

SkyTrain Noise Study: Project Update (Q3 2020)

BACKGROUND

In response to noise concerns from residents along the Expo and Millennium Lines, TransLink conducted a multi-step [SkyTrain Noise Study in 2018](#). We want to be good neighbours, so we engaged an internationally recognized acoustic engineer to assess noise levels along the Expo and Millennium Lines and to evaluate potential noise mitigation options.

This work is more important now than ever before as Metro Vancouver continues to grow and more people choose to live near rapid transit lines. The results of the study will help us identify noise reduction measures for our over 30-year-old system and inform future designs and investments.

ABOUT THE PROJECT

Following the 2018 SkyTrain Noise Study, TransLink was advised to undertake further investigations of the feasibility and effectiveness of six mitigation measures:

1. Improvements to switch maintenance practices
2. Investigation of harder rail steel as a measure to improve long-term rail condition
3. Re-introduction of top-of-rail friction modifiers to improve long-term rail condition
4. Improvements to rail grinding practices to improve long-term rail condition
5. Rail dampers to reduce noise radiated from the rails and hence reduce overall noise
6. Development of guidelines for new developments near SkyTrain

These investigations have been divided into two phases. **Phase 1** involves studying all mitigation measures except for the top-of-rail friction modifiers and improvements to grinding practices, which require more time to investigate and will be addressed in **Phase 2** (through 2020 and beyond).

Q3 2020 UPDATE

Our work in Q3 focused on Phase 2 of the mitigation study, progressing our investigations on rail grinding practices and top-of-rail friction modifiers. We also published the [Phase 1 Recommendation Report and Implementation Plan](#) and [Summary Report](#), which outlines findings and recommendations for future consideration by TransLink.

[Rail Grinding Update](#)

We completed the data collection in Q3 and our analysis of the results is underway.

[Rail Friction Modifier Update](#)

In Q3, we completed the planning and approvals for the top-of-rail friction modifier pilot study and selected a supplier of the applicator and product. We undertook controlled testing to measure train braking distances with friction modifiers manually applied – a necessary step in the approval process to install a mechanical applicator on the track. An environmental risk assessment of the friction modifier products was completed in Q3 and concluded that environmental risk is low.

Rail Damper Update

A recommendation following the Phase 1 investigations was to implement rail dampers to treat 3.2km on the Expo Line track in high priority areas. In Q3, we made progress on the budgetary approval process with a decision on implementation expected early in Q4 2020.

New Development Guidelines Update

We're working with several departments across the TransLink enterprise to identify the appropriate lead for these guidelines.

NEXT STEPS

- Obtain funding approval and begin rail damper procurement for implementation on 3.2 km of high priority areas on the Expo Line track
- Resource planning and allocation for initiating switch maintenance procedures
- Begin top-of-rail friction modifier pilot to compare results with baseline data
- Analysis of acoustic rail grinding results and develop recommendations
- Begin long term monitoring (annual noise measurements) around network to report on the progress of mitigation goals

Learn more at translink.ca/noisestudy.