

Réseau express métropolitain

Presentation of upcoming work for construction of the Canora and Mont-Royal Stations

2018-06-19



Purpose of this meeting



- -Inform you of upcoming work over the next several months
- -Explain the anticipated impacts and planned mitigation measures
- -Present the communication tools available to monitor work progress
- -Answer your questions





Roles and responsibilities





A project carried out in close collaboration with numerous partners, including municipalities and transit authorities

Réseau express métropolitain





Largest public transit project in Quebec in the last 50 years

Light rail 100% electric and automated

26 stations, 67 km

20 hours/day 7 days/week



Impacts on the Deux-Montagnes line

Impacts on the Deux-Montagnes line



- Construction work requires access to the railway right-ofway of the Deux-Montagnes line
- Optimised work and implementation in phases, to minimize impact on users







Construction of **Station A40**

Construction of **South and North portions** of Canora et Mont-Royal stations

2020: intensive work between Du Ruisseau and Central Station



Alternative transit solutions to implement

- The Autorité régionale de transport métropolitain (ARTM) is responsible for coordinating and implementing alternative measures.
- All transit authorities, along with the MTMDET and municipalities are working closely to find the best solutions.
- Alternative measures will be announced to users in the fall of 2019.



O Upcoming work

Project status



- Contract signed with the consortiums on April 12, 2018
- Design-build concept
- Preparatory fieldwork since April 2018

Anticipated work sequence



Three primary stages, based on the Deux-Montagnes Line service interruptions and access to the railway right-of-way:









Anticipated work sequence in the short term R-Legend: New WEEK **WEEK-END** catenaries



Anticipated work sequence in the short term R Legend: WEEK **WEEK-END** Low wall excavation and demolition



Anticipated work sequence in the short term R_ Legend: WEEK **WEEK-END** Platform demolition







Canora Station – Work site





Mont-Royal Station – Work site







Impacts and mitigation measures

Anticipated impacts



- Noise
- Vibration
- Dust
- Mobility (pedestrians, cyclists and vehicular traffic)

Objective: minimize impact on surrounding residents by implementing all appropriate measures

Anticipated impacts



Important activities :

- Construction of retaining walls
- Demolition work (platforms and low walls)
- Pile installation for stations

Noise criteria for work on stations



Period	Noise criteria
Day (7 a.m. to 7 p.m.)	<u>Higher between:</u> 55 dBA or ambient noise prior to work Average over a 12-hour work period
Evening (7 p.m. to 10 p.m.)	<u>Higher between:</u> 45 dBA or ambient noise prior to work Average over a 1-hour work period

Noise management – Mitigation measures



Noise reduction at the source



Monitoring and supervision program throughout the work:

- Monitoring of sound levels during construction to ensure noise criteria are met
- Dedicated supervisors
- Continuously raising workers' awareness

- -Resources dedicated to modelling seismic effects
- -Soil characterization through geotechnical drilling to adapt work methods
- -Vibration control using appropriate techniques

Progressive equipment power increase Real-time measure and analysis Ensuring compliance with the thresholds

Dust management – Mitigation measures

Mitigation measures (sprayers, dustcontrol products)

Monitoring and supervision program throughout the works:

- Installation of sensors for continuous measurement
- –Resources dedicated to monitoring emissions reports





Mobility management – Mitigation measures

- Objective: identify the most direct and safest trucking and detour routes possible
- Traffic Management Plan currently being discussed with the Cities of Montréal, Mont-Royal and the borough of Côte-des-Neiges – Notre-Dame-de-Grâce

Noise level during operations – status



- In progress: noise measurement campaign
- Fall 2018: modelling will take place in the fall of 2018
- Winter 2018: appropriate mitigation measures will be determined

Implementation of a work group and presentation in the next public meeting



Communication during the works

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information tools



For complete information on upcoming work, visit rem.info/en

- Citizens space Montréal (Centre and Airport)
- Interactive map
- Newsletters, Notices of work and SMS alerts

Contact us:

- 1 833 rem-info (736-4636)
- info@rem.info
- Social media: @remgrandmtl

Activities and dedicated resources

- Information sessions
- Neighbourhood committees
- Complaint management
- Presence on the ground

Implementation of a neighbourhood committee



- -Objective: information on upcoming **work**, as well as **impacts** and planned **mitigation measures**
 - Meetings an average of every four-six weeks during the works, in the evenings
- -10 to 12 people
- Composed of people representing the community and residents affected

Interested in being a member of the committee? Submit your application!

