



RailState
Case Study

The Importance of Railcar Visibility:
How RailState Helped a Forest Products
Producer Optimize Their Supply Chain

CASE STUDY

Identifying the Empty Boxcar Supply for Forest Products Producers

Background

For rail shippers of pulp and paper, empty boxcar supply is a key issue. Railways supply most of the cars that move these products. Railways have told their forest products customers they don't have enough boxcars to fill all their needs, and expect to supply about 60% of the demand. This means that forest products shippers either have to move the remaining shipments by truck or intermodal, and they have to plan and contract for capacity from those modes.



Railways expect to supply **only 60%** of the demand for boxcars.

The Problem

For most forest products shippers, empty boxcar supply is inconsistent. Shippers will place orders for cars a week or so in advance and the railway will accept and fill a percentage of those orders. A few days in advance of the required loading date for the cars, the railway will assign specific empty cars to the order. It is only then that a customer can track the empty cars enroute to the loading point. An additional problem is that the railway will often change the specific cars assigned to an order, making planning difficult.

Railways frequently fail to deliver empty cars on the date promised for a variety of reasons, leaving the customer to scramble for truck capacity at the last minute (at premium prices). If capacity is not available, they risk losing a sale, paying the customer a penalty for late delivery and other costs. Most pulp and paper plants have limited storage space, so failure to deliver empty cars for loading can sometimes result in production shutdowns, or curtailments, or a huge costly effort by the railway to supply cars outside of their normal operation.

Some of these costly consequences arising from inconsistent empty car supply could be mitigated if customers had more visibility on the overall empty boxcar flow. This would allow customers to anticipate a disruption in the empty supply. They could then plan a few days or weeks ahead to arrange truck capacity, find additional storage, or source from another plant that might have better boxcar supply.

CASE STUDY

Using RailState Data to Locate Empty Boxcars

Solution

RailState tracks every train and every railcar in Canada, so we have visibility to the entire boxcar supply in Canada. RailState also has data on the transit times from various parts of the system to the forest products loading areas. We have used this data to help one forest products shipper get visibility into their empty boxcar supply.

Methodology

STEP 1:

We mined our large database of train and railcar movements in Canada to identify the major flows of boxcars from destination markets in Vancouver (exports) and from the US border back toward the loading area in AB.

STEP 2:

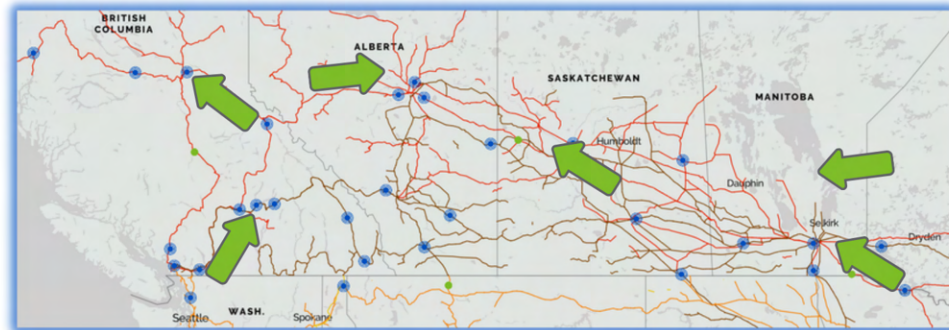
Based on our understanding of the boxcar flows, we divided the railway into several zones and, based on the most recent sighting at a RailState sensor, identified the total boxcars currently in each zone.

STEP 3:

Based on our historical data of transit times in Canada, we then identified the transit time from each zone to the loading area.

