Pitt Meadows Road and Rail Improvements Project

Spring community update: Noise and vibration questions and answers

Between April 21 and April 28, 2021, the Vancouver Fraser Port Authority, in partnership with Canadian Pacific (CP) and the City of Pitt Meadows, hosted four virtual information sessions to share more information about CP's track configuration and the results of the noise and vibration study, including mitigation considerations and next steps. The track configuration sessions which were led by CP and the noise and vibration sessions which were led by the port authority, provided an opportunity for the community of Pitt Meadows to learn more about each topic and ask questions.

As we committed during the noise and vibration sessions, we have complied a list of all of the questions received, along with answers below. Please note, we received several of the same questions, and therefore have removed duplicate questions and answers. Responses have been provided by the port authority and CP.

You can review the noise and vibration brochure here. If you have any questions that aren't reflected below, please don't hesitate to email us at pittmeadowsroadandrail@portvancouver.com.

Most frequently asked questions

1. **Existing noise levels already exceed the criteria. What has been done to address this?**

   We know it is a busy and noisy corridor. We cannot eliminate this noise and vibration altogether. To enable Canada's trade objectives, railways operate 24 hours a day, 365 days a year. CP is obligated under the *Canada Transportation Act* to provide service, build infrastructure, and conduct operations to accommodate all traffic offered to them So there will always be some noise and vibration. For concerns or questions about current noise and vibration caused by rail operations, please contact CP at community_connect@cpr.ca.

   The Pitt Meadows Road and Rail Improvements Project aims to improve the efficient movement of goods and people to and from the Port of Vancouver, while reducing the impact to the community. The current Transport Canada and Health Canada guidelines, which were introduced in 2007, require a noise and vibration assessment when there is a change to infrastructure. This project isn't required to address current noise conditions. However, the rail components of the project, including the 6000-foot lead extension and new 10,000-foot siding, triggered the noise and vibration assessment.

   We know that a 2030 future with the project is better than one without. Trade is growing, which will result in more rail activity. The noise mitigation we are proposing as part of this project is above and beyond what is required because we know it is important to the community.

2. **How did you identify the existing walls that are indicated in the study?**

   For our baseline assessment, we relied on aerial imagery and general site observations to provide an indication of the existing walls along the rail corridor. While aerial imagery isn't perfect, we consider this to be industry standard and best practice, particularly when on-site access may be difficult (such as requiring the permission from hundreds of residents), safety risks exist (such as large moving trains nearby), or we are reducing the exposure of the project team (such as during a pandemic).

   More details can be found in the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

3. **What is the difference between warranted mitigation and supplementary mitigation?**

   Warranted mitigation is the mitigation that is required by Health Canada for any new infrastructure project (such as the Pitt Meadows Road and Rail Improvements Project) that might increase noise levels.

   Supplementary mitigation is additional mitigation, above and beyond what is warranted and required by Health Canada. The port authority is proposing both warranted mitigation to meet the Health Canada guidelines, as well as supplementary mitigation because we know noise mitigation is a top priority for the community.

4. **The entire corridor is noisy. Is there more mitigation that can be implemented?**

   We know it is a busy and noisy corridor and projected freight rail growth means it will be busier and noisier in the future. There are many factors we're considering when determining the locations for noise mitigation. For the required mitigation, it was based on what our assessment identified and by applying the Health Canada guidelines. For the supplementary mitigation, over and above what is required by the Health Canada guidelines, we looked at what would bring the most meaningful solution when considering the additional cost and the benefit to residents.

   Similar to other projects, we need to balance competing priorities against project partner objectives and overall affordability. Our goal is to improve the safe and efficient movement of goods and people, while reducing the impact on the community by improving safety, creating better access and eliminating wait times at the rail crossings.

5. **How was the baseline study area chosen and what does it include (e.g., schools)?**

   Using best practice and industry standards, the study area was chosen based on the location of the Pitt Meadows Road and Rail Improvements Project and includes all noise and vibration sensitive land uses along the rail corridor that could potentially have significant adverse effects from project-related noise and vibration. The study area includes residences, schools, and daycares but does not include any commercial/industrial properties.

6. **What rail activity was included in the baseline study and modelling?**

   The following rail activity was included as part of the noise and vibration study:

   - Freight and commuter rail through traffic
   - Shunting at the Vancouver Intermodal Facility
   - Train building activity outside of the Vancouver Intermodal Facility
   - Train whistling and rail crossing signals

   More details can be found in Section 7.1.1 of the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

7. **How effective will a segmented wall be compared to a continuous wall?**

   There are many factors we considered when determining the locations for the (mitigation required by Health Canada). Based on the results of the noise and vibration study and by applying the Health Canada guidelines, the segmented walls were identified and are being proposed specifically because BKL, our acoustical engineering experts, determined they will be effective.

   The supplementary mitigation we are proposing is above and beyond what is required. We assessed what would bring the most meaningful solution when considering the additional cost and the benefit to residents.

   The mitigation we are proposing as part of the Pitt Meadows Road and Rail Improvements Project will meaningfully respond to the noise impacts caused by the project.

Existing fencing and barriers

8. **Can you confirm if there will be a fence on the south side of the tracks from Harris Road east to Maple Meadows Way?**

   Based on the results of the noise and vibration study and Health Canada's guidelines, nine properties require mitigation to reduce noise associated with the project to levels below Ldn 75 dBA to meet the requirements. The project team is proposing to build approximately 245 metres of noise walls, four to five metres high, to meet those mitigation requirements. These noise walls would also benefit 14 additional nearby properties.

   In addition, the port authority is proposing to construct 365 metres of supplementary noise walls (expected to be two and a half metres high), over and above the required mitigation, that is predicted to reduce noise levels on average by 6 dBA for an additional 22 properties.

