

# Turcot: For a sustainable and active future

# Redevelopment Proposal

Turcot: Pour un site actif et un développement durable

This site offers one of largest undeveloped open space near a CBD in the country. Currently the location of major transportation infrastructure which fractures the urban landscape the site is surrounded to the South by urban areas in decline. those factors give us an unprecedented opportunity to redefine this part of the city and the Island of Montreal as a whole.

Our vision for the site consists of moving the highway at the bottom of the escarpment and inserting in the middle of a site an underground rail line that would connect downtown Montréal to the international airport passing through our site. Continuing our focus on rail based transport we propose a tram line in the site connecting it with the surrounding neighborhoods.

Supported by dense, mixed and high quality development, the area would become a new regional activity pole, with housing and commercial corridors, TOD orientated development along the transit stops and a dense employment and housing areas to become a new node not only for the adjacent neighborhoods but also the whole city.



## Vision and Objectives:

*Redefine the local area as well as the city by creating a dense, and vibrant node in Montreal, a sustainable development that will showcase the city as a place of culture, innovation as well as high quality living environment*

### Regional

- Create a new activity pole on the island of Montréal. A diversified development providing jobs, commercial space and housing.
- Reduce car use in Montréal and push rail based transportation
- Provide a dense development to counter sprawl and bring back population on the Island.

### Local

- Provide connectivity to local areas that are deemed devitalized and in need of connection.
- Push development in adjacent areas to the site and connect important nodes while improving local transportation.

### Site

- Reduce the impact of the highway infrastructure on the surrounding areas
- Focus on public and non-motorized transportation within the site.
- Provide high quality development focused on integration of uses while at the same time creating parallel and complementary transportation axes and land use areas.
- Locate the tram line on a main commercial artery in the middle of the site.



# The Context Region, area, and site analysis

## A City of industrial decline and creative rise

Since the 1960s and 1970s, A large portion of the educated work force has left the island to live in the surrounding areas (City-Data, 2010).

The main offices of many large banks, insurance institutions, and other companies as well as the textile industry have relocated.

Although some industrial companies still remain in Montreal such as Bombardier, one of the largest manufacturing companies in the World, the city is switching to the new economy and many jobs in the manufacturing fields have left the island

Montreal has shifted from Industrial production to the creative economy, competing for multinational corporations looking at Canada for their headquarters in this sector.

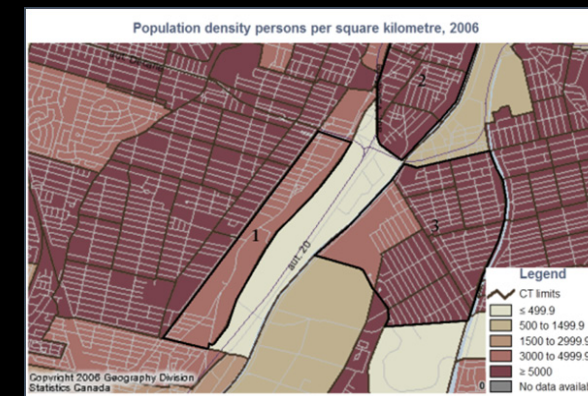
Incentives have been provided, one being the Scientific Research and Experimental Development Program (SR&ED). Technological companies that conduct research can receive up to 35% in tax rebates that would normally charged for smaller companies (McCullough, 2005. Pp. D1)

Encourages such companies as UBISOFT to foster more creativity and bring further global recognition. This showed that with this progress more growth can be forecasted.

## Local background and analysis



- high % of population in low income
- high population density
- low employment rates
- Physical deterioration
- There is a need to connect the 3 sites to the development



## Regional Synthesis

The site is the current location of the Turcot interchange, a major transportation infrastructure that connects the city, the region and the country. It connect the CBD, and airport to each other and to the rest of the region

However the Turcot, a car orientated infrastructure, fractures the urban landscape and Southwest, a part of Montréal South to the Turcot yards finds its disconnected.

Encouraging more sustainable and affordable transportation systems on the North-South and East-West transportation axis should be a main goal.

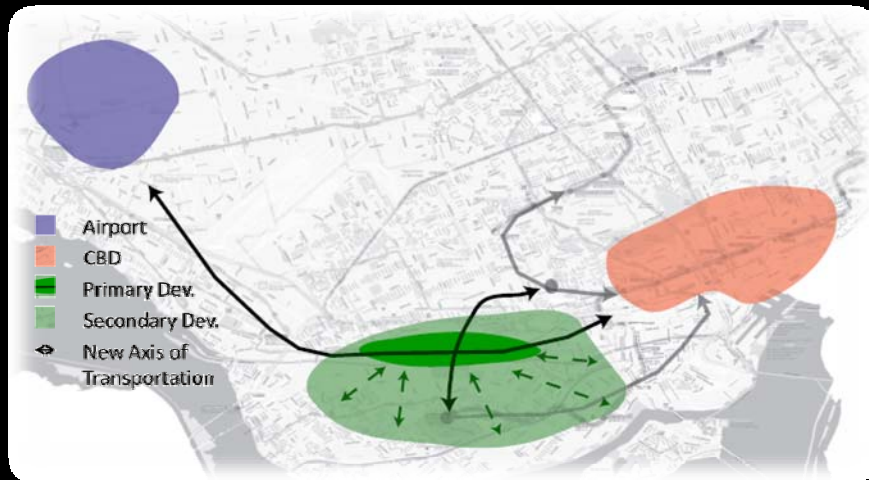
providing access to: jobs, activities and new housing; these improvements will increase the quality of life and activity levels of the surrounding neighborhoods.



Our proposal takes into account the various linkages and differentiations in space and transportation flow that will occur. this takes into account the surrounding environment and the required changes to the infrastructure that currently connects Highway 20 and the Turcot to the boroughs of Lachine, Lasalle, NDG, Westmount, Place St-Henri, Point St-Charles, Cote-St-Paul

# Transportation analysis and objectives

## Linkages, and development reach



### Regional opportunities

The focal point of primary development will be within the site followed by secondary development towards the southern surrounding areas.

Transportation infrastructure will be delineated throughout the length of the site (~3km).



