RAILROAD WEEK IN REVIEW

August 12, 2016

"Technology trends will nudge the world economy away from global integration and back toward local production and investment." — Patrick Watson, "The World Gone Backwards," in John Mauldin's Thoughts from the Front Line, August 7, 2016

BNSF second quarter 2016 freight revenues were off 15 percent due largely to a 42 percent coal hit. Merch carload (Industrial Products and Ag only as auto is in Consumer Products at BNSF) revenue was off by nine percent. Revenue units came down nine percent with coal off 34 percent and consumer products down four percent. Ag products was the hero, with total carloads up six percent. RPU was down across the board — coal was hit hardest, down 12 percent. Merch carload RPU was off eight percent.

Total revenue including "other" and fuel surcharges was $4.6 billion, off 15 percent. Operating expense came down 14 percent for a 67.6 OR, a half-point better year-over-year. Net income was $948 million, off 16 percent. Operating cash flow increased to 171 percent of net from 148 percent a year ago. Capex was $2 billion even, down 18 percent vs. a year ago, and free cash flow after internal distributions was a positive $113 million, an improvement from the negative $420 million a year ago. Retained earnings increased eight percent in six months.

Of six Class I roads reporting, BNSF had the smallest percentage decrease in merch carloads and the largest percentage decrease in ops expense. Commodity details are scanty, but the big hits to the Industrial Product car-count are "primarily for petroleum products and commodities that support drilling, which reflects pipeline displacement of U. crude rail traffic and lower US production," and BNSF expects that to continue in the second half. Plastic pellets were up; no comment on ag. Within Consumer Products, intermodal was down and auto was up, but not by enough to offset the box business dip.

The BNSF shortline meeting is Oct 19-20, details to come anon. This quarter's results will provide an interesting frame. And with Q3 mostly gone by then, the conversations ought to be quite lively. See you there.

Mauldin's August 7 letter (see lead quote) poses a few quandaries for the railroads, the biggest of which has to do with "energy unbanked." The premise:

> Fossil fuels are the lowest-cost option in most of the US, in part because we've made a huge investment in their infrastructure. We have supertankers, port facilities, pipeline networks, railroads, storage farms, power lines, gasoline pumps, and so on. All of them serve one purpose: moving fuel from the place where it is produced to the place where it is consumed.

> This apparatus works surprisingly well, considering that it hasn't advanced a great deal in recent decades. It also points to the great weakness of fossil fuels: We must move them in order to use them. Transporting fuel to wherever it is needed (and keeping adequate amounts available at all times) is expensive and inefficient.

The argument then shifts to fossil-fuel alternatives from solar and batteries to wind and water. Obviously, coal is the big hit here, but also consider the rails' role in feeding the nat-gas and crude-oil industries. Then there's all the fertilizer going into the ground to feed the corn that becomes ethanol that goes into your gas tank. We've seen what's happening to the rails with the demise of coal as our main source of electrical power. What happens when hybrid and electric cars become the norm or when more households install solar panels?

The Letter goes on to say that the re-shoring of manufacturing, technology from robots to 3-D printing, and dietary changes to more fresh and less packaged foods mean more of what we use every day will come from near rather than far, in effect de-globalizing supply and a World Gone Backwards.

For dessert, see the end-chart from Dan Keen's August *Rail Time Indicators* for the AAR page 4). Seeing so much red ink is distressing, to say the least. Dan writes in his accompanying notes, "U.S. rail carloads fell 8.8 percent (99,530 carloads) in July 2016 from July 2015, their 18th straight year-over-year monthly decline."

And though the GDP sputters along at low growth rates, specific hazards remain for the rails. Dan again: "The components of GDP that matter most to railroads because they generate freight (e.g., consumption and trade of goods, housing, business investments in structures and equipment) have seen negative growth for three straight quarters. It's not much of a consolation, but the 8.8 percent decline for July and the 7.0 percent decline in June 2016 are the two smallest year-over-year percentage declines for total carloads since Sep and Oct 2015.