   The map on page 15 of the noise and vibration brochure highlights where we are proposing mitigation, which includes a portion around Harris Road. Please note, the exact locations are still being finalized. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

9. **We had a noise and vibration monitor on our backyard fence (Somerset Drive). The fence is 1.8 metres high, as opposed to 2.4 metres. Does this mean that CP will be installing 2.4 metre fences for those properties whose current fences are lower than 2.4 metres?**

   For our baseline assessment, we relied on aerial imagery and general site observations to provide an indication of the existing walls along the rail corridor. While aerial imagery isn't perfect, we consider this to be industry standard practice when on-site access may be difficult (such as requiring the permission from hundreds of residents), safety risks exist (such as large moving trains nearby), or we are reducing the exposure of the project team (such as during a pandemic).

   Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

10. **It is indicated that there is an existing 2.4 metres wood wall on the south side of the main track, just west of Harris Road spanning from Lehman Place to just past 189A street. There is a chain link fence and a clear visual of all trains and all tracks to McMyn Road. Can you clarify?**

    For our baseline assessment, we relied on aerial imagery and general site observations to provide an indication of the existing walls along the rail corridor. While aerial imagery isn't perfect, this is considered to be industry standard practice when on-site access is difficult (such as requiring the permission from hundreds of residents), safety risks exist (such as large moving trains nearby), or we are reducing the exposure of the project team (such as during a pandemic).

    We have shared the full noise and vibration assessment report, including assumptions, on our project website, which provides the community with an opportunity to review our methodology and assumptions.

Noise and vibration study

11. **Do you have visuals of what areas had the increased noise and vibrations?**

    Please refer to page 7 in the noise and vibration study brochure on the project website.

12. **What other study has been conducted to assess structural damage?**

    The noise and vibration study undertaken by BKL for the Pitt Meadows Road and Rail Improvements Project followed the guidelines and criteria set out by Health Canada (for noise) and the US Federal Transit Administration (for vibration). The vibration criteria doesn't apply to structures. However, the assessment does indicate there is very little change in the future scenarios with respect to vibration experienced when compared to today.

13. When discussing a property (a property affected by noise) in the noise study, is a property defined as one residential unit or could it be multi-residential? For example: 1 property = a detached house vs 1 = an apartment building?

In the noise and vibration assessment completed by BKL, a receiver is a house, residence and/or property that "receives" the noise. If we are referring to a multi-family dwelling such as the Keystone Building, each individual residence or condo is represented as one receiver in the noise and vibration study.

14. Was train whistling part of the noise study?

Yes, train whistling was considered in the noise and vibration study. The study also included the warning light bells and the associated noise.

15. How can the increase in noise be considered only 'moderate' when the number of trains will more than double? How is this impact considered in your methodology? How will this increased health risk be mitigated for everyone living near the tracks?

Our study assumed up to a doubling of freight trains through the rail corridor in Pitt Meadows based on the projected growth in trade movements between 2015 and 2030, and compares a 2030 future with and without the project, to determine the difference. The difference in these levels, is what we are proposing to mitigate. The study anticipates the following changes when you compare 2030 conditions with and without the project:

- Increase of 1 dBA at 35 properties
- Increase of 2 dBA at five properties
- Increase of 0.1 dBA on average for all properties within the study area

Based on the results of the noise and vibration study and Health Canada's guidelines, nine properties require mitigation to reduce noise associated with the project to levels below Ldn 75 dBA. The project team is proposing to build approximately 245 metres of noise walls, four to five metres high, to meet those mitigation requirements. These noise walls would also benefit 14 additional nearby properties.

In addition, the port authority is proposing to construct 365 metres of supplementary noise walls (expected to be two and a half metres high), over and above what is required. This is predicted to reduce noise levels on average by 6 dBA for an additional 22 properties.

Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

16. The noise mitigation walls are planned to be in sections along the corridor. Wouldn't a continuous noise wall be more effective?

There are many factors we considered when determining the locations for required mitigation. Based on the results of the noise and vibration study and by applying the Health Canada guidelines, the segmented walls were identified and are being proposed specifically because BKL, our acoustical engineering experts, have determined they will be effective.

The supplementary mitigation we are proposing goes above and beyond what is required. We assessed what would bring the most meaningful solution when considering the additional cost and the benefit to residents.

The mitigation we are proposing as part of the Pitt Meadows Road and Rail Improvements Project will meaningfully respond to the noise impacts caused by the project.

17. Did the noise assessment consider the additional noise created by the Kennedy Road overpass?
The noise and vibration assessment study area included the entire rail corridor from Kennedy Road to Golden Ears Way. The study captured the proposed changes to both the road network and traffic and rail

activity in the area, which includes the grade separations at both Harris Road and Kennedy Road. It also included:

- Freight and commuter rail through traffic
- Shunting at the Vancouver Intermodal Facility
- Train building activity outside of the Vancouver Intermodal Facility
- Train whistling and rail crossing signals

18. You are proposing mitigation on the north side of the track, but none on the southside. How are residences on the southside not affected?

We are proposing mitigation on both the north and south side of the tracks in specific locations based on the results of the noise and vibration study and by applying Health Canada's guidelines. This includes 245 meters of required mitigation and an additional 356 meters of supplementary mitigation above and beyond what is required by Health Canada.

The map on page 15 of the noise and vibration study indicates where we are proposing mitigation, however the exact locations are still being finalized. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

19. Why was only one noise monitor between Harris Road and Golden Ears Way on the south side?

Baseline measurement locations were chosen to be representative of community locations where noise and vibration impacts could occur, and in accordance with established industry best practices, such as ensuring they had clear sightlines to the rail corridor, to be confident that the analytical model calibration and subsequent future scenario modelling was accurate.

Health Canada does not stipulate the number of monitoring locations required but provides guidance on a number of approaches that can be used to estimate baseline noise and modelling. Since baseline monitoring, modelling and prediction of noise and vibration levels were performed following industry standard practices, additional monitoring locations are not expected to improve the quality of the study.

20. Would the holiday season have had any impacts on the study outputs, given that it was completed in December 2019?

The rail movements and activities that occurred during the study period (December 11 and 23, 2019, before the COVID-19 pandemic), including train building activities, are reflective of average rail movements throughout the rest of the year and is a good representation of the noise conditions along the corridor.