Implementation of a work group – REM in operation



- Implementation of a work group to deal with mitigation measures for the REM in operation
- Objective: to establish a channel for the collaborative discussion of measures to be implemented
- 5 residents (representative composition)

Interested in being a member of the committee? Submit your application!

Next steps



- Activities scheduled between now and the end of fall:

- -Ongoing updates on the works through our various channels
- Information kiosk near the work site this summer
- Implementation of a neighbourhood committee and work group this fall
- Informational meetings to present the work to come this fall
- Continued collaboration with Mont-Royal, the borough and City of Montréal to plan and coordinate works



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Report

Meeting objective:	Information meeting on the construction of Canora and Mont-Royal stations of the Réseau express métropolitain (REM)
Date and time:	June 19, 2018, 6 p.m. to 9 p.m.
Location:	Town of Mount Royal (TMR) Town Hall
Author:	Myriam Vallière – Advisor, Community Relations, REM project office

The meeting in brief:

- Around 220 participants
- Around 50 questions asked by the public
- 7 stakeholders from the REM project office and NouvLR consortium, responsible for the construction work:
 - o Jean-Philippe Pelletier, Assistant Coordination Manager, REM project office
 - Virginie Cousineau, Public Affairs Manager, REM project office
 - o David Maréchal, Manager, Quality and Compliance, REM project office
 - o Denis Andlauer, Manager, Operations, REM project office
 - o Giovanni Cipolla, Chief, Deux-Montagnes Branch, NouvLR
 - o Marc-André Lefebvre, Communications Manager, NouvLR
 - Mathieu Prud'Homme, Signals Manager, NouvLR
- 1 facilitator: Pierre Hurtubise

The purpose of the public information meeting on June 19, 2018, was to inform residents who live near REM's future Canora and Mont-Royal stations about the work that will be taking place at the site over the coming months, including the measures planned to avoid and mitigate the impact of construction on residents and on communication channels while this work is carried out. The meeting opened with a presentation, followed by a question period.

The **PowerPoint** presentation delivered at this meetina is available at https://rem.info/sites/default/files/document/Information-meetina-VMR-June-19-2018.pdf. The informative panels displayed at this meeting are available at https://rem.info/en/events/information-meeting-edouard-montpetit.

The questions raised by the public during the question period, as well as the answers provided by the REM project and NouvLR consortium team are as follows:

* During the meeting, some questions were asked and answered in English and then translated into French for the benefit of the attendees. For the purposes of this report, all discussions are presented in English.

Questions	Answers
When digging the Mont-Royal tunnel, you will be removing a lot of material. The tunnel is expected to double in size. How and to what extent are you going to dispose of this	No. The Mont-Royal tunnel will not be expanded. We are just going to excavate material for the stations. Excavation work for the Édouard-Montpetit station tunnel will begin in August 2019. Central Station is currently the



