



Thanks for waiting

The public meeting will be starting shortly.

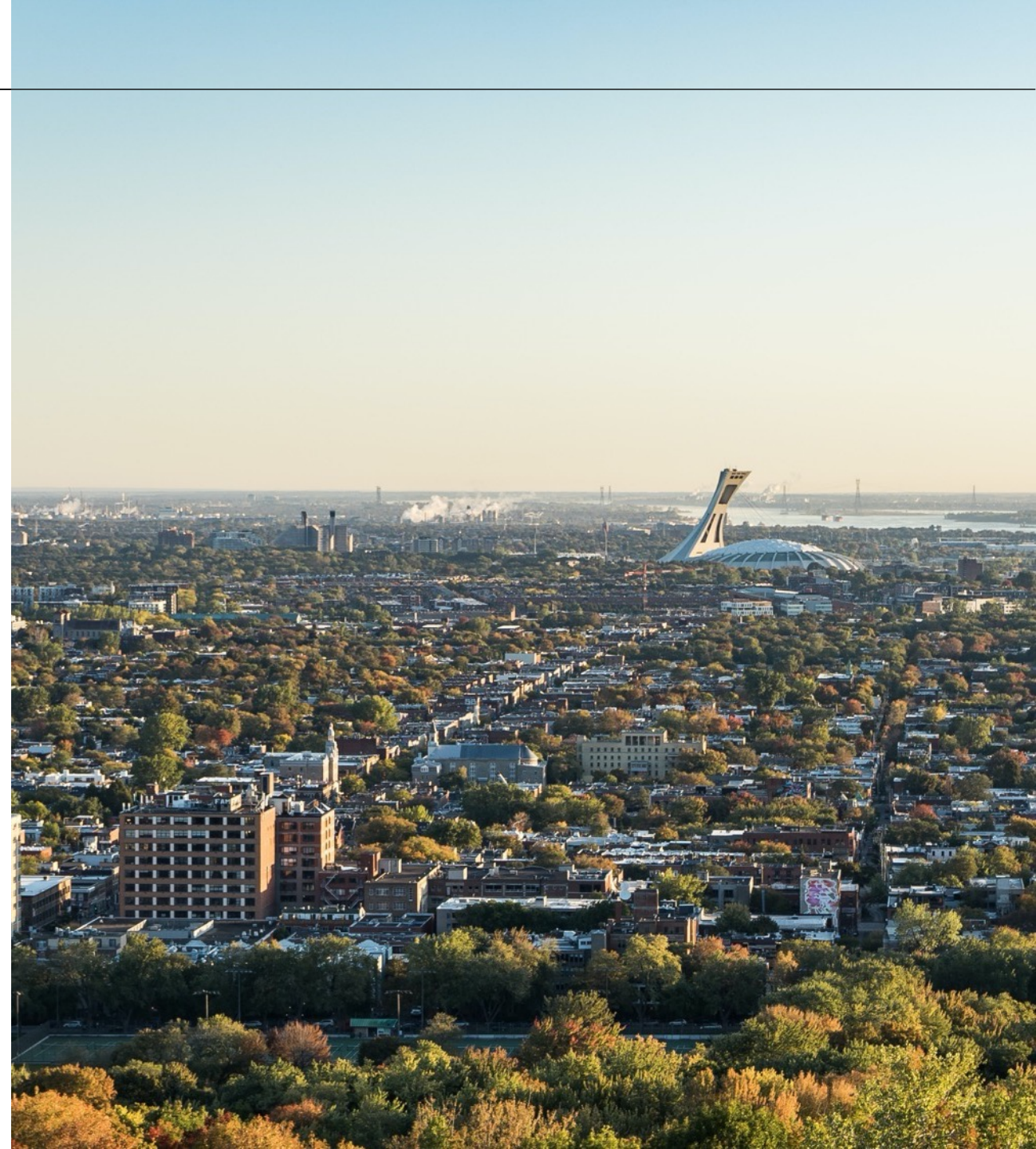
Public meeting

Integration of the REM de l'Est
in the Tétreaultville sector

REM DE L'EST | FEBRUARY 2022

Subsidiary of Caisse de dépôt et placement du Québec | cdpqinfra.com

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- Present the citizens of Tétreaultville with complete information, as of today, on the route options
- Answer questions from citizens
- Hear and take note of comments
- Establish communication channels

