RailState
Case Study

Managing Through Unprecedented Interruptions to the Canadian Supply Chain:

How Teck Resources Limited Responded to Disruptions with RailState's Network Visibility Data

Background

Steelmaking coal— an essential commodity to the production of steel — is at the center of a competitive global market. Teck is the world's second-largest seaborne exporter of steelmaking coal. They ship from their mines in Southeastern BC, to the port of Vancouver, BC, and to Prince Rupert, BC for export via both Canadian railways. Teck ships approximately five unit trains to the west coast per day. The railways in BC are critical to Teck's worldwide supply chain, which is why Teck partners with both Canadian railways to move their volume.

Teck was an early customer of RailState's rail network visibility data, and they subscribed with several goals in mind:
- To understand the performance/health of the overall rail network in their key corridors
- To measure their service and share of capacity relative to those of other railway customers
- To identify when key network segments approach or exceed capacity
- To obtain early warnings of potential trouble on any of their rail routes

In short, Teck wanted insights that would help their operations, both in "normal" times, and periods of disruption. They saw the value of RailState's data, which provided insights that were not available anywhere else.

Today, Teck uses RailState data (along with other data) daily in planning their logistics operations. RailState's data enables them to be better-informed about railway performance when engaged in operational and commercial discussions.

"We have created a supply chain with flexibility and resiliency to quickly respond to interruptions and preserve market access – the data and insights provided by RailState help to optimize the use of this capacity."

Ian Anderson
VP of Logistics
Teck Resources Limited

Using RailState's Data to Boost ROI

In addition to benefiting daily operations, Teck cites a series of fires and washouts as periods during which RailState's data proved absolutely crucial.

Lytton, BC Fires - Summer 2021

In the summer of 2021, fires in BC damaged a rail bridge in the BC Directional Running Zone (DRZ), between Kamloops and Vancouver — a bridge that both railways shared. Rail traffic flow was fully or partially impacted for 14 days. RailState's real-time data quickly confirmed for Teck that traffic flow had stopped, impacting their shipments. Teck used this information to modify their shipping plans. They utilized their capacity at Prince Rupert, and diverted multiple trains — as well as a vessel — from Vancouver to Prince Rupert. Teck was still ultimately able to preserve shipments, and act quickly to plan for others.

Once the bridge had been repaired, RailState's data alerted Teck that traffic flow had resumed, even though their trains had not yet started moving. Teck used the data to resume operations to Vancouver as soon as possible.

Once operations had resumed, RailState's data helped Teck to understand the priority given to different trains, how long it took the railways to restore fluidity and reach normal levels of train volume for each train type.

Although disruptive, the 2021 fires demonstrated the value of RailState's data in making game-time, money-saving decisions. The data helped Teck understand how the two carriers responded during major disruptions — an understanding on which they capitalized during the more severe BC washouts of 2021.

British Columbia Washouts - Winter, 2021

During November and December, 2021, floods washed out the tracks in the DRZ, stopping all rail traffic from about November 14th to November 24th, 2021. It was not until December 2022 that traffic volume returned to normal levels for each train type.

Teck again leveraged RailState's data during this period of crisis. When the washouts hit, Teck had information from the railways (and other sources) about the severity of the washouts, as well as estimates on time to repair the damage and put the line back in service. With RailState's data, Teck was able to see, in near real-time, when the train flow had stopped. The data told them how many trains of each type were backed up on either side of the washout. They were then able to make the immediate decision to divert a vessel, as well as multiple trains, to load that vessel at Prince Rupert.

RailState's data also told Teck that BNSF traffic between the US border and Westshore was still flowing, and how many of each train type were moving over that route. The data again allowed for efficient divergence for train sets on the Vancouver side of the washout. They routed a number of trainsets to BNSF, which moved them via Portland, through Idaho and Montana, and back to the mines, where they were loaded and sent to Prince Rupert.

During the DRZ reconstruction period, RailState kept Teck informed about activity along the line. They had regular updates about reconstruction activity, these were enhanced by the immediate data RailState provided once trains began to move through the affected area. The first trains to begin moving were railway maintenance trains, which were supplying material for rebuilding the line. Once additional trains began to move, RailState's data allowed Teck to see if their trains were receiving a fair portion compared to other customers. Teck was able to keep their management informed about their priority ranking.

The Lytton fires gave Teck a sense of how long it would take each railway to return rail volume to normal levels, and of which trains would receive priority. Teck used this information to decide when to stop diverting trains to Prince Rupert, and how to work with the railways to plan their production and shipments at a rate that could be accommodated by the railways as they resumed operations.

The washouts were another prime example of how RailState's data can elevate a business' understanding of the immediate effect, economic impact, and duration of crises. As Teck demonstrated, having RailState's data kept them more informed, and able to act quickly.

Economic Benefits

The economic benefits of RailState's data to Teck are profound. In the above example, Teck was able to make the decision to load a vessel that might not have otherwise been loaded, delivering significant value for the company.

Overall Supply Chain Network Benefits

In addition to economic savings, RailState's data also optimized Teck's supply chain, and benefitted overall railway movement.

Teck was able to plan and execute the evacuation of empty trains from Vancouver, through the US. This change removed these trains from the railway backlog, provided capacity for other customers, and shortened the time the railways needed to bring the network back to normal operations. The volume movement to Prince Rupert also reduced train movements from the DRZ, while the railways were recovering — again making capacity available to others on the network.

The entire rail supply chain in western Canada benefited from Teck having visibility to the railway network — visibility that enabled Teck to make operating decisions to divert their trains, thus helping themselves, the railways, and other shippers.

Takeaways

RailState's real-time updates provided Teck with the network visibility they were not receiving from any other source. The data, combined with other internal data, allowed them to make both real-time, as well as advanced planning decisions. What was crucial to Teck's experience was their ability to take RailState's data, interpret it in relation to other data they had, and strategize how to use it most effectively. Teck's experience lays a blueprint for large bulk shippers, for whom rail service delays carry great weight.

It is important to note that while RailState's data is crucial during major rail service delays, it is also useful during "normal" operations. Businesses benefit from network visibility no matter the state of the railway. Every rail user with insight into the network can use RailState's accurate, timely data to better utilize both the rail network, as well as port and other assets. The result? Improved business operations, and an overall optimized supply chain.

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