

RAILROAD WEEK IN REVIEW

February 19, 2021

“One of the biggest challenges is making the Precision Train Builder simulations run as fast as possible, but if the simulations run too fast, you’ll lose a level of detail. We have to balance speed with accuracy, and accuracy is the top priority.” — Ryan Grudle, Union Pacific

*“Due to the harsh weather and power outages in the Fort Worth area, callers to BNSF Customer Support are experiencing long wait times. If you are an affected customer in need of assistance, please utilize the **Message Us** feature on the BNSF Customer Portal.” — BNSF Service Advisory, February 16*

“Extreme winter weather has had a disproportionate impact on our network over the past 72 to 96 hours and is expected to continue for the next 48 hours... Currently we have more than 400 locations across our network that are without power; more than 20 percent of active trains are holding for at least four hours as a result of the weather.” — UP Service Advisory, February 16

Union Pacific’s Precision Train Builder simulates train operations over hundreds of miles of track, compressing hours of travel time into just minutes, for example, simulating a 300-mile train run in about eight minutes. Input for the simulation runs comes partly from uploaded event locomotive recorder logs for trains that show the consist, how the train was handled, and where there might be in-train forces that can make the right train handling decisions most critical.

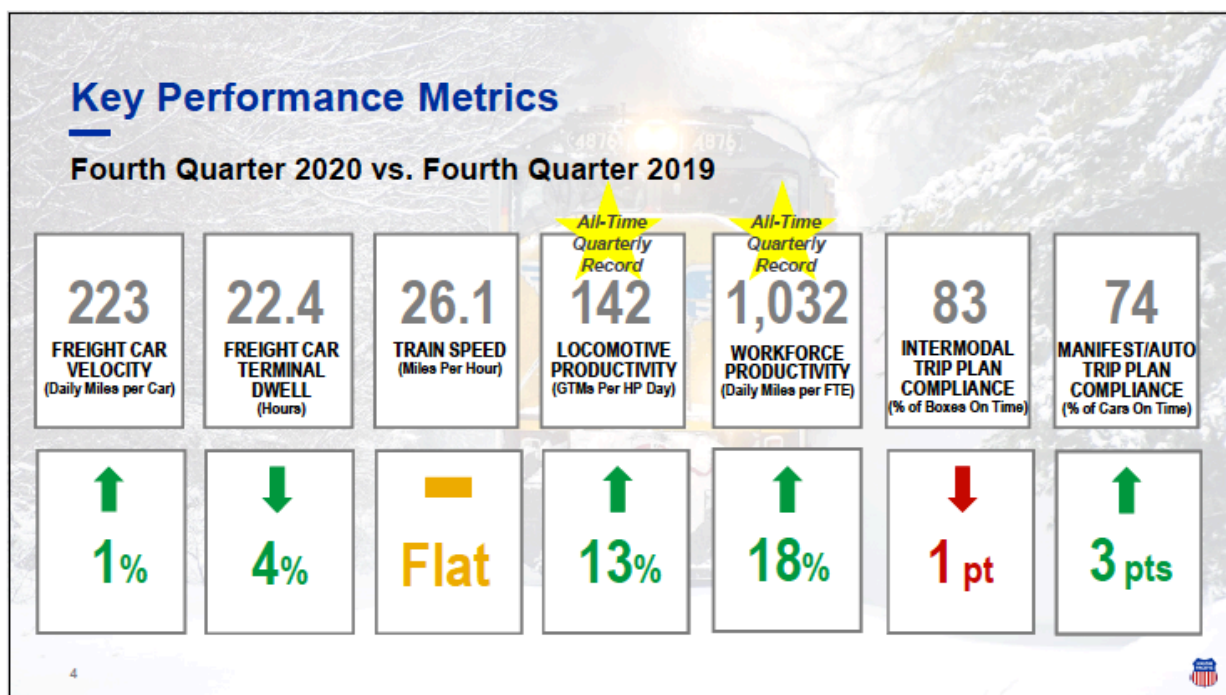
From this data set, PTB can adjust train make-up — not only where to place rail cars within a train, but how much horsepower to use, and where to place that power within the train for the most efficient and safe operation. But PTB goes even deeper than that. Instead of simulating the train as a single entity, PTB can simulate each piece of equipment individually, down to each wheel of each rail car of the train.