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| 1 | Route on Sherbrooke East | 6 |
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| 2 | Route within the Souigny railroad right-of-way | 9 |
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| 5 | Question and answer period | 31 |
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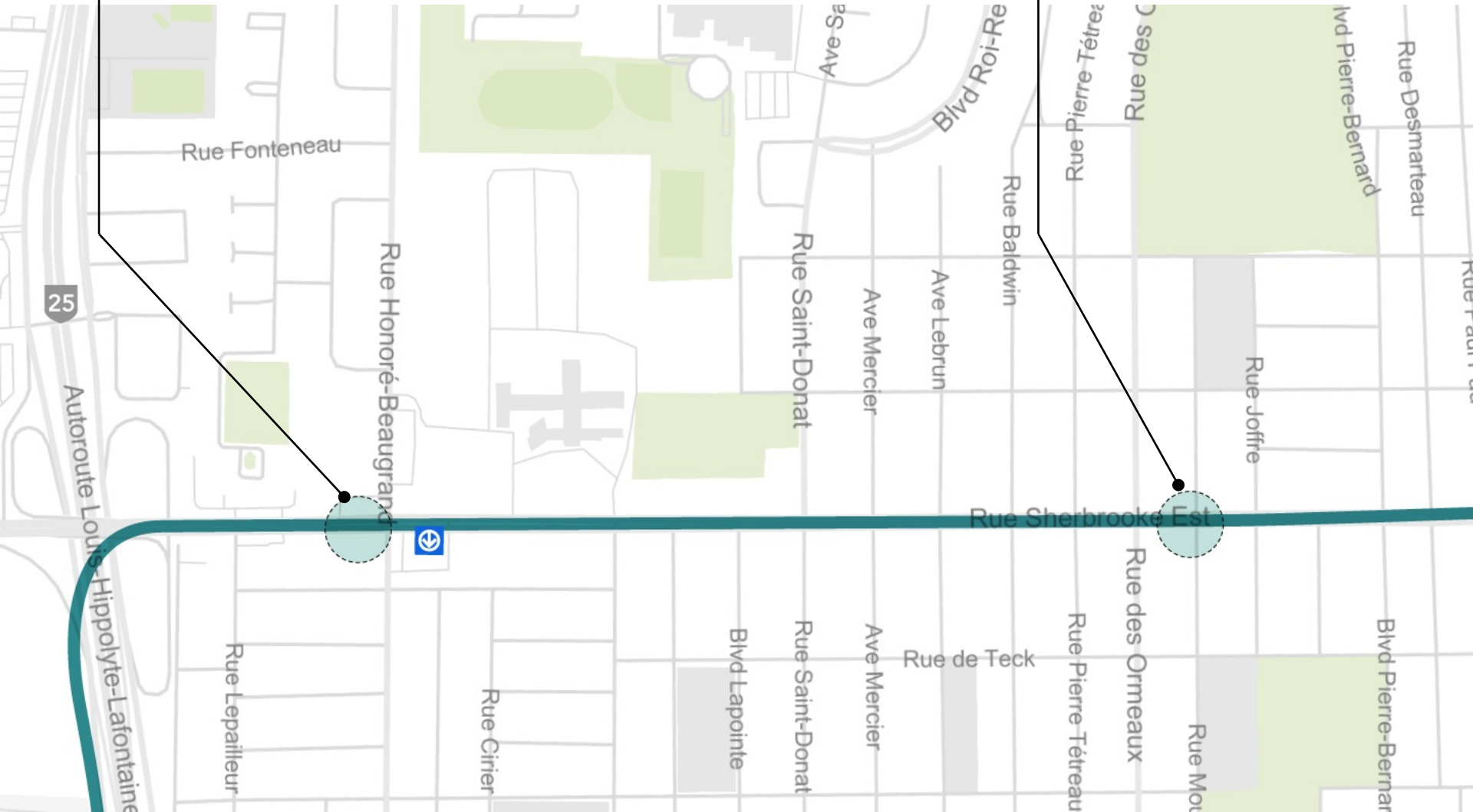
Sherbrooke East route



Sherbrooke East route

Honoré-Beaugrand station

Des Ormeaux station



The location of the stations is suggested according to :

- **Areas to be served**
- **Possible connections to other public transportation networks**
- **Urban redevelopment potential**
- **Land availability**

Sherbrooke East route: Advantages and Disadvantages

Technical challenges

- ▲ Relocation of the main aqueduct involving lane closures

Intermodalité

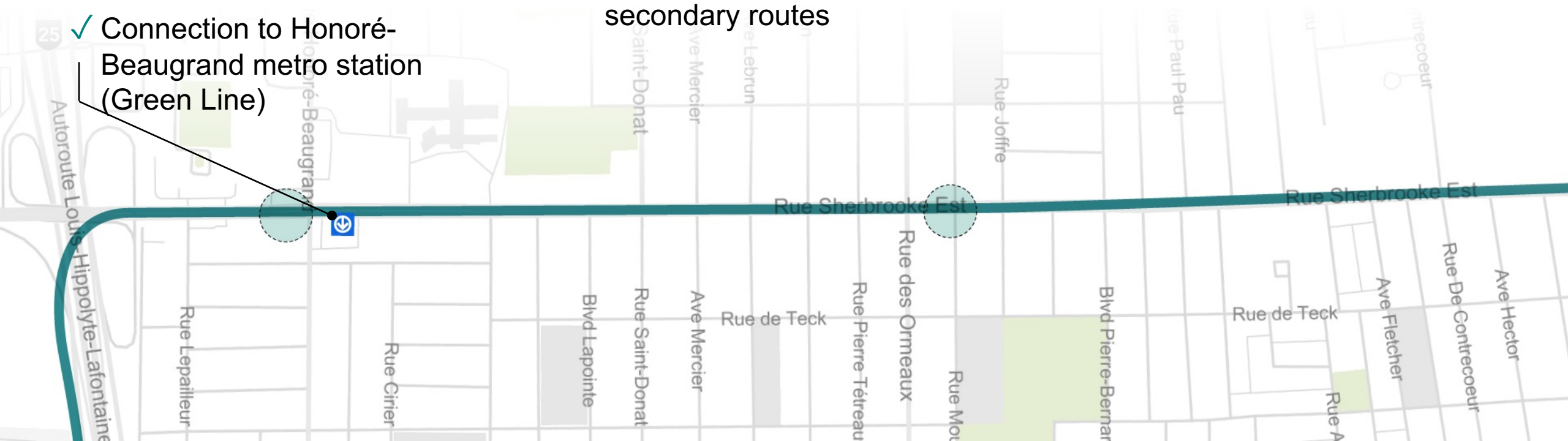
- ✓ Connection to Honoré-Beaugrand metro station (Green Line)

Traffic and roads

- ✗ Reduced road capacity and number of left turn bays
- ✗ Reduced traffic capacity resulting in the displacement of certain functions to secondary routes

