

**UPDATE – AUGUST 2016**

RÉSEAU ÉLECTRIQUE MÉTROPOLITAIN (REM)

# Fact sheets

(recent route optimizations)

## Environmental Impact Study

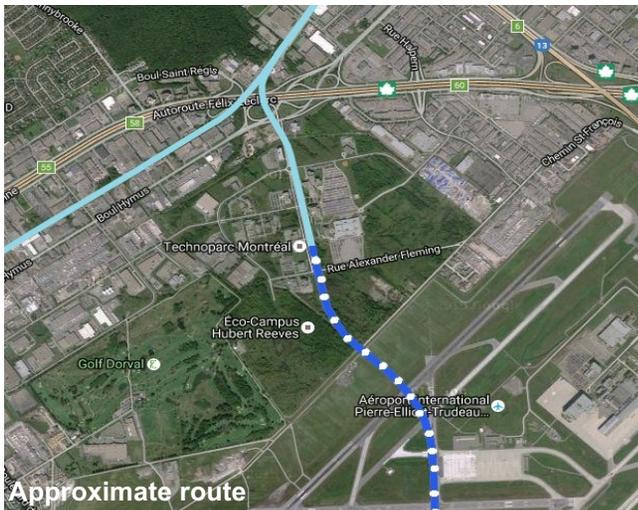


The Environmental Impact Study for the Réseau électrique métropolitain (REM) comprises thousands of pages, including three addendas. To ensure transparency, and to present the project's evolution, making the content of the study more accessible, CDPQ Infra has prepared several information documents summarizing the Study:

- a **summary report** on the Study, which shows the evolution of the project and its route over the past few months;
- an **update of the summary** of the Study setting out the main elements; and
- **fact sheets** showing the most recent route optimizations.

**These updated fact sheets show the optimizations made to the route since June.**

New fact sheets will be issued periodically to track the status of the project and maintain an ongoing dialogue.



## Objective

To reach the Montréal Airport from the north, passing through the Technoparc Montréal sector, in order to build a station alongside boulevard Alfred-Nobel.

## Identified impact

This route passed through a cut-and-cover tunnel close to an identified wetland in the future Des Sources nature park area, by borrowing the future road right-of-way of the boulevard Alfred-Nobel extension. The route had to then enter underground a little before chemin Saint-François in order to pass under the tracks and reach the Montréal-Trudeau Airport.

## Optimization

To minimize the impact on the wetland identified in the impact study, the initial route was adjusted to enter underground before the wetland, before reaching rue Alexander Fleming.

The route would therefore be completely underground, at rock level, in the wetland area, which would allow temporary impacts to be avoided during construction on the future Des Sources nature park.

Different measures will be reviewed to ensure optimal integration of this new type of route into the Technoparc. The future station of this area would then be expected to be a little further north, close to avenue Marie-Curie.

Work in this area is being carried out in partnership with Aéroports de Montréal, Technoparc Montréal, the borough of Saint-Laurent and the MDDELCC\*.

\* Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques



## Objective

To conduct detailed biological surveys to identify all species at risk in order to propose suitable mitigation measures.

## Identified impact

**Brown garter snake:** Habitats for this species have been identified in various areas along the route.

Biological surveys continue to be conducted in various areas of the route.

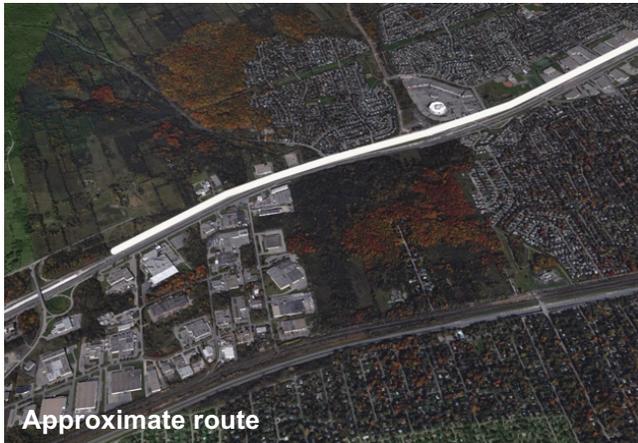
## Optimization

**Brown garter snake:** Measures will be taken during construction work in order to limit permanent impacts, for example installing barriers along the perimeter of work areas, relocating individuals outside the site, and creating new habitats.