During this time, six noise monitors, four of which also included vibration, were placed along the rail corridor between Kennedy Road and Golden Ears Way. The monitors, which were placed above any walls and with clear sightlines to the rail tracks, recorded rail and traffic noise and vibration data for 24 hours a day for one week. 24-hour duration measurements are typical for B.C. highway projects, and these baseline measurements were performed continuously over a week to assess potential day-to-day variation.

These levels were scaled up to account for anticipated future growth for all rail activities. More details can be found in Section 7.1.1 of the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

21. Did the study include train building along to Golden Ears Way?

Yes, train building activities were captured in the study. The following rail activity was included as part of the noise and vibration study:

- Freight and commuter rail through traffic
- Shunting at the Vancouver Intermodal Facility
- Train building activity outside of the Vancouver Intermodal Facility
- Train whistling and rail crossing signals

22. What is the duration of the pause for the Kennedy Road overpass and how does this change the proposed mitigation?

The timing of the Kennedy Road overpass does not change the proposed mitigation. Right now, our focus is on progressing the designs for the Harris Road underpass, noise mitigation, and relocation of the heritage buildings. We understand through feedback from the community and stakeholders that these components of the project are important and of interest. Once that work is completed, we will have a better understanding of the timeline for the entire project.

23. Given that CP has stated that its normal operating conditions will not change with the proposed project, then why was the noise and vibration monitoring not carried out under normal operating conditions?

The rail movements and activities that occurred during the study period (December 11 and 23, 2019, before the COVID-19 pandemic), including train building activities, are reflective of average rail movements throughout the rest of the year and is a good representation of the noise conditions along the corridor.

During this time, six noise monitors, four of which also included vibration, were placed along the rail corridor between Kennedy Road and Golden Ears Way. The monitors, which were placed above any walls and with clear sightlines to the rail tracks, recorded rail and traffic noise and vibration data for 24 hours a day for one week. 24-hour duration measurements are typical for BC highway projects, and these baseline measurements were performed continuously over a week to assess potential day-to-day variation.

The following rail activity was included as part of the noise and vibration study:

- Freight and commuter rail through traffic
- Shunting at the Vancouver Intermodal Facility
- Train building activity outside of the Vancouver Intermodal Facility
- Train whistling and rail crossing signals

These levels were scaled up to account for anticipated future growth for all rail activities. More details can be found in Section 7.1.1 of the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

24. The noise and vibration study notes that six noise monitors were set up along the rail corridor between Kennedy Road and Golden Ears Way and that these locations are representative of the locations within the community where the noise impacts would be the greatest. How was it decided that these were the best locations to test?

Baseline measurement locations were chosen based on the location of the Pitt Meadows Road and Rail Improvements Project and includes all noise and vibration sensitive land uses along the rail corridor that could potentially have significant adverse effects from project-related noise and vibration. Inline with industry best practice, the monitors had clear sightlines to the rail corridor, to be confident that the analytical model calibration and subsequent future scenario modelling was accurate.

Health Canada does not stipulate the number of monitoring locations required but provides guidance on a number of approaches that can be used to estimate baseline noise and modelling. Since baseline monitoring, modelling and prediction of noise and vibration levels were performed following industry standard practices, additional monitoring locations are not expected to improve the quality of the study.

25. **Looking at the study area map on page 7, the homes along the south side of the track from Harris Road to Golden Ears Way, seem to have been left out of the noise and vibration assessment, as no monitors were set up in this area. How do you know a noise wall isn't needed in this area?**

    Baseline measurement locations were chosen to be representative of community locations where noise and vibration impacts could occur, and in accordance with established industry best practices, such as ensuring there had clear sightlines to the rail corridor, to be confident that the analytical model calibration and subsequent future scenario modelling was accurate.

    Health Canada does not stipulate the number of monitoring locations required but provides guidance on a number of approaches that can be used to estimate baseline noise and modelling. Since baseline monitoring, modelling and prediction of noise and vibration levels were performed following industry standard practices, additional monitoring locations are not expected to improve the quality of the study.

26. **Does the study include any recommendations for noise mitigation for the new rail bridge, above the Harris Road underpass (i.e., concrete vs. steel superstructure, rail ties directly supported by the superstructure vs. supported by a prism of ballast, superstructure steel bearings vs. elastomeric ones)?**

    Specific design details for the Harris Road underpass and associated rail bridge will be developed in the coming months, with consideration given to a number of technical, commercial and operational factors—and what may or may not be required for the project. These and other details will be shared with the community as part of future engagements.

27. **Is there any consideration being given to increase the study area further west of Harris Road?**

    Since baseline monitoring, modelling and prediction of noise and vibration levels were performed following industry standard practices, additional monitoring locations are not expected to improve the quality of the study. The study area was chosen based on the location of the Pitt Meadows Road and Rail Improvements Project and includes all noise and vibration sensitive land uses along the rail corridor that could potentially have significant adverse effects from project-related noise and vibration.

28. **For the high annoyance criterion, there are nine additional dwellings predicted to exceed Ldn75 dBA for the 2030 north build scenario. If the activity happening today on the tracks is expected to happen in the future and in the same locations, why would the noise level increase to a "high annoyance" for those nine homes?**

    The proposed 6,000-foot extension of CP's lead track into the Vancouver Intermodal Facility is taking the existing activity that you see east of Harris Road and shifting it approximately 14 feet north. This shifting of activities further north is what has been assessed in the BKL recommendations for the 2030 with project scenario.

29. **During December 2019 six noise monitors were placed along the rail corridor, three in areas behind current noise mitigation walls and three not (page 7 of the brochure). Was there a noticeable difference in noise levels between the two groups?**

    The measurements were all done above the wall, with clear sightlines to the rail corridor. None of monitors were placed behind walls. As a result, there are no differences due to noise shielding from these walls.

30. **Is there a more detailed visual of which areas had increased noise and vibration?**

    The appendices of the study includes a series of numbers that correspond with specific addresses. This was done to protect the privacy of property owners. However, if a particular resident has an interest in knowing more about their specific property, please email us at pittmeadowsroadandrail@portvancouver.com and we'll be happy to share that information with you.