### Regional connections

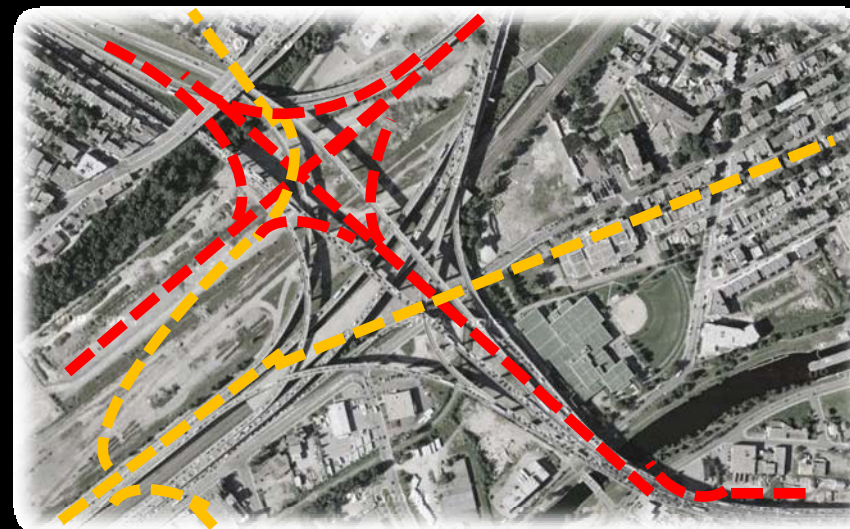
Our plan proposes to create new accesses of transportation |North-South, and East-West based on public rail transportation, while limiting the role of the highway.



### Local areas to connect

Areas line Angrignon, Loyola campus and Vendome metro station are areas with already present activity that could be connected to our site to increase connectivity to major nodes.

While areas such Sa-Henri, and the rest of the Southwest that lack connection could be revitalized by providing transportation alternatives and access to our site, a new commercial hub.

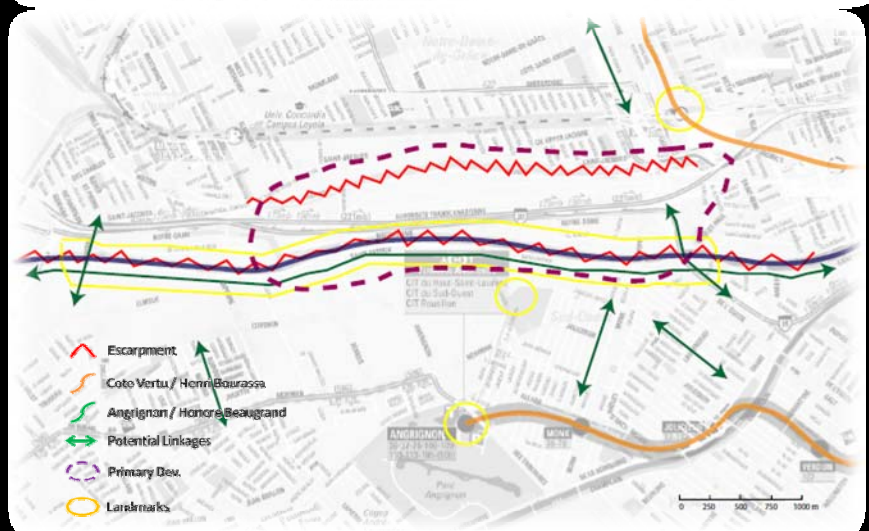


### New local transp. system

On the left you will find the new location of the highway 20 (red) and that of the new tram line (yellow).

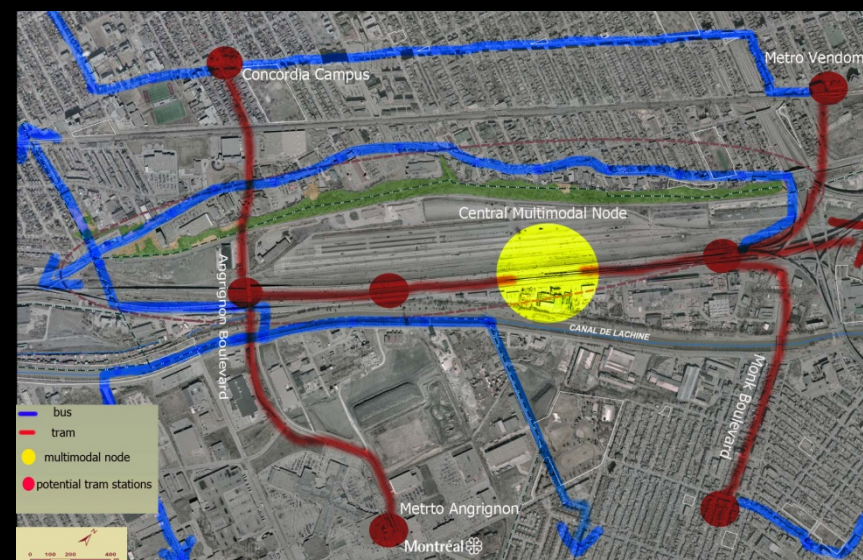
In these locations, both will serve to not only maximize the limited space allocated for the site but also contribute to the existing linkages that the surrounding areas offer.

- New Proposed Highway Location
- New Proposed Tram Location



### Physical analysis

The escarpment acts as a barrier between northern areas and the site. Metro infrastructure is missing a link in north south direction. There exists numerous land marks in close vicinity to the site, the most important being the canal which needs to be used as both a path and an attractor.



### Connections

Boulevard will be extended and used to connect to Concordia's Loyola campus to the site as well as that of Angrignon mall via the tram.

St-Henri will be connected through the site by the tram going on Notre-Dame

The southern portion adjacent the site will be connected via Monk

# Site concepts Transportation and development areas

## Transportation infrastructure

Highway 20 passing through the site will be lowered to form an urban boulevard next to the escarpment, with a service street parallel.