**Least bittern:** Due to the recent adjustments to the type of route in the Technoparc area (underground passage at rock level in the area of the future Des Sources nature park), the wetlands identified in the impact study, that form the habitat of the least bittern, would no longer be affected.

## Confirmed absence

**Western chorus frog:** A biological survey of the South Shore terminal area found no western chorus frogs in the area of the future station or in the required work area. Measures will be taken during the construction period to ensure that the work site has no direct or indirect impact on the western chorus frog habitat areas in the vicinity.



Approximate route

## Objective

To connect the network to the Sainte-Anne-de-Bellevue municipality by building an REM station to serve the local population.

## Identified impact

A park-and-ride facility and a bus terminal should initially be built to serve the Sainte-Anne-de-Bellevue terminal station. However, two wetlands have been identified in this area as a result of the Environmental Impact Study.

## Optimization

Several scenarios are under review to relocate certain facilities, such as the park-and-ride lot and the bus terminal, to another place on the branch. Moving these facilities further east will mean that the impact on the wetlands will be much less severe as a result of the station's more limited footprint.

In addition, the type of route that ran through this area has been redesigned to reduce the impact on the environment as much as possible. The track would therefore be elevated to allow road vehicles, pedestrians and cyclists to pass underneath, thereby maintaining traffic flow.

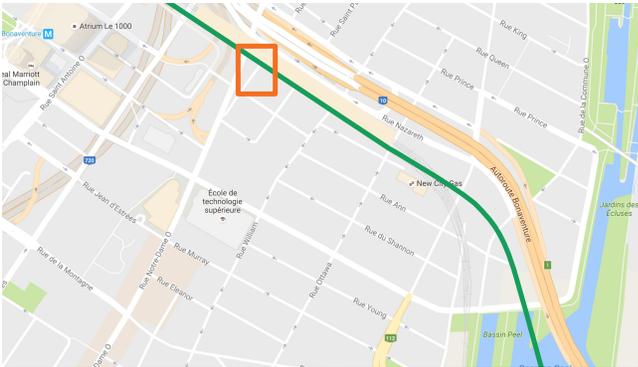
Work in this area is being carried out in partnership with the municipality of Sainte-Anne-de-Bellevue and the MDDELCC\*.

\* Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques



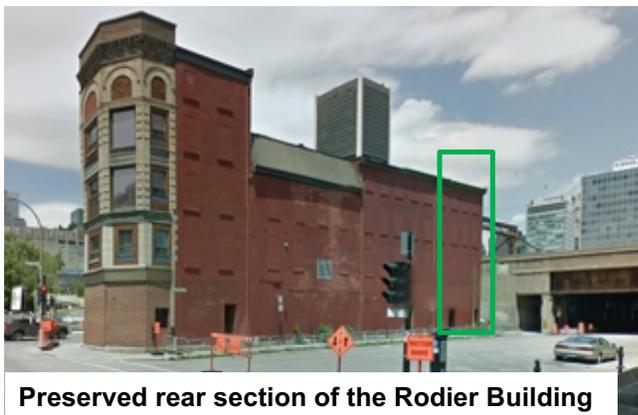
## Objective

To prevent and minimize impacts with heritage buildings in the Griffintown area while ensuring the connection between the REM and Central Station. This access to Central Station, by using CN elevated tracks, allows the various branches to be connected in a single integrated network.



