



Year End Recap – Western Canadian 2017-18 Grain Crop

HIGHLIGHTS

- According to the Canadian Grain Commission, crop year 2017-18 set a new record for total exports of Canada’s major grains and oilseeds¹
- CN shipped 25.5 MMT of bulk grain and vegetable oils in 2017-18 in the CN-supplied common hopper fleet and customer-supplied private cars²
 - 2nd highest volume shipped in CN’s history
 - 3% more tonnage than the prior three-year average
- Increased uptake of CN’s commercial products, which allow customers to lock in car-supply in advance of the crop year
 - Approximately 90% of the common hopper fleet’s weekly capacity was covered by a commercial agreement with reciprocal financial penalties
 - All contracted orders placed throughout the year were accepted
- Following a particularly harsh winter, CN’s aggressive response and improving weather underpinned sequential improvements from March 2018
 - Accelerated hiring of operating crews
 - Leased 130 high horsepower locomotives to augment the CN’s locomotive fleet
 - Advanced the timing of capacity enhancing projects

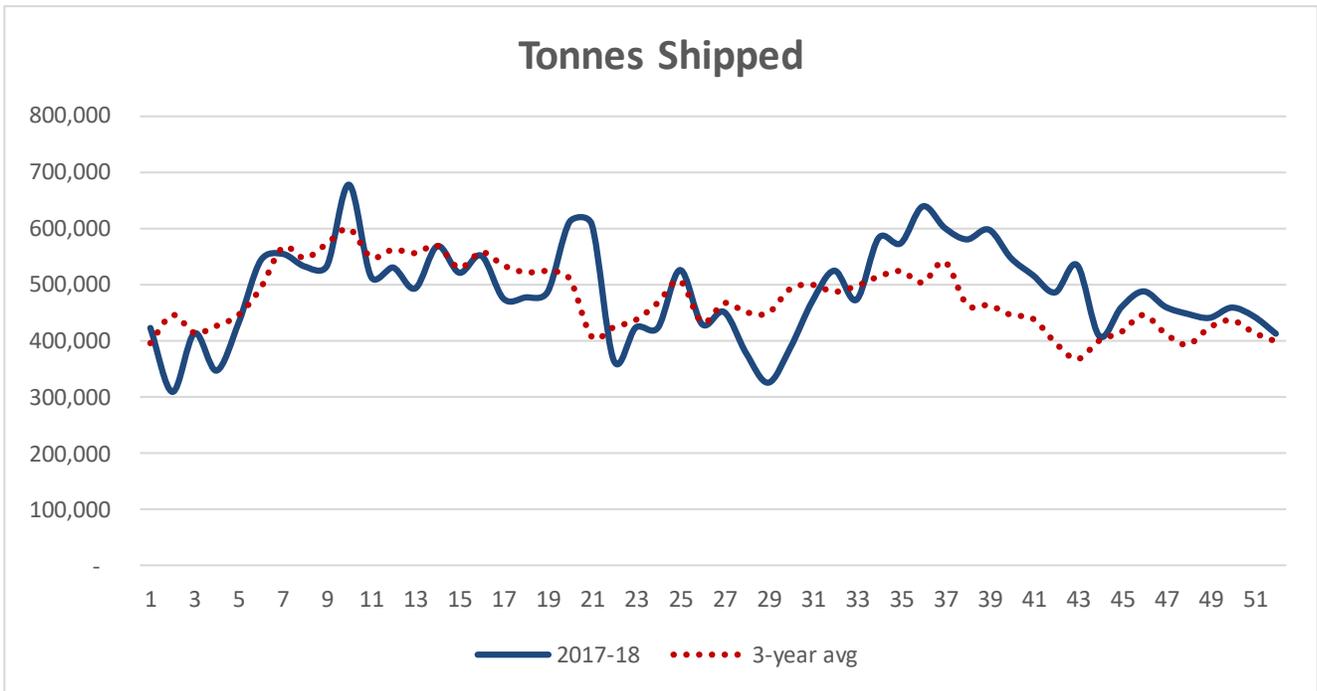
OVERVIEW

Shipping performance

CN moved 25.5 MMT of Western Canadian Grain in 2017-18 which, over the course of crop year, exceeded the three-year average by 3%.