31. **What specific factors were incorporated into the modeling of increased rail activity with the project in 2030, particularly the new rail activity that will be done on the Vancouver Intermodal Facility lead track extension and the new siding track? Since these tracks don't exist yet, how was this new activity incorporated into the models?**

    The following rail activity was included as part of the noise and vibration study:

    - Freight and commuter rail through traffic
    - Shunting at the Vancouver Intermodal Facility
    - Train building activity outside of the Vancouver Intermodal Facility
    - Train whistling and rail crossing signals

    These levels were scaled up to account for anticipated future growth for all rail activities. More details can be found in Section 7.1.1 of the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

32. **Does the predicted increase in rail activity for 2030 include the new engine idling, engines powering up to start and stop trains and shunting that is going to occur on these new tracks? How are these new activities and this percussive shunting sound modeled?**

    Yes. The following rail activity was included as part of the noise and vibration study:

    - Freight and commuter rail through traffic
    - Shunting at the Vancouver Intermodal Facility
    - Train building activity outside of the Vancouver Intermodal Facility
    - Train whistling and rail crossing signals

    BKL developed a 3D noise model to predict noise levels for existing and future scenarios. Noise levels were scaled up to account for anticipated future growth for all rail activities. Transportation and industrial noise levels have been predicted using internationally recommended standards and best practices for modelling methods, including The Good Practice Guide for Strategic Noise Mapping and The Good Practice Guide on Port Area Noise Mapping and Management.

    More details can be found in Section 7.1.1 of the Environmental Noise and Vibration Assessment completed by the project's acoustic consultant, BKL.

33. **Section 7.1.1.2 of the BKL report (page 12) indicates the sources were modelled based on previous shunting measurements collected by BKL. When were these measurements taken and can you please provide a copy of the report from BKL that is referenced?**

    BKL, as acoustical experts, have performed many baseline assessments. Through their data collection on various assignments, they have identified typical measurements that can be incorporated into assessments. Any information that pertains to assessments outside of the Pitt Meadows Road and Rail Improvements Project is proprietary information.

34. **If there is no increase expected in noise, why was the BKL study conducted?**

    The current Transport Canada and Health Canada guidelines, which were introduced in 2007, requires noise assessment when there is a change to infrastructure. The rail components, specifically the extension of the Vancouver Intermodal Facility lead extension and the new siding track, triggered the noise assessment we completed as part of the project. Freight rail traffic growth alone does not require further assessments.

35. **How many trains were built along the corridor to Golden Ears Way during the December 2019 study period—specifically for location 5?**

    The study doesn't include the specific number of trains built during the study period, however the following rail activity was captured:

- Freight and commuter rail through traffic
- Shunting at the Vancouver Intermodal Facility
- Train building activity outside of the Vancouver Intermodal Facility
- Train whistling and rail crossing signals

These levels were scaled up to account for anticipated future growth for all rail activities. For more detailed information, please email the project at pittmeadowsroadandrail@portvancouver.com.

36. As part of the process, would future measurements be made to confirm the modeling?

As we continue to advance the noise mitigation scope, we will explore the possibility of completing a post-construction assessment. We will share further updates with the community in future project updates.

37. Normal soil conditions were assumed for the purposes of predicting vibration level reduction with distance. Why were soil conditions not sampled to determine accurate conditions and thus ensuring better accuracy for the modelling?

As part of the noise and vibration assessment, BKL made assumptions about ground conditions that were supported by actual data collected from the vibration monitors to inform the assessment, in order to accurately measure and predict existing and future conditions**.**

38. What activities will be occurring on the new tracks that would be causing the increase in noise?

As trade movements grow in the coming decade, we can expect an increase in rail activity along the Pitt Meadows corridor and therefore conditions may become noisier than they are today. The Pitt Meadows Road and Rail Improvements Project does not enable any new activities which could not otherwise take place today. For residents living near the rail corridor, you will see and hear some rail activities (switching, idling, and shunting) occur closer to the northern boundary of CP's rail corridor.

39. What were the noise projections based on?

Please see Section 7 of the Environmental Noise and Vibration Assessment.

40. You have only said that vibration will not increase by much. But what exactly does this mean? What impact will it have?

The noise and vibration study undertaken by BKL for the Pitt Meadows Road and Rail Improvements Project followed the guidelines and criteria set out by Health Canada (for noise) and the US Federal Transit Administration's Transit Noise and Vibration Impact Assessment (for vibration). The assessment focused on the health impact considerations associated with noise and vibration. The study found that vibration levels are not expected to change in the future when you compare a future with and without the project, since freight and commuter rail through traffic will remain on the existing tracks and average rail speeds are not expected to change. However, the study predicts one location where vibration levels will increase marginally near the new rail improvements (Vancouver Intermodal Facility lead extension and siding track). Per the guideline recommendations, we will undertake further technical work to identify solutions through design of the project or explore mitigation options.

41. What, if any, assessments have been done regarding how foundations will be impacted?

The noise and vibration study undertaken by BKL for the Pitt Meadows Road and Rail Improvements Project followed the guidelines and criteria set out by Health Canada (for noise) and the US Federal Transit Administration (for vibration). The vibration criteria is specific to the health effects on humans, not on structures, and is therefore not considered in the study. However, the assessment does indicate there is very little change in the future scenarios with respect to vibration experienced when compared to today.

Proposed mitigation

42. Why is the new proposed wall south of tracks and west of Maple Meadows Way only 2.5 metres instead of the other heights?

The new wall we are proposing south of the tracks and west of Maple Meadows Way is 2.5 metres high, as opposed to four to five metres (warranted mitigation) because it is part of the enhanced/supplementary mitigation we are proposing as part of the project. This height and length of the wall was identified by our acoustical engineering experts to provide meaningful noise mitigation to those residences while balancing other project priorities with overall affordability considerations.

43. Will there be a noise wall on both sides of the rail line from Harris Road to Maple Meadows Way going east? If not, why?

We are proposing mitigation on both the north and south side of the tracks in specific locations based on the results of the noise and vibration study and by applying Health Canada's guidelines. This includes 245 meters of required mitigation and an additional 356 meters of supplementary mitigation above and beyond what is required by Health Canada.