## Identified impact

The scenario analyzed for the construction of civil-engineering structures between Notre-Dame Street West and Saint-Paul Street West could initially require partial demolition of the rear section of the Rodier Building and other heritage buildings.



**Preserved rear section of the Rodier Building**

## Optimization

A new agreement with CN allows us to better align the REM with CN's aerial tracks (Viaduc du Sud) arriving at Central Station.

The acquisition by CDPQ Infra of the Viaduc du Sud, before Central Station, allows the route to be integrated into the sector more quickly and directly.

This optimization of the route in this sector makes it possible to preserve the rear section of the Rodier Building. This route also preserves New City Gas as well as certain buildings located in the block formed by Wellington-Ann-Brennan streets, including in particular the Drummond-McCall Building.



## Objective

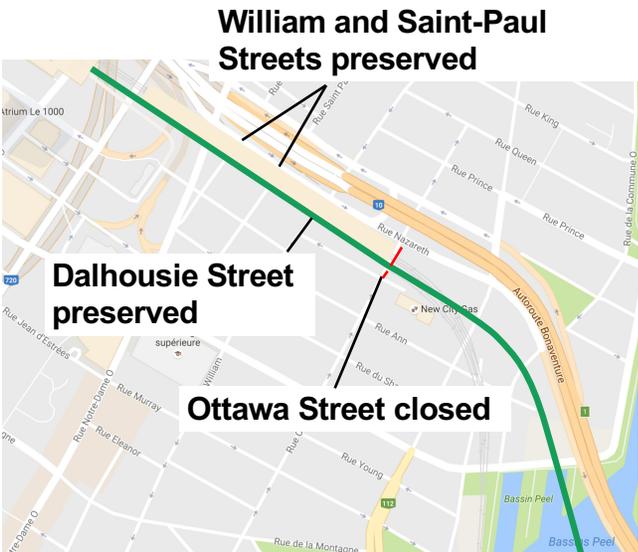
To minimize the impacts of street closures in the Griffintown area during the construction of structures required to access Central Station.

The REM would access the CN rail structure to reach Central Station. The route runs through a tunnel underneath the Peel Basin. To reach the structure, it must undertake a climb (maximum gradient of 4% to be respected). The elevation of the route would be achieved through a cut-and-cover tunnel.

## Identified impact

The construction of the cut-and-cover tunnel between Ottawa and William Streets, as well as the construction of aerial engineering structures between William Street and Central Station, could potentially lead to the closure of certain streets, including :

- Saint-Paul, William and Ottawa Streets – between De l'Inspecteur and Nazareth Streets.
- Dalhousie Street – between Ottawa and William Streets



## Optimization

Ongoing work to optimize the route has eliminated the need to close Saint-Paul, William and Dalhousie Streets. This optimization has been made possible through the new agreement with CN, which enables the route to integrate directly into the aerial structure south of Central Station (Viaduc du Sud).

Use of this existing structure enables the construction of a parallel road, and the associated impacts, to be avoided.

A travel management plan will be developed for the other streets, in collaboration with the City of Montréal.



## Objective

To minimize the space required in the southwest quadrant for construction of the South Shore terminal, which lies in an agricultural zone.

## Identified impact

The only agricultural zone affected by the project is on the South Shore branch for construction of the terminal. Although this area has been zoned as agricultural, the land has not been used for approximately 10 years.

## Optimization

This location facilitates access to the terminal for bus and automobile traffic, before the Highway 10 and 30 exchange, thereby alleviating substantial congestion problems in Brossard. This site also offers sufficient area for the installation of the various equipment required for an end-of-line station.

The decision to move the REM workshop-garage to the Pointe-Saint-Charles Maintenance Centre has reduced the land required in this area by about 5 hectares.

Temporary work areas will also be restored in order to guarantee that agricultural potential remains unchanged.

