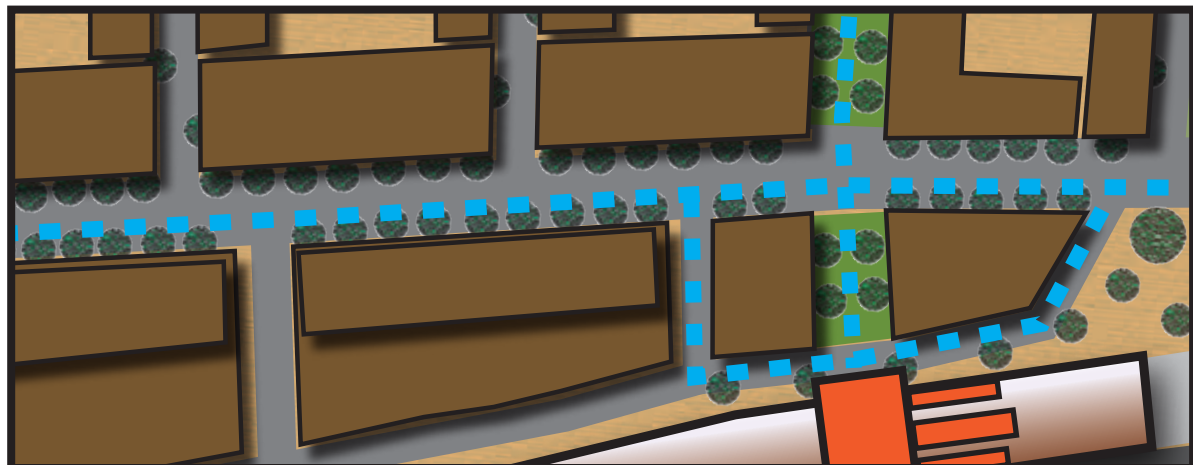


Before



After

Example:
Bike Paths Connecting Pte-Claire Station with Commercial and Residential Areas



3.0 Landscape Analysis

The urban form of the intervention site consists mostly of single family housing (detached and semi-detached) and a long, two storey strip mall. This mall, Plaza Pointe-Claire, is also surrounded by a large surface parking lot. Another prominent feature is the long, flat Civic Works building that lies along Donegani Ave. The two large buildings use a large amount of the surrounding land, and are considered to be inefficient uses of space. Similarly, the single family housing is not appropriate considering the potential in this area.

The current land uses that this area is zoned for are shown in the diagram below. The majority of space is devoted to single family housing (in yellow) and commercial activity (in red).

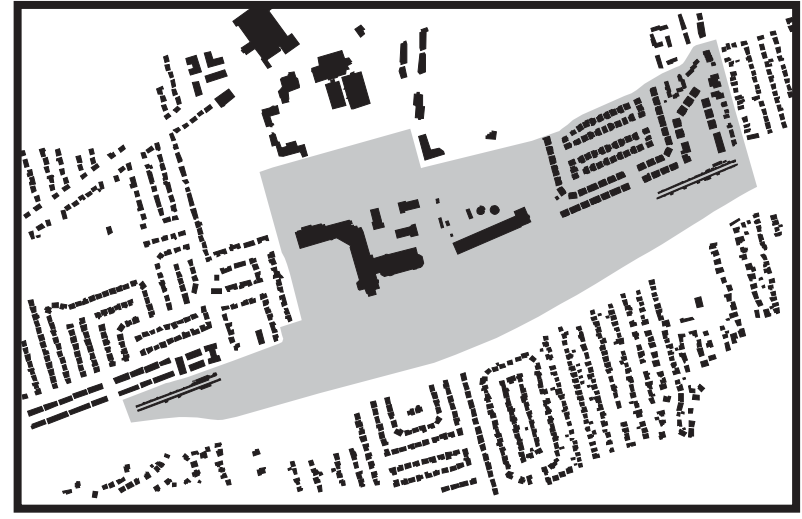
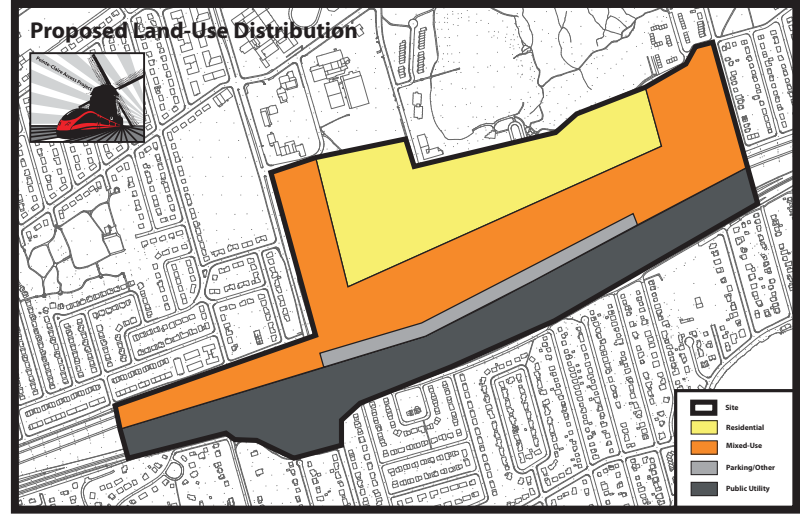


Figure ground representing the built form of the area.

All the functions are divided, as there is currently no mixed use zoning in the intervention site.

The lowest intersection density is found in the Western portion of the corridor, and this is an indication of poor walkability and low connectivity.

Our approach to the land use designation has been to introduce a large amount of mixed use development positioned along the main arterial roads and around potential commercial centres. Residential only development has been planned off the main roads bordering Terra Cotta Park. The thin grey strip represents a row of mixed commercial and office use with two storey parking at back, nearest the transportation corridor. This is meant to act as a barrier between pedestrian activities and the transportation corridor while removing the need for excessive surface parking elsewhere in the development.



Proposed land use zoning for project area

The initial approach to density of the area follows the function of the land uses. The densest areas are the mixed use developments along Donegani Ave. Slightly less dense will be the commercial area around Pointe-Claire train station and facing St Jean blvd. Our areas planned for residential only use will be the lowest density, comparatively. Although the density gradient suggests that there will be a high, medium and low densities, all planned development will be significantly higher than the rest of Pointe-Claire.