The map on page 15 of the noise and vibration study indicates where we are proposing mitigation, however the exact locations are still being finalized. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

44. Do you have visuals of the proposed walls displaying the height?

We don't have visuals of the noise walls yet. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

45. Will the port authority and CP conduct a post-construction noise and vibration study to adjust the mitigation efforts given that they are currently based on models?

As we continue to advance the noise mitigation scope, we will explore the possibility of completing a post-construction assessment. We will share further updates with the community in future project updates.

46. The mitigation options map on page 15, shows a wall along the north track, on both the west and east sides of Harris Road, but no proposed mirrored wall is shown on the south track side. Why isn't there a wall of the same height and distance for the homes on the south track side?

We are proposing mitigation on both the north and south side of the tracks in specific locations based on the results of the noise and vibration study and by applying Health Canada's guidelines. This includes 245 meters of required mitigation and an additional 356 meters of supplementary mitigation above and beyond what is required by Health Canada.

Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

47. I was disappointed to see that there is no recommendation for noise mitigation for the properties at 19159 and 19167 Advent Road. Both properties and dwellings back immediately to the mainline track. I see that replacement of the existing fence is included in the study. Why would the replacement of that fence not be extended to the new underpass at Harris Road which would then include the last two properties listed above?

There are many factors we're considering when determining the locations for noise mitigation. For the required mitigation, it was based on what our assessment identified and by applying the Health Canada

guidelines. For the supplementary mitigation, over and above what is required by the Health Canada guidelines, we looked at what would bring the most meaningful solution when considering the additional cost and the benefit to residents.

Similar to other projects, we need to balance competing priorities against project partner objectives and overall affordability. Our goal is to improve the safe and efficient movement of goods and people, while reducing the impact on the community by improving safety, creating better access and eliminating wait times at the rail crossings. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

48. There are sound fences on the north side already but none on the south side. Can you advise if there will be a fence on the south side, east of the station?

We are not proposing noise mitigation on the south side of the rail corridor near the West Coast Express Station. We are proposing mitigation in specific locations along the corridor, based on the results of the noise and vibration study and by applying Health Canada's guidelines.

49. Why can't CP and the port authority do the right thing to rectify the issue now, rather than forcing residents to take the issue to the Canadian Transportation Agency as a formal complaint?

The Pitt Meadows Road and Rail Improvements Project aims to improve the efficient movement of goods and people to and from the Port of Vancouver, while reducing the impact to the community. The current Transport Canada and Health Canada guidelines, which were introduced in 2007, require a noise and vibration assessment when there is a change to infrastructure. This project isn't required to address current noise conditions. However, the rail components of the project, including the 6000-foot lead extension and new 10,000-foot siding, triggered the noise and vibration assessment.

As a Canadian port authority, our job is to make sure the Port of Vancouver is ready to handle Canada's growth in trade. That is why we collaborate with government, industry, Indigenous groups, and communities—like Pitt Meadows, to take the necessary steps to prepare for anticipated growth. We lead and fund projects that help enhance the movement of trade-related cargo through Greater Vancouver while improving mobility and safety, protecting the environment, and alleviating the community impacts of growing trade.

For concerns or questions about current noise and vibration caused by rail operations in Pitt Meadows, please contact CP at community_connect@cpr.ca.

50. Is there a map that shows which properties will get better after mitigation is put in place?

The map on page 15 of the noise and vibration study indicates where we are proposing mitigation, however the exact locations are still being finalized. We will share further updates on the noise mitigation scope, including the locations of the noise walls, with the community in future project updates. Based on the results of the noise and vibration study, and through further design development and more detailed discussions with directly impacted property owners, project partners will work to determine:

- Right-of-way requirements
- Visual considerations and aesthetics
- Environmental considerations
- Maintenance
- Drainage considerations
- Height

51. Has consideration been given to building a continuous wall first, to provide noise mitigation during construction and after?

We haven't confirmed the construction timing of the noise mitigation, as it relates to the rest of the project. Over the next few months, we will be working with the City of Pitt Meadows and CP to finalize details such

as materials, aesthetics, and exact locations of the noise walls. We will share further updates on the noise mitigation scope with the community in future project updates.

Regulations and criteria

52. Can you tell us about the CTA ruling for New Westminster rail activity near the Quay?

This response was provided by CP.

In 2013, the CTA issued a confidential decision regarding a settlement agreement entered into by Quayside Community Board and three federally regulated railways and one provincially regulated railway. The agreement was regarding a noise and vibration complaint about the New Westminster interchange yard. The tracks at this location were jointly accessed by all four railways.

All four railways continue to operate in and through the City of New Westminster, including at the interchange yard, as they did before the proceedings. As well, Proximity Guidelines were developed by a working group of the Federation of Canadian Municipalities and the Railway Association of Canada. These guidelines were endorsed in 2012 and can be found at www.proximityissues.ca. The City of New Westminster has since endorsed the Proximity Guidelines, and redevelopment in downtown New Westminster now reflects the guidelines. As well, the City of New Westminster proceeded with whistle cessation at most of the crossings in the City.

53. Can you please explain the health effects of noise on children's learning?

We cannot comment of the health effects of noise on children's learning. The noise and vibration study undertaken by BKL for the Pitt Meadows Road and Rail Improvements Project, is within the guidelines and criteria set out by Health Canada (for noise) and the US Federal Transit Administration's Transit Noise and Vibration Impact Assessment (for vibration) and considered the schools and daycares within the project's study area.

54. Is the vibration criteria only applicable to health effects? Does it consider the effect on structures?

The vibration criteria is specific to the health effects on humans, not on structures and therefore structures are not considered in the study. The noise and vibration assessment does indicate there is very little change in the future scenarios with respect to vibration experienced when compared to today.

55. What World Health Organization document are you referring to?

Information about the World Health Organization's Environmental Noise Guidelines for the European Region can be found here.