Questions	Answers
material?	preferred location for removal of the material, but this is still under discussion.
The project exists because it runs through the Town of Mount Royal. Anywhere else in the world, closed structures are built to contain the noise; this should have been a project requirement. Because some facets of the project are yet to be designed, is there still time to include plans for covering up the structure in order to maintain residents' quality of life?	For the commissioning phase of the project, we would like to preserve the current soundscape and will be implementing the necessary mitigation measures to limit the impact of noise during operation. A working group dealing with mitigation measures for the REM in operation will be created to work jointly with residents on finding the best solutions.
	However, the mitigation measures to be implemented to preserve the soundscape are separate from the development project that the Town of Mount Royal has for covering up the structure.
The Town of Mount Royal is well known for its maintenance of vegetation. Could you remove the dead tree trunks near the right-of-way when you begin the work?	We will make a note of this and will see what we can do when the project launches.
You said that 500 trains a day would be passing through the TMR, 20 hours each day. Residents have made requests asking that you excavate and cover up the railway track, and a petition was even filed. Will you be excavating the track so that the train is not visible from the street, thereby lessening the noise?	The noise mitigation issue will be addressed by the NouvLR consortium during its final infrastructure design. There are no plans to excavate the track in these sectors. In the future, it may be possible for some parts of the railway track to be covered up, but this is an urban development project that would fall to the Town of Mount Royal. We have done some preliminary work to estimate the costs that such work would entail and are working with the TMR to explore the opportunities.
In the Canora sector, there are schools as well as children playing and riding bikes. It will be important to make truck drivers aware of this to keep the children safe.	Rest assured that children's safety is a priority for us. To keep children and students safe, flaggers will be present and we will be working closely with schools and the SPVM to ensure everyone's safety.
You mentioned noise. Will there be blasting?	No, there will be no blasting in the Canora and Mont-Royal station sector. There will only be excavation work.
Do you have response time standards for responding to noise complaints?	Our complaint management policy requires us to forward any noise complaints to NouvLR, which then has two hours to identify the cause of the noise and take the appropriate action.
You are doing modelling to assess the impact of the noise of the REM in operation. If I understand correctly, you are starting	Mitigation measures will be put in place to reduce the impact of the noise when the REM is in service. Last year, we presented



Questions	Answers
construction on this project without knowing the extent of the noise that will be generated?	preliminary modelling. The NouvLR consortium is currently refining the models by taking noise readings across the entire system. Now that we have selected the consortium for the construction and for the rolling stock, we have a much better idea of how sound travels in the right-of-way and we know what type of vehicle will be used. The purpose of the current modelling is to establish the mitigation measures that will be put in place. In late 2018, the modelling will be finalized and we will then be able to pinpoint better solutions, jointly with residents.
Since the train is already excavated for the most part, additional excavation would be the best solution to resolve the visual pollution and noise problems caused by the increase in train frequency to 500 per day. The cost of excavating an 1800-metre segment of the railway track that CDPQ Infra simulated is very high. How can the cost be so high for such a short segment given the size of the project? Why has the excavation option been systematically discounted? We would like to have the opinions of other engineering firms on this matter.	Excavation work on the railway right-of-way in a densely urban environment with nearby homes is very costly. These are very delicate, complex manoeuvres that require time to make certain that everything is done right. The summary cost study we conducted considers these factors
	The mitigation measures to be implemented to ensure that the ambient noise levels during commissioning meet standards do not require excavation of the railway right-of-way. We encourage you to give your name to the working group addressing mitigation measures for the REM in operation to discuss the matter in cooperation with our teams.
With the start of tourist season, how is this construction work going to directly affect customer traffic at La Pizzaiolle, located in the area surrounding the railway right-of-way? What will the work schedule be? Will workers be taking a break so that there is some respite during the lunch hour?	For the most part, construction work will be carried out during the week from 7 a.m. to 4 p.m. Work on the track could go until 5 p.m. Workers will be taking a break from 12 p.m. to 12:30 p.m.
	We are aware of the restaurant's proximity to the site. We would like to have you meet with our teams personally so that we can give your concerns full consideration and so that we may work together to find the best solutions in order to minimize the impact of the work on the restaurant.
Is there a technical obstacle that would prevent the excavation from being deep enough for the train to fully or partly disappear where the track is more on the surface? For example, from the Mont-Royal station to Métropolitain?	This type of excavation is very complex, which has a direct impact on timelines and costs in a densely populated and built-up environment. Excavation and cover-up of the railway track is a project the Town of Mount Royal would like to see happen, but is not part of the REM