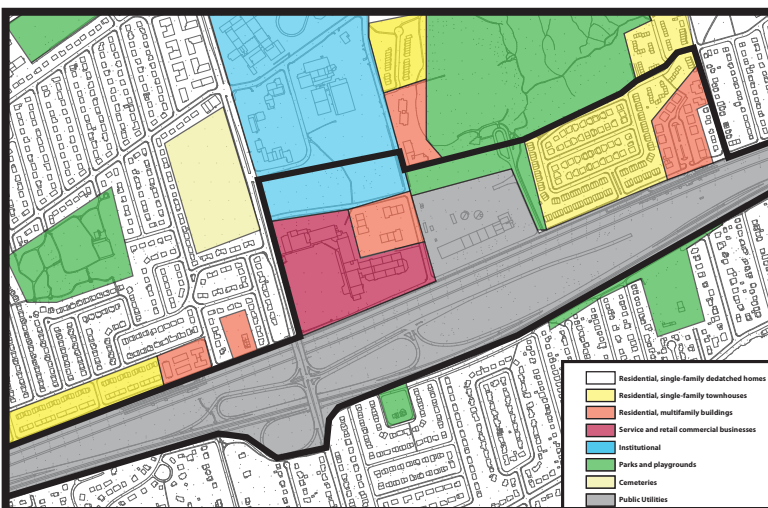
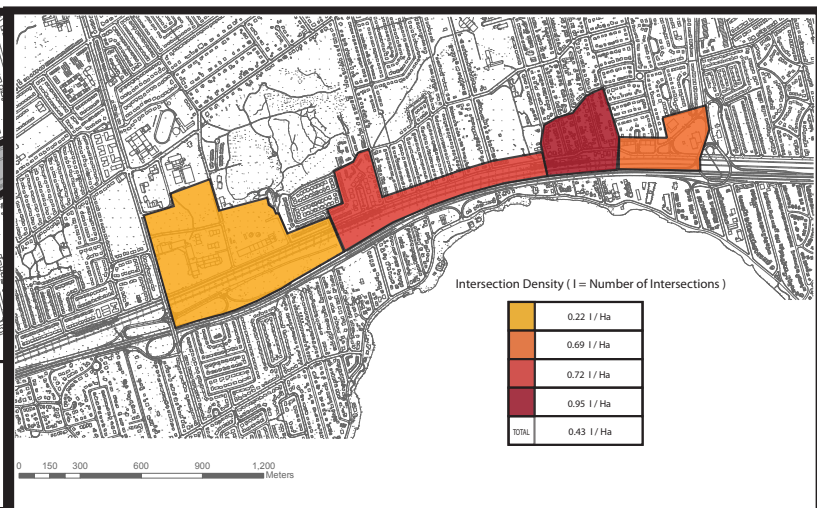
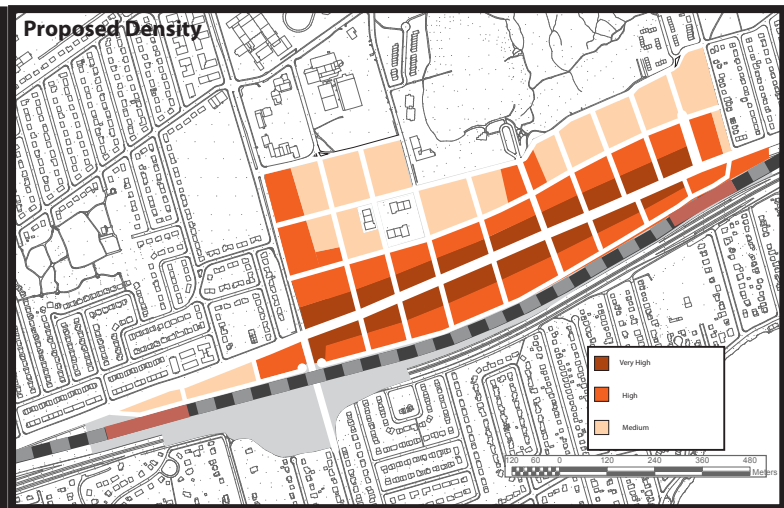


Diagram of the current land use distribution



Current intersection density

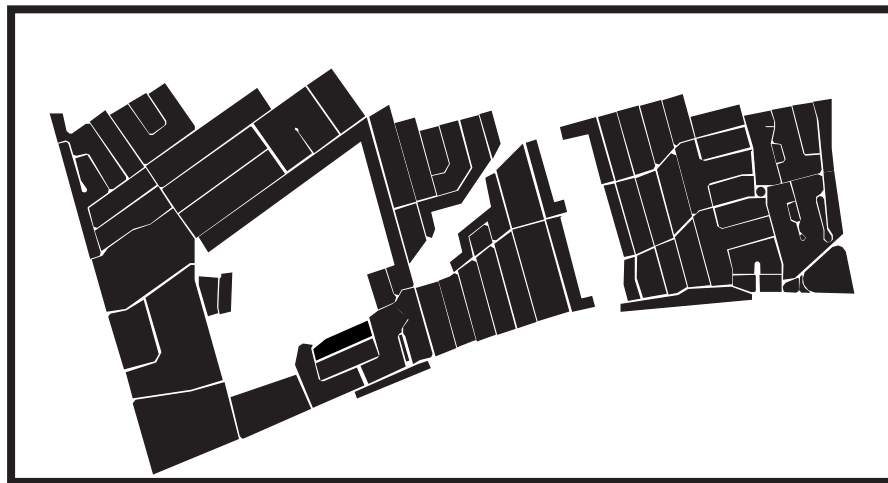


Proposed density distribution within intervention zone

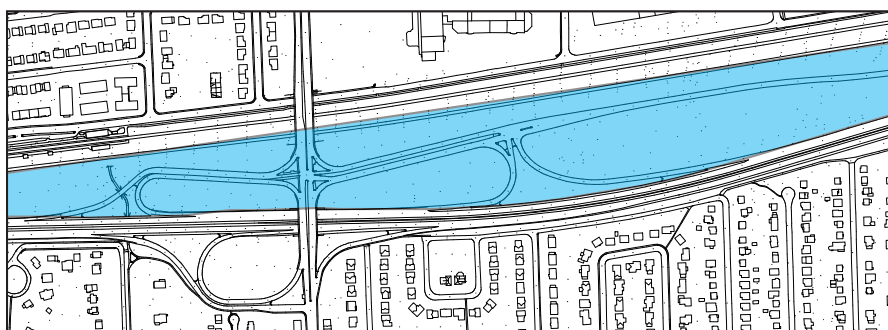
4.0 Networks & Movement

The focus area has a large parks system to the North of Donegani Ave. These are an asset to the area and should be reinforced by better connectivity with Donegani Ave.