¹ <https://www.producer.com/daily/canadian-grain-exports-hit-new-record-in-2017-18-cgc/>

² In CN’s “Year End Recap – Western Canadian 2016-17 Grain Crop,” CN reported movement of 21.8 MMT of grain. In accordance with the Canada Transportation Modernization Act, CN’s Grain Plan assesses CN’s ability to move the grain it is required to move over the course of the crop year. Besides raw, unprocessed grain, total volumes anticipated to be moved include processed grain products. For comparison, CN moved 26.4 million metric tonnes of grain and processed grain products from western Canada in 2016-17. The three-year average, covering the period 2014-15 through 2016-17, is 24.7 million metric tonnes.

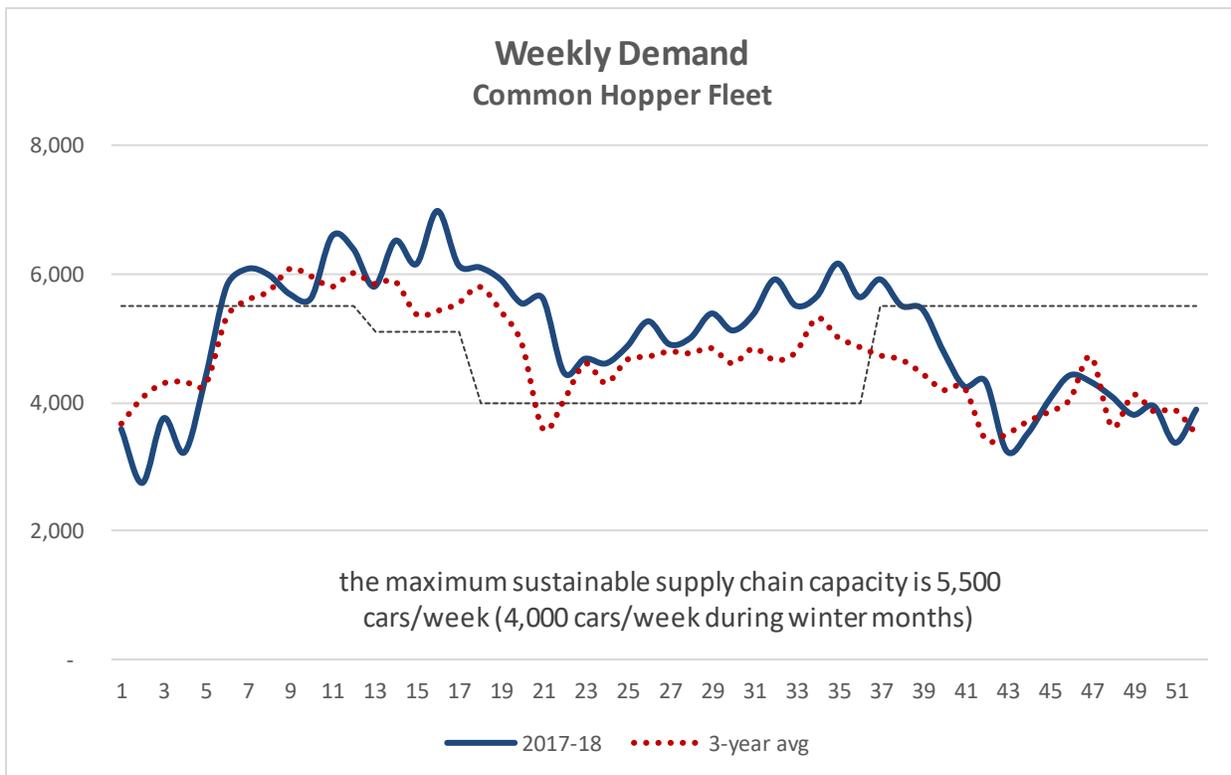


Customer demand

Crop year 2017-18 car ordering followed a typical customer railcar ordering pattern from previous years:

- The crop year began with low customer orders typical of the season.
- There was a very rapid increase in Week 6 (a 1,500 increase in orders over the previous week), and average weekly orders exceeded the 6,000 level from Week 6 through Week 21, when orders diminished for the Christmas break.
- For the remaining winter weeks (Weeks 23-36), average ordering levels averaged nearly 5,300 orders/week (more than 1,300 cars/week in excess of the maximum sustainable supply chain capacity).
- May-July (Weeks 41-52) average demand tapered off to an average of nearly 4,000 orders/week, well below the sustainable supply chain capacity

