Pedestrianization of The Old Port

Scoping Phase

URBS 480
Impact Assessment
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Figure 1. Montreal, Quebec - Old Town | Vieux-Port Steakhouse vieuxport, taken from https://www.flickr.com/photos/gml527/16132133350/in/photolist-gzxpdb-fdRfTx-2nxZuIK-2otZyzA-2nyGbag-2nyHtdk-2ou4pt8-2o3Qvvr-2ou4pm9-2o6Xn3v-2ou4ruN-2ou3vhr-MXrYmy-bAwFYQ-NFboFd-2ny7p9y-2ou5znF-2ny3vyA-2ow6XY4-c7aJjS-2ow6Yvb-bnNMTK-2ny5ZGY-2ciNMtR-2nyG6BU-bPDTNZ-bAKeW1-S6YMnW-2ou3vK5-c7dXLo-bAwFXj-bPrk7H-c7dXYY-bAKf3U-bPDTKt-bPDTGP-bAwFZU-2nxZQGK-2o73rd8-2o3QcTw-2o3QcQW-2o6Xnb9-2ny5ZFk-2o3VJJb-9kEcHW-dMzi3W-2ny8skH-2ou3w15-8iqjit-2nxZQG4/

Background

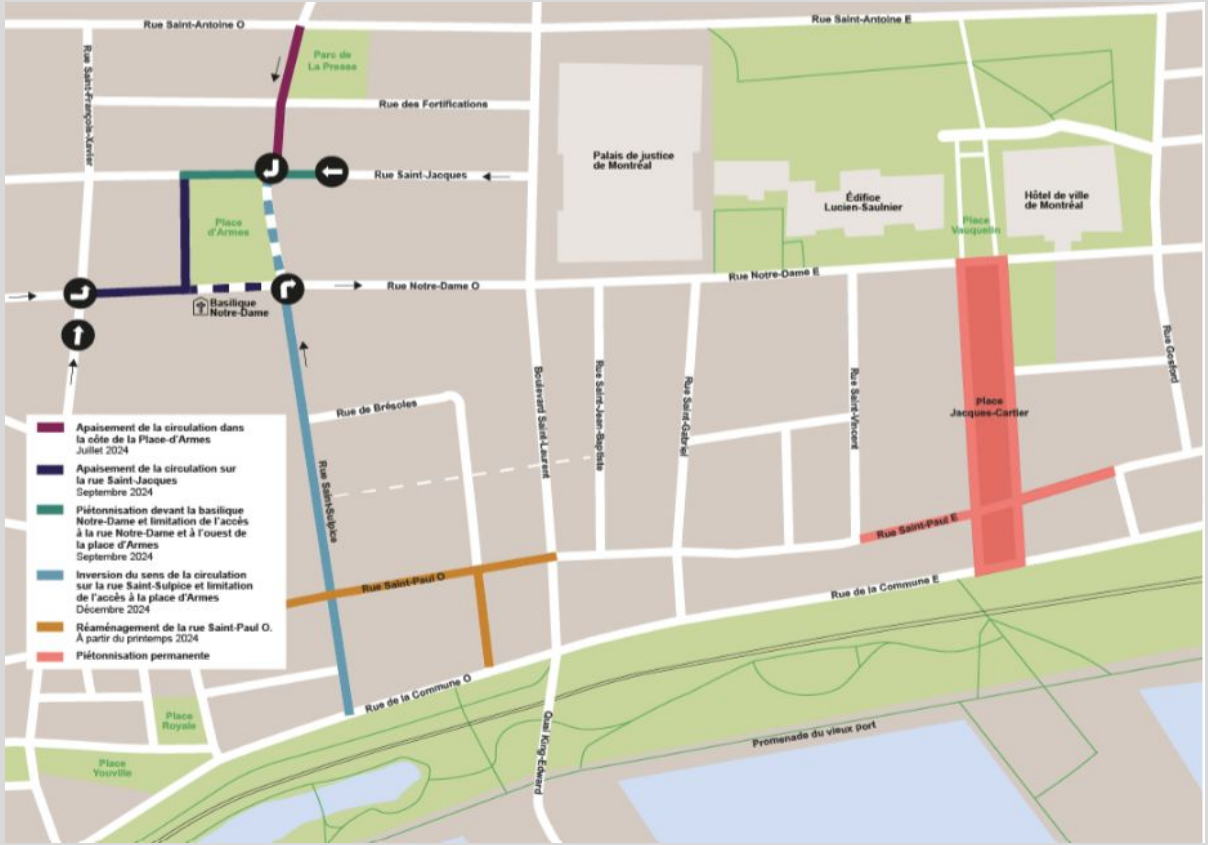


Figure 2. Map of Intervensions, 2024 taken from https://montreal.ca/en/articles/more-room-pedestrians-old-montreal-78304#:~:text=The%20objective%20of%20the%20pedestrian%20priority%20zone%20is,also%20enhancing%20a%20sense%20of%20safety%20for%20pedestrians.

Traffic Management

Analyze the alternatives and solutions in relation to traffic management and pedestrianization of certain roads

Pedestrian priority zone areas (PPZ)

Already established by the city

Team Objective

- Utilizing planning frameworks such as Environmental Impact Assessment (EIA) and Social Impact Assessment.
- Analyze the impacts of the city's plan of the pedestrian priority zone areas (PPZ) in the Old Port.