Surrounding environment

- ✗ Proximity of buildings (about 15 m) on both sides



Souigny railway right-of-way route



Souigny railway right-of-way route

2 potential stations



Souigny railway right-of-way route: Advantages

Transportation access

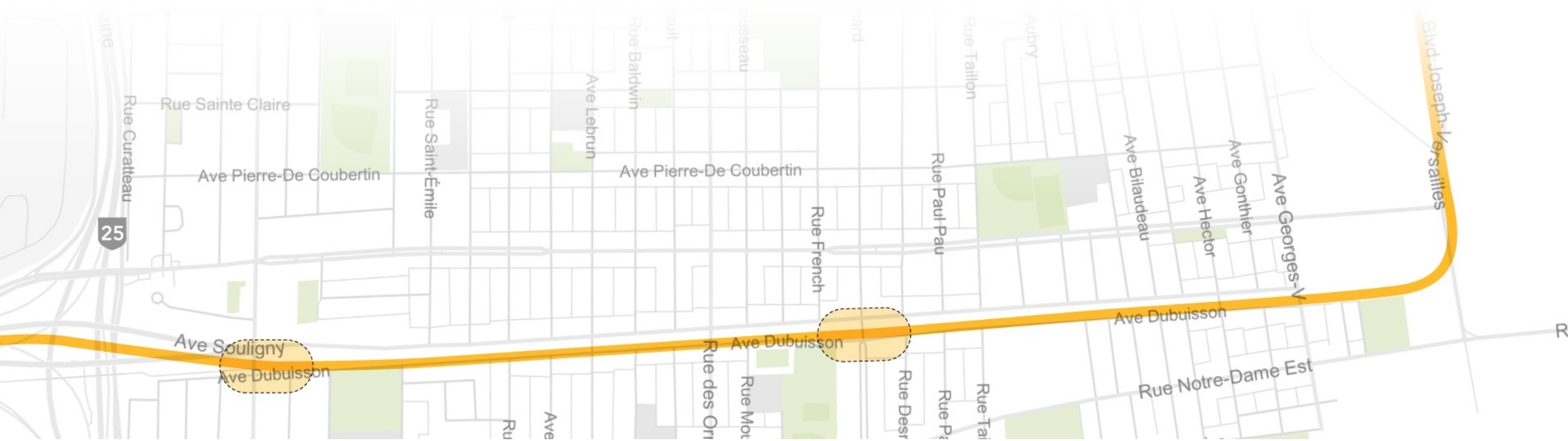
- ✓ Provides better service for the southern part of Tétreaultville:
 - Population base near the stations is **30% larger** than the Sherbrooke route

Traffic and roads

- ✓ No road cut off
- ✓ All turns maintained

Surrounding environment

- ✓ Building distance more than 30 m north of the route



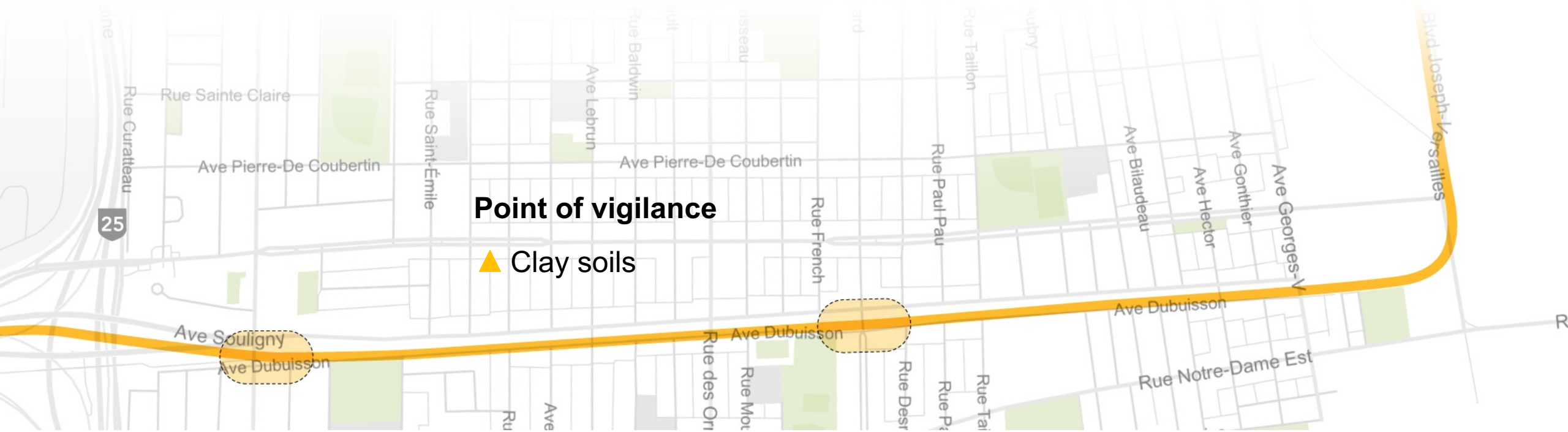
Souigny railway right-of-way route: disadvantages