The new urban boulevard will meet the 720 and 15 at a smaller and redesigned Turcot Interchange

The site's main transport axis, tram and pedestrian orientated with limited car usage allowed

The transportation axis will diverge outside of the site to connect important activity and transportation nodes

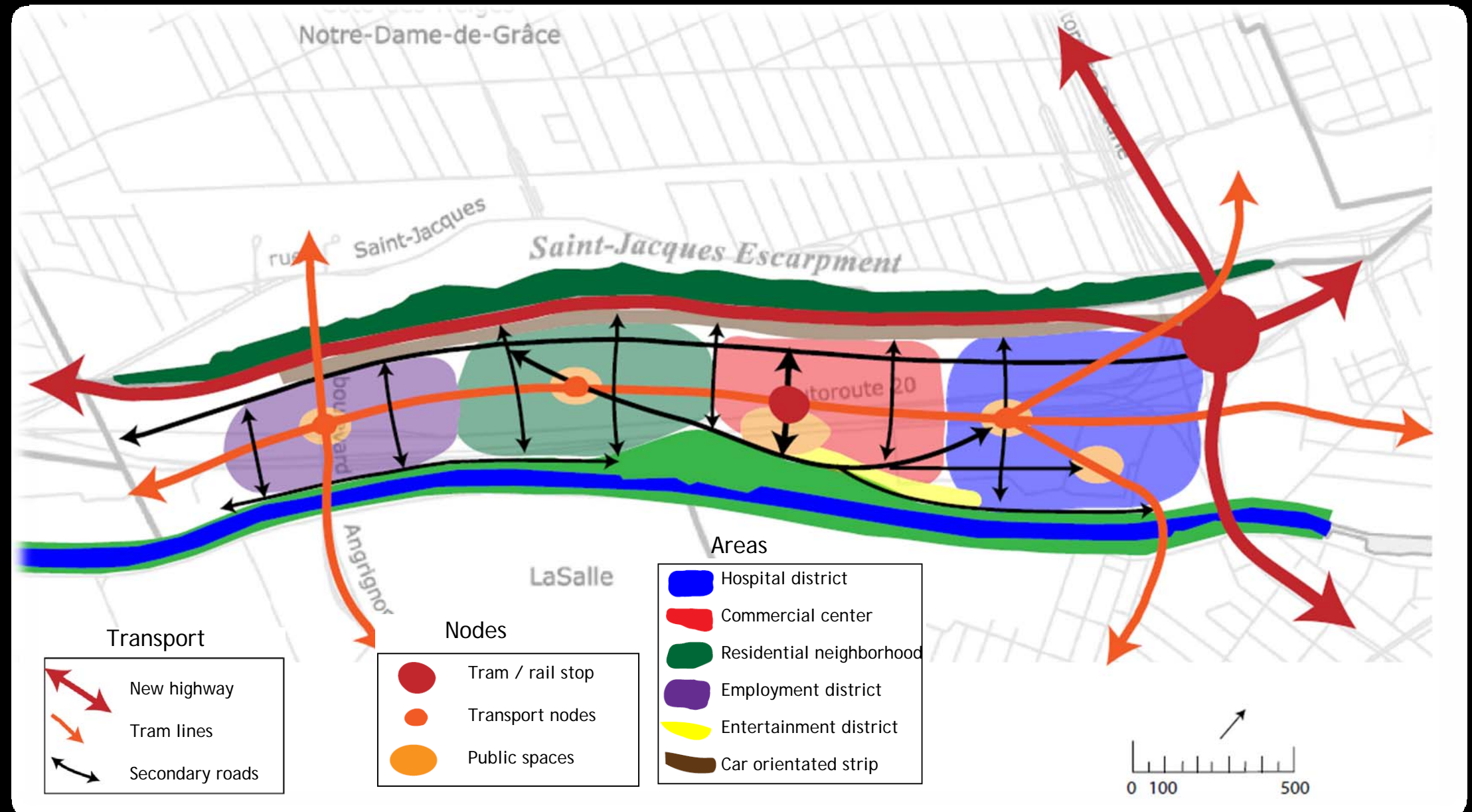
Secondary car orientated streets that help provide parallel and perpendicular ways to access the main nodes

## Nodes

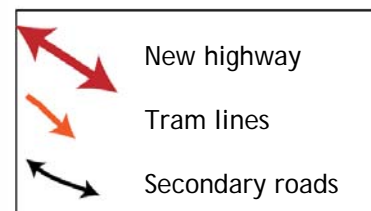
Nodes form naturally around major transportation intersections leading way to the potential location of tram stops and high density TOD.

A multi-modal station serving the tram and connecting to the underground regional railway, located at the middle of the site to maximize accessibility

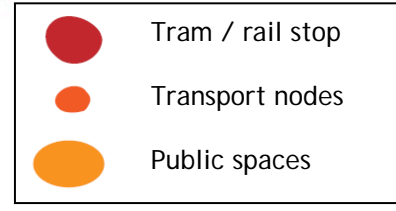
Public spaces also form along the nodes and the canal creating accessible and vibrant public areas



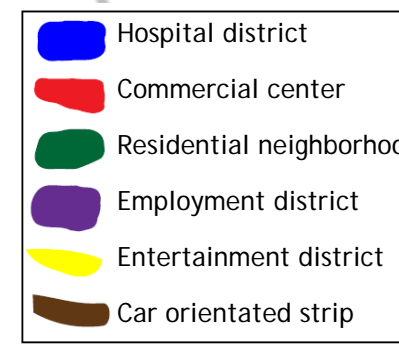
## Transport



## Nodes



## Areas



## Areas

The site while all zones as mixed use is divided into specific areas where activities, housing and services are expected to specialize.

In blue, the area to the East is expected to provide housing and services to those working at the new Hospital located at Vendome metro station, which is accessible by the tram line going North.

The area in Red is expected to be the main commercial center, with higher overall density. The location of the multimodal transportation stop, the area is expected to be the center of commercial and entertainment activities on the site

An entertainment are is located bellow the commercial center along the greenway and canal.