Questions	Answers
	project.
Will the piles that you are going to install stay in place permanently? Does excavation mean repositioning the piles?	Once installed, the piles will stay in place. If additional excavation were to happen, the work to be done would have to be reviewed.
The REM is going to replace the Deux-Montagnes train. What will happen to the train cars? Will CN take them?	The trains currently running on the Deux-Montagnes line are more than half way into their useful life and require a major overhaul. With the launch of the REM project, the trains will eventually be taken out of service and replaced by REM trains. Exo will decide what will be done with the MR-90 cars.
Are the maps presented this evening available on the website?	The maps will be posted online at the same time as the project's PowerPoint presentation.
To what extent are you open to protecting our town, and how did you incorporate the proposals made by residents during last year's information meeting?	Regular meetings are held with the Town of Mount Royal; specific requests were submitted by the TMR and incorporated into the project, particularly to ensure pedestrian and student safety. A walkway will be built over Lazard Street in 2019 above the REM for pedestrians so that it is usable when the Corwall bridge is rehabilitated. At the Town's request, we will make sure that the work on the Corwall bridge will keep the flow moving. We also discussed covering the railway track to determine whether this is a feasible urban development project.
Between Mont-Royal and Canora, one of the most practical and least costly solutions seems to be covering this already partially buried section.	The TMR said it would like this portion of the railway track to be covered. We are in discussions with the TMR in that regard. This is an urban development project that is separate from the REM because noise and visual pollution mitigation measures will be studied by a working group that will be set up.
How can our elected representatives help us move forward with the proposal to cover up the railway track, as stated in the petition signed by residents?	We encourage you to ask your elected representatives this question. This public information meeting is intended to provide residents with information on the work coming up over the next few months.
I take the pedestrian level crossing near Lazard Avenue all the time. If a train is to soon be passing by every 2 minutes, how can anyone take this crossing?	The level crossing at Lazard Street will be converted to a pedestrian walkway above the railway track. The level crossing will be accessible until the Deux-Montagnes line is completely shut down in 2020. However, we are planning on building the pedestrian walkway on either side of Lazard Street before the end of 2019 to allow residents to get used

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Questions	Answers
buses on existing lines. How is that going to affect other users? Now that weekend service has been cut, the only option is bus route 165 Côte des neiges, then the metro to get into town, instead of commuter trains that got us there in 10 minutes. Will there be other express options? Will the future A40 station be accessible for people from the Town of Mount Royal?	done to bring people to the closest metro stations. These assessments are already underway. A committee meets regularly to develop these scenarios. Residents of the Town of Mount Royal will, of course, be able to access station A40. The station will be built with people from the
	Mascouche train in mind, but anyone can use it.
Why can you not tell us how many decibels will be generated when the REM is up and running? Can we have a demonstration?	Your environment currently includes heavy trains that make a lot of noise when braking and accelerating and when going through level crossings. The REM is a light electric train whose cars (Métropolis) are far less noisy. We are confident that the increased frequency will not have a considerable impact on the soundscape in the TMR.
	We do, of course, have an idea of measures that could be implemented. For example, noise walls could be erected in places where sound travels, or even earth mounds with vegetation. With modelling, we will be able to refine our proposals. In a standard contract, all modelling is done before construction. Here, we are working in design-construction mode and in performance mode. The contract requires that the soundscape be similar to current conditions. We have time to work with you to identify solutions. We want to understand and document the situation so that the solutions are actually effective.
	No night work is planned for the time being. We will be working only in the daytime.
Has excavation of the railway track been studied? Why is it not being done? What are the costs of excavating and covering up the railway track?	We conducted a study at the request of TMR residents. We visited the site to assess the scope of the work. The estimate is around \$250 million to excavate and cover up the track up to the future A40 station. We want to establish a financial order of magnitude, even though this concept is not part of the REM project. We know that we will be able to preserve the soundscape with other, less costly mitigation measures that are easier to implement technically and that will keep us on schedule. We could sit down with the TMR to