56. Why has the port authority done a study on vibration that excludes potential damage to structures, such as houses?

The noise and vibration study undertaken by BKL for the Pitt Meadows Road and Rail Improvements Project followed the guidelines and criteria set out by Health Canada (for noise) and the US Federal Transit Administration (for vibration). The vibration criteria is specific to the health effects on humans, not on structures, and is therefore not considered in the study. However, the assessment does indicate there is very little change in the future scenarios with respect to vibration experienced when compared to today.

57. Do the existing noise and vibration levels exceed the criteria? And if so, how will CP and the project team be dealing with deficiencies?

We know it is a busy and noisy corridor. We cannot eliminate this noise and vibration altogether. To enable Canada's trade objectives, railways operate 24 hours a day, 365 days a year. CP is obligated under the *Canada Transportation Act* to provide service, build infrastructure, and conduct operations to

accommodate all traffic offered to them So there will always be some noise and vibration. For concerns or questions about current noise and vibration caused by rail operations, please contact CP at community_connect@cpr.ca.

The Pitt Meadows Road and Rail Improvements Project aims to improve the efficient movement of goods and people to and from the Port of Vancouver, while reducing the impact to the community. The current Transport Canada and Health Canada guidelines, which were introduced in 2007, require a noise and vibration assessment when there is a change to infrastructure. This project isn't required to address current noise conditions. However, the rail components of the project, including the 6000-foot lead extension and new 10,000-foot siding, triggered the noise and vibration assessment.

We know that a 2030 future with the project is better than one without. Trade is growing, which will result in more rail activity. The noise mitigation we are proposing as part of this project is above and beyond what is required because we know it is important to the community.

58. **How do the Heath Canada guidelines address the impacts to sleep disturbance?**

The noise and vibration assessment undertaken by BKL as part of the Pitt Meadows Road and Rail Improvements Project looked at a set of criteria, including sleep and night-time disturbance caused by noise. The study identified nine properties that exceeded the high annoyance criteria set out by Health Canada and require mitigation to reduce noise associated with the project to levels below Ldn 75 dBA. The project is proposing to build approximately 245 metres of noise walls, four to five metres high, to meet those mitigation requirements. These noise walls would also benefit 14 additional nearby properties.

In addition, the port authority is proposing to construct 365 metres of supplementary noise walls (expected to be two and a half metres high), over and above the required mitigation, that is predicted to reduce noise levels on average by 6 dBA for an additional 22 properties.

Pitt Meadows Road and Rail Improvements Project

59. **Why an underpass at Harris Road and an overpass at Kennedy Road?**

The selection of an underpass or overpass is informed by many considerations, including topography, geotechnical and environmental site conditions, capital and maintenance costs, adjacent land use and community interests, among other items. Primarily, an underpass was selected at Harris Road with consideration of adjacent land uses and an overpass was selected at Kennedy Road with consideration of environmental and geotechnical conditions.

60. **How will you ensure the underpass is a safe and inviting space?**

We are continuing to advance the design of the Harris Road underpass and hope to bring a draft design back to the community this fall. Part of our design process is looking at the experience for people who will be using the infrastructure—drivers, pedestrians and cyclists and ensuring it is safe and accessible for all.

61. **Are there specific studies or information that can quantify the benefits of the Pitt Meadows Road and Rail Improvements Project? Specifically, the number of delays that are currently experienced regarding emergency response?**

Pitt Meadows is home to two of the busiest rail crossings in the Lower Mainland. The Pitt Meadows Road and Rail Improvements Project will eliminate the rail crossings at Harris Road and Kennedy Road. Currently, these crossings are blocked each day by moving trains for an average of one hour and 45 minutes at Kennedy Road and three hours and 30 minutes at Harris Road, and predicted to increase to an average of four hours and 30 minutes at Kennedy Road and six hours at Harris Road by 2030. We encourage anyone who would like specific details to please reach out to us at pittmeadowsroadandrail@portvancouver.com.

62. Have there been traffic analyses that demonstrate how congestion will change for local residents?

As part of the Pitt Meadows Road and Rail Improvements Project, the port authority has undertaken a traffic study. Currently, the crossings in Pitt Meadows are blocked each day by moving trains for an average of one hour and 45 minutes at Kennedy Road and three hours and 30 minutes at Harris Road, and predicted to increase to an average of four hours and 30 minutes at Kennedy Road and six hours at Harris Road by 2030.

With the project, residents will experience less traffic delays, reduced vehicle emissions and improved air quality, have fewer locomotives idling. The project will provide safer and more reliable travel for drivers, pedestrians and cyclists, and better access for first responders so they can get to their destinations faster.

We encourage anyone who would like specific details to please reach out to us at pittmeadowsroadandrail@portvancouver.com.

63. Does the Minister of Transportation fully understand the impact of this project on this community, and do they support it?

The Pitt Meadows Road and Rail Improvements project is partially funded by the National Trade Corridors Fund. This fund is administered by Transport Canada, a federal department which reports to the Minister of Transport. The proposed project remains consistent with the original funding application, accepted by Transport Canada.

The funding agreement with Transport Canada includes a number of requirements which the project must adhere to, including requirements related to community engagement, environmental assessments and other technical work. While we cannot speak on behalf of the minster, the port authority has regular check-ins with Transport Canada staff to share information on the progress of the project. At the conclusion of the design phase, Transport Canada will assess the projects compliance with the funding agreement requirements in advance of approving construction commencement.

Trade activities

64. When will the port authority feel satisfied that it has expanded enough in Pitt Meadows?

As a Canada Port Authority, our job is to make sure the Port of Vancouver is ready to handle Canada's growth in trade, including enabling the safe and efficient movement of trade to and from the Port of Vancouver. That is why we collaborate with government, industry, Indigenous groups, and communities—like Pitt Meadows, to take the necessary steps to prepare for anticipated growth. We lead and fund projects that help enhance movement of trade-related cargo through Greater Vancouver while improving mobility and safety, protecting the environment, and alleviating the community impacts of growing trade.