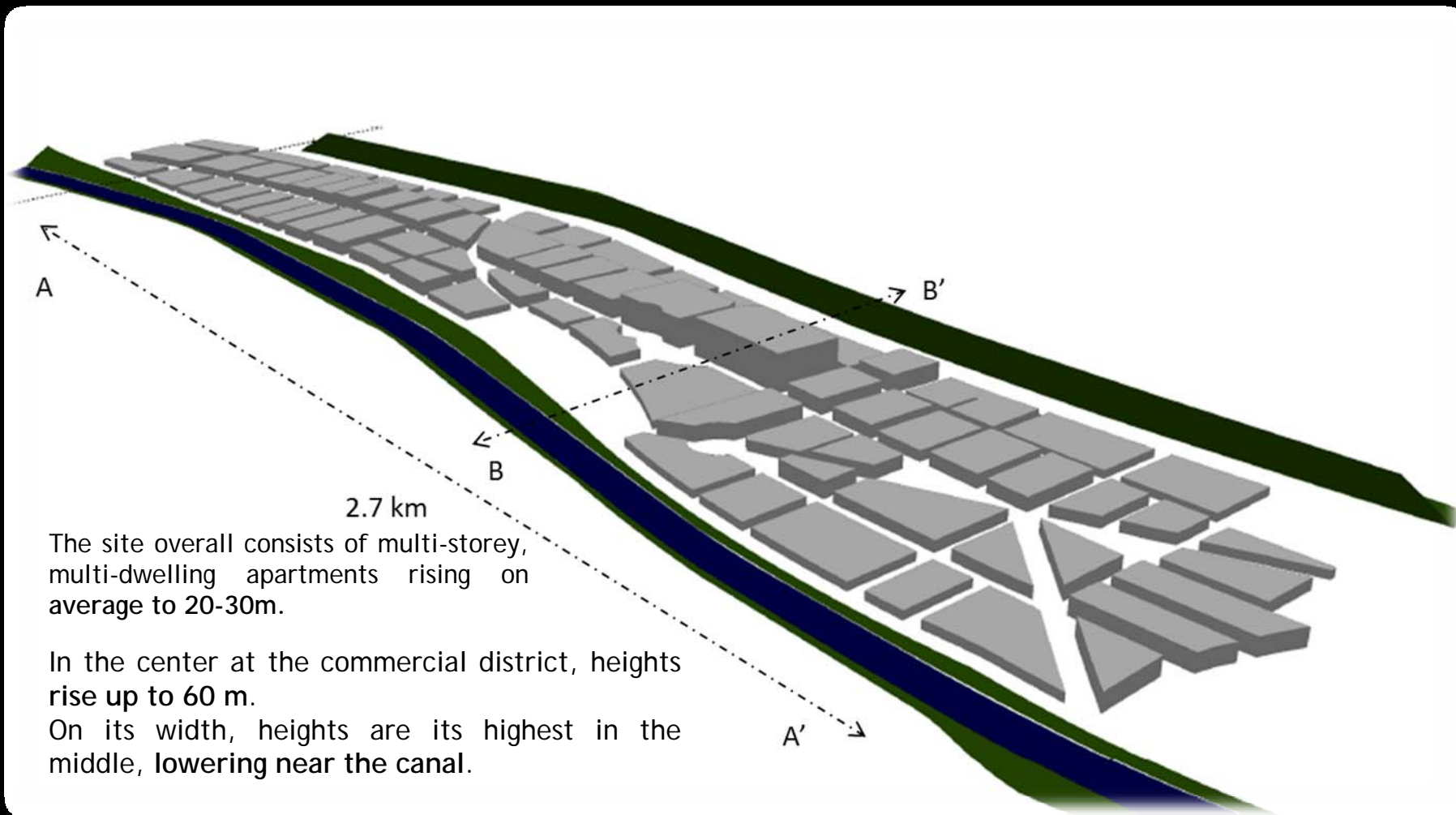
Residential and industrial districts follow, providing an areas with less activity while still located near the commercial center. The employment area is expected to house manufacturing, high-tech companies as well as offices, such as the New Warner Brother's studio being proposed.

A car orientated strip along the highway will provide services for drivers and a buffer to the other areas.

