DOSSIER

Street Design Challenge

Montreal

GREEN WAY

Project location:

Rue Jean-Talon E, Montreal, Quebec, Canada.

Design concept:

Our project focuses on **mitigating urban heat islands** and ensuring the **safety of pedestrians**, especially children and old-people. We will use green areas to create **fresh zones** along the street, reflective paving and high reflectivity materials to reduce the temperature. In addition, we will design wide sidewalks, safe crossing and resting areas, prioritizing the safety of residents when walking and playing. In conclusion, we seek to create a fresh and safe environment for all, improving the quality of life in our community.

Intentions:

Taking into account the mentioned issues, the plan is to address the lack of fresh areas in the streets by implementing **refreshing zones** along the street through fresh spaces. The aim is to rectify the poor condition of planters with vegetation by selecting endemic and suitable plants to enhance the environment. Regarding the absence of bike lanes, efforts will be made to design secure infrastructure for cyclists, acknowledging the evident **cycling culture** in the area and thereby reducing risks to their safety and mobility. Additionally, there is consideration for the refurbishment of urban furniture, including benches and planters, to improve both the functionality and aesthetic appeal of the surroundings. As a result, the vehicular area will be reduced, and **pedestrians** will take center stage.

Context and issue:

Montreal is characterized by its multiculturalism, hosting the highest percentage of immigrants throughout Quebec. This multiculturalism is reflected in **local businesses** surrounding the street under consideration: Jean-Talon East street. Our street is characterized by the **lack of vegetation** and poorly maintained urban furniture. Similarly, automobiles take priority over pedestrians and cyclists, being a street with sidewalks of 4 to 6 meters and a space designated for vehicles of up to 13.2 meters.

45°35'05.5"N
73°34'49.8"W

Location: Jean-Talon East street, Montreal, Canadá

In Montreal, the summers are long and hot; the winters are freezing, snowy, and windy, and it's partly cloudy year-round. Over the course of the year, the temperature generally varies from 8.6 °F to 78.8 °F and rarely drops below -9.4 °F or rises above 86 °F.

The city of Montreal is located on the Island of Montreal, in the Saint Lawrence River, and spans an area of 166.6 square miles. The average altitude of the city is 187 feet, being 75 feet at the banks of the Saint Lawrence. The topography of Montreal is quite flat, with some low hills and gentle undulations.

Montreal's population is of foreign origin, underscoring its multicultural nature.
-Algéire
-Italie
-Maroc
-Haiti

Map of the economic and social context

Graph 1. Created by the author.

Landmarks

Food stores

1. Italian restaurant
2. Restaurant
3. Butcher's shop
4. Supermarket
5. Café
6. Arabian restaurant
7. Bar
8. Turkish restaurant

Sale of products

1. Jewelry
2. Clothing Store
3. Sports Shop
4. Vacuum Cleaners
5. Electronics
6. Sewing Store
7. Florist
8. Printing shop
9. Shoe store
10. Barrels

Personal services

1. Dog aesthetics
2. Laundry
3. Esthetics
4. Hairdresser
5. Spa
6. Driving school
7. Manicure

Public areas

1. Community Center
2. Immigrant house
3. Youth shelter service
4. Naturalization and immigration service
5. Residence for the elderly

Symbology

- Trails
- Borders
- Bus stop

Zone to be intervened

Other services

1. Bank
2. Catholic church
3. Dietary supplements
4. Travel agency
5. Aquarium

Project development

Graphs provide information to be considered during the design process: a couple of things to consider is the existence of a bus stop and local shops with potential terrace presence.

Symbology

- Public transport
- Route: 141
- Route: 372
- Public transport stops
- Blue Line Metro extension
- Intervention area

In the first place, the lack of green areas in the streets stands out, aggravated by the presence of potted vegetation in poor condition, since the use of native or appropriate plant species for growing in pots was not considered.

Secondly, the absence of bicycle lanes is evident despite the existence of a cycling culture in the area, which hinders the safety and mobility of cyclists due to the lack of delimited spaces for their use.

Finally, street furniture, particularly benches and planters, is in poor condition, indicating the need for an upgrade or replacement of these elements to improve the overall streetscape. Addressing these architectural issues is critical to achieving a more environmentally integrated and cyclist-friendly design for the Montreal project.