Transportation access

- ✗ No connection with the Honoré-Beaugrand metro station

Surrounding environment

- ✗ Building distance approximately 15 m south of the route



Impact of options on **transportation**

SOULIGNY OPTION AND SHERBROOKE OPTION



Connected and complementary network



Impact of options on transportation

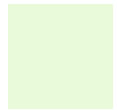
| | Sherbrooke East route | Souligny route |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Impact on the green line | <ul style="list-style-type: none"> Comparable overall travel volumes along the entire line for both routes | <ul style="list-style-type: none"> Comparable overall travel volumes along the entire line for both routes |
| Daily traffic | <ul style="list-style-type: none"> Slightly higher than the Souligny route (in the margin of error) | <ul style="list-style-type: none"> Slightly lower than the Sherbrooke route (in the margin of error) |
| Complementarity with existing modes | <ul style="list-style-type: none"> Honoré-Beaugrand sector currently very well served Addition of a transfer station Less appeal to area residents | <ul style="list-style-type: none"> Creation of a new capacity-building axis in a poorly served sector |
| Nearby population pool | <ul style="list-style-type: none"> Higher density and mixed zone (commercial and residential) 18,000 people live within 800 m of the stations | <ul style="list-style-type: none"> 24,000 people live within 800 m of the stations (33% more than the Sherbrooke route) |

Transportation Options on Sherbrooke East



Yellow section :

Access to REM de l'Est and Montréal Metro stations via multiple bus routes



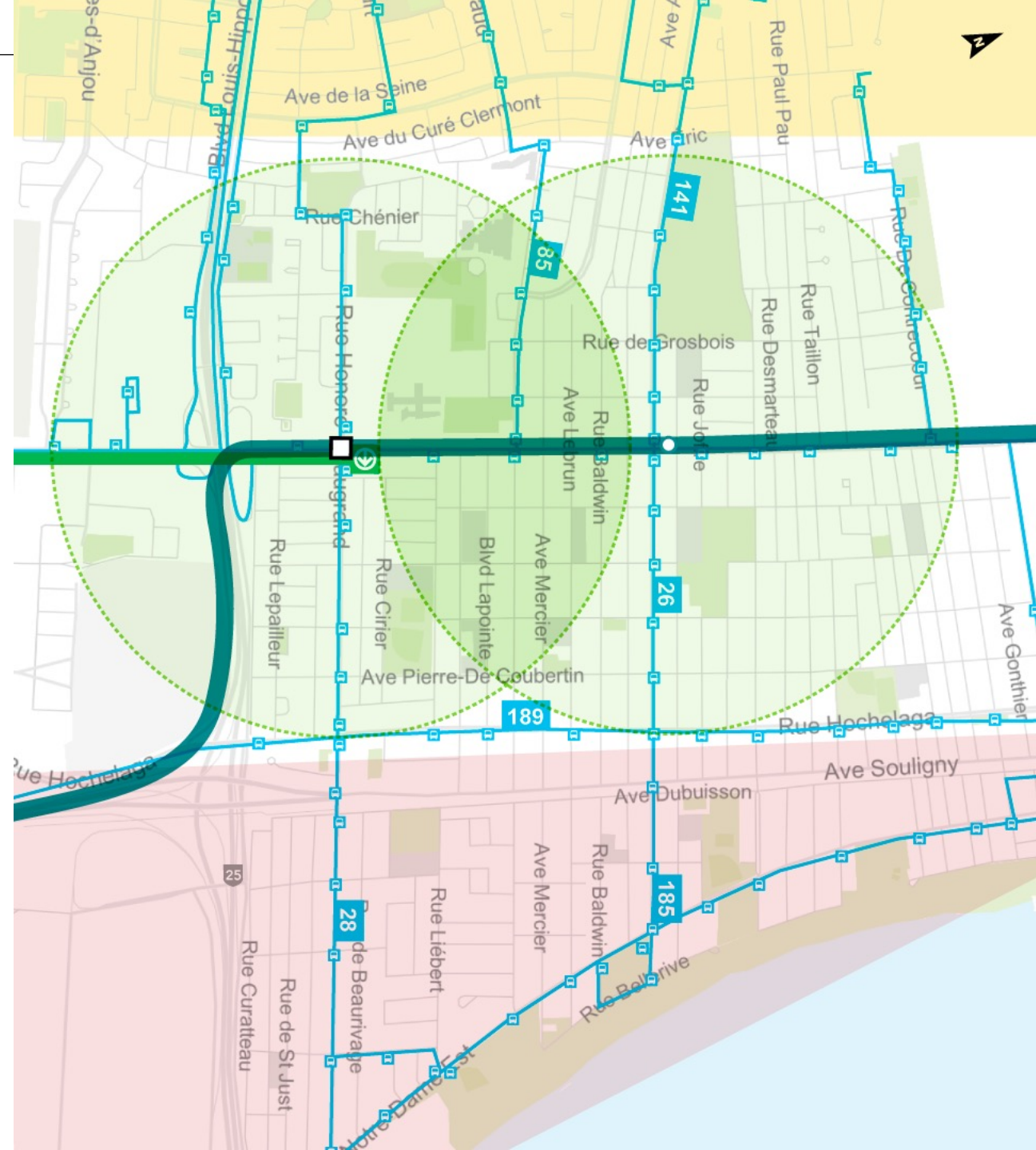
Green sections :

Quick access to the REM de l'Est and Montreal Metro stations



Red section:

Limited bus routes for access to the REM de l'Est and Montreal Metro stations

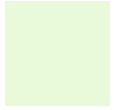


Transportation Options on Souigny



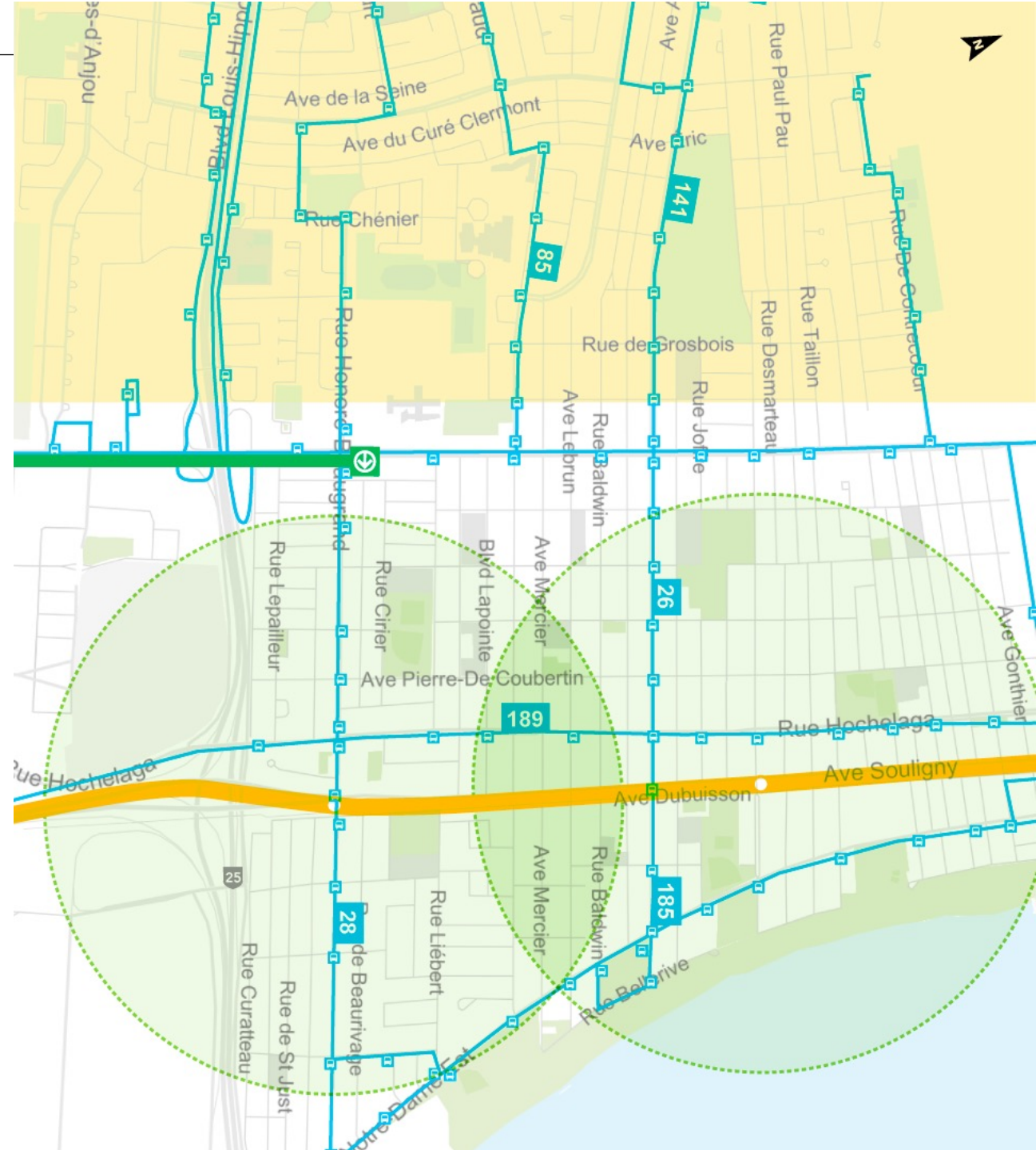
Yellow section:

Access to REM de l'Est and Montreal Metro stations via multiple bus routes



Green sections:

Quick access to the REM de l'Est



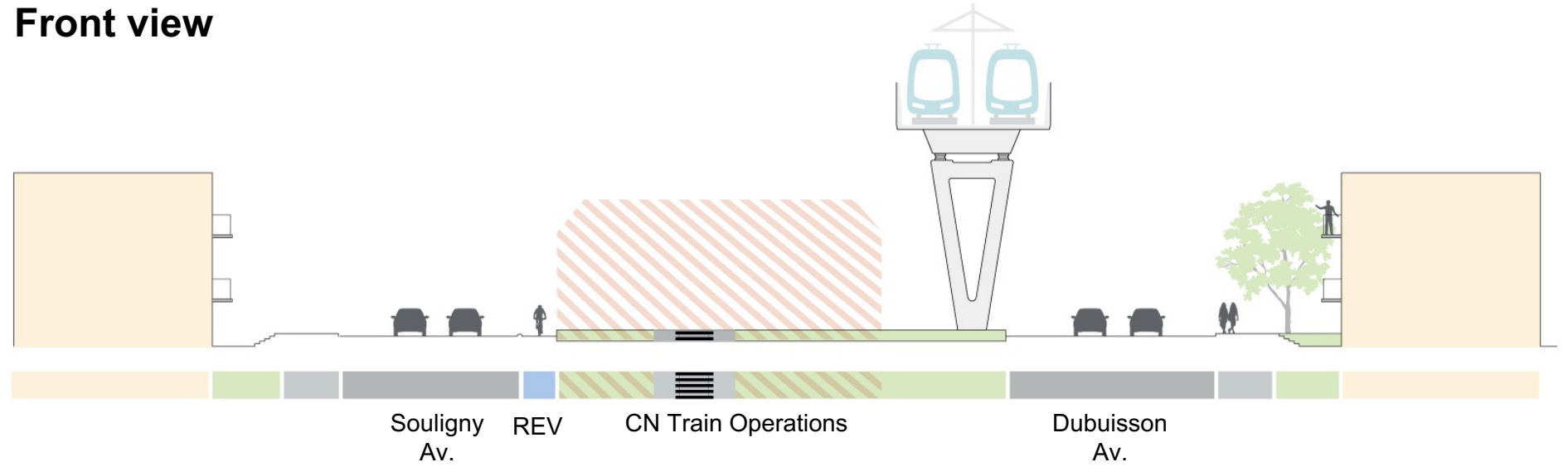
Insertion options: Souigny railway right-of-way