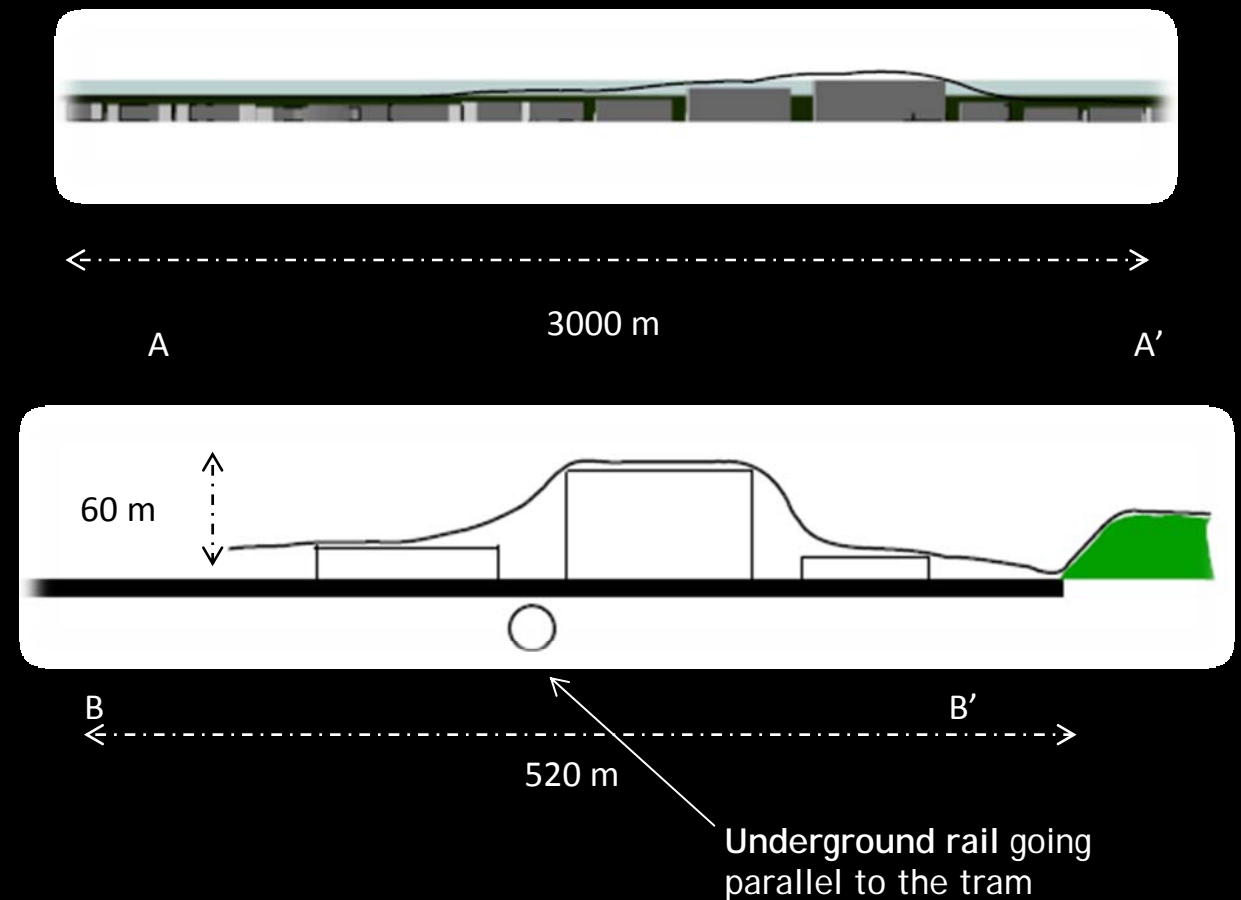
# Site envelope and infrastructure

## 3-D and measurements

### Site envelop



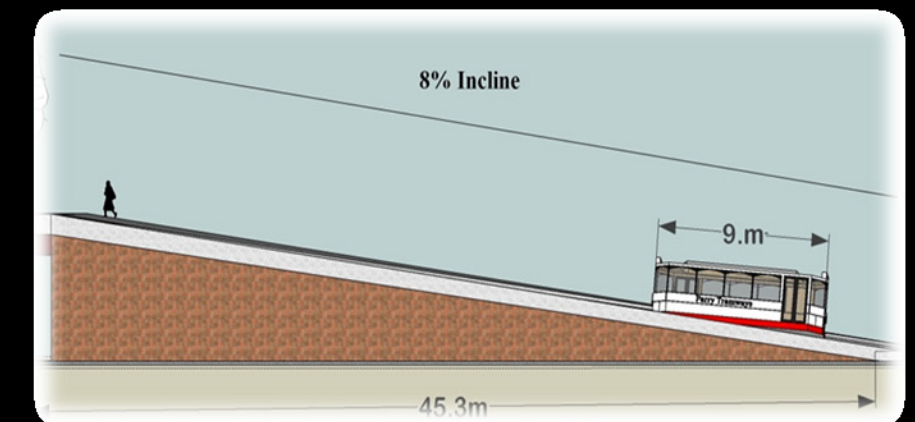
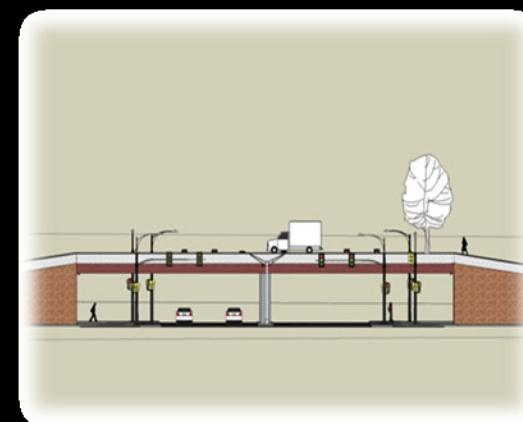
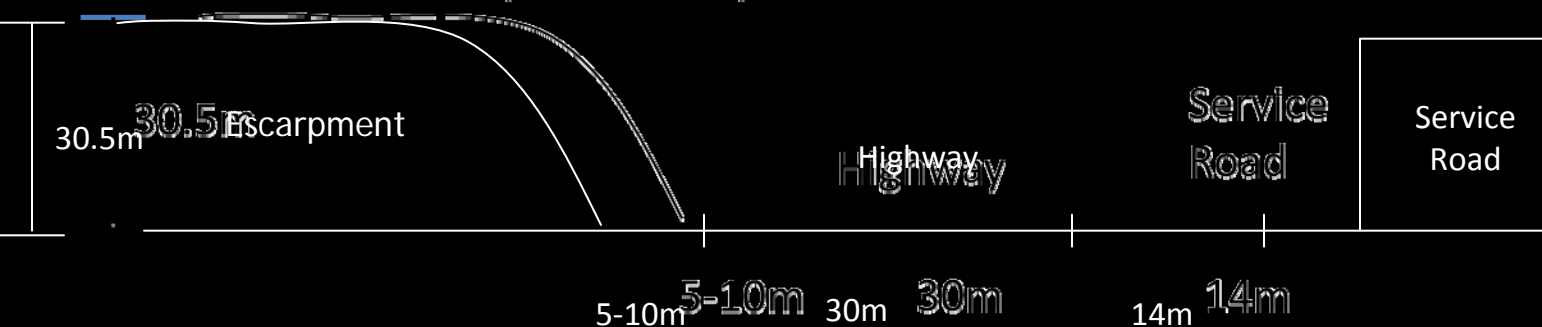
### Elevations



### Highway and Tram escarpment approach

#### Proposed Escarpment elevations

Proposed Escarpment Cross-Section



# Urban design: commercial center

## Site plan, Perspective and cross section

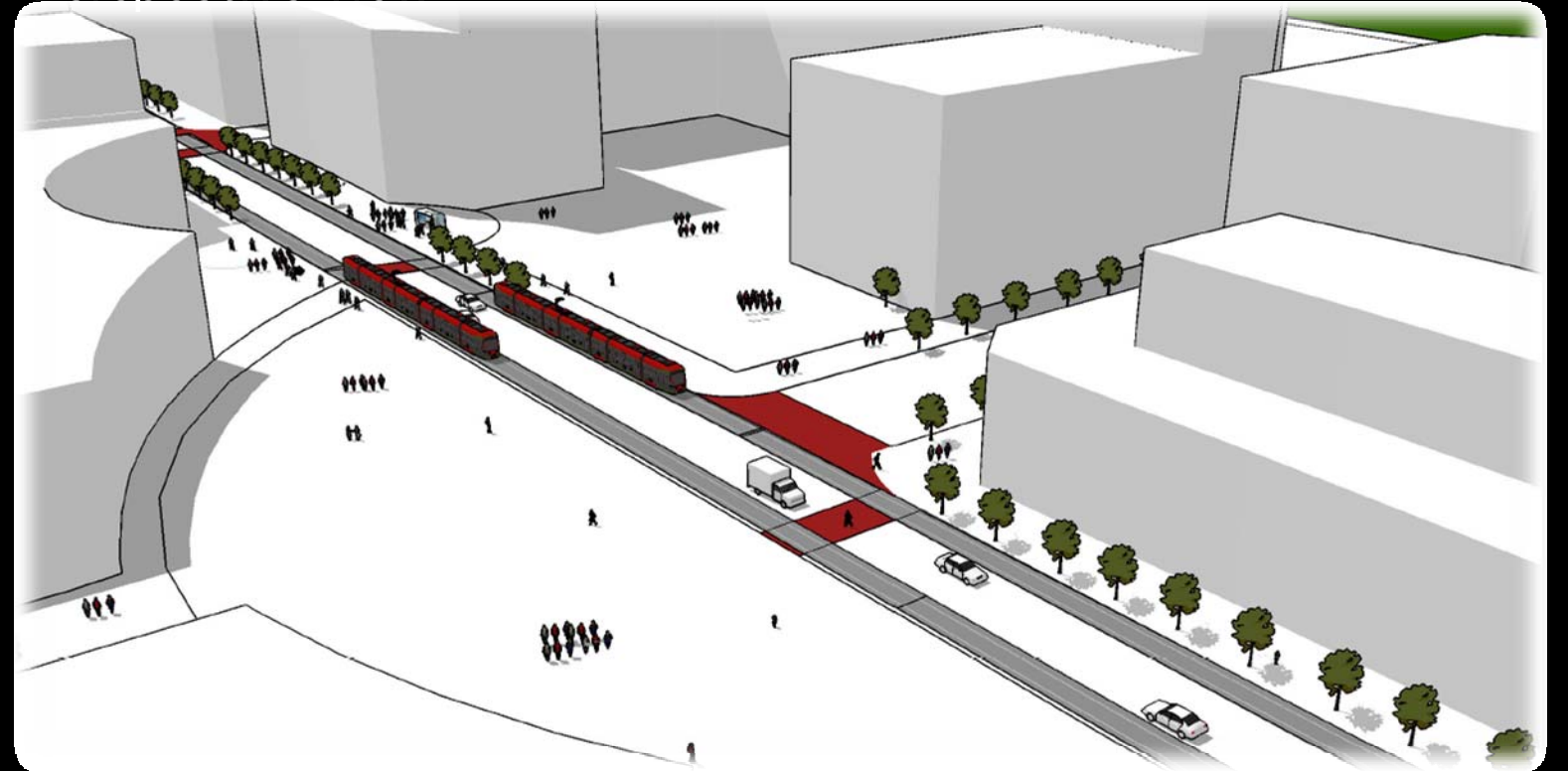
The Area located in the center of the site, the main commercial district. The perspective view shows the public space located at the multi-modal tram / underground regional rail stations.