The vegetation will play a very important role in the project, for this, we have strategically placed green areas, as a support to reduce urban heat islands in several ways, as it will interact with the built environment and the local climate in the following way.
Shading and reducing heat absorption in materials by preventing the exposure of urban surfaces to direct sunlight. This helps maintain cooler temperatures in urban areas.
Evapotranspiration, especially by trees that release water into the environment and transpire it through their leaves, helping to cool the surrounding air.
Air filtration and pollution reduction, helping to improve air quality by filtering pollutants and suspended particles.
Creation of cool microclimates. We will use plants endemic to the region, with the rationale of biodiversity conservation and preservation of unique ecosystems.
Adaptation to local conditions, by using these plants in landscaping, ecosystem restoration or sustainable agriculture, we can promote resistance to extreme climatic conditions and particular soils.
Reducing the spread of invasive species, using endemic plants in landscaping and gardening instead of non-native species, which can displace endemic species and cause ecological imbalances.||
Using endemic plants promotes sustainability, adaptation to local conditions, and respect for the environment.

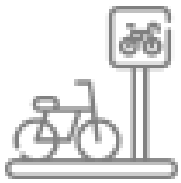
Proposal of materials

In a world in constant evolution, the selection and development of materials play a fundamental role in the choice of materials, with the aim that they directly impact the quality of life of people, this because they play a crucial role in sustainability and preservation. enviroment. Materials with environmentally friendly properties were chosen, such as the ability to have durability, resistance to corrosion and absorb heat from the environment, which became a key factor in achieving the reduction of heat islands.
I will take 2 of them:

Bicycle Lane

When investigating the topic, we concluded the decision to use blue concrete, due to the following situations, the first and most important, since it is part of our objective, to protect the integrity of the user, persuading him to use the bicycle. etc. in order to reduce the increase in the heat island due to the massive increase in vehicle use.

Blue concrete provides a clearly distinguishable surface, increasing visibility and safety for cyclists. Bright colors, such as blue, help motor vehicle drivers clearly identify bicycle lane areas, reducing the risk of collisions. Concrete is known for its durability and strength, and blue concrete is no exception. It can resist wear and tear caused by bicycle traffic and other environmental factors. And the sidewalk, because it was where we intervened the most, creating several parks with green areas, to mitigate heat islands
We use concrete is a common and beneficial option for several reasons:
Durability: Concrete is a very durable material and resistant to wear and tear caused by exposure to weather conditions, pedestrian traffic and the passage of time. Concrete provides a safe and uniform surface for pedestrians. It is non-slip, which reduces the risk of falls and injuries for our users under 9 years old.
Easy maintenance: Concrete sidewalks are easy to maintain. Regular cleaning and maintenance, such as sweeping and washing, are sufficient to maintain its appearance and functionality over time.



Green areas

Leaf Land

Leaf soil helps improve soil texturenand allows better internal air passage, among the different types of soild for plants.