The St Jean blvd. interchange is a huge piece of infrastructure that is important to the movement to and from Highway 20. However, it is an inefficient use of space. The railway line also diverges from alongside the highway starting near Pointe-Claire station and reaching the highway again just after Cedar Park station. This creates a large plot of unconnected and underused land (currently occupied by some road infrastructure and a parking lot) between the rail line and the highway.



Open space network North of Donegani Ave.

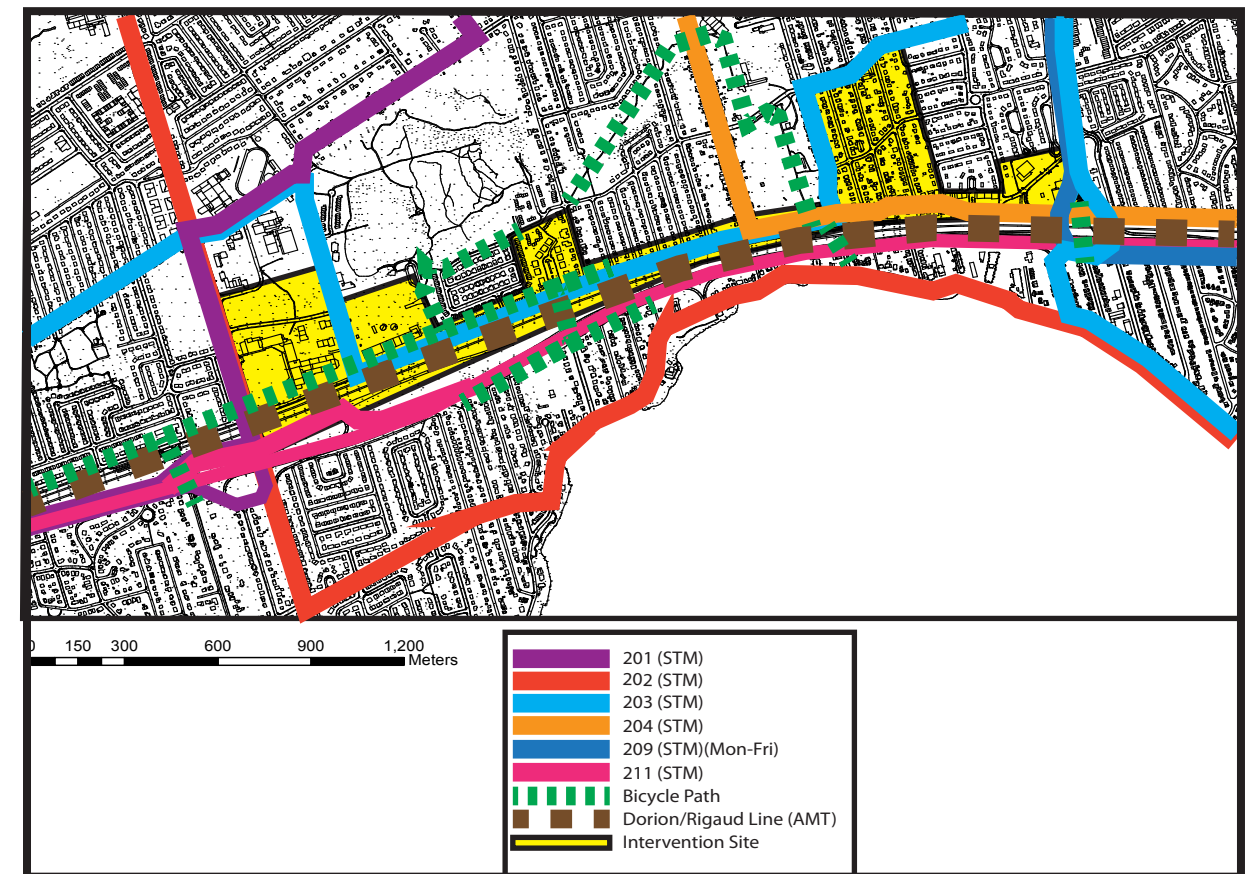


Space wasted by current interchange and rail alignment.

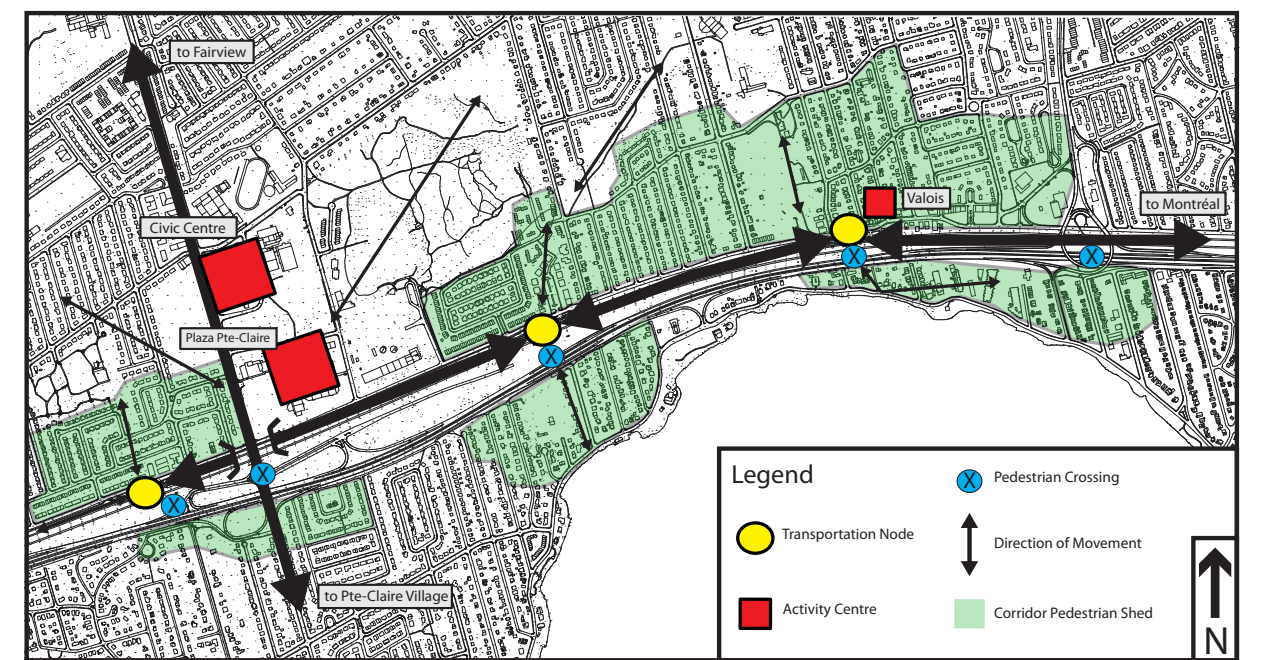
There are a series of bus routes throughout the area, but none of them actually travel the entire length of Donegani Ave. between the three train stations. There are also some bicycle paths that mostly lead in from the park system above. There is a bike path along Donegani Ave. that ends at Pointe-Claire Station going East. But the Infrastructure is poor and underused.