Open space is provided in area where transportation and high activity levels are expected to meet, creating pedestrian orientated environments where special events (festivals, open-air markets) and everyday amenities (open air seating for café and restaurants). The large open space is placed to created central nodes of activity and landmarks within the site, while providing the green and open space necessary for the people living and working in the area.

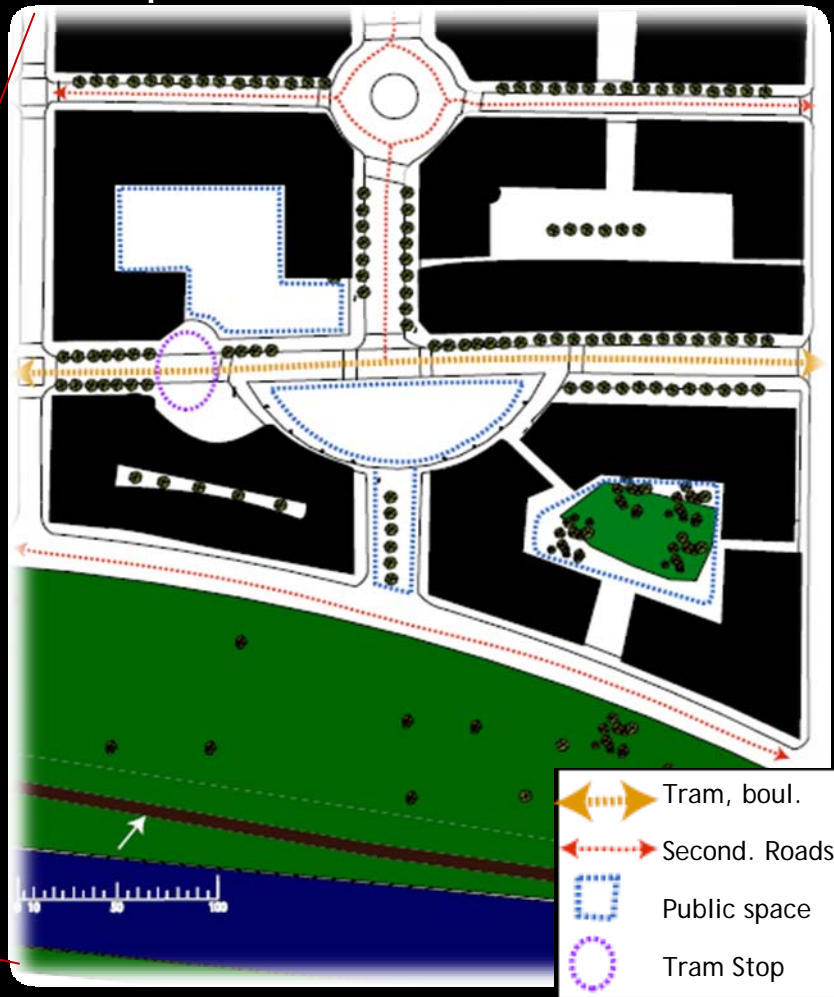
The blocks, quite large in the area would provide ample space for high density development while allowing for easy access and movement by pedestrians. The buildings in this area are between 30-60 meters in height increasing around the main artery.

The street cross-section illustrates the relationship between pedestrians and the street. Narrow streets with a focus on trams would provide only limited access and movement to cars. all the while large sidewalks would allow for both pedestrian movements ground floor commercial activity that spills over on the street.