Says the UP, “The physically accurate simulation becomes the ultimate predictive tool, allowing us to test trains before they operate. The result is the ability to run longer trains safely. This new technology is one reason Union Pacific has been able to increase its average maximum train length to 9,154 feet over the past year, resulting in much more efficient operations”

I also think PTB can reduce dwell times by getting better trains out of the yard faster, reducing time lost from what Oliver Wyman’s Rod Case calls “unplanned events.” The AAR defines dwell time as “the average hours a car resides at the specified terminal location. Time starts with train arrival, customer release or interchange receipt. Dwell time ends with train departure, customer placement, interchange offering or delivery.” Excluded are cars that move through a terminal on run-through trains.

So, you can see dwell time isn't only yard time. It includes the hours between receipt of a train from a foreign road, and any time lag between customer release and actual pull. The measurable benefits are more car-miles per day, more tonnage moved per available horsepower, and system velocity. I seem to remember a UP stat that said a one mph increase in system train speed could free up 250 locomotive units for other work.

This KPM graphic from UP's fourth quarter 2020 earnings presentation shows exactly what better train handling can do. Comp & benefits dropped three percent, equipment and rents decreased four percent, and fuel dove 35 percent, thanks mainly to a one-third reduction on the cost of a gallon of fuel. Still, fuel consumption came down three percent even as GTMs increased a point and GTMs per gallon of fuel increased four percent.



Savannah Industrial Transportation, the seven-mile OmniTRAX property northwest of Savannah, figures prominently in the development of the Savannah Gateway Industrial Hub. Located just a few miles from the I-95 interchange, and 20 miles from the port, SGIH is Georgia's newest logistics facility, and is equidistant from the NS and CSX main lines in and out of Savannah. SIT offers direct connections to both.

SGIH is a 2,600 acre multi-modal industrial park development partnership between OmniTRAX – The Broe Group's transportation affiliate – and Effingham County Industrial Development Authority (ECIDA). Yet another example of out-of-the box thinking for finding new business.

Genesee & Wyoming in 2020 had a hand in 45 new industrial development projects representing \$1.6 billion in customer investments expected to generate more than 800 new jobs in the GWR service area. Highlights of the 2020 wins by G&W-owned railroads include new facilities for shipping automobiles in Fort Wayne, Ind.; for recycling zinc in Cass County, Ind.; for processing ore in Miami, Ariz.; for processing animal feed in Fulton, Ark.; and for mining lime pozzolan — used as a strengthening concrete additive — in Aguila, Ariz.

“Access to national and international markets is still the driving factor in attracting new rail-served projects,” says Kevin Phillips, G&W vice president of industrial development. “Our 2020 wins include projects in more than half of the 42 states served by our railroads, representing nearly 47,000 new carloads annually, 65 percent of which come from four commodity groups: agricultural products, chemicals & plastics, lumber & forest products and minerals & stone.”

BNSF also had a pretty good year in the industrial development department. Customer investments totaled approximately \$1.1 billion. This marks the 10th consecutive year that BNSF customers and local economic development organizations have invested more than \$1 billion in a calendar year for new or expanded facilities.

It will be good for the carload franchise supporting new volumes in sweeteners, temperature-controlled foodstuffs, and unprocessed agricultural products. BNSF’s Class II and III railroad connections will undoubtedly benefit.

The pulpwood business in northern Maine is getting a new lease on life for New Brunswick Southern trains operating over the former CP between Saint John and Brownsville Jct. Kevin Burkholder writes in *Atlantic Northeast Rails and Ports* that NBSR is adding trains to stay ahead of increased demand for wood chips and pulpwood.

In addition, “growing non-wood freight, including higher traffic levels off CP at Brownsville Jct has maxed out tonnage and train-lengths” of the existing service. The operating plan is simple and elegant. One crew starts west out of Saint John and another starts east out of Brownsville Jct. They meet in the middle at McAdam, swap trains and head back to their origin points.

The railroad saves the expense of lodging crews away from their home terminals and the crews are happy campers because they get to spend the night in their own beds. It’s the sort of thing Hunter Harrison did on the IC and I wouldn’t be surprised if it found its way to CN and CP. It meets all five of Hunter’s “guiding principles” — service, cost control, asset utilization (a crew is an asset), safety, and people.

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