A spatial analysis was done in order to identify the current flows of movement. The major pathways are along St Jean blvd and the rail line (both regionally and locally). There are minor lines of movement towards Plaza Pointe-Claire from the Northwest and Northeast. The walking sheds are limited to the neighbouring residential areas, and are especially restricted South of the transportation corridor where there is a lack of a pedestrian crossing between Pointe-Claire station and St Jean blvd. Other pedestrian crossings are located at the remaining train stations and also at des Sources blvd.

The AMT has also been recently undergoing an analysis in order to begin the increase of trains and frequency of service along the Vaudreuil/Hudson line to the West Island. The AMT is expecting an increase of 74,000 people along the rail line in the next 15 years. They plan increasing service from 16 to 86 weekday trains, and ridership from 3.6 million to 9.5 million annually.



Network of public transit and bicycle paths surrounding the corridor.

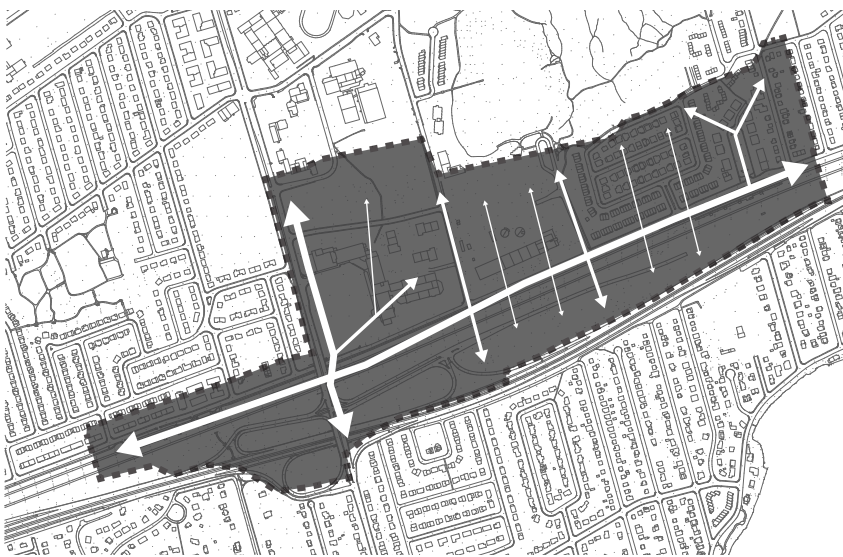


A spatial analysis representing activity centres, transit nodes, desire lines, and walking sheds in the intervention site.

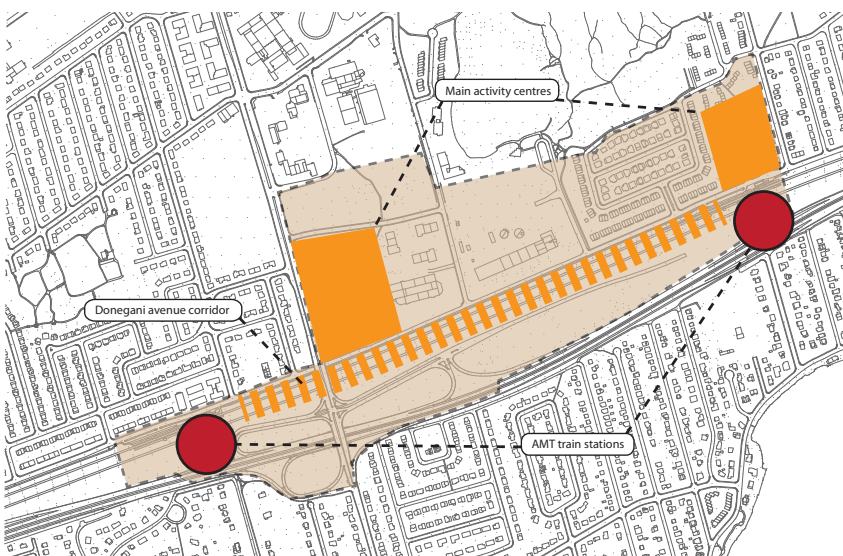
4.1 Networks & Movement cont.



Proposed exterior linkages



Proposed interior linkages



Proposed activity centres and transit nodes

Based on the analysis, ideal interior and exterior linkages have been set out for the project. Connections must be strengthened through the park system specifically for pedestrians and cyclists. Important North-South connections on St Jean blvd, and East-West along the transit corridor and Donegani Ave. must be maintained. Also, better connections across the corridor should be considered.

Within the project area Donegani Ave. is being emphasized as a major local transport route. An increase in minor connections North from Donegani Ave. is also encouraged.

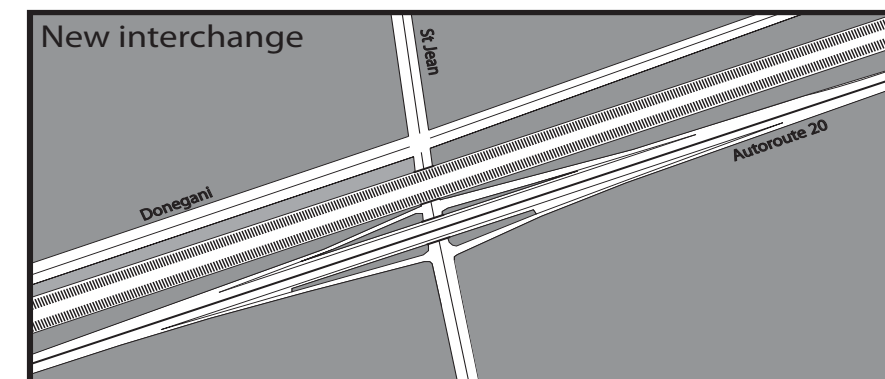
The proposed transit centres will remain the AMT train stations, but they will be stimulated by an increase in development along the corridor. Major activity centres are designed around Pointe-Claire station and around where the existing Plaza Pointe-Claire commercial centre is.