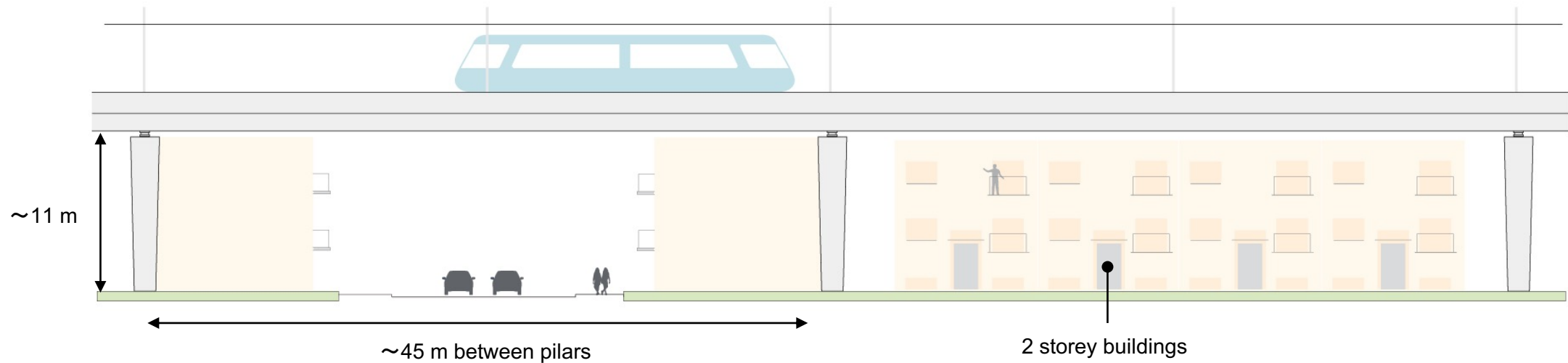
SOULIGNY RIGHT-OF-WAY

Elevated
insertion in
the Souigny
railway
right-of-way

Front view



Side view



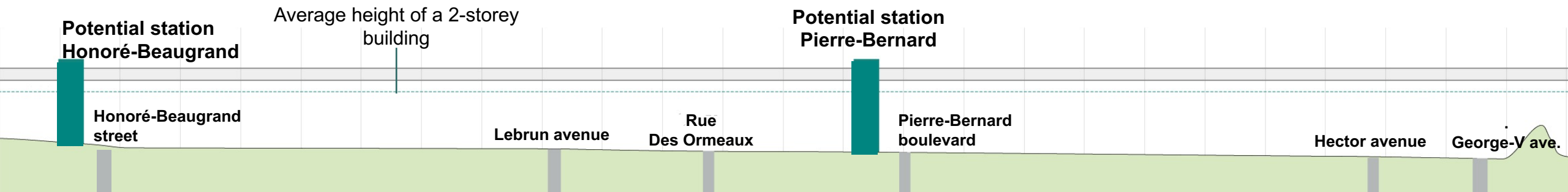
Elevated insertion in the Souigny railway right-of-way: : **Main characteristics**

Urban integration

- Insertion in an existing railway right-of-way
- Overhead structure allows for unobstructed views and distance from noise sources
- Opportunity to improve the development around the project
- Opportunity to improve layout at intersections

Public transit

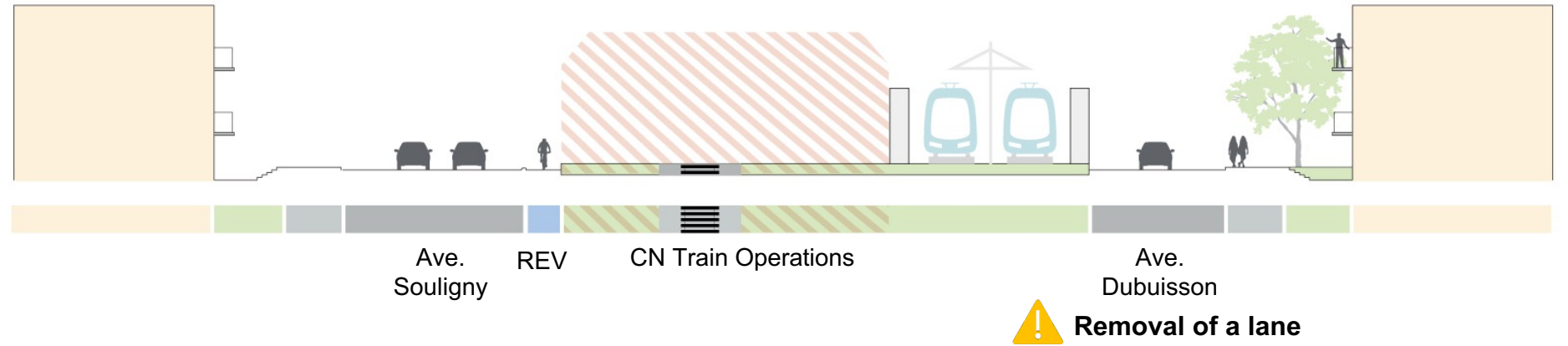
- Integration with the existing four-season bicycle network, especially on the Pierre-Bernard and Souigny axes, facilitating intermodality between active and public modes of transportation