65. Why do the prairie farmers have priority over ruining B.C. farmland?

As a Canada Port Authority, our job is to make sure the port is ready to handle Canada's growth in trade, including enabling the safe and efficient movement of trade to and from the Port of Vancouver. That is why we collaborate with government, industry, Indigenous groups, and communities—like Pitt Meadows, to take the necessary steps to prepare for anticipated growth. We lead and fund projects that help enhance the movement of trade-related cargo through Greater Vancouver while improving mobility and safety, protecting the environment, and alleviating the community impacts of growing trade.

Similarly, section 113 to 115 of the *Canada Transportation Act* outlines obligations for railways to provide service, build infrastructure and conduct operations in support of accommodating all traffic offered to them including receiving, loading, carrying, unloading and delivering goods by rail to support the needs of Canadian businesses and consumers.

66. A key focus is that commercial goods passing through Pitt Meadows are critical to the Canadian economy. Why would this nationally important project come to an agricultural community that is

woefully underrepresented in emergency services? Where are the national funds to help us improve services?

CP was incorporated 1881 and was formed to physically unite Canada and Canadians from coast to coast and has been operating in Pitt Meadows since 1886. The *Canada Transportation Act* outlines obligations for railways to provide service, build infrastructure and conduct operations in support of accommodating all traffic offered to them including receiving, loading, carrying, unloading and delivering goods by rail to support the needs of Canadian businesses and consumers. The port authority can't speak to decisions about federal funding; however, we encourage you reach out to your local MP.

67. **Does the port authority think it is "reasonable" to conduct rail activities 24/7, 365 days per year?**

As a Canada Port Authority, our job is to make sure the port is ready to handle Canada's growth in trade, including enabling the safe and efficient movement of trade to and from the Port of Vancouver. That is why we collaborate with government, industry, and communities--like Pitt Meadows, to take the necessary steps to prepare for anticipated growth. We lead and fund projects that help enhance movement of trade-related cargo through Greater Vancouver while improving mobility and safety, protecting the environment, and alleviating the community impacts of growing trade.

The port authority works closely with rail operators but has no oversight as it relates to rail activities in the region. Transport Canada regulates Class 1 railways, such as CP. The *Railway Safety Act* allows Transport Canada to oversee safety, monitor industry compliance, take enforcement action, develop regulations and promote safety through education and awareness. Federal railways have to comply with dozens of regulations and hundreds of safety rules on everything from train securement to speed limits and track and equipment inspection to maintenance.

Environment

68. **What specific environmental assessment do you plan to conduct and what will the environmental study include?**

Like other major infrastructure projects that the port authority delivers, we will be undertaking an environmental overview assessment during the design phase. This assessment includes:

- An overview of the potentially applicable regulatory permits that might apply to the project
- A review of existing tress and vegetation (known as arboricultural considerations)
- A review of hydrological considerations in the project area
- A review of any contaminated sites in the area given any historical uses
- A review of any existing biophysical characteristics of the project area—including vegetation, trees, invasive species, aquatic resources, wildlife and wildlife habitat
- Field inspections of the project area to look at the existing conditions, and the elements outlined above, in more detail

69. **If all of the studies have not yet been conducted, why is the port authority and CP submitting applications now?**

During our fall 2021 engagement, we heard from the community that consideration of noise and vibration was important. Within a few weeks, our team began this work. We also heard, and continue to hear, that the community would like more information relating to the rail component of the project as well. We provided these updates to the community in April 2021, as this information was ready to be shared.

We are still in the design phase, and further technical work is required. More project updates will be provided to the community in future project updates. This is to ensure our work progresses with feedback from the community.

70. **Will you conduct an air quality study along the rail corridor?**

Similar for the noise and vibration, we firstly need to consider whether the proposed project could affect local air quality, and if so, to then conduct an air quality assessment and incorporate mitigation into the scope as appropriate.

In this case, as increased trade movements by rail are expected to materialize irrespective of the project and resulting operations with the project constructed are anticipated to reduce traffic congestion and idling at the Harris road crossing, no air quality assessment is required from a project permitting or regulatory perspective, and is therefore not being proposed as part of the project.

This is consistent with established practice for these types of projects. Air quality assessments are typically conducted for fixed site emissions, for example new large industrial facilities.

The port authority will comply with and abide by all applicable environmental and safety laws and regulations.

Safety

71. Isn't it dangerous to transport materials like sulphur and potash through residential area like Hammond area, Pitt Meadows?

Safety is foundational at CP. Transportation by rail is one of the most economical and environmentally responsible methods of moving freight long distances. The transportation of dangerous goods is strictly regulated under the *Transportation of Dangerous Goods Act*, which applies during the import, handling, offering for transport and transport of dangerous goods. CP adheres to and exceeds these regulations which include requirements that oversee the transportation of designated dangerous goods from the point of manufacture to the final destination. This includes the manufacturing and re-qualifying of the tank cars that carry the dangerous goods. Railways moving dangerous goods must comply with all regulations, conduct regular security risk assessments and develop plans to mitigate risks.

It's important to note that goods which are considered dangerous are used in every aspect of life, from healthcare, to manufacturing, to sales and services, to emergency response and home comfort. Railways cannot refuse to transport these goods and so the shipment of dangerous products must be managed well to minimize the risk to communities.

CP will continue to meet and, where possible, exceed these strict federal safety regulations.

Rail operations

These responses were provided by CP.

72. The area just west of Harris Road where there's a new siding and track extension, appears to overlap. Does this mean there will be four tracks?

As is shown on the map in the track configuration brochure, the new siding will be built between Harris and Kennedy Road, parallel to the northern mainline track. The Vancouver Intermodal Facility lead tracks at both the east end near Harris Road and the west end near Kennedy Road will bracket each end of the siding. At Harris Road, residents will see three tracks, similar to what they already see at Kennedy Road.

73. What other options were considered rather than extending the lead track through this area?

There are no alternatives to the extension of the Vancouver Intermodal Facility lead track as it is the only route into the intermodal yard from the east side of the facility.

74. There are 10,000 feet of track available at the Vancouver Intermodal Facility. What is the current length of trains that are being built as it must be more than 10,000 feet?