The St Jean interchange has been redesigned to resemble the one found at St-Charles blvd. and Highway 20 in Beaconsfield. This design is altogether more compact and efficient.

The schematic concept makes use of the analysis results to portray an ideal set of movement networks and activity centres for the project site. The rail line has been readjusted to fit alongside the highway, creating up to 15 hectares of developable land. The new interchange is highlighted as well as a new pedestrian crossing linking the South of the corridor with cycling paths that lead in from Terra Cotta park.



A schematic concept displaying activity centres, transit nodes, and linkages. This concept serves as the basis for the street network and activity distribution



The redesign of the St-Jean interchange.

5.0 Concept

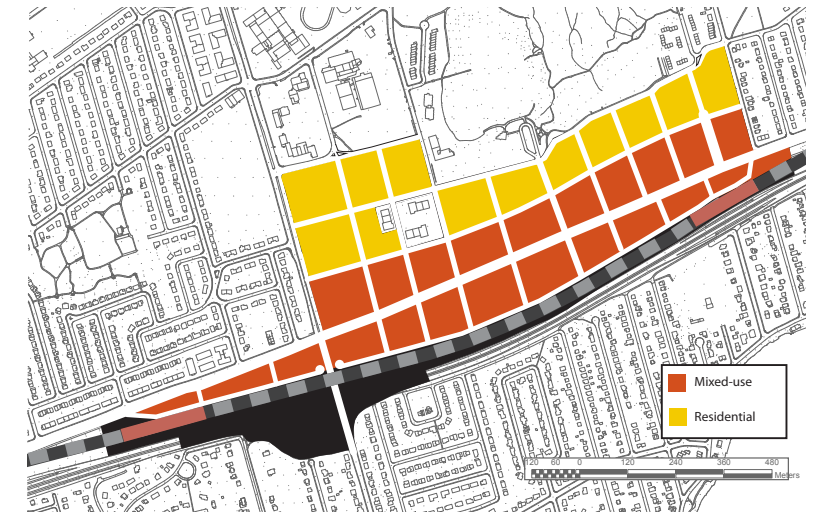
The realignment of the rail tracks opens up the large tract of land to the site with a new St Jean/Highway 20 interchange configuration allowing St Jean and Donegani Ave. to directly access each other. The new street network increases the intersection density within the site allowing for greater pedestrian mobility. The secondary North-South streets feed movement into the Donegani 'strip.' A service road runs alongside the rail line in order to provide vehicle access to the commercial buildings on the South side of Donegani Ave.

Terra Cotta Ave. plays an important role with a designated bicycle lane which connects existing bicycle paths to the south side of Highway 20. The 211 STM bus route, an alternative regional connection, is diverted off of Highway 20 through the development along Donegani between St-Jean and Des Sources. This will serve to meet the demand of a larger population within the development area.

Commercial activity from Plaza Pointe-Claire has been redistributed along Donegani Ave. The North side of Donegani is zoned as mixed-use, while the South side remains commercial/retail in order to act as a sound barrier against the transportation corridor. Residential only development is located off of main streets and adjacent to Terra Cotta park.

Every street, with the exception of the service road, is designed as a walkable environment. The courtyards within each block provide additional open space. A pedestrianized area in front of Pointe-Claire station further contributes to the open space network.

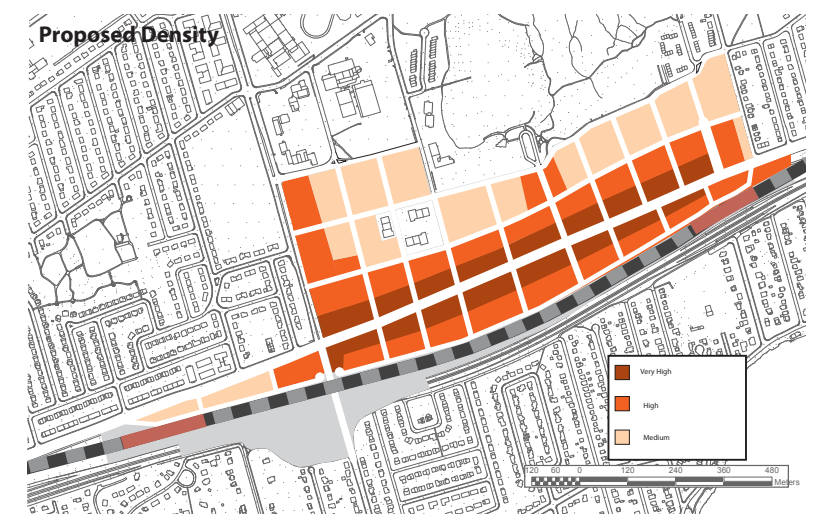
The highest densities are planned along Donegani Ave. The densities decrease outwards, with the lowest belonging to the residential zone.