These are precisely the merchandise carload sectors feeder lines depend on, and the trends make one ask whether the railroads are losing their relevance in the de-globalizing economy. My view of where the rails will be in five years: Intermodal for finished goods and small plastic gadgets, certain industrial chems, bulk goods from ferts to frac sand to grain to lumber, and specialty construction aggregates.

Carload direct for single-car shipments, other than the above, will largely disappear, replaced by Class I transloads, short-haul truck direct and intermodal. Three-D printing will mean making what you want, where you want, when you want. The rails may get the raw materials; truckers or even UPS/Fedex get the finished goods to haul around the close-in customer service area. Low-density Class I branch lines and several hundred short lines will be at risk.

In sum, my thesis beyond coal is that in a two-percent economy there is less stuff moving than in a three- or four-percent economy. Finished goods from corn pone to white goods are less in

demand, so you need less raw material stuff to meet what demand there is. Lower demand for finished goods equals fewer goods moving to market, and what goods are moving are moving by truckloads, not carloads, in amounts more fitting for smaller inventory loads. So, yes, it could well be a freight recession, and the bloom is off the Railroad Renaissance.

The bloom is off because at Staggers all kind of new doors were opened, but now it's all Business as Usual. Now gather and surmise: Luther and others translated the Bible into the vernacular and the printing press got The Word around. Everybody got used to it. Now the printed word is down to paperbacks and bodice-rippers. The “Wow Factor" (credit Blaze with that) of the printed word seen for the first time is gone.

So it is with the railroads: the Staggers Wow Factor of contract pricing and pricing to what the traffic will bear without the ICC looking over your shoulder has morphed into order-taking and pricing by computer model to maximize revs. and minimize cost. The essential purpose of any business — creating customers — has been lost.

We're not solving for what it'll take to make the railroad product preferential to the truck load. Maybe the rails need to get out of the selling carload business altogether and turn that over to the third parties, as many did with intermodal eons ago. Mike Haverty got it right: “Mr. Hunt, I have this train and I'd like you to fill it”. That can work even in a two-percent economy.

To which one of my brain-trust correspondents replies, “Something structural MAY be happening that's bigger than a rail problem, which would show up as lost volumes (to other modes).” Another correspondent adds, “ Something is indeed going on that is starting to disconnect rail from GDP.” And that brings us back to what Dan Keen is telling us.

What we're seeing is a huge structural change in the transportation market place. There IS a structural change: the rails are less relevant than they were just 20 years ago. New distribution centers are springing up all around with little or even no access to rail. See Exit 8a on NJTPK, I-78 w of Allentown. Many, many truck doors, few if any rail doors. (Though, one must admit, those truck door accommodate intermodal containers as well.)

Rail — particularly carload rail — has become an afterthought rather than the first thought as a supply chain solution. *That's* structural change. What are we going to do about it?

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U.S. RAIL TRAFFIC: JULY 2016*

(4 weeks ending July 30, 2016, and Year-To-Date)