Train lengths vary with train design, the commodity being shipped and customer demand. Intermodal trains departing from or arriving to the Vancouver Intermodal Facility are approximately 10,000 feet long.

75. The population of the Metro Vancouver region grows by about 35,000 people every year. Is CP actively discussing an increase of the West Coast Express schedule?

The Pitt Meadows Road and Rail Improvements Project benefits both freight train operations and commuter train operations. By shifting activity off the two mainline tracks preserves the mainline capacity for both future freight and commuter capacity. TransLink operates the West Coast Express and plans for its future operations. For more information about West Coast Express and future passenger rail in the region, please contact TransLink.

76. If no whistling is supposed to take place, how come it still happens?

Train whistling is a safety measure. In Canada, trains are required to whistle at all public grade crossings and the train must begin sounding its whistle at least a quarter mile prior to approaching a crossing, unless there is a whistle cessation agreement in place. Train crews will also sound the whistle if their view is restricted or they perceive a danger, such as someone walking on the track.

Whistle cessation exists at Harris Road and most of the rail crossing in Maple Ridge, including Maple Meadows Way and 203 Street. Whistling is required at Kennedy Road.

77. Since train building activities are the main source of high noise levels, why is this activity occurring outside of an intermodal yard?

Train activities that currently take place along the corridor happen on the entire length of a train as they assemble. When the trains are longer than the intermodal yard, they will occasionally extend out and beyond into area past the intermodal yard, to accommodate the difference.

Intermodal train assembly begins on yard tracks inside the Vancouver Intermodal Facility. Groups of intermodal rail cars are progressively assembled together as the train is built. The Pitt Meadows Road and Rail Improvements Project allows longer trains to complete assembly without blocking the road or CP's north mainline.

78. Given the future growth predictions, how long does CP estimate until the crossing at Maple Meadows Way (and perhaps 203rd Street) will be required to have the similar changes as the Harris Road crossing?

There is currently no plan to make any changes at these crossings.

79. It is stated that the "grade separation improvements will reduce road traffic congestion, allow trains to idle at the road intersections". Why are the trains idling here, if the main track is for through traffic and the new track elements are freeing up the mainline for trains to be built at the Vancouver Intermodal Facility?

The Vancouver Intermodal Facility lead extension and Harris Road underpass will allow longer trains to complete assembly east of the Vancouver Intermodal Facility without blocking either the road or CP's north mainline. The purpose of this infrastructure is not to enable idling trains east of Harris Road.

80. What current mitigation measures does CP have in place for the Vancouver Intermodal Facility?

A noise wall was added between the mainline and the Vancouver Intermodal Facility, near Advent Road in Pitt Meadows. Ducted lighting was also introduced in the CP Vancouver Auto Compound. Ducted lighting directs the light downward onto CP property, restricting the bright lights in the facility from leaking onto adjacent properties.

81. How many complaints did CP receive in the past year due to excessive noise or vibration concerns by residents?

CP operates across six Canadian provinces and 12 American states. In 2020, CP Community Connect received 153 information requests about train noise. The information requests are not segmented by community.

82. In the memorandum of understanding there is mention that the structure for the underpass will accommodate an additional two tracks for a total of four tracks. What is the reason for this additional fourth track? What is the plan for this additional track in the future.

An underpass or overpass is a long-life structure. Altering the structure once built adds complexity, creates disruption, and adds risk. It is common practice to engineer a complex structure for the possibility of future growth should a fourth track be necessary in the future. However, there is no plan to add a fourth track as part of the Pitt Meadows Road and Rail Improvements Project.

83. Would trains using the proposed lead track between Harris Road and Golden Ears Way be moving at a slower speed and mostly moving back and forth unlike the trains moving quickly along the existing tracks?

Yes, trains using the proposed lead track will be travelling slower.

84. Can you clarify why the Vancouver Intermodal Facility train building activity that currently occurs between Harris Road and Golden Ears Way on the existing north track will be moved to the new north siding track in 2030?

The existing main lines are occupied by the movement of trains through Pitt Meadows, and for switching activities in the region. The proposed rail improvements as part of the Pitt Meadows Road and Rail Improvements Project, will allow for those switching activities to happen on this new rail infrastructure, which will free up the main line. These are the efficiencies that are gained by including that additional track.

Other

85. Is CP aware of the struggle the Wildwood neighbourhood had with noise from the building of the Golden Ears Bridge? A wall of 10 metres was built even though neighbours advocated for a wall that was the height of the trucks using the on ramps and the bridge. Eventually, all parties admitted that a higher wall was needed and was built to 14 metres at a significant cost. What will happen if a similar situation occurs, and the studies were correct in their findings but wrong in how many residences would be affected?

This response was provided by CP.

The issue was well documented at the time, but it is unrelated to the Pitt Meadows Road and Rail Improvements Project. Golden Ears Way was a new, elevated highway structure. The rail overpass is at ground level, with the roadway passing under the ground level tracks.

There are many factors we considered when determining the locations for required mitigation. Based on the results of the noise and vibration study and by applying the Health Canada guidelines, the segmented walls were identified and are being proposed specifically because BKL, our acoustical engineering experts, have assessed that they will be effective. The supplementary mitigation we are proposing goes above and beyond what is required. We assessed what would bring the most meaningful solution when considering the additional cost and the benefit to residents.

The mitigation we are proposing as part of the Pitt Meadows Road and Rail Improvements Project will meaningfully respond to the noise impacts caused by the project.

86. With 600 families being affected by the noise and vibrations of the 20 plus's trains now and the number of trains to increase to 50 plus's trains by 2030. Do you not feel moving the new rail corridor to a less populated area to be beneficial to all parties involved?

The response was provided by CP.

CP has proudly been a part of the Pitt Meadows community since 1885. The established rail corridor is, and will continue to be, an important part of the national economy.

87. Will the City of Pitt Meadows benefit from incremental property taxes or other revenue to offset the added inconvenience to residents? If so, how much?

This response was provided by the City of Pitt Meadows.

No, the City of Pitt Meadows will not receive taxes or other revenue as a means of offsetting the project or associated impacts.