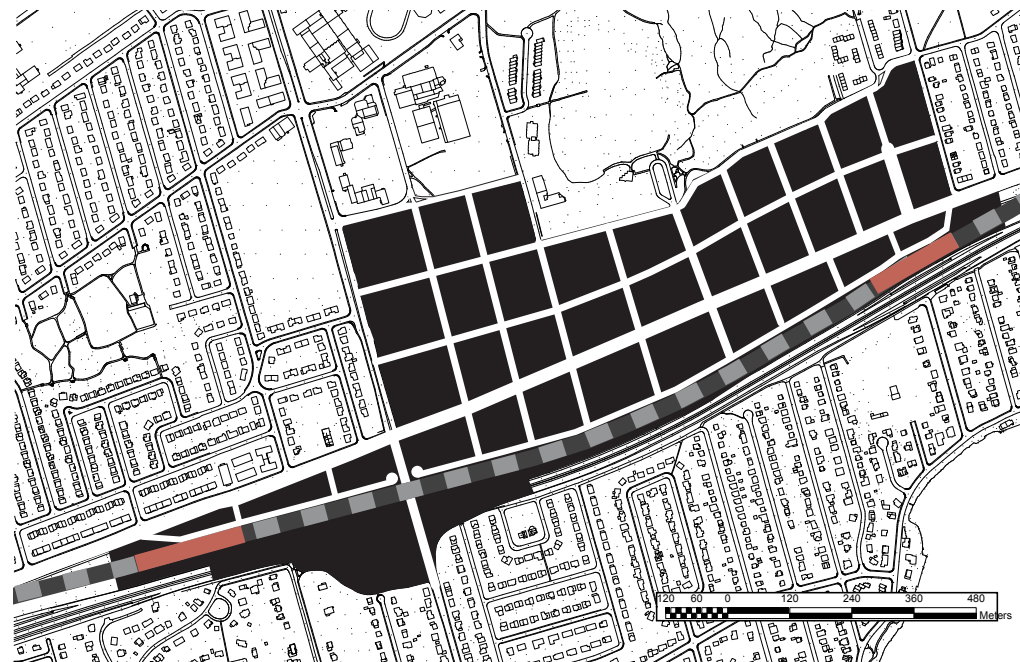
Land use plan



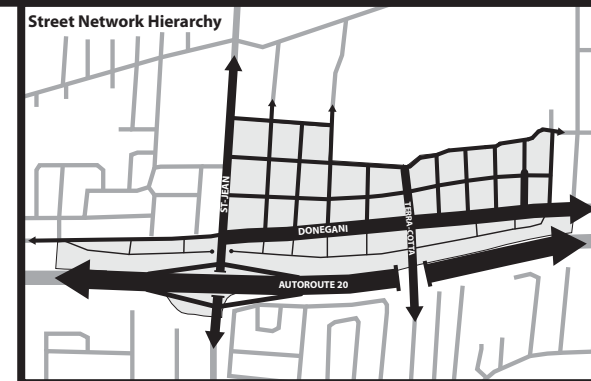
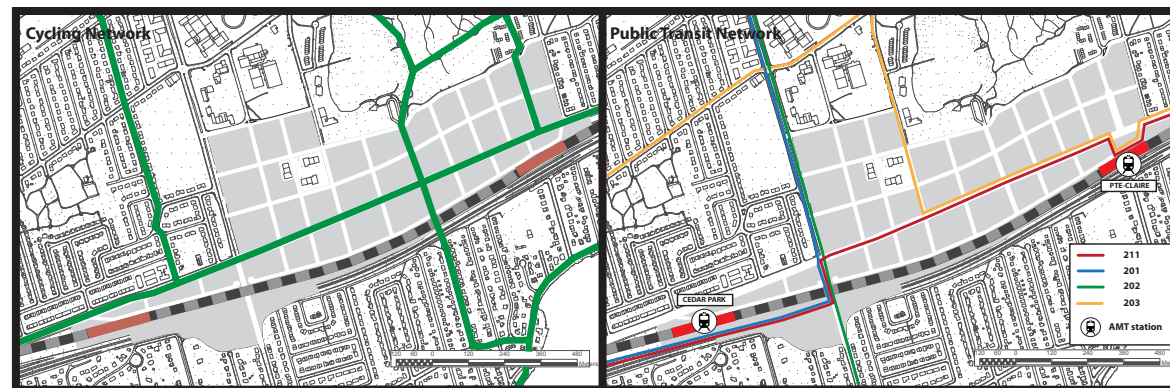
Open space network



Density distribution



Proposed street network



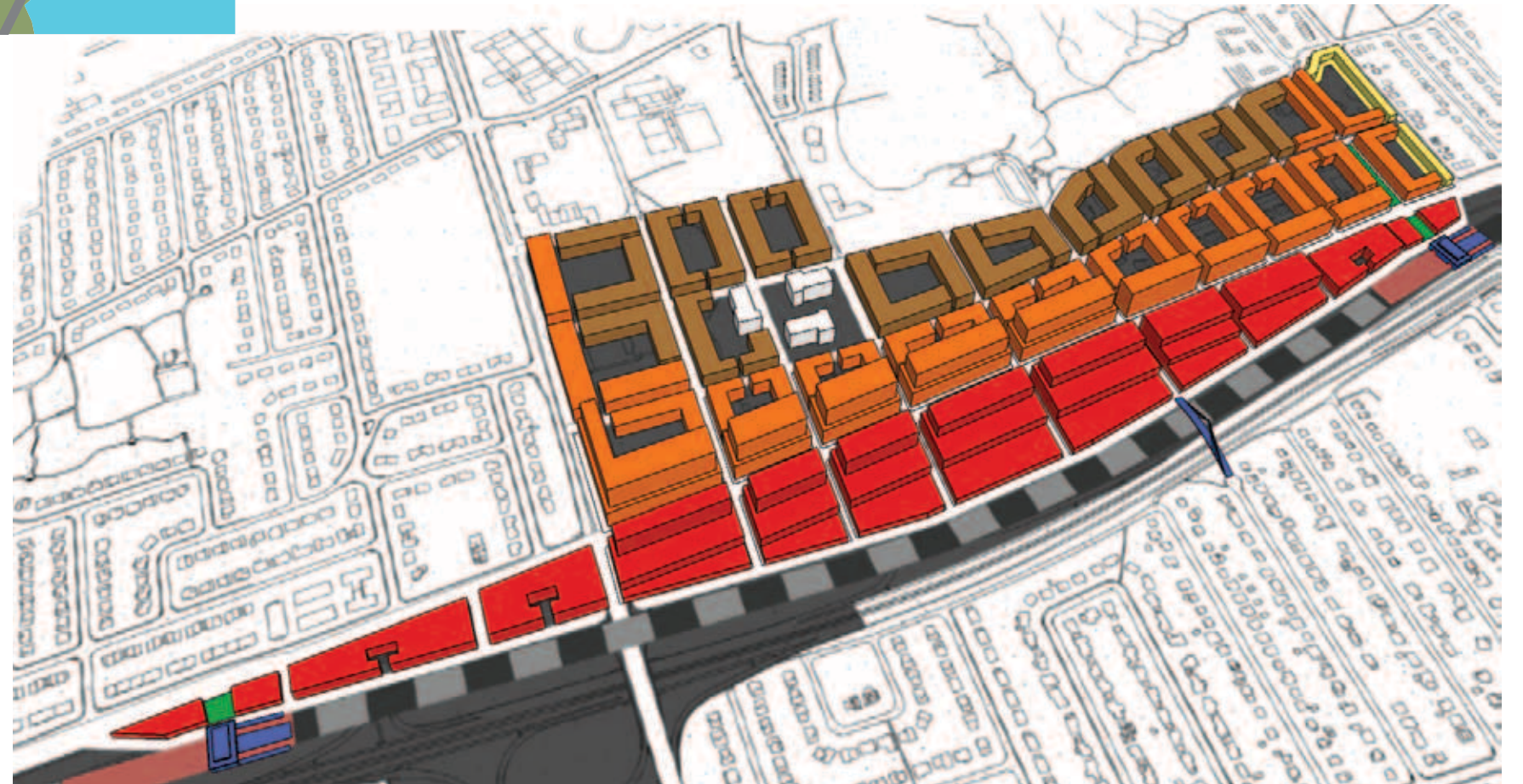
Transportation networks including bus routes, cycling routes, and the street hierarchy