A compensation plan in line with the requirements and to the partners' satisfaction is being prepared. It could include different measures, including:

- conversion of non-agricultural land into agricultural land to replace the land being used;
- development of greenhouses on top of the roofs of certain facilities;
- public markets that could be set up in the parking facilities on weekends.



## Objective

To maximize integration of the route into the urban fabric and reduce the number of required land acquisitions.

## Identified impact

The number of lots required for the REM project, in addition to lots belonging to governments, municipalities or other public bodies, is estimated at between 150 and 160.

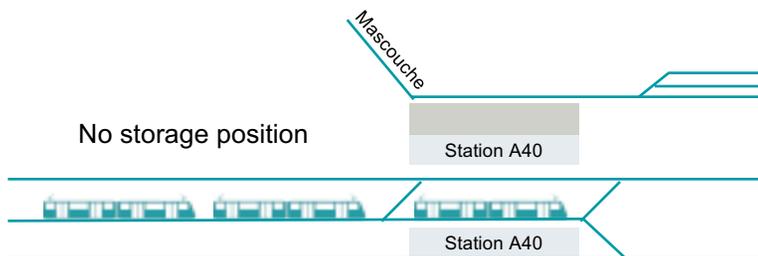
Of this number, about 60 properties along the entire route, of which only 30 are residential, could have to be relocated or partially demolished. The other plots would be needed mainly for the construction period (as work areas) where a partial right-of-way would be required.

## Optimization

The REM route has been designed to use existing axial highways and rail tracks (80% of the route): the centre of Highway 10, alongside Highway 40, on the central deck of the new Champlain Bridge, on the Doney Spur (Technoparc Montréal area) and the current Deux-Montagnes line.

By using the existing axes (road or rail), the plots required for the project are greatly reduced. The work is continuing to reduce the number of plots required by optimizing the proposed route (to date: 10% reduction).

CDPQ Infra will begin an active discussion period with all the land owners affected by the project by complying with the usual project piloted by the MTQ.



## Objective

To ensure a quick and efficient connection between the Mascouche line and the REM.

## Identified impact

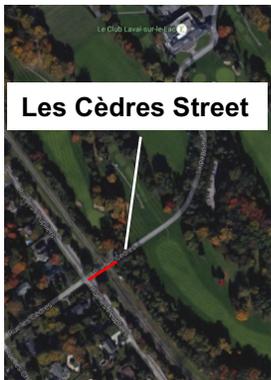
Operation of the REM and the conversion of the Deux-Montagnes line into a fully automated electric light rail transit (LRT) system, with a service frequency of 3 minutes and possibly 90 seconds, mean that conventional trains from the Mascouche line can no longer run through the Mont-Royal tunnel.

## Optimization

To mitigate the effects of this change, different strategies have been proposed:

- Build a new intermodal station allowing access from one network to the other;
- Use a shared platform to facilitate quick access from the train to the REM and vice versa;
- Ensure high service frequency of the REM to minimize waiting times for passengers arriving by train (no more than 3 minutes at peak times of operation);
- Park empty REM cars close to the station (Z configuration) to ensure a series of consecutive departures following the arrival of a train to facilitate transfer from one mode to the other.

According to recent analyses, travel time for passengers on the Mascouche line shouldn't be lengthened. Access to an intermodal station located close to Highway 40 will also allow Mascouche line passengers rapid access to various sectors connected by the REM, including Montréal Airport, without having to go through downtown.



## Objective

To convert commuter train stations in Laval to integrate them into the new REM light rail transit (LRT) system.

Conversion of the Deux-Montagnes line running through Laval West will allow faster travel times and higher service frequency – approximately 150 departures per day, making up for the current capacity shortfall.

To provide such a service, the REM must run on a dedicated network, without obstructions, stops or level crossings.

Level crossings in Laval will have to be eliminated, and roads will either be converted into aerial or underground crossings. A detailed assessment of these arteries is underway to minimize the impacts.