SOULIGNY RIGHT-OF-WAY

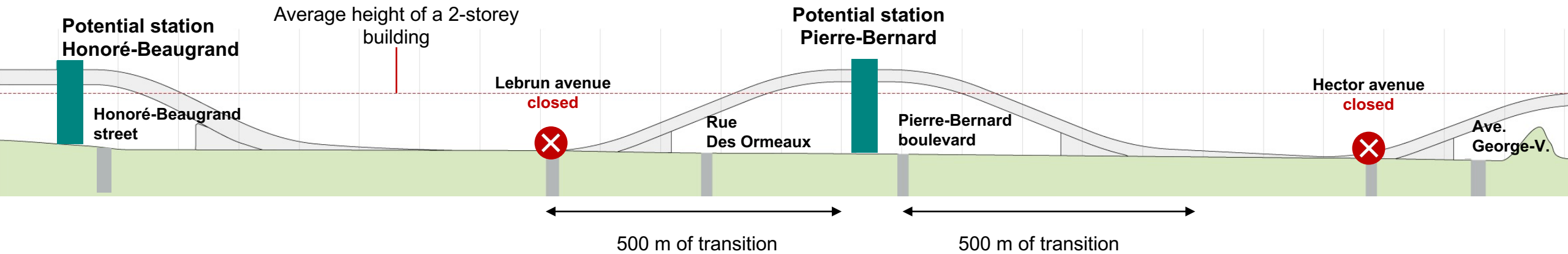
Ground
insertion in
the Souigny
railway
right-of-way

Insertion



Transition zones

To cross perpendicular streets

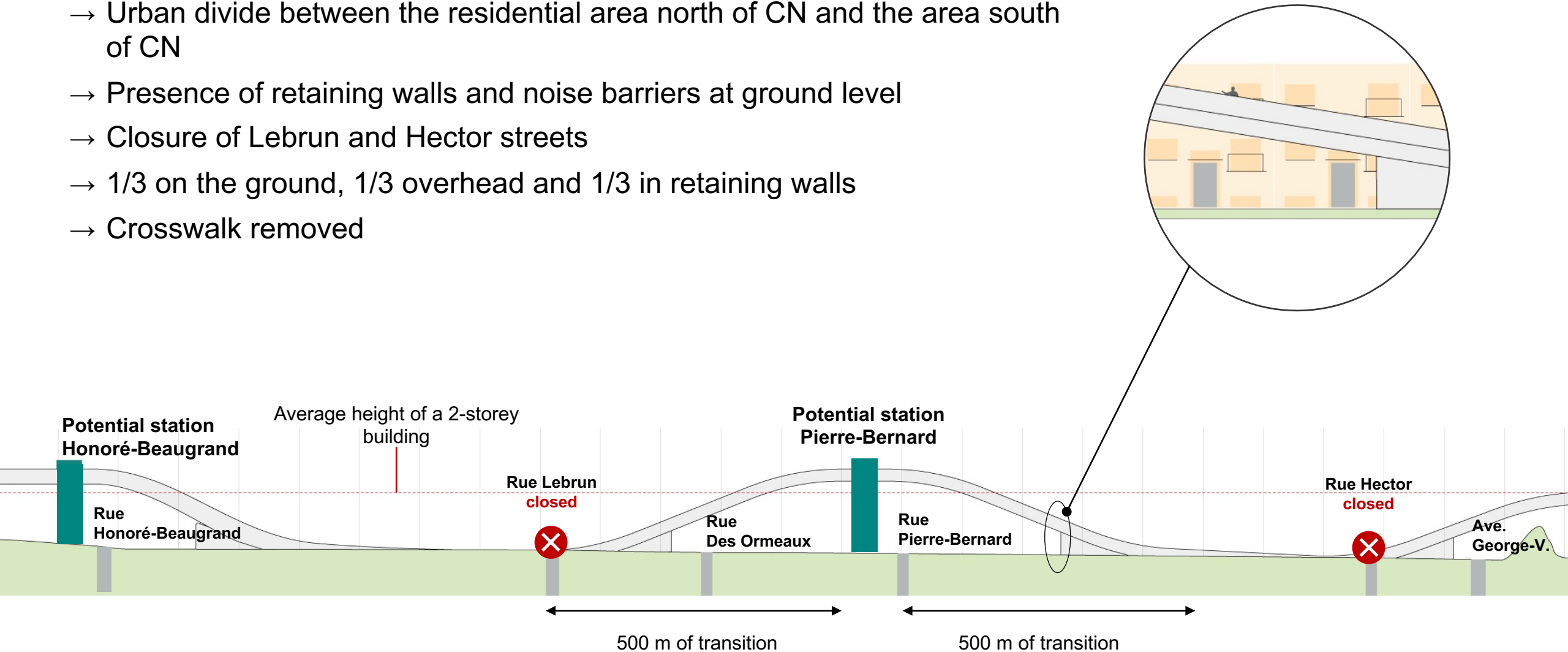


Ground insertion in the Souigny railway right-of-way:

Main characteristics

Urban integration

- Urban divide between the residential area north of CN and the area south of CN
- Presence of retaining walls and noise barriers at ground level
- Closure of Lebrun and Hector streets
- 1/3 on the ground, 1/3 overhead and 1/3 in retaining walls
- Crosswalk removed