Empty Boxcar Flows

RailState has a view of most car movements in Canada



Total Empty Boxcar Pipeline

3 Day Average Supply by Zone and Days to Placement at Mills North of Edmonton (CN)



CASE STUDY

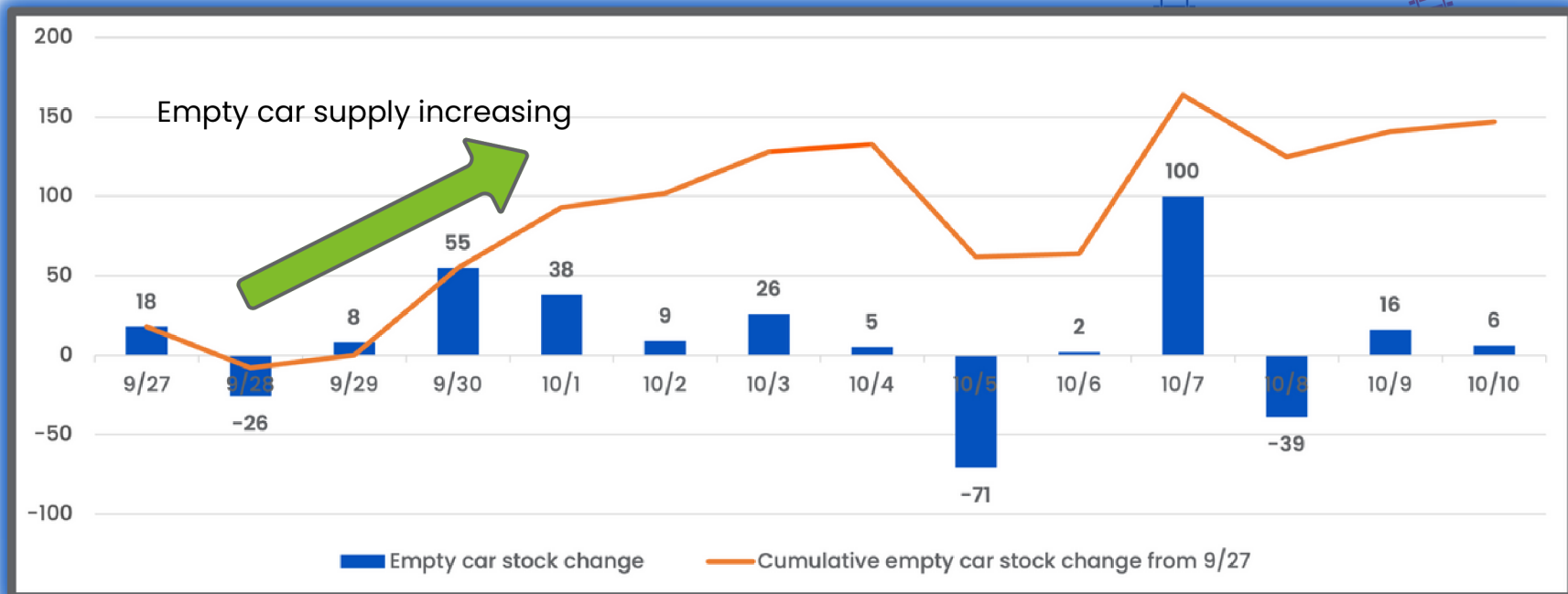
Quantifying Empty Boxcar Supply in Each Zone

STEP 4:

RailState monitors and reports daily the supply of boxcars in each zone. We are continuously gathering historical data so the customer knows the typical supply in each zone and can now see when supply starts to drop in a zone. When that happens, the customer can now see an empty car supply problem start to happen two to five days away. The customer can also now understand what percent of the available supply they are receiving and if that percentage changes.

For Each Zone - Tracking Change in Total Empty Car Supply

Change in Empty Boxcar Supply - Edmonton CN



CASE STUDY

Effective Supply Chain Management Through Data

Results

The RailState solution helped the customer better manage their rail transportation in a few key ways:

- They are now armed with data for a more informed discussion with the railway on car supply – they already know a potential problem exists and can now direct the discussion with the railway about how they – and the railway – will address the issue.
- Having advance warning of a potential problem enables the customer to work with the railway to resolve the problem or mitigate its impacts. With time to plan, this customer can actually help the railway resolve the issue, or at least avoid making it worse. The railway operations personnel will likely appreciate the customer's proactive approach.
- Planning several days ahead for truck capacity makes the shipper a more attractive customer to their trucking companies, and allows them to secure capacity when they need it (and at contract prices).
- They are also able to inform their customers of shipment delays multiple days earlier than they could previously, improving customer service.

In summary? RailState gave them data which provided the additional insight into the supply chain, to make it more efficient, saving time and money while increasing customer service.

Takeaways

Real supply chain visibility goes beyond just reliable location reporting on your shipments. Understanding, at a detailed level, the network condition of your rail supplier opens up huge potential to help yourself and your rail carrier improve service, better utilize assets, and add capacity without additional capital investment.

About RailState

RailState is the only unbiased, third-party, real-time measure of rail capacity and performance in North America. Their mission is to provide rail network transparency to all users so they choose rail first, benefitting both the supply chain and the environment. RailState's unique data, produced from their sensor network utilizing AI, gives rail users the impartial insights they need to optimize their supply chain.