Questions	Answers
	determine whether covering up the track in some place is possible, but we currently do not have plans to do this.
When do you expect the train to stop running completely?	Complete discontinuation is slated for January 2020, on the segment between Du Ruisseau and Central Station.
Will Kirkfield Street be closed to traffic?	No. In the logistics zone section on Kirkfield, there will be access for local traffic only.
Are there plans to increase the frequency of bus route 92 to every half hour?	We do not have an answer about the frequency of route 92 today, but we are aware that the bus is not frequent enough.
Hundreds of people will be taking the Lazard walkway to École Saint-Clément, including pedestrians, cyclists and young families with strollers. At what height will the walkway be at its highest point? Will children be able to bike or adults push strollers up it?	We do not have the exact numbers for the height of the walkway yet. However, it should be around 6 metres to clear the entire rail gauge, like existing walkways. There will be a grip surface for bikes to make it easier for cyclists to use, and we will look into making access easier for strollers.
With respect to the noise impact during construction, what do 55 and 45 decibels sound like? What is the maximum allowable limit?	Ambient noise in the sector is 60 and 65 decibels. For the sake of comparison, 60 to 65 decibels is roughly the equivalent of the ambient noise in a classroom full of students or an open window looking over a street. The noise level we have to abide by is the average measurement of ambient noise over 12 hours during the day, in the current situation. For some types of work, such as when we are boring the piles on two of the weekends, there may be spikes in noise. There is no noise limit for these spikes, but we also do not want to minimize the noise too much because this will cause the work to run longer.
How will you assess the difference in the soundscape? Does the standard apply to the general soundscape or when each train passes by? If your soundscape modelling showed that the only way to comply with noise standards is to cover up the railway track, why have you already excluded this from your scenario of potential mitigation measures?	We are assessing ambient noise for 24 hours before the work starts. We are also modelling for 24 hours with the new trains and the new frequency. The goal is for the "before" and the "after" to be the same over the course of 24 hours, not just when a train passes by. We know today that the measures necessary to preserve the soundscape do not require the railway track to be covered up. However, we must work with residents to determine the best
If at the end of the working group's work, one of the proposed solutions is to dia up the	measures to put in place. We will listen. Except, we are expecting the working group to work in consideration of the



Questions	Answers
railway track, will you listen to the group's recommendations?	technical, financial and scheduling constraints to propose solutions that take these factors into account. Excavation is a very costly measure, and we want the working group to consider the various potential measures before making its recommendations.
To do your work, you will no doubt dig down to a certain level. If excavation is required along the way, are we talking a delay of 18 months for the project?	The delays would indeed be substantial of around 18 months.
You said that mitigation measures will be in place from day 1 of operation to preserve the soundscape. Is there a specific budget for mitigation measures? If so, how big is it?	Yes, there is a specific budget for mitigation measures. There is no set figure because contractually, NouvLR has an obligation to achieve the required performance. In terms of noise, NouvLR has the obligation to implement the measures necessary to keep the ambient noise level the same as before the project.
The distance between the Mont-Royal tunnel and Métropolitain Boulevard is approximately 1.8 kilometres. What would it cost to build a dome over this 1.8 km segment?	The preliminary study conducted to assess high-level costs for excavating and covering up the railway track points to about \$250 million. We needed an approximate figure to assess what type of urban project could be considered and to put that into perspective with the other potential mitigation measures.
There are many examples of construction projects that are neither on time nor on budget. What measures are you taking to deliver the REM on time and on budget?	The fewer major changes we make to the project, the easier it will be to stay on time and on budget. The REM project team is coordinating the work of the NouvLR consortium to make certain that everything is in line with expectations. Furthermore, an independent certifier will review the costs and timelines to certify compliance. NouvLR will be subject to major financial penalties in the event of non-compliance.
You talked about project performance, except this does not relate to just noise. Have you considered climate with respect to maintenance? Safety is another factor to consider.	Yes, we are considering climate in our performance criteria. For example, the type of trains that will be in service have been used in Russia in particular, where weather conditions are similar to ours. Moreover, REM stations will be enclosed for an improved user experience and for transit safety, with a safety door opening and closing system. We will have maintenance teams in place to look after health and safety, to deice if need be and so on.



Questions	Answers
Is it possible to excavate just one side of the railway track, while keeping the other side safe?	It is not impossible, but it is complicated.
How many trains will be running once the REM is in service?	In rush hour, there will be about 24 trains an hour, about one every 2½ minutes. Outside peak times, trains will run about every 5 minutes. On weekends, there will be a train every 5 to 10 minutes.