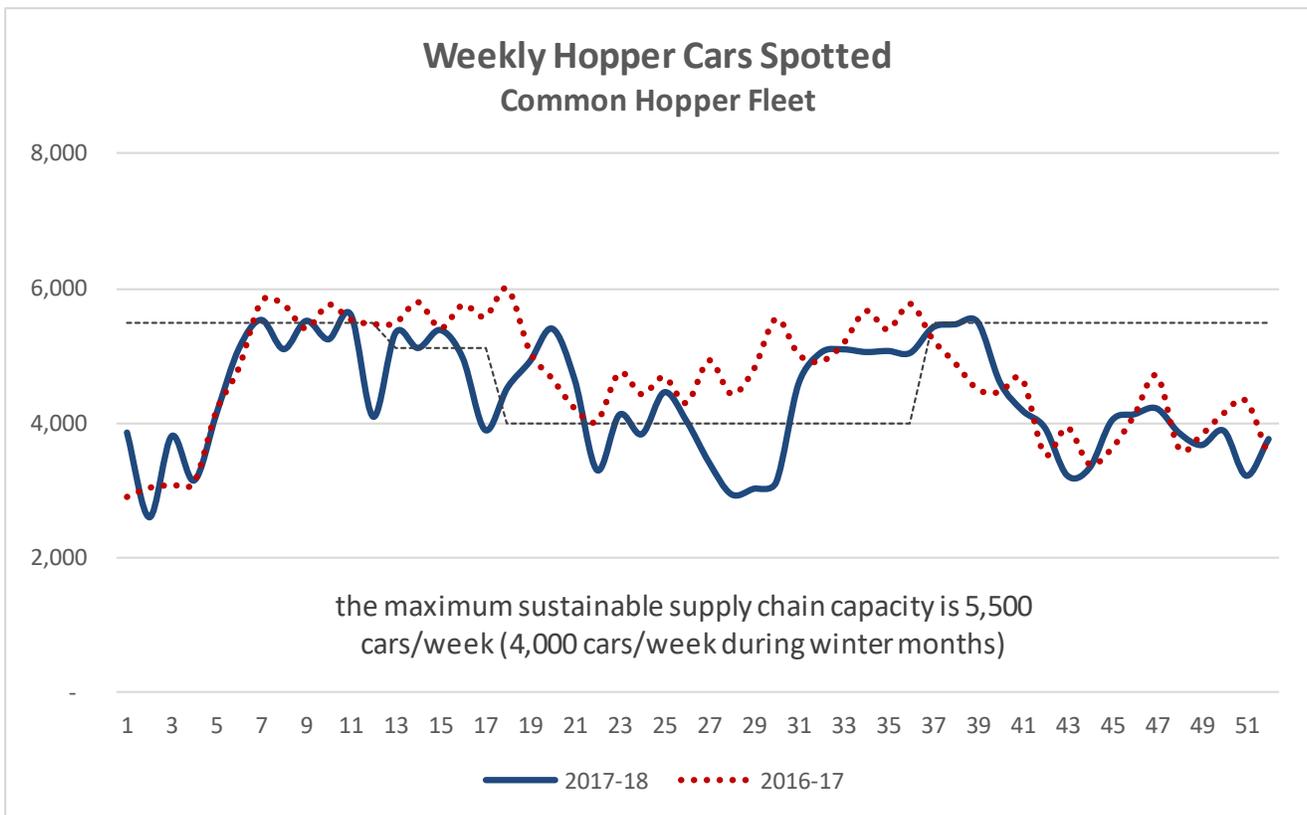
Demand exceeded available railcar car supply in half of the weeks through the crop year; CN’s pre-established car allocation methodology ensured that all contracted orders were fully allocated, while excess spot orders were cancelled, allowing shippers to re-order in following weeks.



Spotting Performance

CN's operational challenges over the course of the 2017-18 crop year resulted in lower common hopper car spotting than last crop year.

- Early crop year spotting tracked the low customer demand.
- CN's spotting performance leading up to Christmas (Weeks 7-21) was largely in line with the previous year, with the notable exceptions related to significant network outages in October and November.
- The first two months of the new year (Weeks 23-31) saw prolonged extreme cold weather across Western Canada which greatly impacted network fluidity, particularly in February (Weeks 27-30).
- CN's rapid recovery saw a dramatic improvement in spotting performance for March and April (Weeks 32-39).
- CN met and spotted all customer demand in the spring shoulder season (Weeks 41-52).