5.1 Concept cont.

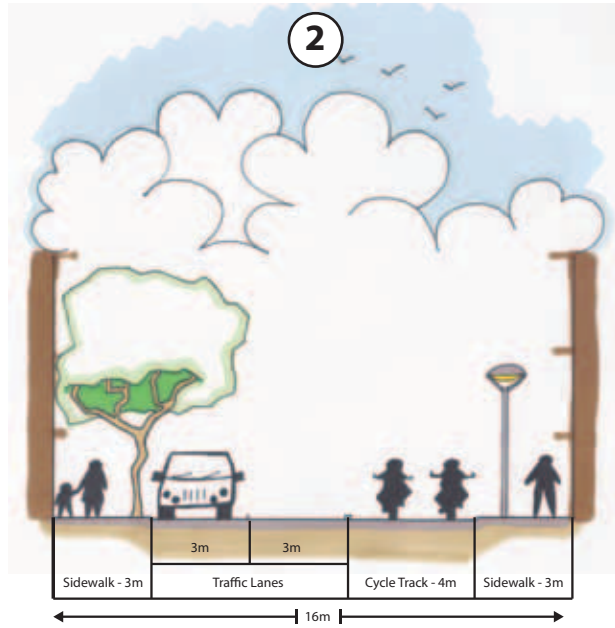


To the east, Coolbreeze Ave. lies at the border of the development. Row-house buildings act as a transition from the new development into the existing fabric. A lower-density mixed-use zone is located around a pedestrian open space north of Pointe-Claire Station. The pedestrian zone adds character and differentiates this commercial area from the high density Donegani Ave./St Jean Blvd. commercial node. It also serves as an attractive gateway from Pointe-Claire station into the surrounding neighbourhoods, and vice versa. The pedestrian and cyclist bridge is located in between the other pedestrian crossing at St Jean and Pointe-Claire Station. It meets up with 5th Ave. to the South of the corridor.

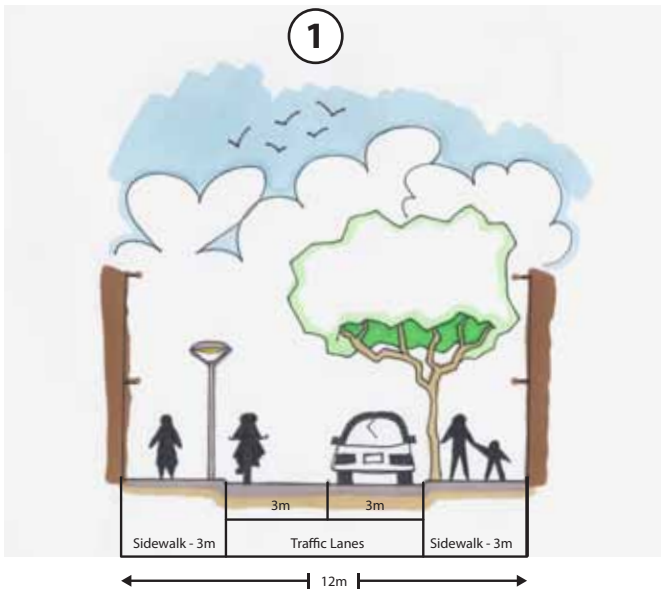
The buildings along the North side of Donegani Ave. are multi-storied and mixed-use with the highest structures at the St Jean intersection, lowering Eastwards. The buildings offer ground floor retail space with office and residential space on the floors above. The South side is lined with buildings of equivalent height offering commercial and office space fronting Donegani Ave., and multi-level parking structures accessible from the service road behind it. The residential zone to the North features double-loaded perimeter block apartment structures. The three existing senior's residences have been preserved and incorporated into the street network, as they are recently built and meet the density goals of the project.