- Research and propose alternative solutions for pedestrianization
- Transform and find efficient use for the existing infrastructure.
- The proposals look into preserving the history of the neighborhood while reducing GHG.

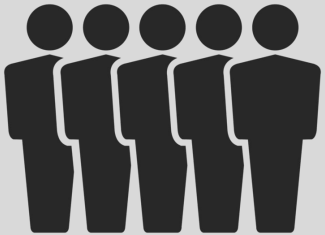
The Old Port was not always oversaturated with vehicles, our aim to bring an immersive pedestrian atmosphere back to the area.

Figure 3. Get Playful, Tourisme Montréal, Stéphan Poulin taken from: https://www.timeout.com/montreal/things-to-do/best-things-to-do-in-old-montreal

Proposal Overview

Pedestrian Zone

Pedestrianizing the entire core area of the Old Port, while making the peripheral collector streets one way traffic



Delivery hours for businesses

Specific delivery hours for businesses in the mornings, with retractable bollards embedded in the roads that block entry of non-resident motor vehicles outside of these hours.

Modular parking lots

Modular parking lots will also serve as adaptable areas for events as opposed to strictly parking, while keeping their utility for the actual residents of the Old Port.

Street Bollards

Figure 4. Retractable Street Bollard
Taken from: https://www.bestparking.com/montreal-qc-parking/

Green Parking Lots

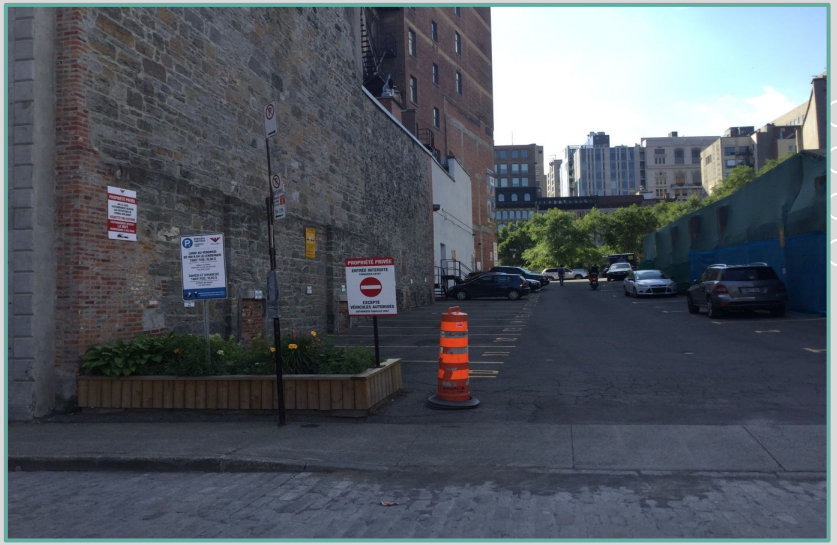


Figure 5. Parking lot in the Old Port taken from:
Source: https://www.bestparking.com/montreal-qc-parking/