Commodity	JULY 2016				YEAR-TO-DATE			
	2016	2015	Change	Pct Chg	2016	2015	Change	Pct Chg
Carloads								
Agricultural & food products	**157,623**	**147,701**	**9,922**	**6.7%**	**1,121,805**	**1,129,018**	**-7,213**	**-0.6%**
Grain	95,142	82,501	12,641	15.3%	638,856	626,979	11,877	1.9%
Farm products excl. grain	2,544	2,951	-407	-13.8%	23,127	25,346	-2,219	-8.8%
Grain mill products (1)	36,045	38,095	-2,050	-5.4%	276,139	292,229	-16,090	-5.5%
Food products	23,892	24,154	-262	-1.1%	183,683	184,464	-781	-0.4%
Chemicals and petroleum	**162,683**	**175,244**	**-12,561**	**-7.2%**	**1,268,044**	**1,343,748**	**-75,704**	**-5.6%**
Chemicals	120,387	121,022	-635	-0.5%	930,998	912,970	18,028	2.0%
Petroleum & petr. products (2)	42,296	54,222	-11,926	-22.0%	337,046	430,778	-93,732	-21.8%
Coal	**331,277**	**401,756**	**-70,479**	**-17.5%**	**2,146,826**	**3,011,927**	**-865,101**	**-28.7%**
Forest products	**39,837**	**44,760**	**-4,923**	**-11.0%**	**306,976**	**331,568**	**-24,592**	**-7.4%**
Primary forest products (3)	4,823	6,155	-1,332	-21.6%	38,946	44,543	-5,597	-12.6%
Lumber & wood products	12,598	13,517	-919	-6.8%	99,614	106,543	-6,929	-6.5%
Pulp & paper products	22,416	25,088	-2,672	-10.7%	168,416	180,482	-12,066	-6.7%
Metallic ores and metals	**93,707**	**100,279**	**-6,572**	**-6.6%**	**652,346**	**698,099**	**-45,753**	**-6.6%**
Metallic ores (4)	26,734	28,504	-1,770	-6.2%	157,521	190,150	-32,629	-17.2%
Coke	17,978	16,522	1,456	8.8%	125,266	113,429	11,837	10.4%
Primary metal products (5)	34,697	38,721	-4,024	-10.4%	261,979	281,064	-19,085	-6.8%
Iron & steel scrap	14,298	16,532	-2,234	-13.5%	107,580	113,456	-5,876	-5.2%
Motor vehicles & parts	**58,501**	**65,389**	**-6,888**	**-10.5%**	**534,454**	**519,011**	**15,443**	**3.0%**
Nonmetallic minerals	**140,054**	**154,363**	**-14,309**	**-9.3%**	**996,772**	**1,031,101**	**-34,329**	**-3.3%**
Crushed stone, sand & gravel	89,868	101,633	-11,765	-11.6%	640,049	666,176	-26,127	-3.9%
Nonmetallic minerals (6)	18,681	18,796	-115	-0.6%	131,944	137,397	-5,453	-4.0%
Stone, clay & glass prod. (7)	31,505	33,934	-2,429	-7.2%	224,779	227,528	-2,749	-1.2%
Other	**41,685**	**35,405**	**6,280**	**17.7%**	**293,360**	**242,220**	**51,140**	**21.1%**
Waste & nonferrous scrap (8)	16,510	13,110	3,400	25.9%	111,812	97,397	14,415	14.8%
All other carloads	25,175	22,295	2,880	12.9%	181,548	144,823	36,725	25.4%
TOTAL CARLOADS	**1,025,367**	**1,124,897**	**-99,530**	**-8.8%**	**7,320,583**	**8,306,692**	**-986,109**	**-11.9%**
Total carloads excl. coal	**694,090**	**723,141**	-29,051	-4.0%	**5,173,757**	**5,294,765**	-121,008	-2.3%
Total carloads excl. coal & grain	**598,948**	**640,640**	-41,692	-6.5%	**4,534,901**	**4,667,786**	-132,885	-2.8%
Industrial products**	**384,108**	**414,291**	-30,183	-7.3%	**2,918,196**	**2,977,381**	-59,185	-2.0%
Intermodal								
Containers	921,067	962,941	-41,874	-4.3%	7,049,313	7,062,237	-12,924	-0.2%
Trailers	81,334	113,942	-32,608	-28.6%	666,091	874,705	-208,614	-23.8%
TOTAL INTERMODAL	**1,002,401**	**1,076,883**	**-74,482**	**-6.9%**	**7,715,404**	**7,936,942**	**-221,538**	**-2.8%**
TOTAL CARS + INTERMODAL	**2,027,768**	**2,201,780**	**-174,012**	**-7.9%**	**15,035,987**	**16,243,634**	**-1,207,647**	**-7.4%**