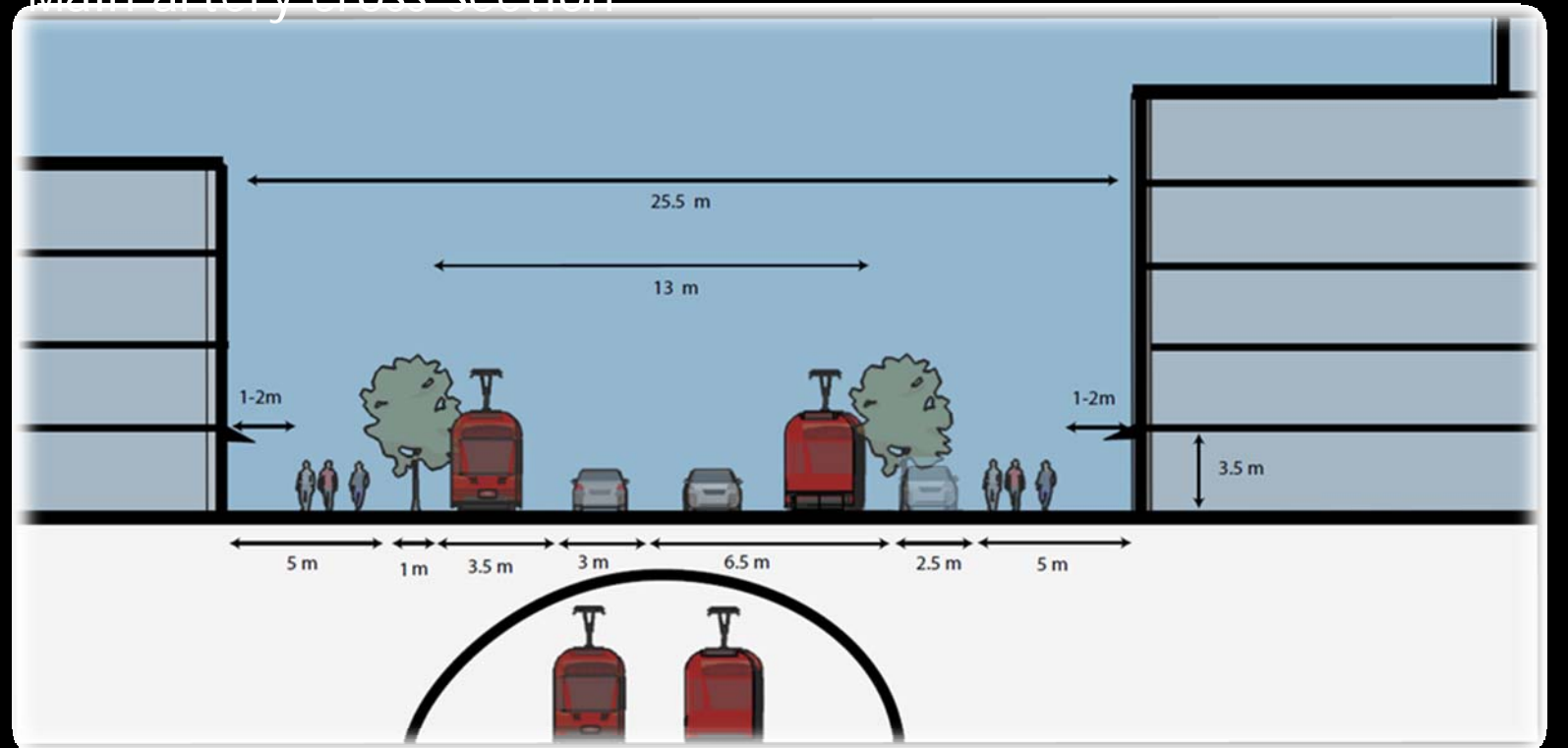
Perspective view



Site plan



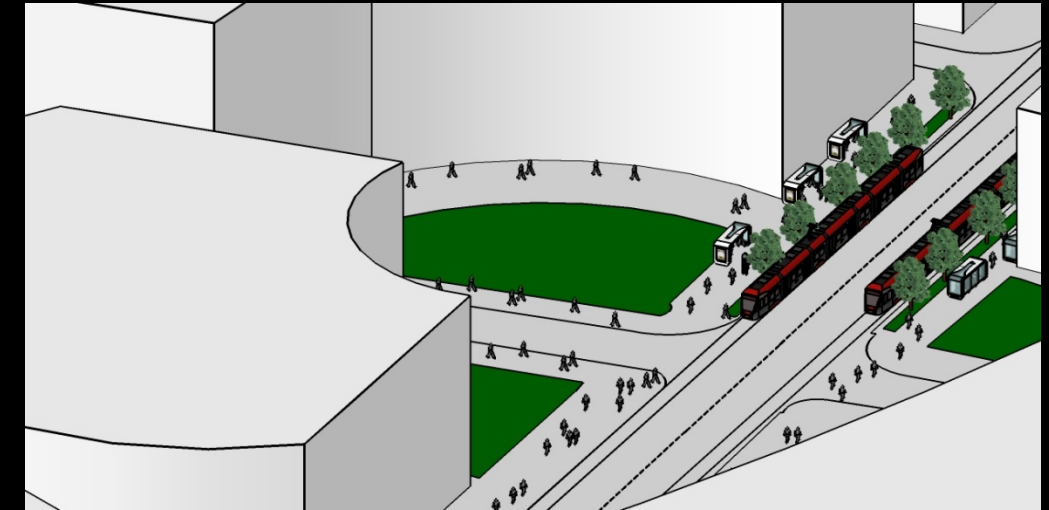
Main artery cross-section



# Urban design Site plan and Perspective

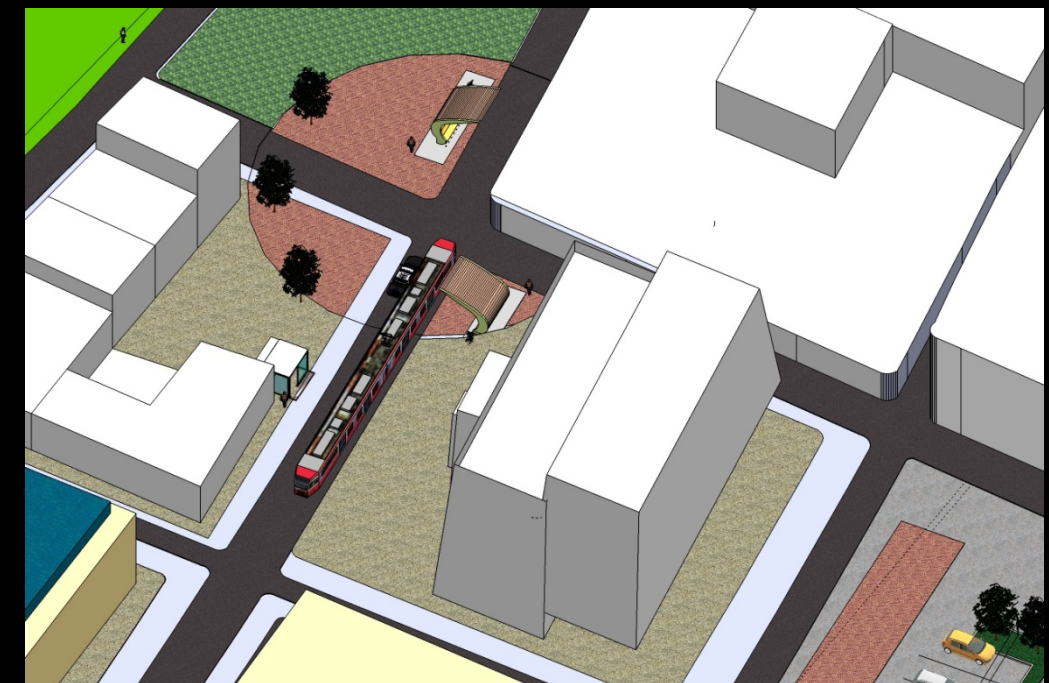
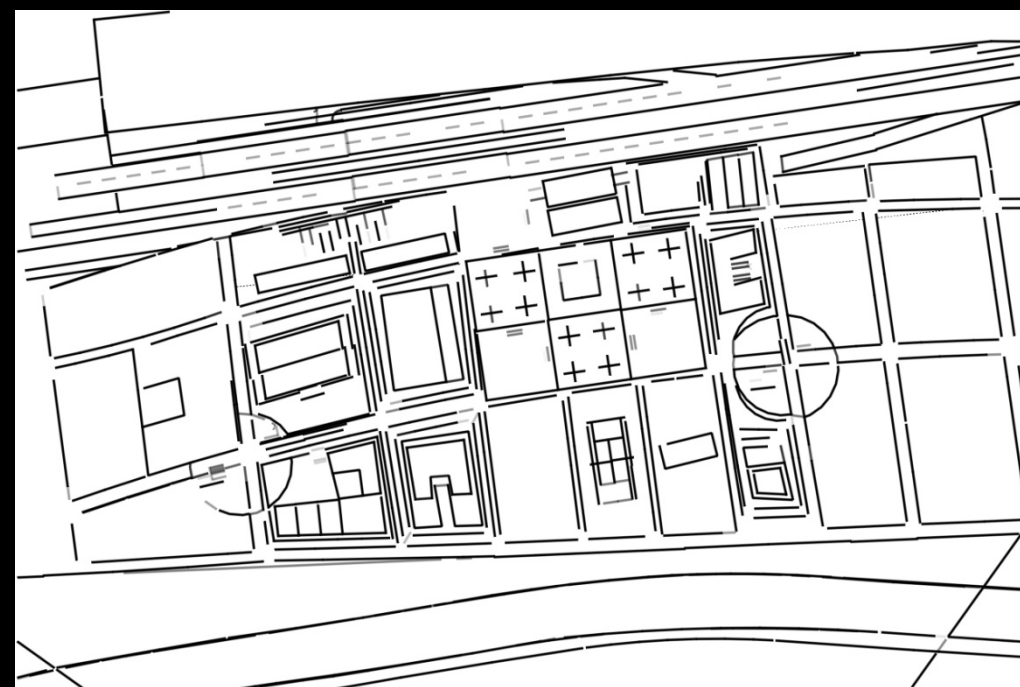
## Residential district