Scoping Methods

Scoping checklist

4.1	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5.Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Construction vehicles can possibly be idle during the proposal change.	Idle construction vehicles can possibly expose the population to emissions.
5.2	Emissions from production processes?	Yes	There will be emissions during process of change.	Emissions will be during the duration of the process but it can have negative environmental impacts.
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles will emit emission during the transportation process of vehicles.	There will emissions throughout the environment during the construction process.
5.4	Emissions from construction activities including plant and equipment?	Yes	There could possibly be emssions from construction equipment during road changes	The population could be exposed to euipment emissions during the porcess.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Dust and odours will be emitte during the process and waste could be produced during the process.	Possible exposure to odours and waste dcould negatively impact the population during the proposal change.
5.6	Emissions from incineration of waste?	No		
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	No		
5.8	Emissions from any other sources?	?		
6.Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg engines, ventilation plant, crushers?	Yes	Operation of certain equipments in the process can change the look and feeling of certain roads depeding on the severity of the change.	There can be permanmnt changes on the road depending on roadway alterations.
6.2	From industrial or similar processes?	Yes	Bringing out city and construction crews for the duration of the proposal changes.	It won't be significant unless there is severe damge being caused on teh surroundings.
6.3	From construction or demolition?	Yes	There will be minimal to no demolition when it comes to roadway changes.	Some demolition may alter the environemnt but depending on the amount, it will need to be repaired close to its original state.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	The changing of road ways can have effects on the surrounding traffic in the area.	The operation of traffic can drastically change or be removed permanently depeding on certain streets.
6.6	From lighting or cooling systems?	No		
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No		
6.8	From any other sources?	?	Further research needed	Further research needed
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	No		
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	No		
7.3	By deposition of pollutants emitted to air, onto the land or into water?	?	Further research needed	Further research needed
7.4	From any other sources?	?	Further research needed	Further research needed
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	No		
8.2	From events beyond the limits of normal environmental protection eg failure of pollution control systems?	Yes	There are social changes that go beyond the enviroment which can still have large environmental impacts.	The social changes of humans patterns and behavior can have permanent societal changes.
8.3	From any other causes?	?		
8.4	Could the project be affected by natural disasters causing environmental damage (eg floods, earthquakes, landslip, etc)?	No		
9.Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc?	Yes	There will be a change in the population demographic of all factors because of pedestrianization.	There will be an influx of pedestrian activities within the neighborhood.
9.2	By resettlement of people or demolition of homes or communities or community facilities eg schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	No		
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	The increased activities of pedestrianization can possibly have an impact on local businesses and facilities.	There could be increased pedestrian activities because of pedestrianization.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	During the process there will be increased job activity as contracts will be created during the process of our proposals.	More contracts have effects on increased job activities.

Questions

1. **Will there be a large change in environmental conditions?**
   No, there will not be a large change in physical environmental conditions. There will be a reduction in GHGs from the lowered presence of vehicles, and a supplementary reduction in noise.

2. **Will new features be out-of-scale with the existing environment?**
   Parking lots and bollards will not be out of scale with the existing environment. Historically, there have been more parking lots in the Old Port and bollards are a small enough intervention for there to be minimal impact apart from not blending in with the era of architecture.

3. **Will the effect be unusual in the area or particularly complex?**
   The interventions may take some time for people to adapt, but are not overly complex.

4. **Will the effect extend over a large area?**
   The pedestrianization during non delivery hours is a large area by virtue of being the whole neighborhood (Old Port).

5. **Will there be any potential for transfrontier impact?**
   There is potential for transfrontier impact as the Old Port may attract residents from other neighborhoods to the businesses or other attractions. The lack of cars will make the area more desirable to be in and adjacent neighborhoods can easily make the walk to a more pleasant space.

6. **Will many people be affected?**
   Many people will benefit from these changes as it is a hotspot for tourism and a centrally located neighborhood.

7. **Will many receptors of other types (fauna and flora, businesses, facilities) be affected?**
   Businesses will also benefit from the changes with delivery hours as they can be made more easily during dedicated times of the day, not being restricted by heavy traffic. Some facilities may be negatively affected based on the scale of their needs, if large trucks cannot enter and they have a high stream of incoming vehicles that will be interrupted by the pedestrian hours.