Geotechnical considerations

SOULIGNY OPTION

Champlain clay soils: Characteristics

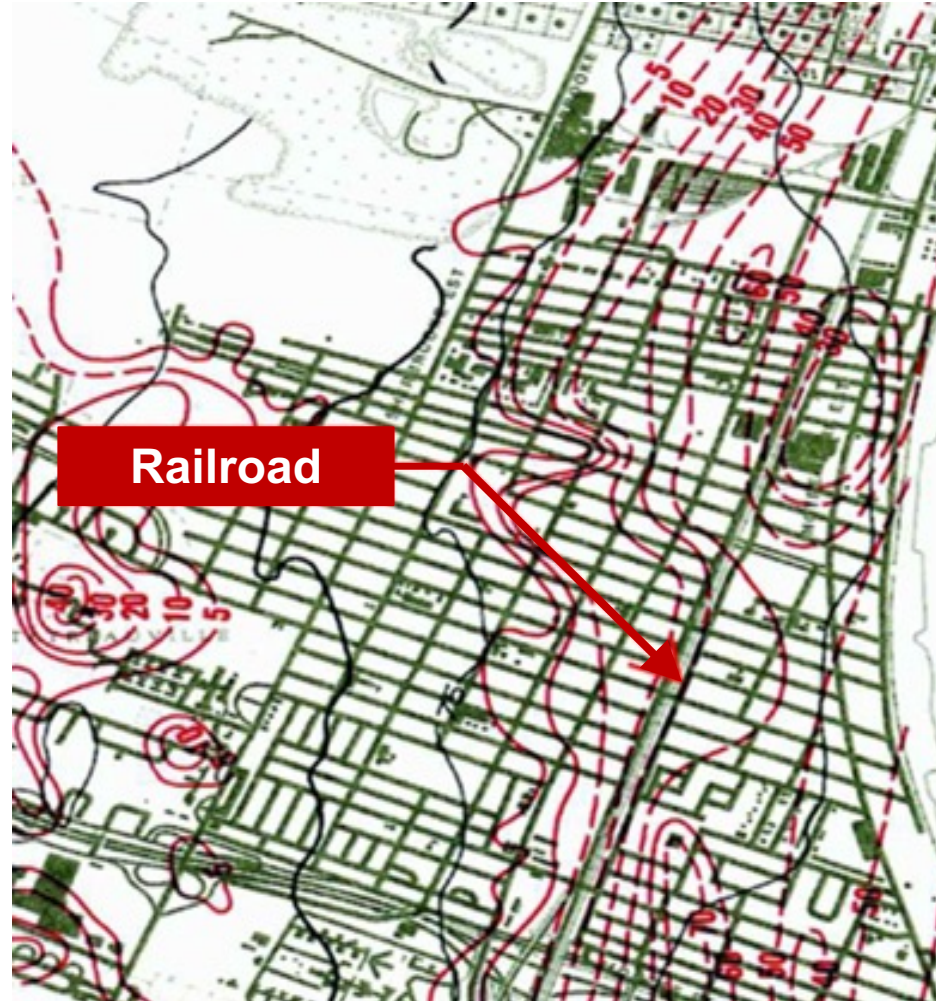
What we know

Existing geotechnical data :

- Rock level at a depth of about 15 m
- Information indicates the presence of non-liquefiable under the action of vibrations clays

Presence of the water table:

- Level fluctuates between 5.60 m and 9.00 m
- Historical information indicates that the level fluctuates



The analyses that will be conducted

- A geotechnical **campaign began Monday** to validate the information from our research and develop our adapted design.
- The results of these analyses will be documented in a report with a list of requirements that will be imposed on manufacturers.
- The REM de l'Est is not designed as a freight train

Champlain clay soils: Appropriate construction approach

Construction method:

The presence of a significant layer of clay and the position of the water table in this area require **specific measures for construction:**

Rock-anchored
caisson piles



Champlain clay soils: Appropriate construction approach

Construction method: Rock-anchored caisson piles



OBJECTIVE 1

Avoid lowering the water table

The types of foundations chosen would be on caisson piles adapted to the terrain. These caisson piles will have to be anchored to the rock.

To do so, the caissons will be dug inside a steel casing anchored to the rock, which could be permanent or removed during the concreting of the caisson.

OBJECTIVE 2

Controlling vibrations

The construction method chosen will be adapted to the permissible vibration limits so as not to affect the balance in the soils.

To do this, the caissons will be excavated at the speed determined by the vibration study. The impact radius of the vibrations of this type of machinery is equivalent to its diameter (2.5 m). The houses being at a distance of more than 10 m, they will not feel the impact of these vibrations.

Nuisance management

Proactive nuisance management – Noise, vibration, dust



Work period

- Use of silencers for equipment
- Use of acoustic screens
- Use of seismographs positioned at the limits of the work area
- Use of dust suppressants and cleaning of public roads
- Continuous monitoring of the standards set out in the decree



Operation phase

- Identification of sensitive receptors
- Measurement of the current situation (without project)
- Modelling the impact with the implementation of the REM de l'Est
- Analysis of significant impacts
- Implementation of mitigation measures in the design of the project
- Monitoring during the operation phase and adjustments if required

Regulatory framework

imposed by the Québec government decree

Continuous monitoring

Measuring stations

Proactive nuisance management



Reducing noise at the source

- Fully electric motor, including braking
- Treated metal and wheel lubricators to prevent curve squeal
- Welded rails on the entire network and dynamic absorbers
- 2 cars, with an approximate length of 20 m



Vibration monitoring

- Pre-construction inspection of neighboring residences by building inspectors (in the presence of the owners)
- Pre-construction inspection report given to the owners and installation of seismographs in the neighbouring residences
- Real-time monitoring of vibrations and adjustments of the construction methods if necessary
- Availability of inspectors for visits if residents observe alterations to buildings
- Analysis of the cause and restoration / compensation if the source of the problem is related to the construction site

Next steps



Public meetings for the Souigny solution



Start of traffic surveys and geotechnical borings in the Souigny railroad right-of-way area



Unveiling of the architectural vision

Unveiling of the committee's report

Start of consultations



Beginning of environmental assessment process for the project by the Ministère de l'Environnement et de la Lutte aux Changements climatiques



BAPE public hearings





Question and answer period



Thank you!



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Examples of international elevated structures