This area will be mainly focused on residential activities, where residents will live in a highly dandified neighborhood. In doing so, maximization of public resources will be possible while generating a strong sense of community through activities that will coincide with the rail based infrastructure that will be a major focal point throughout the entire site. With 18 to 25m in height the buildings in this area offer mostly apartment for rent and condos to own.



## Employment area

The employment area will meet the needs of employers, looking for space on the Island focusing on light industrial and creative industries. Offering large spaces, the development could serve as the location of corporate offices. All buildings in that area would be between 12-20 meters in height.



# Synthesis

**Our Proposal**, which was built upon the previous semester's analysis of the current Minister of Transport's Plan to re-develop the rail yard, will present alternatives and improvements which focus on rail based infrastructure supported by reduce car usage and TOD around major transportation nodes.

**Our Analysis** of the sector included collecting geographical and social information of the surrounding neighbourhoods as well as the collection of vehicular flow data to understand the composition of the area and how the Turcot interchange is used daily. Results of this analysis indicate that the number of cars within the Montreal region has increased by 10% at a greater pace than that of the population. However, the amount of people who use the public transit system has only increased by 3% since 2003 to its current level of 25%. In addition to these numbers, 66.6% of people who commute to the CBD on a daily basis do so through the use of public transit (Spacing Montreal, 2010) High rates of poverty, low rates of education and phases of uneven gentrification are all characteristics of the surrounding neighbourhoods.

**Our Vision** was influenced by the overwhelmingly indicative trends indicate that Montreal stands at a point at which auto-depend travel and its subsequent detractors (congestion, pollution, etc.) will cause accessibility and flow throughout the city to decrease if an emphasis on public transit is not prioritized as more important than single occupancy vehicles. The major problems with the MTQ's plan include its expropriation of residential housing as well as its inability to follow the City of Montreal's Master Plan which highlights the need for more public transit. It is with these factors in mind that our group set forth the following. (MTQ, 2007)

**Our Objectives** and interventions are divided into their respective categories: *local, regional and site specific*. The 3 main interventions that our project will base itself on are the implementation of public transit in the form of Tram and Regional Railway, the re-location to the North of the Highway and insertion of a mixed-use development focused on the needs of current residents, commuters and employees of the sector.

## *Regional*

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## *Local*

- Provide connectivity to local areas that are deemed devitalized and in need of connection.
- Push development in adjacent areas to the site and connect important nodes while improving local transportation.

## *Site*

- Reduce the impact of the highway infrastructure on the surrounding areas.
- Focus on public and non-motorized transportation.
- Provide high quality development focused on integration of uses while at the same time creating parallel and complementary transportation axes and land use areas.

**Our Concepts** give way to a tram line that would pass through the site in the middle with an multi-modal transportation stop giving access to the regional rail, which would connect the site to Downtown and the Airport. From there, the tram lines would connect important locations such as St-Henri through Notre-Dames, Centre Angrignon through Angrignon street, Parts of Cote St-Luc via Monk, and also connecting the site the Loyola campus

**The Site** gives way to what is now a lowered highway (transformed into an urban boulevard) next to the escarpment and the tram lines on the main boulevard which is connected to the rest of the site through a secondary road network. The four different areas proposed were designed to be all mixed-use with a specific level of specialization which would provide the housing, commercial hub and employment needed to create a catalyst development area that could propagate redevelopment in the Southwest.

**The Urban Design** Concepts arise from the idea of creating dense and vibrant TODs. Areas that are deemed important connectors, such as the main artery and multi-modal station would see a higher density and development axed towards commercial activity. Hence an envelop would form around the site naturally: elevating along important and well connected areas and lowering at the edges, such as the new main artery and park greenway along the canal. The diagrams present on panel 5 illustrate the main physical features arise from such development proposals.

**Each Area** has represented to illustrate the interaction between the different transportation nodes. Open areas located at each transportation nodes form natural public spaces that serve as either activity and entertainment areas or green space depending on the level of activity of each location. The section-cut on panel 6 illustrates to main artery and the relationship between the tram and underground rail lines as well as the integrations between pedestrian with the built and overall street environment.

**In Conclusion** our proposal pushes for an intense development on the site that will hopefully redefine not only the surrounding areas but also the whole city providing jobs, housings and activity areas that revitalize the Southwest.