Results

Physical changes to the area

- Effects will extend over a larger area
  - Potential for transfrontier impact
- Long term effects
  - Some aspects reversible other not

Significant social changes

- Different receptors affected
  - Business
  - Residents
- Shifts
  - Demographics
  - Lifestyles, and employment patterns

Impact Assessment Proposals

EIA

TOD Analysis

SIA

Environmental Impact Assessment

Traffic data collection

- Field surveys
- Manual counts
- Traffic sensors

GIS

- Map , model and analyze traffic patterns
- Redistribution of traffic
- Truck routes

Pedestrianization

- Parking and urban heat islands
- Traffic volume
- Vehicle congestion

Transportation: Origin Destination Survey

- The TOD survey is important to establish the quantity of interventions needed
  - Do we need to focus more on reducing car use?
  - Promoting active transportation like walking and cycling?
  - Improving connectivity to Public Transit?
- Better adapted to the local residents
  - Do locals use cars to leave the neighborhood or public transit?
  - Which streets see the most traffic?
- How do businesses receive their goods
  - Does this impact local traffic?
- How can Pedestrians better get around the Old Port?
  - Impact of implementing one way traffic on safety
  - Increase of foot traffic to businesses
  - How do we keep the neighborhood accessible to those with disabilities?

TABLE 4 Recommended *HCM* walkway Level of Service (LOS) criteria.

LOS	Space		Flow Rate		Average Speed		v/c ratio
	(m^2/ped)	(ft^2/ped)	(ped/min/m)	(ped/min/ft)	(m/s)	(ft/min)	
A	≥ 5.6	≥ 60	≤ 16	≤ 5	≥ 1.3	≥ 255	0.21
B	3.7–5.6	40–60	16–23	7–May	1.27–1.30	250–255	0.21–0.31
C	2.2–3.7	24–40	23–33	10–Jul	1.22–1.27	240–250	0.31–0.44
D	1.4–2.2	15–24	33–49	15–Oct	1.14–1.22	225–240	0.44–0.65
E	0.75–1.4	15–Aug	49–75	15–23	0.75–1.14	150–225	0.65–1.0
F	≤ 0.75	≤ 8	var.	var.	≤ 0.75	≤ 150	var.

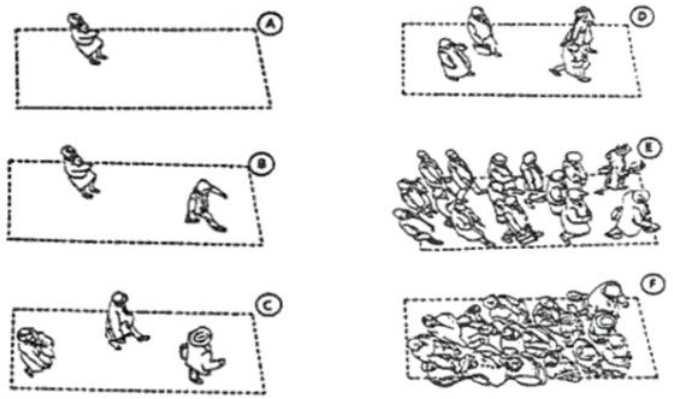


FIGURE 5: Illustration of proposed walkway Level of Service thresholds.

SOURCE: *TRB, 1994*; adapted from *FRUIN*, 1971.

Figure 6. Proposed walking levels Taken from : Lecture URBS 480 Impact Assessment EIA Process and Progress & Transport Impact

Social Impact Assessment

There will be significant social changes, including shifts in demographics, lifestyles, and employment patterns

We Could

- Evaluate the social consequences (quality of life)
- Evaluate accessibility
- Evaluate economic impacts on local business
- Engage stakeholders and understand their preferences

Multi-Criteria Decision Analysis (MCDA)

- Identify and compare different policy options
- Assessing their effects, performance, impacts, and trade-offs
- Decision-Making tool
  - Establishing different possible scenarios, and the criteria that will be used to evaluate these different scenarios.

Recap

Through the use of frameworks such as the EIA and SIA, or proposals will take into account varying factors that may affect the neighborhood both negatively and positively. The transformations are taking into account both short and long term effects.

- Prioritizing pedestrian activity, through the modification of street directions.
- How the analyzing of delivery hours are prioritized to benefit local businesses while not impeding pedestrian activities.
- The retrofitting of the current urban fabric can result in a prioritization of parking for local residents, the reduction of UHI, making changes to increase walkability, and creating opportunities for events.

Figure 7. Panoramic shot of the Old Port,
Taken from:: https://heroesofadventure.com/listing/vieux-port-de-montreal-old-port-of-montreal-qc-canada/

Questions?

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Image Sources

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