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Memorandum

Subject	**Annacis Auto Terminal Consolidation Network Impact**
To	Robert Crompton Manager, Engineering
From	Andrew Wells, P.Eng. Wilson Mak, P.Eng.
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Wallenius Wilhelmsen Solutions (WWS) currently operates two automotive terminals in the Greater Vancouver Gateway (herein referred to as the Gateway): Annacis Auto Terminal (AAT) and Richmond Terminal (RT). The Vancouver Fraser Port Authority (VFPA), in partnership with WWS, is planning the optimization and consolidation of the two existing automotive terminals into one operation on Annacis Island.

AAT is serviced directly by SRY, with long distance haulage provided by the following Class 1 rail carriers: Canadian National Railway (CN), Canadian Pacific Railway (CP) and BNSF Railway (BNSF). The local network servicing the auto terminal rail traffic is focussed around:

- Annacis Island, where AAT is located; and
- New Westminster, where SRY's larger classification and storage yards are located. These yards also serve as the location where SRY interchange with the Class 1 railways.

Existing Autorack Volumes and Operation

Autoracks (rail cars used to transport automobiles) destined for AAT move through the New Westminster yards onto Annacis Island in Delta via the Queensborough area. These autoracks are often temporarily stored in the Annacis Yard (AY) and adjacent yards prior to and/or after being processed at AAT.

Automobile import volumes are highly seasonal with Spring (April, May, June) being the busiest period. Furthermore, there is significant variance within weekly patterns with Tuesdays, Wednesday and Thursdays being the busiest days and weekends seeing half as much volume. All this results in a significant variability in autorack numbers throughout the year with surges of rail traffic every Spring.

Depending on import demands and autorack availability, autoracks serving AAT are moved from New Westminster to Annacis Island once or twice a day in the early morning and moved back from Annacis to New Westminster twice a day in the evening, coinciding with Class 1 pick up schedules. The autoracks are switched from the Annacis Island yard into AAT every morning and occasionally during the workday as a "mid-day switch", when there is sufficient volume to justify it.

Future Autorack Volumes and Operation

Future AAT volumes will consist of the combined:

- Current AAT and RT volumes; and,
- Generalised market growth, forecasted to increase approximately 10% between 2016 and 2025.

In support of this project, the optimized terminal operation will have additional trackwork within the terminal to accommodate a greater number of autoracks. Furthermore, SRY has increased rail yard capacity on Annacis Island, through a separate SRY-lead project, that can be used to store excess autoracks destined for AAT.

The greater volumes generated by the consolidation and forecasted market growth will result in a higher likelihood of a mid-day switch into AAT. The routing and location of the mid-day switch are determined by the day's operations.

While volumes are anticipated to grow, the growth is unlikely to directly generate additional trains to AAT.

Grade Crossings

SRY is responsible for the grade crossings that exist on their rail network in both Delta and New Westminster. The private crossing leading to the AAT entrance at Annacis Parkway is the only crossing affected by the consolidation for which VFPA are the road authority.

The consolidated autoracks volume and forecasted import growth has the potential to trigger the requirement to upgrade existing grade crossings if:

- The increased rail volume results in additional train movements across an at-grade crossing, leading to the daily cross product of annual average road traffic and rail movements exceeding the threshold of
  - 2,000, requiring the installation of flashing lights and bells;
  - 50,000, requiring the installation of crossing gates; or
  - 1,000,000, requiring the introduction of grade separation.
- Changes to the railway operation cause excessive blockages of at-grade crossings, resulting in a reduced Level of Service for the road traffic which could justify the introduction of grade separation.

The consolidation itself will not automatically trigger these increases. SRY's operating plan and road traffic plans, which are beyond the scope of the optimization project, will have an equally significant impact on whether any upgrades are needed. If SRY determine that the number of train movements over an at-grade crossing increases by 50%, this would need to be communicated with the relevant road authority.

In all circumstances, the railway and relevant road authorities at each individual crossing would need to work together to collect the necessary traffic data and evaluate the crossing to determine the level of protection required based on the traffic volumes and operations at the time. It is understood that SRY is re-evaluating their inventory of at-grade crossings to determine the level of safety measures, in coordination with the relevant road authorities, needed to meet the current Transport Canada's Grade Crossing Regulations (SOR/2014-275) requirements and will complete this exercise by 2028.

END.