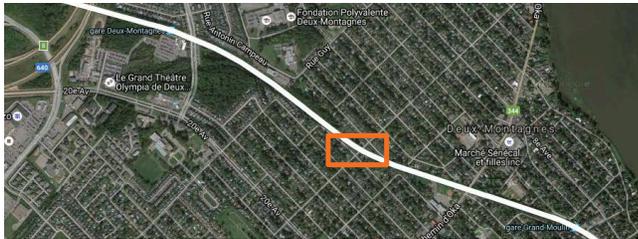
## Identified impact

Two streets in Laval (Les Cèdres and Graveline) could potentially be closed solely over the width of the rail right-of-way due to a lack of space to build structures to cross the track.

## Optimization

Work to optimize the route is underway in order to limit the impacts of these closures. A travel management plan will also be developed in collaboration with the City of Laval. Closure of Graveline Street could also be compensated by the opening of an access via Des Bois Avenue.

A communication plan will be introduced during construction work to inform the various clienteles of planned route changes.



## Objective

To convert the Deux-Montagnes train line into a light rail transit (LRT) system.

Conversion of the Deux-Montagnes line will allow faster travel times and higher service frequency, approximately 150 departures per day, making up for the existing capacity shortfall.

To provide such a service, the REM must run on a dedicated network, without obstructions, stops or level crossings. Level crossings on the Deux-Montagnes branch (around 15) will thus be eliminated and converted into aerial or underground crossings. A detailed assessment of all these arteries is underway in order to minimize the impacts of these changes.

## Identified impact

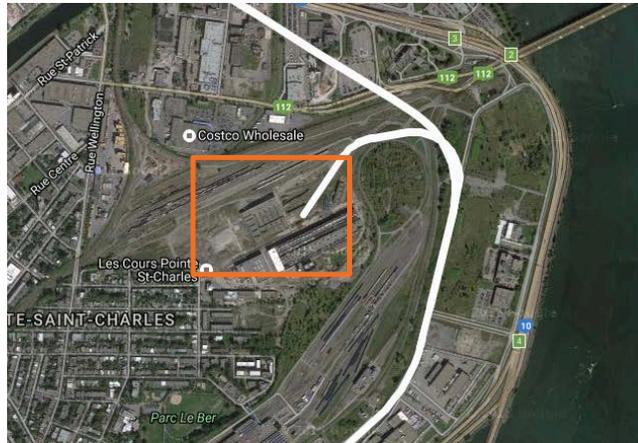
In Deux-Montagnes, such a conversion would be difficult for Henri-Dunant Street because of a lack of space to build the structure required to cross the rail track. This street might possibly be closed, but only over the width of the rail right-of-way.

## Optimization

Work to optimize the route is underway in order to limit the impact of this closure and, for example, maintain access for pedestrians and cyclists. A travel management plan will also be developed in collaboration with the City of Deux-Montagnes. Solutions are being considered to maintain an access in the sector.

A communication plan will be introduced during construction work to inform the various clientele of planned route changes.





### Maintenance of 200 LRT system cars



## Objective

To ensure major maintenance of 200 planned LRT system cars of the REM. Identify the optimal place for this maintenance centre while reducing its environmental footprint.

## Identified impact

A new AMT maintenance facility is currently under construction by the AMT in the Pointe-Saint-Charles area. Conversion of the Deux-Montagnes line could result in this new centre being underused.

## Optimization

The Pointe-Saint-Charles Maintenance Centre construction project, begun by the AMT, will be partially modified to also allow maintenance of the REM's LRT cars. Coordination work with the AMT is being performed to ensure that the adjustments required by this project are properly planned.

Initially planned for the maintenance of approximately 130 conventional train cars, the maintenance facility will handle maintenance of approximately 240 cars as a result, around 40 cars for the Mont-Saint-Hilaire line and 200 cars for the REM.

Use of the Pointe-Saint-Charles Maintenance Centre will also make it possible to reduce the area required for construction of equipment at the South Shore terminal.