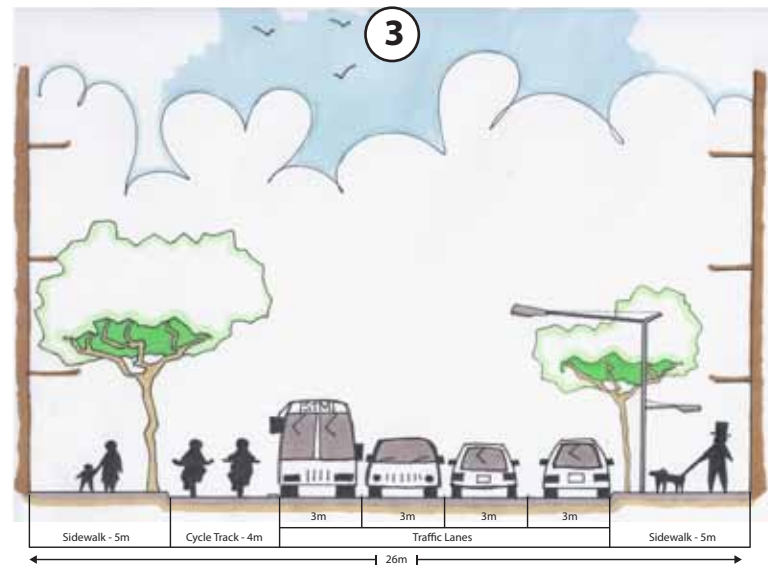
6.0 Details



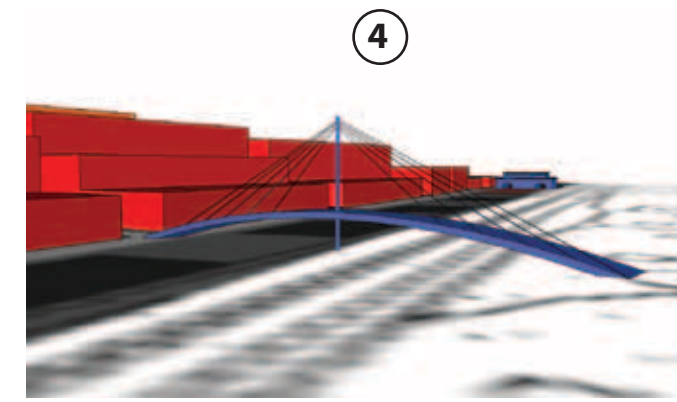
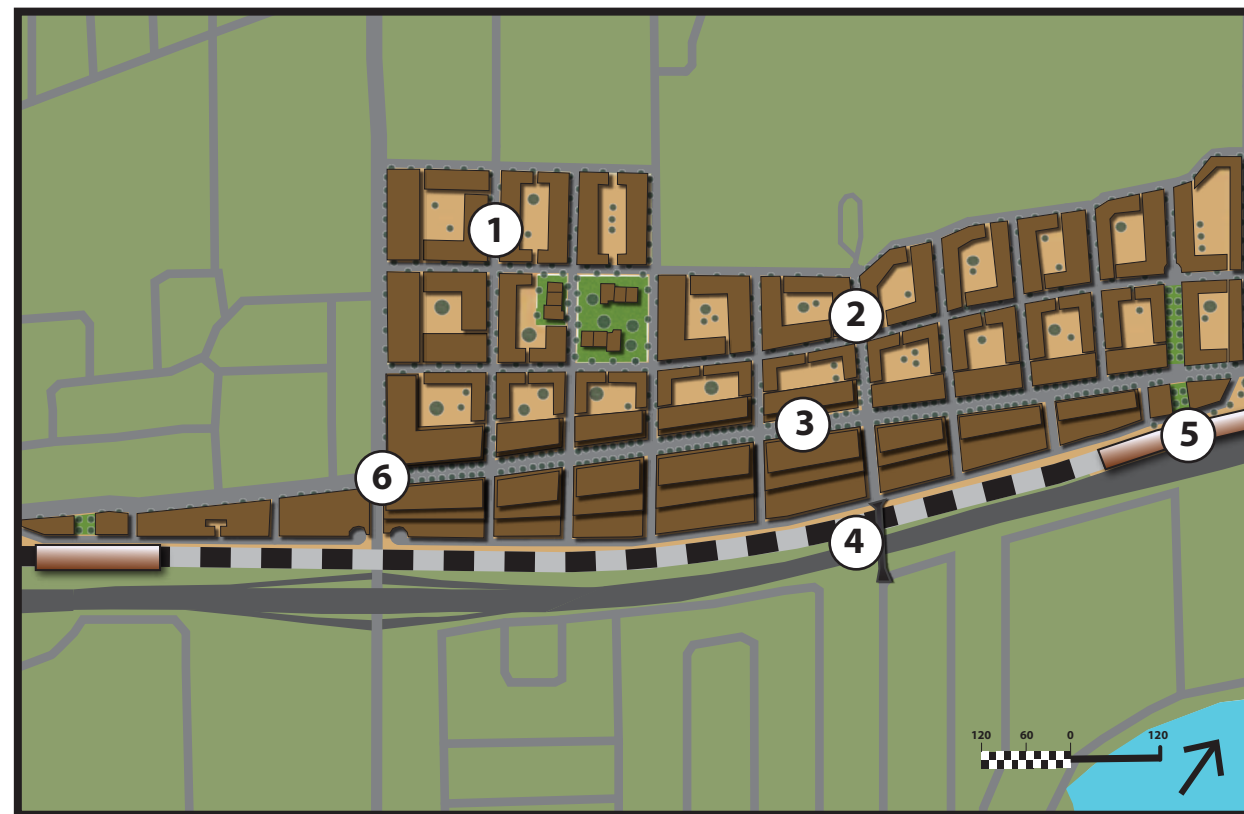
Section elevation of Terra Cotta Ave.



A section elevation of a typical side street



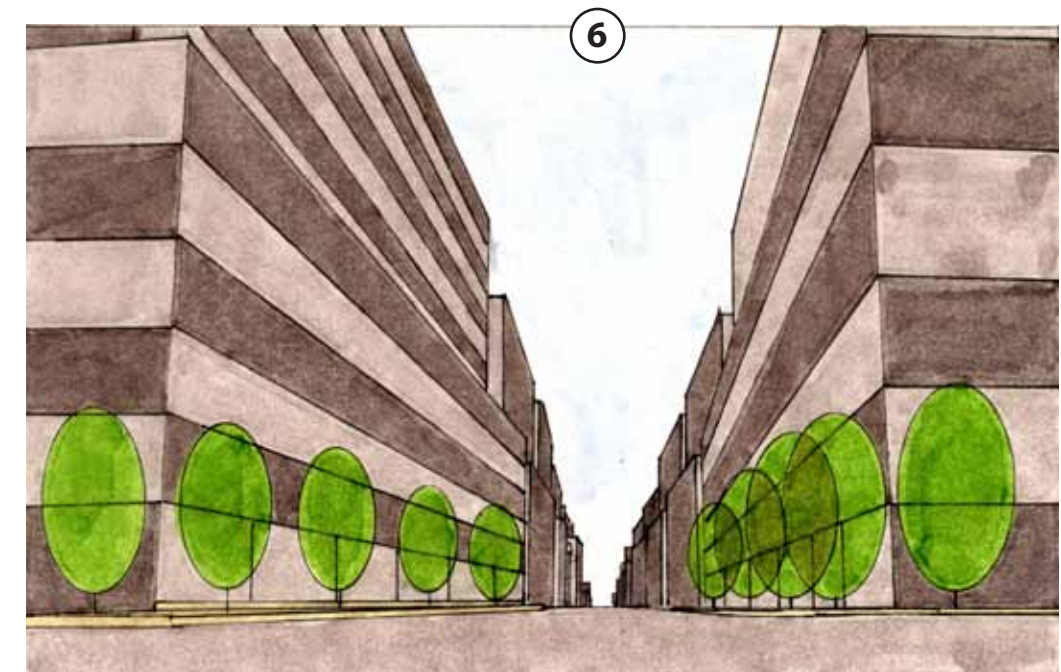
A section elevation of the new Donegani



The new pedestrian bridge spanning the corridor in the 3D Model



A perspective of the view from Pointe-Claire Station northwards up to the pedestrian street



A perspective drawing of a Donegani Ave. street view from St-Jean boulevard

7.0 Appendix



An artistic representation of the site