Crop Year 2017-18 supply chain challenges

CN network capacity and outages

CN’s growth outpaced the strengthening economy in 2017 after nearly two years of volume losses in 2015-16, with gross ton miles (GTMs) growing 11% in 2017 over the previous year. CN experienced growth across a broad range of business segments, coming largely from the existing customer base. The rapid traffic increase tested operational resiliency on portions of the CN network, particularly in Western Canada, affecting service and efficiency.

Entering the fourth quarter of 2017, CN experienced significant network outages that impacted the grain supply chain:

- in mid-October, extreme wind conditions resulted in a mainline derailment near Wainwright, AB. The high-capacity mainline was impassable for four days, disrupting the flow of loaded railcars to West Coast terminals as well as the return flow of empty railcars to the country for several weeks following the incident;
- in late November, unrelenting rain in British Columbia’s Lower Mainland resulted in multiple landslides that closed CN’s mainline. CP’s mainline through the Fraser Canyon was also affected. The nearly 24-hour stoppage essentially stopped all traffic in and out of Vancouver.

Winter train operations

While winter comes every year in Canada, extended periods of extreme cold are particularly impactful on rail operations.³ CN works to mitigate these cold-weather effects by operating trains with distributed power (placing locomotives within the train to improve airflow throughout the train), as well as deploying “air repeater cars” (a railcar equipped with air compressors, and placed mid-train to enhance safety by increasing airflow).

However, the reality is that extended periods of extreme cold will always have an impact on the supply chain capacity. The extreme cold snaps across Western Canada during Winter 2017-18 resulted in a reduction in car velocity and network fluidity, and the extended nature of these cold periods put significant pressure on crews and locomotives.

CN’s operational recovery & planning for the future

CN experienced significant volume growth leading into the winter of 2017/18 which put tremendous pressure on the network and tested the capacity and resiliency of the network. The month of February saw prolonged extreme cold temperatures and significant snowfall events across Western Canada which further exacerbated a stressed system.

CN took decisive action to restore network fluidity, namely:

- Crew hiring:
 - CN qualified 400 new conductors in each of Q1-18 and Q2-18
 - Every train crew consists of a conductor and a locomotive engineer, and every locomotive engineer starts as a conductor. Therefore hiring conductors is key to enable train capacity; it takes approximately 6-9 months to recruit and fully train a conductor.
- Rolling stock:
 - Obtained 130 locomotives under short-term lease
- Infrastructure:
 - Increased the 2017 capital investment plan twice throughout the year

Furthermore, CN has enacted a number of measures to strengthen the network and augment network resiliency into the future:

- Targeting ~1,250 more qualified conductors for winter 2018-19 above winter 2017-18
- Placed an order to purchase 200 new locomotives over the next three years, 60 of which will arrive in H2-18
- Introduced a record 2018 investment plan of \$3.5B, including \$400M in capacity-enhancing projects, focused largely on Western Canada
- Order placed for 1,000 new high-cubic capacity grain hopper cars
 - First 250 hopper cars to arrive in Q1-19

³ The most critical and basic safety component on a train is the air braking system – air compressors in the locomotives must pump and “charge up” the air brakes on the cars to ensure sufficient braking forces while the train is traveling on its journey. It is much harder to pump air all the way through a train when the air is colder and denser in winter months. In fact, CN implements train length restrictions when temperatures drop below minus 25°C; shorter trains ensure sufficient air pressure throughout the train to safely and effectively operate railcar air brakes, but require more trains (and crews and locomotives) to move the same amount of traffic.

CN's Grain Plan

As required by the Government of Canada, CN has put in place a comprehensive, robust and focused action plan to meet the anticipated volume of grain expected to be moved in the 2018-19 crop year. The objective is the effective, efficient and timely movement of grain throughout the coming crop year.

To develop its plan, CN collaborated with key stakeholders, including producers, seeking their views and input. The measures reflect extensive consultations with grain producers, grain-handling companies, customers and Government officials. The foundation for the measures is Agriculture and Agri-Food Canada's projections for the 2018-19 crop year, which is anticipated to be comparable to the three-year average level, as well as similar to the previous two crop years.