Bikeway

Pigmented concrete

Street

Reflective pavement

Mitigate Heat Islands

Crosswalk

Thermo – Plastic paint

Requires less maintenance

Pavement

Concrete

A durable and resistand meterial

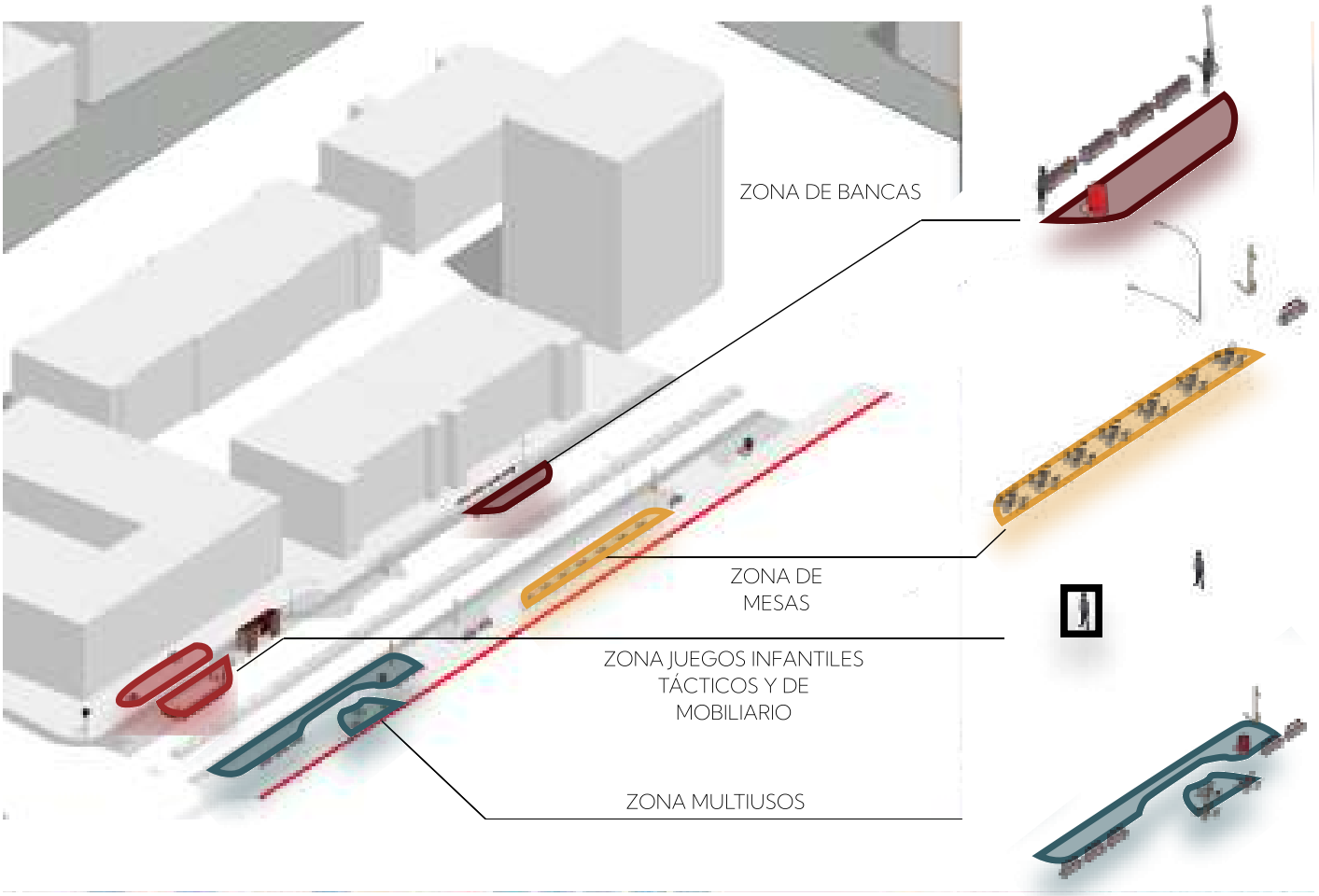
Recreational areas

Our project focuses on mitigating urban heat islands and ensuring pedestrian safety, especially for children and the elderly. We plan to use green spaces to create cool zones along the street. Additionally, we will design wide sidewalks, safe crossing areas, and resting spots, with a priority on the safety of residents while walking and playing. In conclusion, our aim is to establish a cool and secure environment for everyone, thereby enhancing the quality of life within our community.

We understand the importance of addressing the heat island effect, which can make urban areas uncomfortably hot, especially during the summer months. By incorporating green spaces, we not only provide refreshing, shaded areas for people to enjoy but also contribute to the reduction of excessive heat in the surroundings.

Our commitment to pedestrian safety is a top priority. We want to ensure that children and the elderly can navigate the street without any trouble. This involves not only safe crossing areas but also well-designed resting spots where people can take a break while strolling along the street.

In summary, our project envisions a community where the residents can experience a more comfortable and secure environment. By combining the cooling effects of green spaces and we aim to make a positive impact on the well-being and overall quality of life for everyone in the area.



CONCLUSIONS

The use of tactical urbanism to reclaim pedestrian space has significantly transformed the city of Montreal, improving quality of life, safety and sustainability. By recovering pedestrian space, a healthier and more pleasant urban environment is created that promotes physical activity, social gatherings and the well-being of our vulnerable community. In addition, an economic boost is observed, especially in local businesses, by increasing the flow of people and the time they spend in commercial areas. By reducing the use of motor vehicles and encouraging walking and cycling, air pollution is reduced and environmental sustainability is promoted. The project also involves the community in decision-making and the design of pedestrian spaces, which reinforces the sense of belonging and empowerment of citizens. The rescue of pedestrian space contributes to a cultural transformation and the promotion of a healthier and more sustainable lifestyle. The project focuses on mitigating urban heat islands and ensuring pedestrian safety, with special attention to vulnerable groups such as children and the elderly. Green spaces, reflective paving and highly reflective materials will be introduced to lower ambient temperatures when necessary. Emphasis will be placed on wide sidewalks, safe crossing points and comfortable rest areas. In addition, various issues will be addressed such as the lack of cooling spaces, the need for adequate vegetation and the absence of exclusive bicycle lanes.

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